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INSTRUCTIONS FOR USE

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Sense it! Connect it! Bus it! Solve it!

WORKABOUT PRO³ Hand-Held Computer with Windows CE 5.0 (Model No. 7527C-G2 & 7527S-G2) User Manual

February 13, 2010 Part No. 8100196.A



*ISO 9001 Certified
Quality Management System*



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1.1 About This Manual

This manual describes how to configure, operate and maintain the Psion Teklogix WORKABOUT PRO³ hand-held computer.

Chapter 1: Introduction

provides a basic overview of the WORKABOUT PRO³ hand-held.

Chapter 2: Basic Checkout

describes the steps required to get the WORKABOUT PRO³ ready for operation, including setting up your RA2041 802.11b/g and the RA2043 801.11 a/b/g radios. This chapter also describes how to use the phone dialer.

Chapter 3: Get To Know Your WORKABOUT PRO³

describes the WORKABOUT PRO³ features and outlines how to charge and maintain the battery. This chapter also provides a description of the keyboard, how to navigate in Microsoft Windows CE 5.0, and so on.

Chapter 4: Working With Windows CE 5.0

describes the Microsoft Windows CE 5.0 desktop and how to use it. This chapter also outlines the basics of moving around a Windows CE 5.0 window, selecting and opening icons, files, folders and working with a Windows dialog box.

Chapter 5: Configuration

describes the Windows CE 5.0 *Control Panel* and how to use it to configure the WORKABOUT PRO³, along with the scanners attached to the hand-held, and so on.

Chapter 6: Peripheral Devices & Accessories

describes the peripherals and accessories available for WORKABOUT PRO³ hand-helds.

Chapter 7: Specifications

lists radio, hand-held computer and battery specifications.

Appendix A: Port Pinouts

describes the WORKABOUT PRO³ pinouts.

Appendix B: Wireless Wide Area Network (WWAN)

describes WWAN configuration information (GPRS radio model no. RA3030).

Appendix C: Summit Client Utility (SCU)

provides detailed descriptions of the SCU tabs.

Appendix D: Bar Code Settings

describes the bar codes supported by the scanners and imagers available for the WORKABOUT PRO³.

Appendix E: Teklogix Imagers Applet

describes the Teklogix Imagers applet and how to use it to set up your imager.

1.2 Text Conventions



Note: Notes highlight additional helpful information.



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



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

1.3 WORKABOUT PRO³ Features



Important: For all safety, regulatory and warranty information, refer to the ‘WORKABOUT PRO³ Hand-Held Computer Regulatory & Warranty Guide’, PN 8000126.

The WORKABOUT PRO³ is a ruggedized hand-held personal computer, running the Microsoft Windows CE 5.0 operating system. It is intended for use in commercial and light industrial applications with a focus on real time wireless data transactions. All possible bar code input methodologies are supported by one of a variety of scanners available. Optimization for specific operational environments is supported with a wide range of peripheral options and carrying accessories.



Note: For complete hand-held computer specifications, refer to “WORKABOUT PRO³ Specifications” on page 211.

Model Variants

- WORKABOUT PRO³ C – Model 7527C-G2
- WORKABOUT PRO³ S – Model 7527S-G2

Platform

- PXA270M @ 624 MHz, 32 bit RISC CPU
- 1024 MB Flash ROM, 256 MB RAM

Operating System

- Microsoft® Windows® CE 5.0

Multi-Media Chipset

- NVIDIAGoForce 4000 Multi-Media Processor

Real-Time Clock

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

User Interface

- Color Touch Screen Display 3.6 in.(9.144 cm) diagonal
 - Full VGA Display with Adjustable Resolution: QVGA or VGA
 - Transflective, portrait mode TFT
 - Adjustable Backlight
- Touchscreen
 - Passive stylus or finger operation
 - Signature capture
- Keyboards
 - Full Alpha-Numeric (C model)
 - Numeric (S model)
 - QWERTY (S model)
 - Ergonomically enhanced for ambidextrous, one-hand operation
 - Backlit, high durability hard-capped keys

Wireless Communication

Optional expansion modules for:

- 802.11b/g Compact Flash Radio operating in the 2.4GHz band
- 802.11a/b/g Compact Flash Radio with integrated antenna operating in 2.4GHz and 5GHz bands
- GSM/GPRS EDGE (via expansion interface)

- Quad Band - 850/900/1800/1900 Voice and Data
- UMTS/HSDPA (via expansion interface)
- Triple band - 850/1900/2100MHz Voice and Data
- Integrated *Bluetooth* class II, V 2.0 + EDR



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

1.4 The WORKABOUT PRO³ C Hand-Held

Figure 1.1 WORKABOUT PRO³ C with Alpha Keyboard



1.5 The WORKABOUT PRO³ S Hand-Held

Figure 1.2 WORKABOUT PRO³ S with Numeric Keyboard



Figure 1.3 WORKABOUT PRO³ S with QWERTY Keyboard



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2.1 Preparing the WORKABOUT PRO³ for Operation

2.1.1 The Main Battery

Before charging the battery, it is critical that you review the battery safety guidelines in the “WORKABOUT PRO Hand-Held Computer Warranty & Regulatory Guide”, PN 8000126. The WORKABOUT PRO³ C and WORKABOUT PRO³ S can be powered with one of the following lithium-ion battery packs:

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

2.1.1.1 Charging the Main Battery



Important: *Before opening the battery cover on your WORKABOUT PRO³, press the Power button to turn off the hand-held.*

Battery packs shipped from the factory are charged to approximately 40% and must be fully charged prior to use. Batteries can be charged using a variety of chargers and docking stations along with a WORKABOUT PRO³ internal charger. When using the internal charger, a suitable power source is required. All chargers and docking stations are described in Chapter 6: “Peripheral Devices & Accessories” beginning on page 169.



Note: If you are powering up a new unit, a warning message may appear on the screen indicating that the backup battery capacity is low. To recharge the internal battery, you must fully charge the WORKABOUT PRO³ with the main battery installed in the unit.

2.1.2 The Backup Battery

To preserve data stored in your WORKABOUT PRO³ while you swap the main battery, the unit is equipped with a backup battery—a replaceable, rechargeable Lithium-Ion backup battery that can be ordered through Psion Teklogix. The backup battery will supply 5 minutes of continuous power while you install a charged, main battery.

The backup battery is trickle charged from the main battery. Provided that the main battery contains power, the backup battery will maintain a charge whether the WORKABOUT PRO³ is switched on or off, in a docking station or in a cradle. Even when the main battery reaches its Suspend Threshold (refer to “Suspend Threshold” on page 112) and the hand-held shuts down, the backup battery will continue to draw a trickle charge from the main battery to protect the data stored in the unit until a charged main battery is installed.



Note: The backup battery takes approximately 3 to 4 hours to fully charge from a fully discharged (flat) state, generally the same amount of time it takes to fully charge the main battery. While you can continue to use the WORKABOUT PRO³, replacing the main battery while the backup battery is not fully charged is not recommended because you risk losing the data stored on the unit.

2.2 Turning the WORKABOUT PRO³ On and Off

2.2.1 Installing the Battery and Switching the Unit On



Important: *Press and hold down the Power button until the ‘Shutdown’ screen is displayed. Choose ‘Suspend’ and tap on OK before removing the battery.*

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



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

To switch on the WORKABOUT PRO³:

- Press and hold down the **Power** button for at least one second.
- When the LED flashes green, release the **Power** button.

The desktop screen is displayed.

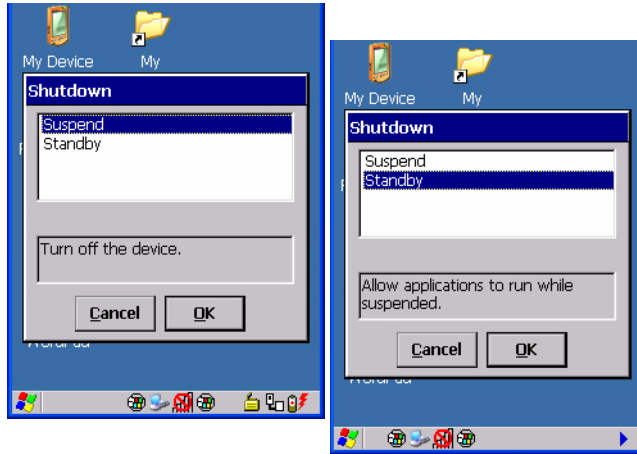


Note: If the unit was already in use—the unit may be off (suspend state) – pressing [ENTER] ‘wakes’ the unit from this state. The screen in which you were working prior to the suspend state is displayed.

2.2.2 Switching the Unit Off (Suspend & Standby)

- Press and hold down the **Power** button.

A *Shutdown* dialog box like the one below is displayed. Each option switches off different elements of the WORKABOUT PRO³; each shutdown option displays an associated description.



Choosing **Suspend** places the hand-held into a power-saving *suspend* state. In this state, all radios remain on, but the display, keyboard backlight and processor are switched off. When the WORKABOUT PRO³ is turned on from this state, operation resumes within a few seconds in the screen in which you were working prior to suspend.

If you choose **Standby**, the display is turned off, the keyboard is locked and the touchscreen is locked. The processor remains on so that any running applications will continue while the hand-held is in a *Standby* state. In addition, the radios remain on. Keep in mind that because the processor continues to run, *Standby* mode consumes more power than *Suspend* mode.

2.3 Calibrating the Touchscreen



Note: Keep in mind that the touchscreen function can be turned off (see “Touch” on page 117).

The WORKABOUT PRO³ touchscreen is factory-calibrated and ready-to-go; however, over time the touchscreen operating parameters may change and may need to be recalibrated for correct operation. Refer to “Calibration” on page 116 for details.

2.4 Configuring the 802.11a/b/g RA2043 Compact Flash Radio

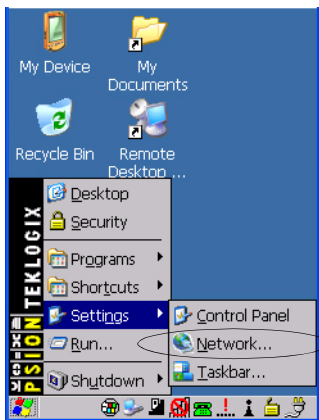
Once the RA2043 802.11a/b/g compact flash radio is installed in the WORKABOUT PRO³, you'll need to take a few steps to configure the radio. While most common settings are configured as defaults, there are some fields that must be completed including the SSID of your access point and the security methods implemented in the network (including access keys).



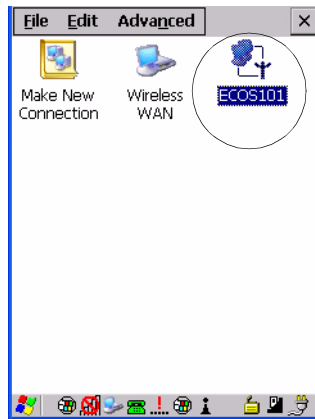
Note: In most cases, the configuration of your 802.11 radio will require parameters, settings and access keys from a network administrator.

Network administrators should review the detailed security information in this section in order to effectively configure the 802.11 wireless network.

- Tap on the **Start** button in the taskbar, and then tap on **Settings>Network and Dial-up Connections**, or
Tap on the **radio icon** in the taskbar.

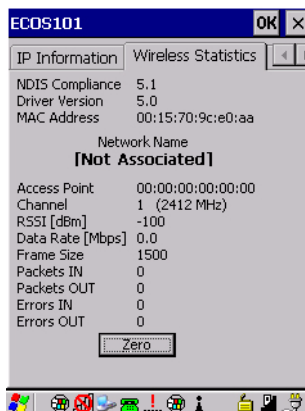


- Double-tap on the **radio icon** to open the *Wireless Statistics* screen – in the sample screen below, the radio icon is labelled **ECOS101**.



Wireless Statistics Tab

When you tap on the radio icon, the *Wireless Statistics* window is displayed listing your radio statistics.

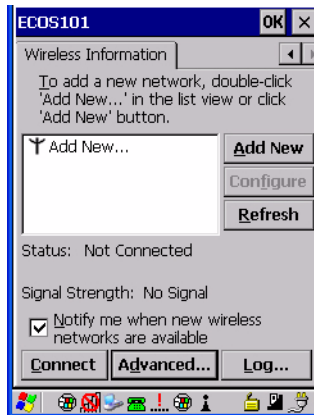


Tapping on the *[Zero]* button resets the statistics of the last four items – Packets IN, Packets OUT, Errors IN and Errors OUT.

- Tap on the right arrow in the upper-right corner of the screen to display the *Wireless Information* tab. Tap on the **Wireless Information** tab to make it active.

Wireless Information

This tab lists available networks — any access points that are broadcasting an SSID, and it lists preferred networks that you have configured. Since access points are generally secure, they will most likely not be listed here. By default, WORKABOUT PRO³ attempts to connect to preferred networks. This behaviour can be changed by enabling *Automatically connect to non-preferred networks* in the *Advanced Wireless Settings* dialog box (page 23).

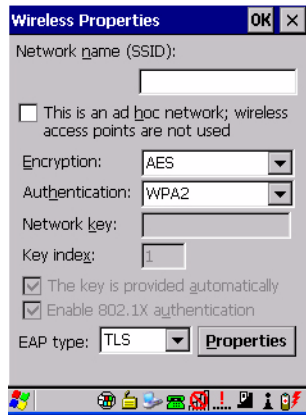


Note: [**Configure**] button – To change the settings in an existing network, highlight the network you want to modify, and tap the [**Configure**] button to display the *Wireless Properties* dialog box.

[**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.

- To add a new configuration, tap on the [**Add New**] button in the *Wireless Information* tab.

Wireless Properties



Network Name (SSID)

- Type the appropriate **SSID** (Service Set Identifier) in the *Network name (SSID)* text entry field at the top of this dialog 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 PRO³ will only communicate with access points that are configured with the same SSID.*

Ad Hoc Infrastructure

If you are using an *Ad Hoc* network – one 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 add a checkmark, enabling *Ad Hoc*.

If you are using an *Infrastructure* network – one in which WORKABOUT PRO³ must pass data through an access point – leave the checkbox next to *This is an ad hoc network* blank.

Encryption

The *Encryption* menu allows you to choose the type of encryption that will be used to protect transmitted data. Only the *Encryption* options that are compatible with the type of *Authentication* you've chosen will be listed.

- Choose an **Encryption** method valid for your network from the drop-down menu.

WEP (Wired Equivalent Privacy) encryption is only available when you choose *Open* or *Shared Authentication* (see “Authentication” on page 18 for a description of *Authentication* types). This option allows you to choose *Disable* if you are not using encryption.

AES (Advanced Encryption Standard) and **TKIP (Temporal Key Integrity)** are available for all other Authentication types.

Authentication

WORKABOUT PRO³ supports a number of classes of *Authentication* – *Open*, *Shared*, *WPA*, *WPA2*, *WPA2-PSK* and *WPA-PSK*.

Open authentication allows any wireless station to 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.

Shared authentication assumes that each wireless station has received a secret shared key over a secure channel that is independent from the 802.11 wireless network communications channel.

WPA and **WPA2** authentication modes use 802.1X with EAP authentication. The encryption options for these authentication types include: *AES* or *TKIP*.

WPA-PSK (Wi-Fi Protected Access Preshared Key) and **WPA2-PSK** authentications require a shared key to be configured on both the access point and the hand-held computer. One of the following encryption options can be chosen from the *Encryption* drop-down menu: *AES* or *TKIP*.

Network Key

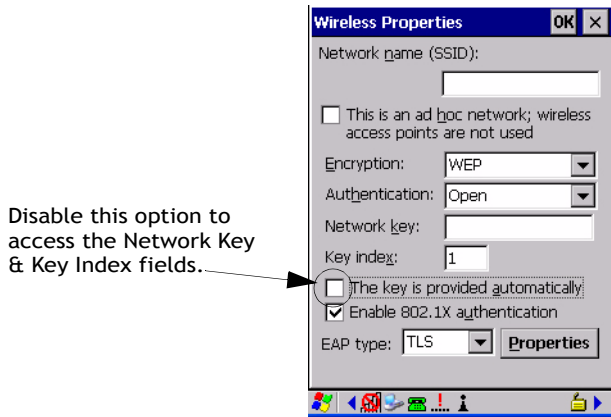
This text box is used to specify an ASCII character sequence or an equivalent Hexadecimal digit sequence that matches the active network key on the access point.

- **WEP:** Enter either a **5 to 13 ASCII character sequence** or a **10 to 26 Hexadecimal sequence**.
- **WPA-PSK** and **WPA2-PSK:** Enter an **8 to 63 ASCII character sequence** or **64 Hexadecimal sequence** network key.

If you are using *WEP* encryption, you can choose to have the *Network Key* provided automatically or to enter it manual.

- To enter the Network key manually, **uncheck** the box to the left of *The key is provided automatically*.

Figure 2.1 Accessing Network Key and Key Index



Key Index

This field is used to identify the WEP key.

- Enter a value from 1 to 4.

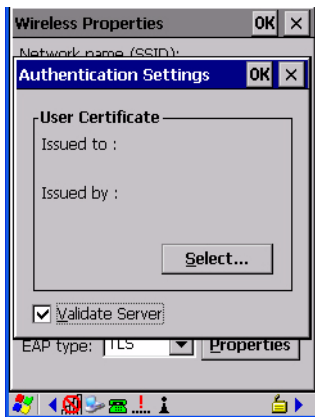
Enable 802.1x Authentication

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 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 drop-down menu next to the *EAP Type* menu at the bottom of the *Wireless Properties* screen.

EAP Type (Extensible Authentication Protocol)

This drop-down menu lists the EAP types available on your system. The items in this drop-down menu will vary depending on your network setup. Keep in mind also that some authentication protocols require that you select a *Certificate*.

If you need to select a certificate, tap on the *Properties* button to display the *Authentication Settings* screen.



Tapping on the *Select* button allows you to choose a *Certificate*.



*Note: When the **Verify Server Certificate** box is checked, WORKABOUT PRO³ will verify the certificate provided by the authentication server during the authentication process. This requires that an appropriate certificate be manually installed on the hand-held for the verification.*

For more details about certificates, refer to “Certificate Assignment” on page 130.

Saving Settings and Exiting

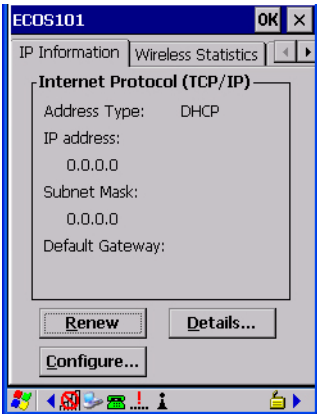
- Once you have completed the configuration, press [ENTER] or tap on OK.

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 encryption and authentication information you specified. If there is a match between your computer settings and the access point settings, the computer will communicate on the network through the access point.

2.4.1 Assigning an IP Address

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

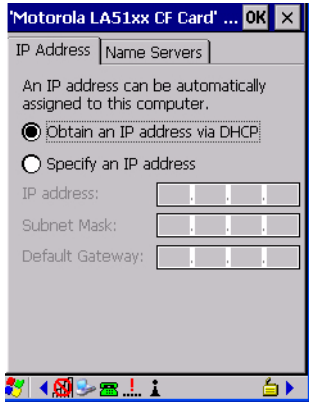
- If required, use the arrow buttons in the upper-right corner of the screen to display the *IP Information* tab.



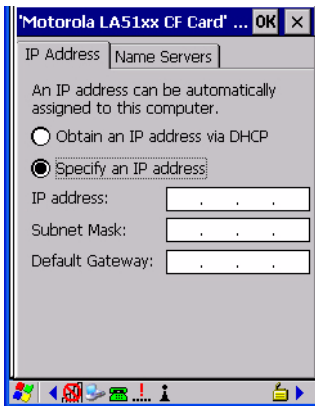
Note: Choosing the Renew button forces the WORKABOUT PRO³ to renew or find a new IP address. This is useful if, for example, you are out of communication range for a longer period of time and your unit is dropped from the network.

To define a static IP address:

- Tap on the **Configure** button.



- Tap on the radio button next to **Specify an IP address**.



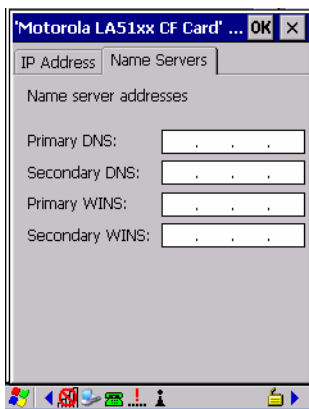
- Type the **IP**, **Subnet Mask** and **Default Gateway** address in the appropriate fields. Press **[ENTER]** to save the information.

2.4.2 Name Servers Tab



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

- If the *Name Server* tab is not already visible, in the *IP Information* screen, tap on the **Configure** button.
- Tap on the **Name Servers** tab.

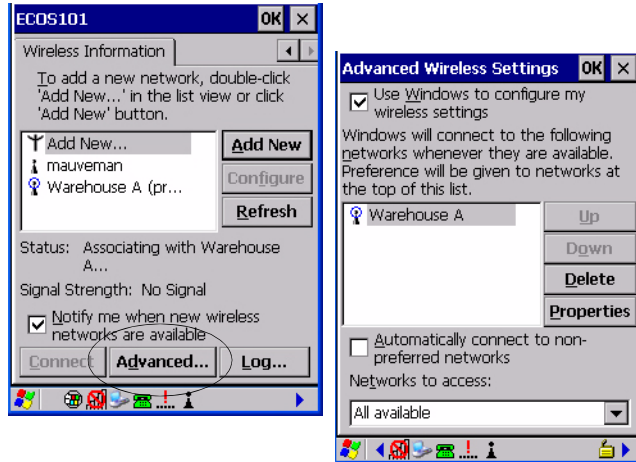


The DNS and WINS fields in the *Name Servers* tab allow you to specify additional WINS and DNS resolvers. The format for these fields is *###.###.###.###*.

2.4.3 Advanced Features

To display the *Advanced Wireless Settings* dialog box:

- Tap on the **Advanced** button in the *Wireless Information* tab.



2.4.3.1 Non-Preferred Networks

Normally, WORKABOUT PRO³ connects to a preferred network listed in this dialog box. To connect to a non-preferred network, add a checkmark in the check box to the left of *Automatically connect to non-preferred network*.

2.4.3.2 Networks to Access

By tapping on this drop-down menu, you can narrow which networks your unit will attempt to access: *All available*, *Only access points* or *Only computer-to-computer*.

2.4.3.3 Rearranging Preferred Networks

The WORKABOUT PRO³ attempts to connect with the networks listed in this dialog 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:

- Move the cursor into the *networks list*, and 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 on the **Up** or **Down** button.

2.4.3.4 Deleting a Preferred Network

To delete a network from this list:

- In the *networks* list, highlight the **network** that you want to remove.
- Tap on the **Delete** button.

2.4.3.5 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* dialog box, and press **[ENTER]** to save the changes.

2.5 Configuring the Summit RA2041 802.11b/g

Psion Teklogix supports the Summit 802.11b/g Compact Flash (CF) wireless LAN radio card, model number RA2041. It is a Direct Sequence Spread Spectrum radio.

This section describes the *Summit Client Utility* (SCU) used to configure the Summit 802.11b/g Compact Flash radio module so that it can communicate through a wireless LAN effectively and securely.

2.5.1 Assigning the IP Address

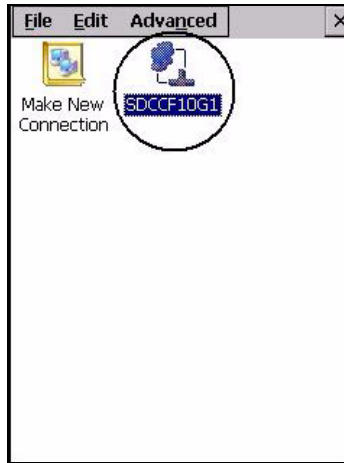
Before launching the SCU, you need to configure how the IP address will be obtained. If your network is not using a DHCP server, you will need to assign an IP address.

- Tap on **Start>Settings>Network and Dial-up Connections**. (If the *Start Menu* isn't displayed in the taskbar, press **[FN/BLUE] [0]** to display it.)

If you're using the keyboard, press **[FN/BLUE] [0]** to display the *Start Menu*. Use the **[DOWN]** arrow key to highlight *Settings*. Press the **[RIGHT]** arrow key to display the sub-menu. Highlight **Network**, and press **[ENTER]**.

- Choose the **Summit WLAN Adapter icon** to open the *802.11b/g Wireless LAN Settings* window. In Figure 2.2, this icon is labelled SDCCF10G1.

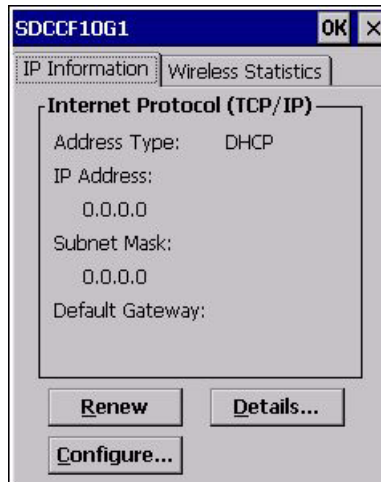
Figure 2.2 Summit WLAN Adapter Icon



The *Summit WLAN Adapter Settings* menu is displayed (in this screen shown as the *SDCCF10G1* menu).

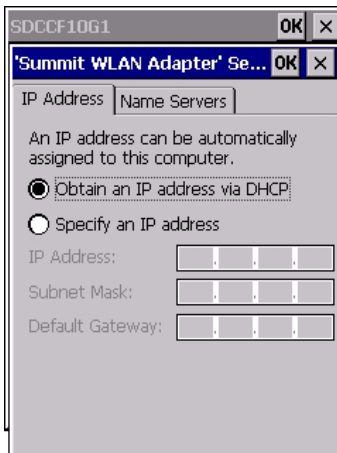
- Tap on the **IP Information** tab.

Figure 2.3 IP Information Tab



Note: Choosing the Renew button forces the WORKABOUT PRO³ 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 WORKABOUT PRO³ is dropped from the network.

- To define a *static IP address*, tap on the **Configure** button. The *Summit WLAN Adapter Settings* menu provides two options:
Tap on *Obtain an IP address via DHCP* to have an address assigned automatically, or
If you want to use a particular IP address, tap on *Specify an IP address*, and type the preferred address as well as the *IP*, *Subnet Mask* and *Default Gateway* addresses in the appropriate fields.
- Tap **OK** to save your information.



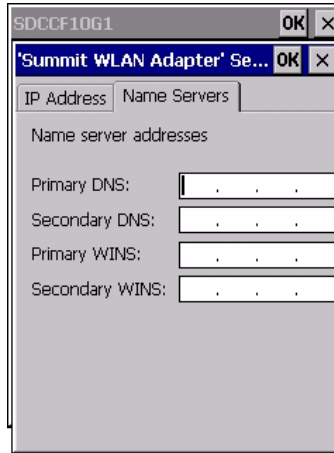
2.5.2 Name Servers Tab



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

- In the *SDCCF10G1* window, display the **IP Information** tab.
- In the *Summit WLAN Adapter Settings*>*IP Information* tab, tap on the **Configure** button.

- Display the **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 `###.#.#.#`.

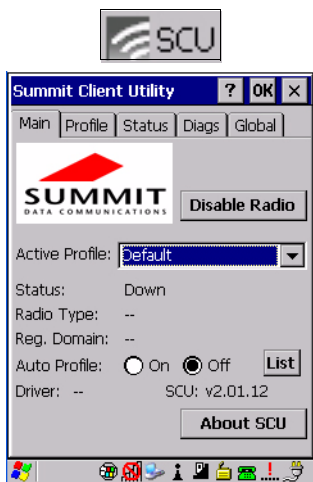
2.5.3 Using the SCU to Connect to the WLAN

This section provides a quick set of steps to create a profile. Detailed information about each of the SCU tabs—*Main*, *Profile*, *Status*, *Diags* and *Global Settings* – is provided in Appendix C: “Summit Client Utility (SCU)”.

To launch the *SCU* so that your *WORKABOUT PRO³* can connect to a wireless LAN:

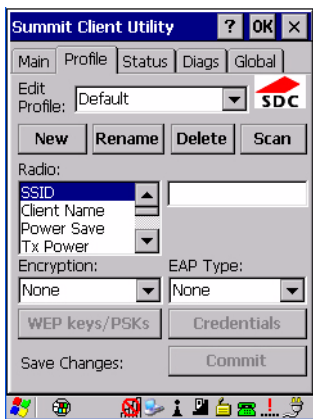
- Tap on **Start>Programs>Summit**, and then tap on the **SCU icon**.

Figure 2.4 SCU Main Tab



- Tap on the **Profile** tab.

Figure 2.5 SCU Profile Tab



- Tap on the **New** button to define a new profile.
- Type a **unique name** for your configuration using any alpha-numeric combination to uniquely identify this profile.
- Tap on **OK** to return to the *Profile* tab.
- Tap on **Commit** to save your SSID setting.
- When a pop-up message indicates that your configuration will be saved, tap on **OK**.

2.5.3.1 SSID

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

- Type an **SSID** in the text box to the right of *SSID*. This field is limited to 32 characters.
- Tap on **Commit** and then, in the pop-up message, tap on **OK** to save your *SSID* setting.



Important: To learn more about the other options available in the radio attributes list, refer to Appendix C: “Summit Client Utility (SCU)” under “Profile Tab” on page C-2.

2.5.3.2 EAP Type

To configure authentication and encryption, use the appropriate drop-down menus in the *Profile* dialog box, and enter credentials for IEEE 802.1X EAP types or WEP keys by tapping on the *Credentials* button just below the drop-down menus.

- Tap on the **EAP type** drop-down menu, and choose the appropriate type of authentication – *LEAP*, *EAP-FAST*, *PEAP-MSCHAP*, *PEAP-GTC* and *EAP_TLS*.
- Once you’ve chosen an *EAP type*, tap on the **Credentials** button, and type credentials for IEEE 802.1X EAP types.



Important: Refer to Appendix C: “Summit Client Utility (SCU)” under the “Profile Tab” beginning on page C-2 for details about *EAP-Type* and *Encryption security settings*.

2.5.3.3 Encryption

To configure encryption:

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

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

- Tap on the **WEP/PSK Keys** button. For *Manual WEP*, choose up to four static WEP keys. For *PSK*, type an ASCII passphrase or hex PSK.
- Configure any other settings that are supplied by the network administrator for the *SSID* to which you will associate.
- Make certain that you tap on **Commit** following each change.

Once you’ve completed the configuration:

- Tap the **Main** tab. Tap on the **Active Profile** drop-down menu – your new profile will be listed in the drop-down menu.

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

1. Associate with SSID.
2. Authenticate to network.
3. If EAP authentication is being used, derive dynamic encryption keys.
4. If DHCP is being used by the network, obtain an IP address.

If the RA2041 is not connecting properly:

- Tap on the **Status** tab.

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

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



Important: For details about the *Status* dialog box, refer to *Appendix C: “Summit Client Utility (SCU)”*, page C-7.

2.6 Checking the Scanner

If your WORKABOUT PRO³ is equipped with an internal scanner, you can test it to ensure that it is operating properly. Point the scanner window at a bar code that your scanner was designed to decode – for example, a 1D UPC bar code or 2D bar code. Press the SCAN key or pistol trigger, and check for a valid decode on the hand-held’s screen.

Performance is improved if you disable all unneeded bar codes in the *Bar Codes* screen. Review “Teklogix Scanner Settings” beginning on page 146 and Appendix D: “Bar Code Settings” for details about bar codes.

2.7 Connecting the WORKABOUT PRO³ to a PC



Note: Refer to “Linking a WORKABOUT PRO³ to a PC” on page 190 for more details about the desktop docking station and how to link to a PC.

The WORKABOUT PRO³ can be connected to a PC using the desktop docking station.

- Insert the unit in the desktop docking station.
- Use a Client USB connector to complete the communication link between the hand-held and the PC.

2.8 Data Transfer Between the PC & the Hand-Held

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

If the *Microsoft® Vista®* operating system is installed in your PC, *ActiveSync* is not required to transfer data between your WORKABOUT PRO³ and your PC.

By connecting the WORKABOUT PRO³ to a PC with a cable, you can:

- View WORKABOUT PRO³ files from Windows Explorer.
- Drag and drop files between the WORKABOUT PRO³ and the PC in the same way that you would between PC drives.
- Back up WORKABOUT PRO³ files to the PC, then restore them from the PC to the hand-held again, if needed, and so on.

2.8.1 Using Microsoft® ActiveSync®

To install *ActiveSync*, follow the step-by-step instructions provided with the program's setup wizard. Refer to the following website for details:

<http://go.microsoft.com/fwlink/?LinkId=147001>

Look for the *ActiveSync* link.

2.8.2 Using Microsoft® Vista®

If you have *Windows Vista*, your WORKABOUT PRO³ data transfers do not require *ActiveSync*. To transfer data between your PC and your hand-held:

- Tap on **Start>Computer** to display the drives. Your WORKABOUT PRO³ will be visible here.
- Open drives, files and folders as you would on your PC.

2.9 Voice - Using the Phone Dialer

If the WWAN modem is installed and enabled, the *Phone icon* and the *GSM signal strength icon* will appear automatically on the taskbar.

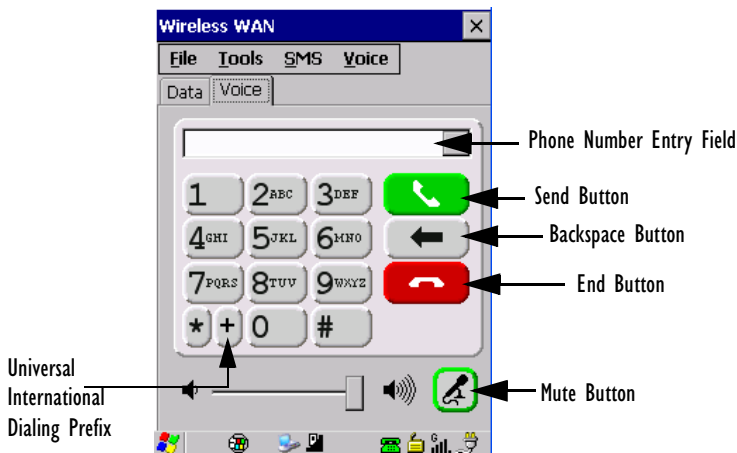
- Double click on the **Phone icon** to access the phone dialer.

You can also follow the steps below to access the phone dialer:

- To access the dialer, tap on **Start>Settings>Control Panel**.

- Tap on the **Wireless WAN icon**, and then tap on the **Voice tab**.

The *Voice* tab displays a phone dialer used to dial phone numbers. The *Voice* menu provides commands which allow you to manage your phone contacts, view your phone history, and so on.



2.9.1 Dialing a Number

To make a phone call, all you need is the recipient's phone number.

- Type the recipient's phone number in the phone number entry field.
 - **Send button** – tap to dial the number you typed.
 - **Backspace button** – tap to erase characters in the phone number entry field.
 - **End button** – tap to disconnect the phone call.
 - **Mute button** – During a phone call, tap to mute sound transmission. Tap again to restore sound.
 - **+ button** – When making an international call, the + sign can be used as a universal substitute for any international dialing prefix and is guaranteed to work worldwide.

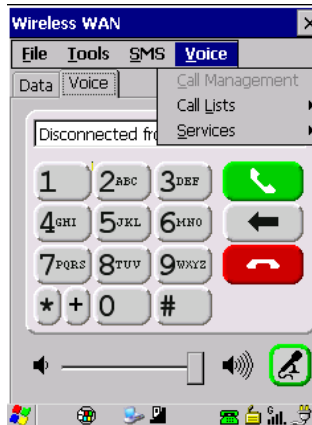
The entry sequence must be as follows: **+ country code** followed by **phone number**

Example: A standard phone number: 011 36 30 275 28466 using the + substitution is typed as follows: +36 30 275 28466

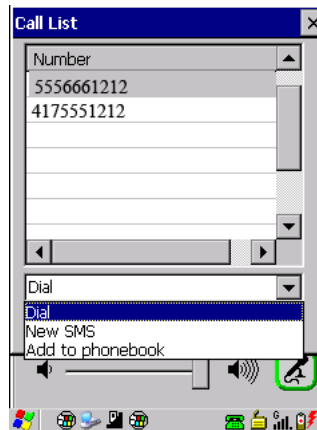
The + symbol replaces the universal dialing prefix 011.

2.10 Voice Menu

This menu allows you to manage calls, view your call history, and if required, assign a call forwarding service to your hand-held.



Call Lists



The *Call List* command manages your call history, listing calls you've *Dialed*, *Received* and *Missed*. When you choose one of these commands, a dialog box lists the phone number(s).

A drop-down menu provides a list of commands you can execute on a phone number in the *Call List*. You can choose to:

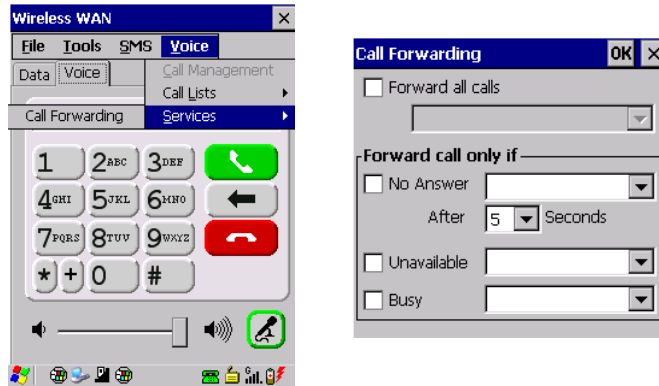
- Dial the number,
- Send a New SMS, or

- Add to phonebook to add the highlighted phone number to your phonebook. (Refer to “Phonebook” on page 36 for details additional details about the Phonebook.)

In the *Call List*:

- Highlight the **phone number** with which you want to work.
- Choose a command in the drop-down menu.
- Tap on the **Execute** button to carry out the command.

Services



The *Service* menu offers a *Call Forwarding* option for your hand-held. If you choose this option, it may take a number of seconds for your unit to read the network settings.

To forward all calls:

- Tap in the **checkbox** next to **Forward all calls**, and then type the phone number to which all incoming phone calls will be routed.

To specify when a call will be forwarded, that is:

Forward the call only when it is not answered after a specified number of seconds,

Forward the call when you have identified yourself as ‘unavailable’, *or*

Forward the call when your unit is busy:

- Tap in the appropriate checkbox, and enter the phone number to which the call will be routed.

Call Management

The *Call Management* option only becomes available in the *Voice* menu when at least one phone call is either *On hold* or *Active*. When you choose this command, the currently active phone call(s) is listed in a dialog box.



Using the drop-down menu, you can choose to:

Hang Up All Calls - This option only appears when more than one call is listed.

Hang Up - This option disconnects only the call you've highlighted in the list.

Hold - This option places the call you've highlighted on hold.

Retrieve - This option is only available when a call is on hold, and choosing it retrieves the call you have highlighted from hold.

- In the *Call Management* list, highlight the phone number to which you'd like to apply a command.
- Choose a command from the drop-down menu, and tap on **Execute** to carry out the command on the highlighted phone number.

If you have two active calls on your hand-held, one *On Hold* and one *Active*, you can set up a conference call between yourself and the other callers. To set up a conference call:

- Highlight the phone number that is currently *On Hold*, and choose **Retrieve**. Tap on **Execute**.

Both calls will be listed as *Active* in the *Call Management* list. All calls are now conferenced so that you as well as your callers can speak to one another.

2.11 File Menu - Phonebook Management

Tapping on the *File* menu provides access to your *Phonebook*.

Phonebook

The *Phonebook* allows you to store frequently used phone numbers. When no numbers have been added to your phonebook, the only command available to you is *New Entry*.



To add a new phone number to your phonebook:

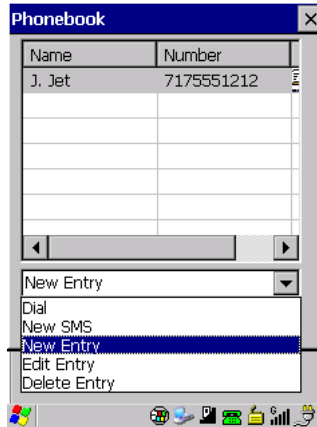
- Choose **New Entry** in the drop-down menu, and tap on **Execute**.



- Type the name corresponding to the phone number you want to add.
- Press **Tab** and type the phone number you want to store.
- Tap in the checkbox next to *Store in SIM* to save the phone number there, or leave this checkbox blank if you prefer not to store the number on the SIM card.
- Tap on the **Execute** button to save the phone number in your *Phonebook*.

Phonebook entries are saved even after you exit Wireless WAN.

Once you've added a phone number to the *Phonebook*, a list of new commands is available in the drop-down menu.



You can choose one of the following:

- *New Entry* to add another phone number,
- *New SMS (Short Message Service)* to send a new SMS,
- *Edit Entry* to change an existing name and/or phone number, *or*
- *Delete Entry* to erase an existing phone entry.

In the *Phonebook*:

- Highlight the entry with which you want to work.
- Choose a command from the drop-down menu, and tap on **Execute** to carry out the command.

2.12 Resetting the Hand-Held

2.12.1 Performing a Warm Reset

When you perform a warm reset, the operating system restarts without clearing the object store memory where the file system resides. Registry settings, installed programs and any data files are preserved. Any open applications are closed and any unsaved data are lost.

To execute a warm reset:

- Press and hold down the **[FN/BLUE]** key and the **[ENTER]** key simultaneously for a minimum of six seconds.



Note: You do not need to reset your WORKABOUT PRO³ after configuring the radio.

2.12.2 Performing a Cold Reset

A cold reset clears the object store memory and restarts the operating system. Registry settings are maintained. All installed programs and data files not located on permanent memory storage media such as the *Flash Disk* partition are lost.

To perform a cold reset and launch the Windows CE 5.0 operating system through the BooSt menu:

- Press and hold down the centre **[SCAN]** key and the **[FN/BLUE]** and **[ENTER]** keys simultaneously for a minimum of six seconds.

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

- Type **1** to load the Windows CE 5.0 operating system.

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3.1 Features of the WORKABOUT PRO³

Figure 3.1 Front of WORKABOUT PRO³

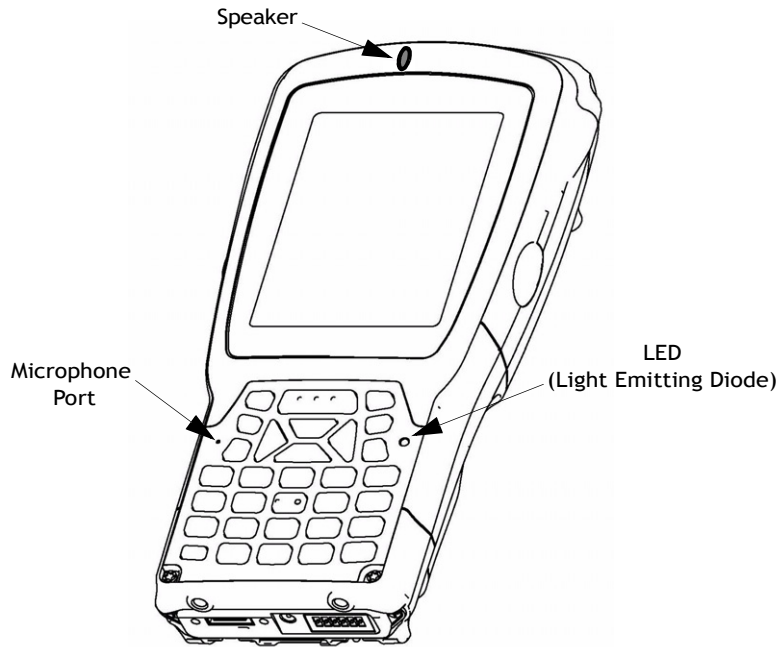


Figure 3.2 Back of WORKABOUT PRO³

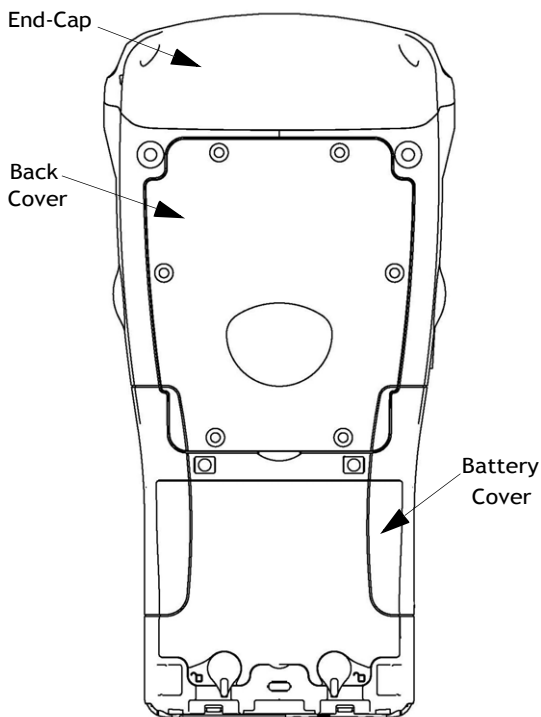
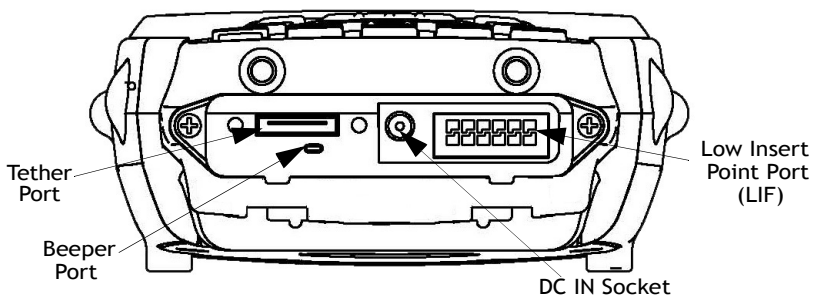


Figure 3.3 WORKABOUT PRO³ Ports



3.2 The Battery

The hand-held operates with a Lithium-Ion battery pack. Preparing the unit for operation requires that a battery pack be charged and installed in the WORKABOUT PRO³.

Three levels of battery packs are available for the WORKABOUT PRO³:

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

3.2.1 Battery Safety



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

3.2.2 Removing the Battery Pack



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

Refer to “Installing the Battery and Switching the Unit On” on page 12.

3.2.2.1 Battery Swap Time

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

To protect data, the safest place to store data is on a SD/MMC memory card or externally to the device on a USB memory stick or on a PC. You can also save data in the “Flash Disk” partition of the file system.

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

Refer to “Suspend Threshold” on page 112 for details about reserving battery power for data backup purposes.

3.2.3 Charging the Battery

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

Keep in mind also that, along with the main battery, the WORKABOUT PRO³ is equipped with an internal, backup battery that preserves data stored on the unit while the main battery is swapped.



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

IF YOU ARE POWERING UP A NEW UNIT, a warning message may appear on the screen indicating that the backup battery capacity is low. To recharge the backup battery, you must fully charge the WORKABOUT PRO³ with the main battery installed in the unit.

3.2.3.1 Chargers and Docking Stations



Important: *FOR DETAILED INFORMATION about chargers and docking stations, refer to “Peripheral Devices & Accessories” on page 169*

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

- AC wall adaptor (Model # PS1050-G1) – operates as an AC power source and when plugged in, also charges the battery installed in the unit.
- Desktop Docking Station (Model # WA4003-G2)—operates as both a charger and a docking station. Operating as a charger, both the battery installed in the hand-held and a spare battery can be charged simultaneously.
- Quad Docking Station — (Model # WA4204-G2 for WORKABOUT PRO³ C & Model # WA4304-G2 for WORKABOUT PRO³ S) can charge the battery of up to four WORKABOUT PRO³ inserted in the docking station.
- Single Battery Charger (Model # WA3001-G1)—charges a single battery.
- Quad Battery Charger (Model # WA3004-G1)—charges up to four spare High or Super-High Capacity WORKABOUT PRO³ battery packs.

It can take up to 4 hours to charge a battery depending on how depleted it is. The WORKABOUT PRO³ 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 55 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



Important: *Refer to “Turning the WORKABOUT PRO³ On and Off” on page 12 for details about safely installing batteries and switching the unit on and off.*

3.4 The Keyboard

This hand-held computer is available in two models, C and S. The WORKABOUT PRO³ C model is available with an alphanumeric keyboard; the WORKABOUT PRO³ S model is available with either a QWERTY or numeric keyboard.

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

The WORKABOUT PRO³ is equipped with a *Power* button that allows you to switch the unit on and to shut down the unit to *Suspend* or *Standby* mode. For details about the *Power* button, refer to “Turning the WORKABOUT PRO³ On and Off” on page 12.

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

3.4.1 Modifier Keys

The [SHIFT], [CTRL], [ALT], [FN/BLUE] and [FN/ORANGE] keys are modifier keys. Pressing a modifier key changes the function of the next key pressed. For example, on a WORKABOUT PRO³ C, a square bracket is printed in orange print above the [G] key. Pressing the [FN/ORANGE] key followed by the [G] key displays a square bracket rather than the letter G.

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

3.4.1.1 Activating Modifier Keys

When a modifier key is pressed once, it is displayed in lowercase letters in the taskbar at the bottom of the hand-held screen. For example, if the [CTRL] key is pressed, *ctrl key* is displayed at the bottom of the unit screen. Once the next key is pressed, the modifier key becomes inactive and disappears from the taskbar.

Keep in mind, however, that the *One Shot* function allows you to determine how many key presses will lock a modifier key ‘on’ – one press or two. Refer to “Keyboard One Shots Mode” on page 100 for details.

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 [CTRL] key twice locks it on—it is displayed as CTRL 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, the uppercase representation at the bottom of the screen is no longer displayed.

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.

The Arrow Keys

The Arrow keys move the cursor around the screen in the direction of the arrow: 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 [SPACE] Key

Pressing this key inserts a blank space between characters. In a Windows dialog box, pressing the [SPACE] key enables or disables a checkbox. On the WORKABOUT PRO³ S numeric keyboard, this key is accessed by key combination – [FN/ORANGE] [0] (zero).

The [BKSP/DEL] Key

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

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

The [CTRL] and [ALT] Key

The [CTRL] and [ALT] keys modify the function of the next key pressed and are application dependent. These keys are printed in blue type on the keys to the left and right of the [SCAN] key at the top of the keyboard. They are accessed using a key combination – [FN/BLUE] followed by the [CTRL] or the [ALT] key.

The [TAB] Key

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

The [ESC] Key

Generally, this key is used as a keyboard shortcut to close the current menu, dialog box or activity and return to the previous one. On the QWERTY keyboard, a key combination is required to access the [ESC] key. Press [FN/BLUE] [TAB].



The Windows [START] Key

This key displays the *Start* menu.

The [SCAN] Keys

All units are equipped with three [SCAN] keys – one on the left side and one on the right side of the unit along with a scan bar just below the WORKABOUT PRO³ display. For units that do not have internal scanners, this key can be re-mapped to another function.

Volume Keys - [UP ARROW] and [DOWN ARROW]

The volume keys are located above the [UP ARROW] and [DOWN ARROW]. The [UP ARROW] key – the increase volume key – is labelled with a plus symbol . The [DOWN ARROW] key – the decrease volume key – is labelled with a minus symbol .

3.4.3 Function Keys and Macro Keys

In addition to the standard keyboard functions, the WORKABOUT PRO³ supports *Function* keys and *Macro* keys. All *Function* and *Macro* keys can be custom defined for each application.

3.4.3.1 Function Keys

With the exception of the QWERTY keyboard which has 10 function keys, the WORKABOUT PRO³ keyboard is equipped with a total of 14 function keys. On the alpha and numeric keyboards, function keys [F1] to [F4] are located across the top of the keyboard to the left a right of the Scan key; these function keys are directly accessible – a key combination is not required. Ten additional function keys are colour coded in blue print on the unit

body; these keys are accessed by executing a key combination, [FN/BLUE] followed by the appropriate key.

For example, to access function key [F7] on a numeric keyboard:

- Press the [FN/BLUE] key followed by the [7] key – the numeric key to which function key [F7] is mapped.
- To access function key [F8], press [FN/BLUE] [8], and so on.

3.4.3.2 Macro Keys (WORKABOUT PRO³ C Only)



Important: Refer to “Keyboard Macro Keys” on page 101 for details about creating macros.

WORKABOUT PRO³ C hand-helds are equipped with a series of macro keys that can be programmed to replace frequently used keystrokes, along with the function of executable keys like the [ENTER] key, the [BKSP] key, any function key and arrow key, and so on.

Alphanumeric keyboards have ten macro keys: [M1] to [M10]. These keys are colour coded in orange print above the numeric keys.

To access a macro key:

- Press the [FN/ORANGE] key followed by the appropriate numeric key from [1] to [0].
- To access macro key [M1], press [FN/ORANGE] [1].
- To access macro key [M2], press [FN/ORANGE] [2], and so on.

3.4.4 Alpha Keyboard - Accessing Keys

The alpha and numeric keys on WORKABOUT PRO³ C units are directly accessible from the keyboard – no key combination is required.

3.4.5 QWERTY Keyboard - Accessing Numeric Keys

Alpha keys on a QWERTY keyboard are directly accessible. Numeric keys are printed in orange type above some of the alpha keys and require a key combination to access them.

To access a numeric key:

- Press the [FN/ORANGE] key followed by the appropriate alpha key in the left-hand panel of the keyboard.

To access [1], press [FN/ORANGE] [W].

To access [2], press [FN/ORANGE] [E], and so on.

3.4.6 Numeric Keyboard - Accessing Alphanumeric Keys

While numeric keys are directly accessible on the numeric keyboard, all alpha characters are printed on the unit plastic in orange typeface above the numeric keys. An indicator in the left corner of the taskbar displays the currently selected character. To access an alpha character, first press the [FN/ORANGE] key and then press the numeric key above which the alpha character you want to type is printed.

Choosing a Single Alpha Character

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



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

To choose the letter *a*:

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



Note: To choose the second, third or fourth alpha character assigned to a numeric key, you may want to lock the [FN/ORANGE] key 'on'. When this key is locked 'on', ORG KEY is displayed in **upper-case** letters in the taskbar.

By default, the [FN/ORANGE] key is locked 'on' when pressed once. However, depending on how your unit is set up in the 'One Shots' tab, you may find that you need to press the [FN/ORANGE] key twice to lock it 'on'. Refer to "Keyboard One Shots Mode" on page 100 for details.

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

- Lock the [FN/ORANGE] key *on*. ORG KEY is displayed in upper-case characters in the taskbar to indicate that this key is locked *on*.
- Press numeric key [2] twice to display the letter **b**.

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

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



Note: Keep in mind that there is a timeout if you pause for one second between key presses when selecting the second, third or fourth letters on a key. For example, suppose you want to type the letter 'c' – you'd need to press the [2] key three times. With the [FN/ORANGE] key locked 'on', if you press [2] twice and then pause between key presses for 1 second, the letter 'b' will be selected automatically.

Creating Uppercase Letters

To display an *uppercase* (capital) letter:

- Press the [FN/ORANGE] key and then the [SHIFT] key before typing the alpha character.



Note: If you want to use uppercase characters at all times, press the [SHIFT] key twice to lock it 'on'.

Choosing Multiple Alpha Characters

- Lock the [FN/ORANGE] key *on*.

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



Important: Once you have finished typing alpha characters, remember to turn off or unlock the [FN/ORANGE] key.

3.4.7 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 Windows CE 5.0 *Control Panel*. The behaviour of the keypad backlight is tailored in the *Keyboard Properties* dialog box. Refer to “Keyboard Backlight” on page 99 for details about this option.



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

3.5 The Display

WORKABOUT PRO³s are equipped with display backlighting to improve character visibility in low light conditions. The backlight switches on when a key is pressed or the screen is tapped.

3.5.1 Adjusting the Display Backlight

The *Display Properties* dialog box in the *Control Panel* allows you to determine the behaviour of the display backlight and its intensity. ***Refer to*** “Display Backlight” on page 95 ***for details about the Display Properties dialog box.***

3.5.2 Calibrating the Touchscreen

If your WORKABOUT PRO³ 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* dialog box in the *Control Panel* to recalibrate the screen.

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



- Select the **Calibration** tab, and then choose the **Recalibrate** button.

Figure 3.4 Calibration Screen



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

3.6 WORKABOUT PRO³ Indicators

The WORKABOUT PRO³ 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 LED

A single, two-coloured LED is located on the upper-right side of the keyboard, just above the [ENTER] key. When you press [ENTER], the LED flashes green to indicate that the unit

has been powered up. The LED table following outlines the behaviour of the LED while the unit is docked in a charger.

Keep in mind that the application running on the WORKABOUT PRO³ can dictate how the LED operates. Review the documentation provided with your application to determine LED behaviour.

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

LED Behaviour	Charge Status
Solid Green	Charge complete.
Flashing Green	Charge in progress. Battery charged to less than 80% capacity.
Slow Flashing Green	Battery charged to greater than 80% of capacity.
Solid Red	Battery fault; battery is not charging.
*Fast Flashing Green	Battery temperature condition. Battery temperature is greater than 45°C; the battery will not charge.
*Older WORKABOUT PRO³s using Keyboard micro and Power micro firmware earlier than version 2.3.603 indicate the battery temperature condition using a Flashing Red LED.	

3.6.2 Audio Indicators

The audio speaker provides a variety of sounds when a key is pressed, a keyboard character is rejected, scan input is accepted or rejected, an operator's entry does not match in a match field or the battery is low. To specify how you want your WORKABOUT PRO³ to respond under various conditions, refer to "Volume And Sound Properties" on page 108.

The volume keys are located above [UP ARROW] and [DOWN ARROW]. The increase volume key is labelled with a plus symbol  and the decrease volume key is labelled with a minus symbol .

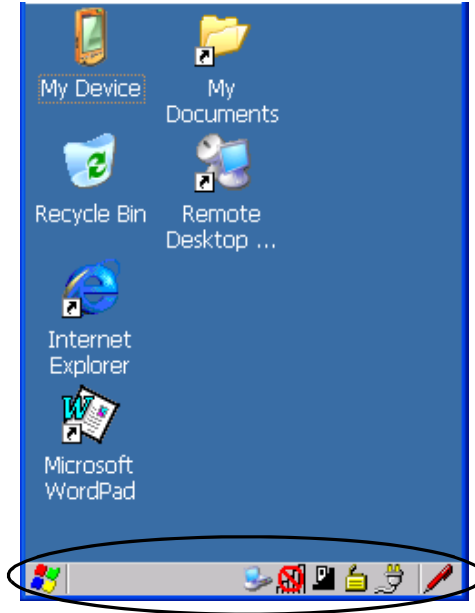
3.6.2.1 Adjusting WORKABOUT PRO³ Speaker Volume

- Lock the [FN/BLUE] key *on* and then, press [UP ARROW] — the *increase volume* key or [DOWN ARROW] — the *decrease volume* key until the volume meets your requirements.
- Remember to press the [FN/BLUE] key again to turn it *off*.

3.6.3 Onscreen Indicators

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

Figure 3.5 Taskbar



The taskbar changes dynamically, and only those icons that are applicable are displayed. For example, if a radio is not installed in your WORKABOUT PRO³, the radio signal icon is not displayed in the taskbar.



Windows® Start Button

If you are using the touchscreen, you can either tap the *Windows* icon at the bottom left of the screen, or press [FN/BLUE] [.] (period) to display the *Start Menu*, and then tap on the desired application.



Modifier Key Indicators

[SHIFT], [CTRL], [ALT], [FN/BLUE] and [FN/ORANGE] are modifier keys that when pressed, are displayed in the taskbar to indicate that they are active. If a modifier key is locked 'on', it is displayed in uppercase characters. For example, if the [FN/BLUE] key is locked on, it is displayed as *BLUE KEY* in the taskbar. A locked modifier key remains active until it is pressed again to unlock or turn it off.

If a modifier key has been pressed but is not locked on, it is displayed in the taskbar in lowercase characters – for example, *blue key*. It will remain active only until the next key is pressed at which point, the modifier key is turned off.



Note: The locking function of the modifier keys can be set up so that pressing one of these keys once will lock the key 'on'. They can also be set up so that they must be pressed twice to be locked 'on'. Refer to "Keyboard One Shots Mode" on page 100 for details



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 PRO³ will be powered down.

If the WORKABOUT PRO³ is using external AC power, an AC icon is displayed in the taskbar.



Full



75%



50%



25%



Empty



AC Connection



Battery Charge

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



802.11 Radio Signal Quality

Increasing radio signal quality is represented by longer, filled bars within this icon.



Good
Reception



Weak
Reception



No Radio
Link



Docking Device

When a hand-held is inserted in a docking station or charger, an associated icon appears in the taskbar.



Bluetooth Radio

This icon displayed in the taskbar represents the installed Bluetooth radio.



Security Level

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



Wireless WAN

These icons provide access to and information about the WORKABOUT PRO³ GSM/GPRS wide area networking status. Refer to Appendix B: “Wireless Wide Area Network (WWAN)” for details about each of these taskbar icons.



Dialer Icon

The dialer (phone) icon is displayed when the Voice option is available (a SIM card and GPRS radio are installed). You can access the phone dialer by double-tapping on this icon. When you have an active call, the dialer icon flashes yellow and then green.

3.7 Monitoring The Battery And Maximizing Run Time



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

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

Lithium-Ion batteries do not require conditioning cycles and the WORKABOUT PRO³ battery system (including chargers) requires no user interaction to maintain peak performance.

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

- The display backlight is the largest drain on the battery. Try to keep its brightness as low as possible.
- The hand-held is ‘event’ driven—that is, when the unit is not in use, it reverts to sleep mode (even when it appears to be running), saving battery power. Events include a key press, touchscreen taps and scan triggers. Power consumption is reduced if you avoid unnecessary events, and allow the unit to sleep as much as possible.
- The battery is a ‘smart battery’ with built-in intelligence.

Tapping on the *Power* icon in the *Control Panel* displays a dialog box that provides detailed information about the battery status of the main and backup batteries installed in your unit.

- When the hand-held is switched off, it goes into a low-power, suspend state but continues to draw a small amount of power from the battery. This should not be an issue unless the unit is left in suspend state for more than a week—for long-term storage, the battery should be removed from the unit.

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 PRO³ before performing data uploads.

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



Note: Refer to “Desktop Docking Station” on page 187 for more details.

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

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

When a WORKABOUT PRO³ is properly inserted in a docking station, a dock icon is displayed in the navigation bar at the top of the screen. The unit also detects the presence of the Ethernet network.

3.9 Bluetooth Radio



Note: Integrated Bluetooth class II radios are standard on WORKABOUT PRO³ C and S units. Keep in mind also that Bluetooth is available simultaneously with WAN and 802.11g on a single unit.

The WORKABOUT PRO³ is equipped with an on-board Bluetooth radio. This type of radio enables short range data communication between devices. The Bluetooth also provides the capability to use a Bluetooth-enabled cellular phone as a data modem, exchanging information with other Bluetooth devices and providing network access. Refer to “Bluetooth Setup” on page 117 for setup details.

You can also pair your hand-set with a Bluetooth headset.

3.9.1 Pairing a Bluetooth Headset or Other Bluetooth Device

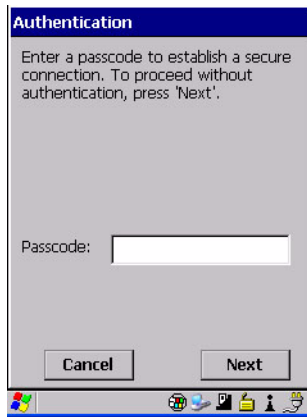


*Note: If the **Bluetooth** radio is not already enabled, tap on the **Start>Settings>Control Panel**. Tap on the **Power** icon and then, the **Built-in Devices** tab. Add a checkmark next to **Enable Bluetooth**.*

To pair a device:

- Follow the manufacturer’s instructions to place the remote device in pairing mode.
- Choose the **Devices** tab and **Scan** for devices in your area.
- When the scan is complete, tap on the **device** to which you want to pair.
- In the pop-up *Device* menu, tap on **Pair**.

An *Authentication* dialog box is displayed.



- If the remote device has authentication enabled, type the PIN in this dialog box.
- To proceed *without* authentication, tap on **Next**.



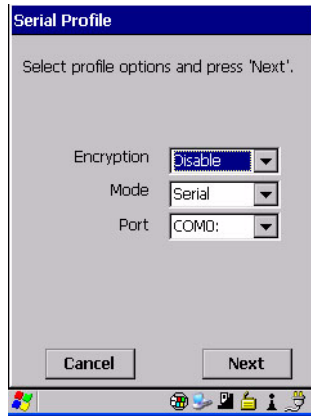
*Note: If a remote device has authentication enabled and you've skipped the authentication process, a pop-up screen will ask if you want to allow the remote device to connect to the WORKABOUT PRO³. Tap on **Yes** and type the PIN. When authentication is complete, tap on **Done**.*

After entering the device *PIN*, the *Services* dialog appears with a list of services available for that device.



- Click in the checkbox to the left of the service to activate it.
- Click on **Done**.

Services that require more information present a configuration dialog box. *Serial Profile* is an example.



This dialog box offers a number of additional options such as enabling *Encryption* and selecting three different *modes*: *Serial*, *ActiveSync* and *Scanner*

- *Serial* is used for simple serial port communication.
- *ActiveSync* is for ActiveSync-over-Bluetooth.
- *Scanner* is used to create a seamless connection between the incoming *Bluetooth* bar code and the WORKABOUT PRO³.

Once you've completed the information:

- Tap on **Next** and then in the *Services* screen, click on **Done**.

3.10 Inserting The SD/MMC Card And SIM Card

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

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

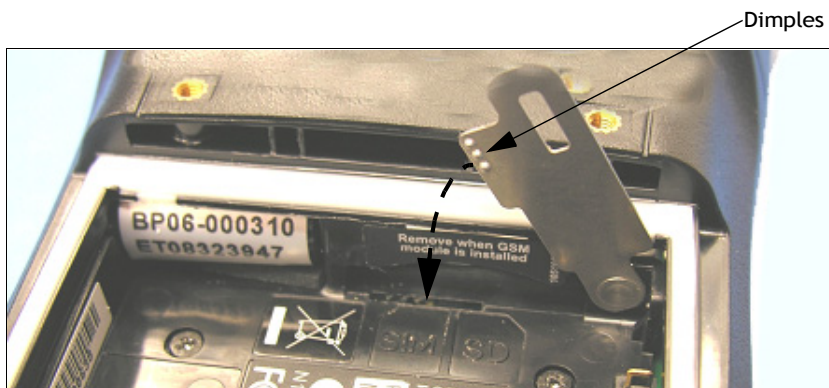
3.10.1 Inserting And Removing The Card

- Press the **Power** button to switch off the WORKABOUT PRO³.
- Remove the battery cover and the battery.

A hinged door at the top of the battery compartment protects the connectors. This door differs slightly depending on the type of unit you are using. On the WORKABOUT PRO³ C, a plastic SD/MMC door is hinged on the left-hand side of the unit. If you are working with a WORKABOUT PRO³ S, a metal door is hinged on the right-hand side of the unit.

- On a WORKABOUT PRO³ C, pull the hinged door down as the arrow icon on the door indicates.
- On a WORKABOUT PRO³ S, pull the metal door upward to expose the SD/MMC slots.
- Orient the SD/MMC or SIM card according to the legend stamped into the battery well plastic.
- For a SD/MMC card, slide the card into the lower slot, pushing it inward until it latches into place.
- For a SIM card, slide the card into the upper slot, pushing it inward until it latches into place. Note that a label over the SIM opening needs to be removed before the card can be inserted (only after a GSM/UMTS radio is installed).
- On a WORKABOUT PRO³ C, swing the hinged door back up into place, and gently snap it shut.

On a WORKABOUT PRO³ S, the metal SD door incorporates *dimples* that act as a locking feature.



- Push the door down so the dimples fit into the slot cut into the battery compartment plastic.

To remove the card:

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

3.11 General Maintenance

3.11.1 Caring For The Touchscreen

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

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

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

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

3.11.2 Cleaning The WORKABOUT PRO³



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.

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4.1 Navigating in Windows CE 5.0



Note: In order to access many of the menus discussed in this chapter, the security level must be set to ‘Supervisor’ (see “Security Settings” on page 73).

Graphic user interfaces like Windows CE 5.0 for portable devices and desktop Windows (2000, XP, etc.) utilize ‘point and click’ navigation. An equivalent keyboard shortcut is also available for every ‘point and click’ action.

Windows CE 5.0 supports the same ‘point and click’ user interface and keyboard shortcuts as desktop Windows with one difference—the ‘point and click’ action is accomplished using a touchscreen rather than a mouse. Actions can be performed using any combination of keyboard shortcuts or touchscreen tapping.

4.1.1 Navigating Using a Touchscreen and Stylus



Note: If the touchscreen is not registering your screen taps accurately, the touchscreen may need recalibration. Refer to “Calibrating the Touchscreen” on page 51.

Each WORKABOUT PRO³ 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.



Note: To prevent damage to the touchscreen, use only the stylus (pen) supplied with your WORKABOUT PRO³.

To choose an icon, open a file, launch an applet or open a folder:

- Double-tap the stylus on the appropriate icon.

4.1.2 Navigating Using the Keyboard

If your WORKABOUT PRO³ touchscreen has been disabled, you can use the keyboard to choose icons, navigate dialog boxes, display the desktop, and so on. If your unit has already been fully configured and your application is launched at startup, you’ll have little need for keyboard navigation, but you can refer to this table for a description of the navigation keys.

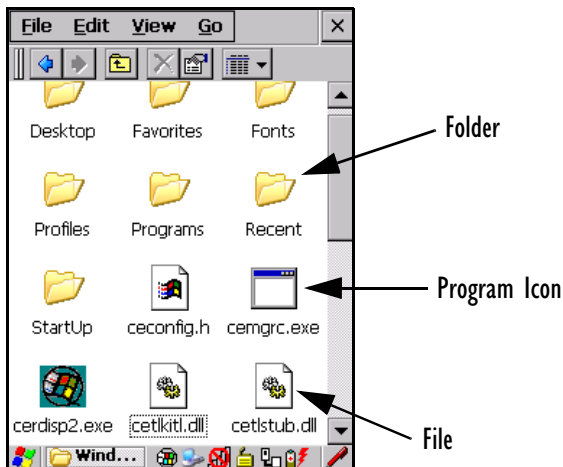
Operation	Single Key or Key Combination
Switch between active applications	[ALT] [TAB]
Open task manager	[ALT] [ESC]

Operation	Single Key or Key Combination
Move the cursor	Arrow keys
Open file, folder or icon	[ENTER]
Exit & Save	[ENTER]
Close/Exit & Do Not Save	[ESC]
Navigate Dialog Boxes	[TAB] To move cursor up, press [SHIFT] [TAB] To display the contents of the next 'tab' in a dialog box, press [CTRL] [TAB]
Select Radio Button/Press Button	[SPACE]
Go to Start Menu	[START]

Keep in mind that unlike a desktop computer, the WORKABOUT PRO³ does not support key chording (pressing two keys at the same time). You must press one key followed by the next in sequence. Refer to “Working with Files, Folders and Programs” on page 66 for additional details about keyboard navigation.

4.2 Working with Files, Folders and Programs

Figure 4.1 Working With Windows Icons



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

If you're using the keyboard:

- Use the arrow keys to highlight the icon you want to open or launch.
- Press [ENTER].

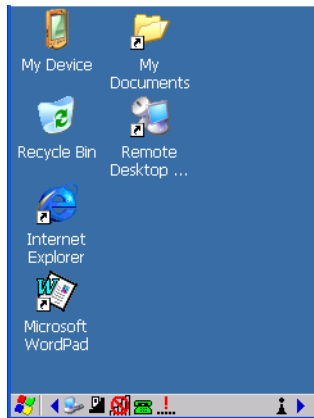
4.3 The Startup Desktop

When the WORKABOUT PRO³ boots up, the startup desktop (shell) is displayed. Any applications stored in the *Startup* folder start up immediately.



Note: The startup folder is located in \Windows\StartUp and \Flash Disk\StartUp.

Figure 4.2 The WORKABOUT PRO³ Startup Desktop



To access desktop icons:

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

On the keyboard:

- Use the arrow keys to highlight the icon, and press [ENTER] to launch the highlighted icon.



Note: If the arrow keys do not highlight the desktop icons, the desktop may not be selected. Press [FN/BLUE] [.] (period) to display the Start Menu, and select Desktop. Now the desktop will be “in focus” and the arrow keys will highlight the icons.

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 Device

Choosing this icon displays the contents of your WORKABOUT PRO³ computer. If you're not sure how to access the files, folders and programs displayed, refer to “Working with Files, Folders and Programs” on page 66.

Recycle Bin

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

Internet Explorer

Choosing this icon launches *Internet Explorer*—a standard Windows CE 5.0 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*.

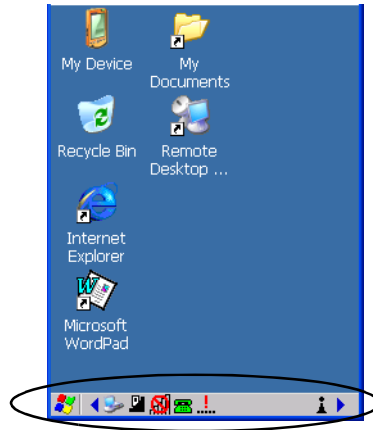
Microsoft WordPad

Microsoft WordPad is a basic word processor used to create, edit, view and print text documents.

Remote Desktop Connection

This option allows your WORKABOUT PRO³ to communicate with a remote desktop PC. “Remote Connect” on page 87 provides a website with step-by-step instructions.

4.3.2 The Taskbar



The WORKABOUT PRO³ is equipped with a taskbar at the bottom of the screen. It displays icons through which you can view the battery capacity and radio signal quality of your unit. If the hand-held is attached to a charger, cradle or docking station, an associated icon is displayed. In addition, the taskbar displays the application(s) currently running on your unit and the security level assigned to your WORKABOUT PRO³.

The taskbar also displays active modifier keys: [SHIFT], [ALT], [CTRL], [FN/BLUE] and [FN/ORANGE]. Keys that have been locked “on” are displayed in uppercase letters. For example, if you have set the [CTRL] key Lock to “on” in the Keyboard menu and you press the key, it is displayed as CTRL KEY in the taskbar. (For detailed information on modifier keys and keyboard options, see “The Keyboard” on page 45).

4.3.2.1 Using the Taskbar

A tooltip is displayed as each taskbar icon is highlighted. The tooltip provides the status of each icon.

If you're using the touchscreen:

- Tap and hold the stylus on an icon to display the icon's tooltip. Double-tap the icon to open the *Control Panel* dialog box associated with the icon. For example, double-tap the battery icon to display a dialog box listing the current battery capacity information.

On the keyboard:

- Press the Windows [START] button to display the *Start Menu*.
- Choose **Shortcuts** from the *Start Menu*, and then press the [RIGHT] arrow key to display the sub-menu.

The Taskbar

- Choose **System Tray** in the sub-menu.
- Use the arrow keys to highlight the icon in the taskbar about which you'd like more information.
- Press **[ENTER]** to display the appropriate dialog box.

4.3.2.2 Customizing the Taskbar

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

- Choose **Start>Settings>Taskbar**.

If you're using the keyboard:

- Press the Windows **[START]** button to display the *Start* menu.
- Highlight the **Settings** option, highlight **Taskbar** in the sub-menu, and press **[ENTER]**.

The *Taskbar and Start Menu* dialog box is displayed.



Taskbar General Tab

- Tap the stylus on the items you want to activate or deactivate. The check mark indicates active items.

If you're using the keyboard:

- Highlight the options you want to activate, and press the **[SPACE]** key (**[FN/ORANGE][0]** on the numeric keyboard) to select them. A check mark indicates active items.

Taskbar Advanced Tab



- Tap on the **Clear** button to empty the Documents folder.
- To display *Control Panel* applets in menu form rather than in a window, tap in the checkbox next to *Expand Control Panel*.

Taskbar Security Tab



If you check *Disable hot keys*, the *Application from Start menu hot key* field becomes enabled. Use this field to enter the name of the application you want to run when the user presses the *Menu* hot key – *[FN/BLUE] [0]*.

If you have disabled hot keys, hidden the *Start Menu* and have no application configured, the *Menu* hot key brings up the *Security* dialog box to allow authorized users to access the terminal configuration. Keep in mind that this dialog box is also displayed if an invalid application is entered in the *Application from Start Menu hot key* field.

4.4 The Start Menu

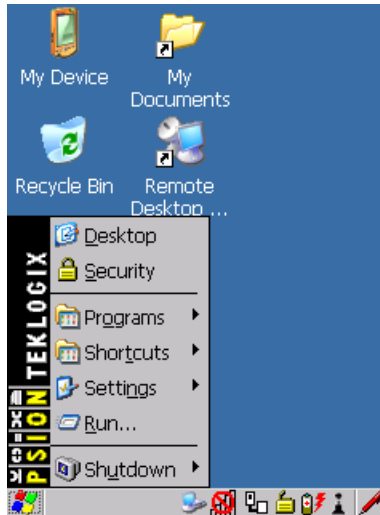


Note: Some of the Start Menu items may be disabled based on the current WORKABOUT PRO³ security settings.

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 **Start Menu** button, and then tap on the menu item with which you want to work.



If you're using a keyboard rather than a touchscreen:

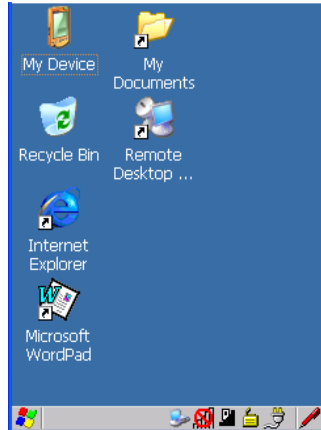
- Press the Windows **[START]** button to display the *Start Menu*.
- Use the **arrow keys** to highlight a menu item, and press **[ENTER]**, or

If the menu item has an underlined character:

- Type the underlined alpha character. For example, to display the *Security* dialog box, type the letter **s**.

4.4.1 The Desktop

Choosing *Desktop* in the *Start Menu* displays the WORKABOUT PRO³ desktop.



4.4.2 Security Settings

Choosing the *Security* option from the *Start Menu* displays a dialog box in which you can define the access level for the WORKABOUT PRO³: *Supervisor* or *User*.

Figure 4.3 Security Levels



Assigning the Supervisor Security Level

The security level is represented by an icon in the shape of a lock in the taskbar. The security levels define the options accessible to the operator in the *Start Menu* and the *taskbar*. By default, the security level is set to *User*, restricting access to only the most basic *Start Menu* items.

To allow access to all the *Start Menu* and *taskbar* options:

- In the *Security Level* dialog box, tap on the radio button next to *Supervisor*.

- In the *Password* field, type the **Supervisor level password**. The default password is 123456.
- Tap on **OK**. You can now access all menu items in the *Start Menu* along with the icons 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 “Control Panel Icons” on page 88.

To assign a password:

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

A dialog box labelled *Password Properties* is displayed.

- Type the new password in the **Password:** text box (all keyboard characters are valid).
- In the *Confirm Password:* text box, retype the new password.

Configuring Security

Choosing the *Configure* button displays the *Configure Security* dialog box.



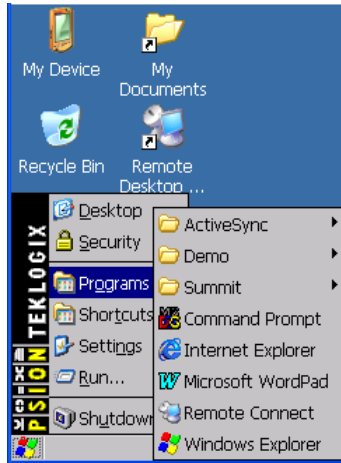
This dialog box allows you to determine which security levels will have an associated icon displayed in the taskbar. By default, a security icon is not displayed for user-level security.



Note: It is recommended that you enable ‘Allow Teklogix Security Level’ so that authorized Psion Teklogix service personnel can access your unit should it require maintenance.

4.4.3 Programs

- Choose **Programs** from the *Start Menu* to display a sub-menu of options.



ActiveSync®

This option allows you to connect to another device using *ActiveSync*. If you need to download this communication software, go to:

<http://go.microsoft.com/fwlink/?LinkId=147001>

Look for the *ActiveSync* link.

Demo

This folder contains the *Demo Scanner*, *Demo Signature* and *Demo Sound* applications. *Demo Scanner* can be used to test how the hand-held reads and writes RFID tags. *Demo Signature* allows you to capture a signature written on the screen with your stylus and save it to a file. *Demo Sound* allows you to record and playback. The 'Sample Rate' and the 'Bits Per Sample' are the rates at which the sound will be recorded. Sounds recorded at the higher sample rate or bits per sample will be higher quality but will require more file space to store. Lower sample rates and bits per sample or both the file result in a smaller file but the quality suffers. The record and play buttons operate in the same way they do on any recording device. the 'X' icon deletes the sound and the 'diskette' icon allows you to save your sound.

Summit

This folder provides access to the *Summit Client Utility* (SCU), a utility that allows you to configure your Summit 802.11b/g radio, model number RA2041.

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.

Imager

This applet is used to create, modify, delete and activate imager settings. The principle uses of the applet are to decode bar codes and to capture images. Keep in mind that this option is only listed if an imager is installed in your unit.

Internet Explorer

The WORKABOUT PRO³ is equipped with *Microsoft Internet Explorer* for Windows CE 5.0. You can access the *Internet Explorer* either by tapping on *Start>Programs>Internet Explorer* or by tapping on the *Internet Explorer icon* on the desktop.

Microsoft WordPad

Microsoft WordPad is a rich text editor included with Microsoft Windows CE. This application is a subset of Microsoft Word application you can use to create, edit and save documents.

Phone

Tapping on this option launches the *Phone Dialer*. Refer to “Voice – Using the Phone Dialer” on page 31 for details.

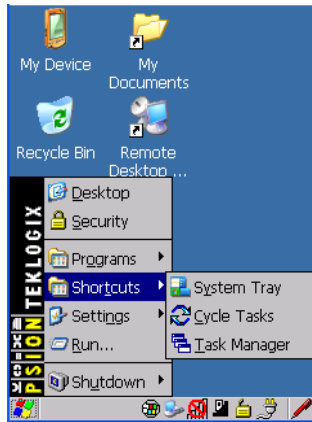
Remote Connect

Remote Connect is a WORKABOUT PRO³ application used to connect to a Windows Terminal Server so that you can run a “session” on the Server machine using the WORKABOUT PRO³ (Windows CE 5.0 device). “Remote Connect” on page 87 provides a website with details about this option.

Windows Explorer

The *Windows Explorer* installed on your WORKABOUT PRO³ is consistent with all Windows CE 5.0 devices. You can access this option from the *Start Menu* under *Programs>Windows Explorer*.

4.4.4 Shortcuts



System Tray

You can use the *System Tray* option to access the icons in the taskbar at the bottom of the screen. The taskbar displays indicators such as a radio signal icon and the security level. These indicators are attached to dialog boxes that provide additional information.

- Tap on **Start>Shortcuts>System Tray**.

Using the icons in the taskbar, you can either display the *Control Panel* dialog box associated with an icon, or you can view a *tooltip*. A tooltip provides the status of each icon.

- Tap and hold the stylus on an icon to display the icon's *tooltip*. Double-tap on the icon to open the *Control Panel* dialog box associated with the icon.

On the keyboard:

- Press **[START]** to display the *Start Menu*.
- Highlight **Shortcuts** in the *Start Menu*, and then press the **[RIGHT]** arrow key to display the sub-menu.
- Choose **System Tray** in the sub-menu.
- Use the arrow keys to highlight the icon in the taskbar about which you'd like more information. As each icon is highlighted, a tooltip is displayed.
- To display the associated *Control Panel dialog box*, press **[ENTER]**.

Cycle Tasks

When *Cycle Tasks* is selected (and the *Task Manager* is not open), you can cycle through active applications.

To cycle through your active applications:

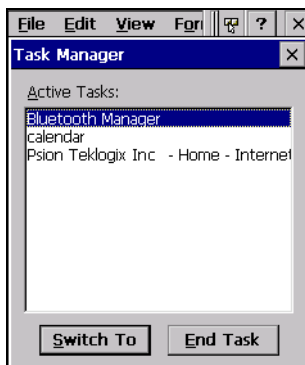
Settings

- Choose **Start>Shortcuts>Cycle Tasks**.
- Press **[ALT] [TAB]** to cycle through the open applications.

Task Manager

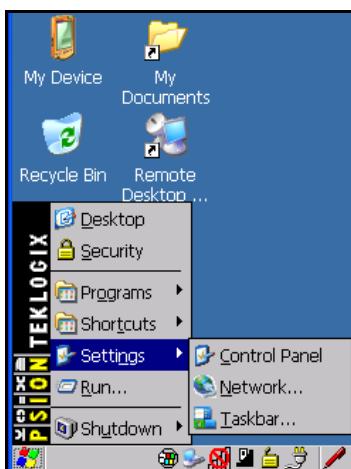
The *Task Manager* allows you to switch to another task or to end an active task. To display the task manager window:

- Tap on **Start>Shortcuts>Task Manager**, or
Press **[ALT] [ESC]**.



4.4.5 Settings

The **Settings** sub-menu includes the following settings: *Control Panel*, *Network and Dial-up Connections* and *Taskbar and Start Menu*.



Control Panel

The *Control Panel* contains applets used to configure hardware, the operating system and the shell. If your WORKABOUT PRO³ is running with the Psion Teklogix TekTerm application or another application, additional configuration applets may appear in the *Control Panel*.

Network And Dial-Up Connections

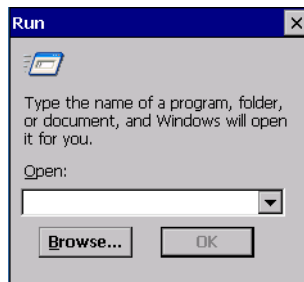
The *Network and Dial-up Connections* window allows you to configure the WORK-ABOUT PRO³ radio or execute an existing configuration. Refer to “Configuring the Summit RA2041 802.11b/g” on page 24 for radio setup details.

Taskbar And Start Menu

The *Taskbar and Start Menu* option displays a dialog box in which you can customize the taskbar, choosing which options will be displayed. Refer to “Customizing the Taskbar” on page 70 for additional details about this option.

4.4.6 Run

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



4.4.7 Shutdown

The *Shutdown* menu includes these options: *Suspend*, *Warm Reset* and *Cold Reset*.



*Note: This menu varies slightly depending on the security level chosen. When the WORKABOUT PRO³ is set to **User level**, the Shutdown option is replaced by **Suspend**. A sub-menu is not available.*

Suspend

The *Suspend* option suspends the WORKABOUT PRO³ immediately. This is equivalent to turning the hand-held off.

Warm Reset

When you perform a warm reset, the operating system restarts without clearing the object store memory where the file system resides. Registry settings, installed programs and any data files are preserved. Any open applications are closed and any unsaved data are lost. Refer to “Performing a Warm Reset” on page 37 for additional information.

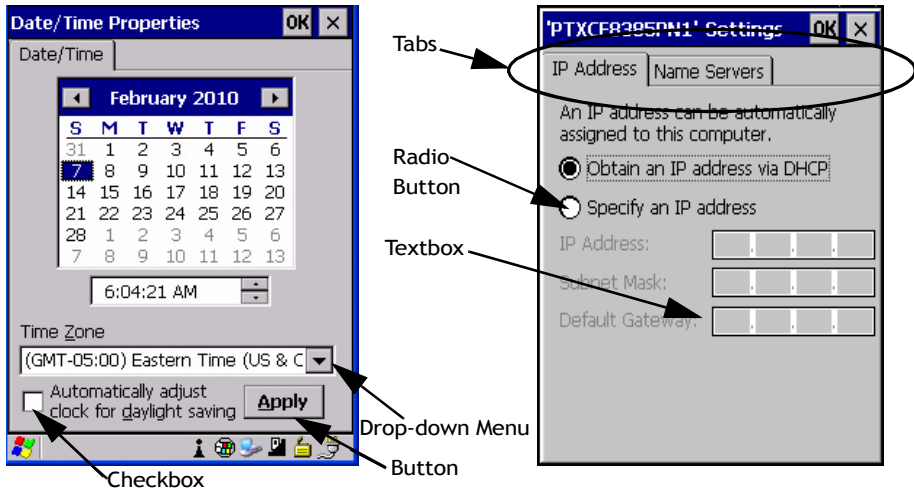
Cold Reset

A cold reset clears the object store memory and restarts the operating system. Registry settings are maintained. All installed programs and data files not located on permanent memory storage media such as the *Flash Disk* partition are lost. Refer to “Performing a Cold Reset” on page 38 for additional details.

4.5 Using a Dialog Box

A dialog box (like the samples in Figure 4.4) appears when you need to make selections and enter further information. You can move between dialog items by tapping on them with your stylus, or by pressing the arrow keys and the [TAB] key ([SHIFT] [TAB] moves the cursor backwards).

Figure 4.4 Dialog Boxes



Note: You can use the stylus to tap on an element in a dialog box to select or deselect it, display drop-down menus, save your selections, and so on.

Dialog boxes contain one or more of the following elements:

Tab: A tab separates different elements of a dialog box. Press the [TAB] key until a tab in the dialog box is highlighted. To display adjoining tabs, press the [RIGHT] or [LEFT] arrow key. To display the information in the next tab from anywhere in the window, press [CTRL] [TAB].

Textbox: A textbox requires that you type information. Press the [TAB] key to highlight the textbox and then type the appropriate information.

Drop-down: This type of menu is identified by up and down arrows next to the drop-down menu to indicate that additional options are available. Press the [TAB] key to highlight the menu, and use the arrow keys on your keyboard to cycle through the options.

Using a Dialog Box

Checkbox: This box allows you to select or deselect an option. To select or deselect a checkbox, press the [TAB] key to highlight the checkbox, and press the [SPACE] key to select or deselect it.

Radio buttons: These buttons allow you to choose from a number of options. For example, in the sample screen in Figure 4.4 on page 81, you can choose to *Obtain an IP address via DHCP* or *Specify an IP address*. Press the [TAB] key to highlight a radio button option, and then select a radio button by pressing the arrow keys to highlight the appropriate option.

Buttons: This type of button allows you to *Save*, *Delete* and so on the options you've chosen in a dialog box. Use the [TAB] key to highlight the button you want to use. Press the [ENTER] key to activate it.

Saving Your Choices: Once you've made all your changes, press the [ENTER] key to save your changes and exit the window.



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

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5.1 Remote Connect

Remote Connect is a WORKABOUT PRO³ application used to connect to a Windows Terminal Server so that you can run a “session” on the Server machine, using the WORKABOUT PRO³ (Windows CE 5.0 device).

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

<http://www.microsoft.com/windowsxp/using/mobility/getstarted/remotaintro.msp>

You can also contact Psion Teklogix support services. Locate the office closest to you at:

www.pSIONteklogix.com/service-and-support.htm

You can also refer to WORKABOUT PRO *Hand-Held Computer Regulatory & Warranty Guide*, PN 8000126 for support information.

5.2 The TekTerm Application

TekTerm is a powerful emulation application ideally suited for real time data transaction applications associated with mainframes and servers. The WORKABOUT PRO³ includes unique features that support TekTerm—a Psion Teklogix application that has the ability to maintain multiple simultaneous sessions with a variety of host computers. For detailed information, please refer to the *TekTerm Software User Manual*, PN 8000073.

5.3 The Control Panel

The Windows CE 5.0 *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 dialog box and make selections, review “Using a Dialog Box” on page 81

When the WORKABOUT PRO³ boots up, the startup desktop (shell) is displayed, and any applications stored in the Startup folder start up immediately.

To access the *Control Panel*:

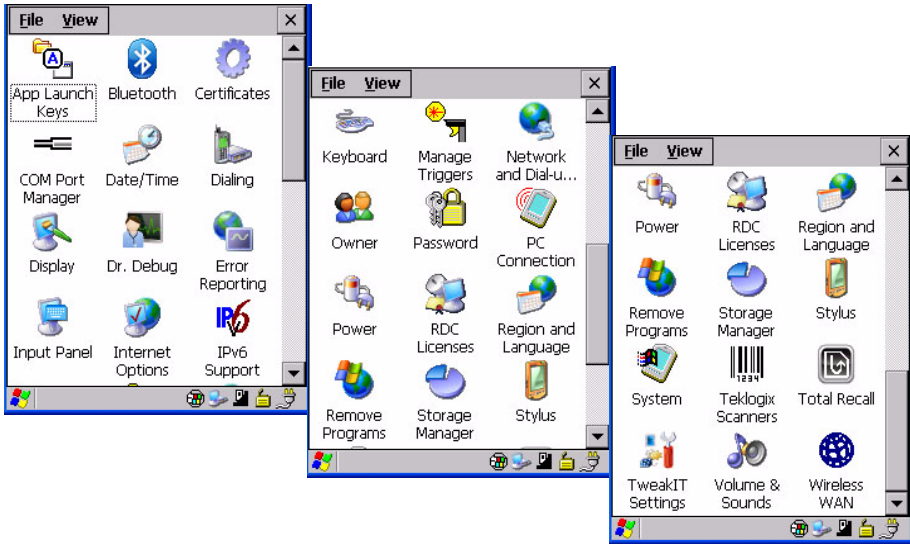
- Tap on **Start>Settings>Control Panel**.

If you’re using the keyboard:

- Press the Windows **[START]** button to display the *Start Menu*.
- Highlight **Settings** in *Start Menu*, and press the **[RIGHT]** arrow key to highlight the *Control Panel*.
- Press the **[ENTER]** key.

The *Control Panel* folder contains icons used in the setup of your WORKABOUT PRO³.

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 PRO³.

App Launch Keys



By mapping keys to applications using this program, you can then launch those applications from a single key-press.

Bluetooth Devices



Provides the tools to manage device pairing and configuration.

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 130 provides additional information.

COM Port Manager



Lists the device names and COM port mappings stored in the registry for the currently active and for dynamic devices like port replicators, USB serial dongles and virtual ports. The COM Port Manager allows you to edit the COM port mappings and add new ports for Bluetooth external connections.

Date/Time



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

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 dialog box.

Display



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

Dr. Debug



Acts as an error diagnostic tool.

Error Reporting



Enables or disables Microsoft error reporting prompts, and at your discretion, allows you to display upload successes and failures and determine file system usage size.

Input Panel



Provides the framework for a Soft Input Panel (SIP) should you need to design your own SIP, or change some soft keyboard options.

Internet Options



Provides options to configure your Internet browser. You can determine items such as the default and search page that the browser applies when connecting to the Internet, the cache size, the Internet connection options, and the security level that is applied when browsing.

IPv6 Support



Refers to a new Internet Protocol specification (version 6) that has been published to use 128-bit IP addresses (replacing version 4).

Keyboard



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

Manage Triggers



Allows multiple-scanner trigger management, including the ability to configure each of the trigger buttons. You can configure the trigger ID for each trigger button for both single- and double-click, and the double-click time.

Network And Dial-up Connections



Displays a network window from which the WORKABOUT PRO³ 802.11 radio can be configured and an existing configuration can be executed. Refer to “Configuring the 802.11a/b/g RA2043 Compact Flash Radio” on page 14 and “Configuring the Summit RA2041 802.11b/g” on page 24 for details.

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



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 73 for details.

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.

Power



Displays battery pack power status. (Alternately, battery status can be accessed through the taskbar.) Additional tabs allow you to determine suspend states, specify a suspend threshold and, when seated in either the Combo Dock or Quad Dock, determine whether or not a battery that requires it can be recalibrated. This dialog box also allows you to activate card slots and built-in devices. (Refer to “Devices” on page 114 for details.)



RDC Licenses

The Terminal Services license server stores all license tokens that have been installed for a group of terminal servers and tracks licenses issued. The *Remote Desktop Licenses* (RDC) application displays license ‘tokens’ for devices that connect to a Terminal Server.



Region & Language

Allows you to specify the local language that is to be displayed on the hand-held screen 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.



Storage Manager

Allows the user to view information about the storage devices that are present, such as SD-MMC flash cards. For details, see “Partition Properties” on page 142.

Stylus



Adjusts how Windows CE 5.0 recognizes your double-tap (as slow or rapid successive taps). In the *Calibration* tab, you can recalibrate your touchscreen by tapping on the **Recalibrate** button and following the directions on the screen.

System



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



Teklogix Imagers

Used to create, modify, delete and activate imager settings. The principle uses of the applet are to decode bar codes and to capture images.



Teklogix Scanners

Provides scanner parameters and the bar code symbologies that the WORKABOUT PRO³ scanner will successfully read.

Total Recall



Total Recall

Provides access to a backup and restore utility to maintain applications and settings over cold reboots.

TweakIT Settings



TweakIT
Settings

Allows you to change Advanced System Settings (interface, network, and servers), User System Settings (display font size), and provides the Registry Editor.

Volume & Sounds



Volume &
Sounds

Allows you to adjust the volume of the sound emitted to indicate events like warnings, key clicks and screen taps.

Wireless WAN



Wireless
WAN

Provides access to technology like GSM/GPRS, which allows wide area networking capability such as internet browsing via GSM/GPRS. It also provides access to the Phone API. For detailed information, see Appendix B: “Wireless Wide Area Network (WWAN)”.

5.5 Basic Setup

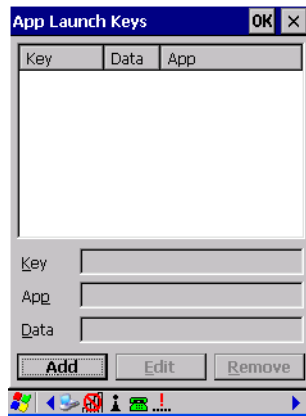
5.5.1 App Launch

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

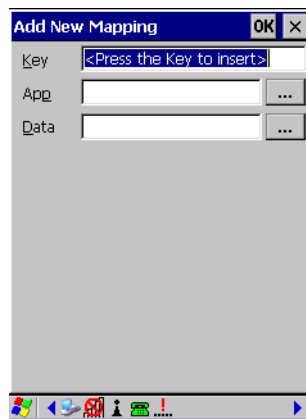
- Tap on **Start>Settings>Control Panel**. Tap on the **App Launch Keys** icon.



The *App Launch* screen is displayed.

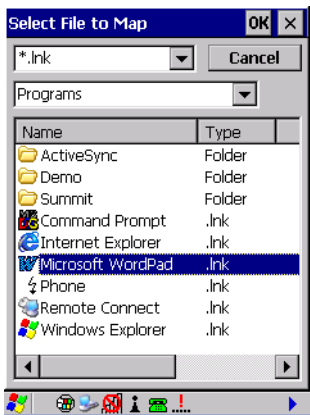


- To assign an application key, tap on the **Add** button.



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

Once you've chosen the *App* key(s), the *Select File to Map* screen is displayed so that you can choose the *App* you want to assign to the key(s) you've specified.

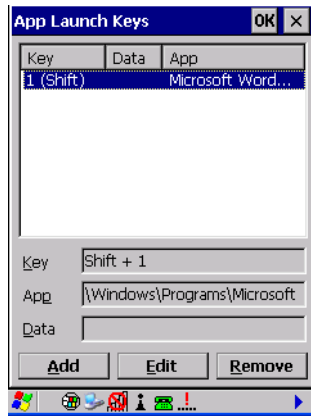


- Choose an **application** from this screen. Once you've highlighted the *App*, tap on **OK**.



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

- Once you've assigned an application, tap on **OK**.



- If you need to *Edit*, *Remove* or *Add* another *App Launch Key*, you can do it from this final screen. Otherwise, tap on **OK** to save your *Application Launch Key*.
- To launch the application you chose, press the application key you assigned.

5.5.2 Display Properties

- In the *Control Panel*, choose the **Display** icon.



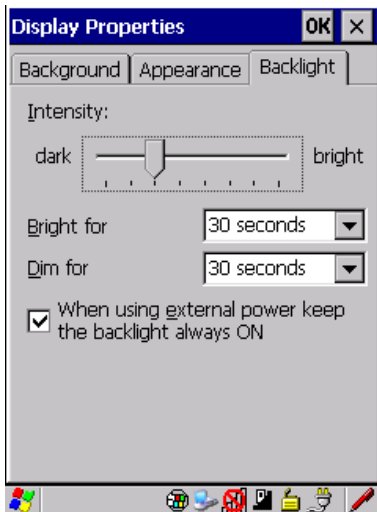
5.5.2.1 Display Backlight

The backlight is activated for a configurable amount of time when the WORKABOUT PRO³ is in use (key press, scanner trigger or data received from the host). The *Display Properties* dialog box in the *Control Panel* allows you to specify the intensity of the backlight along with how long the display will maintain the specified intensity.



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

- In the *Display Properties* dialog box, open the **Backlight** tab.



Note: Backlight changes take effect immediately. You do not need to reset the unit.

To maximize battery run time, keep the display backlight brightness and active durations as low as possible.

Intensity

This parameter is used to adjust the light intensity of the WORKABOUT PRO³ 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 drop-down menu determines the duration of time that the backlight stays on at the configured intensity after the last user action (keypress, scan trigger).

Dim For

The value chosen from this drop-down menu determines the duration of time that the backlight stays on at half the configured intensity (dimmed backlight) after expiration of the *Bright For* delay and as long as no user action takes place (such as a keypress or scan trigger). At the expiration of the *Dim For* duration, the display backlight shuts off.

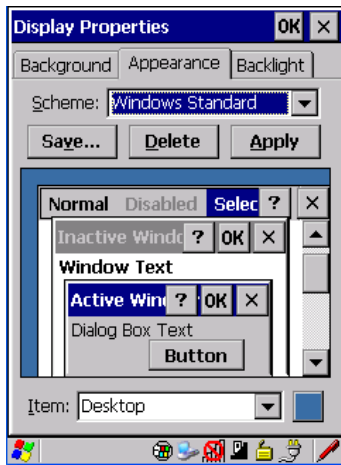
External Power Checkbox

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 PRO³

is operating with external power (not battery power). If the WORKABOUT PRO³ is drawing power from its battery, this option is ignored and the other parameters defined in *Display Properties* dialog box are used.

5.5.2.2 Display Appearance

- In the *Display Properties* dialog box, open the **Appearance** tab.



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

5.5.3 Keyboard Properties

This icon displays the *Keyboard Properties* dialog box in which you can adjust the repeat rate of the keys, the intensity of the keyboard backlight and the behaviour of the [FN/BLUE] and [ORANGE] modifier keys. This dialog box also allows you to define macro keys and Unicode characters.

- In the *Control Panel*, choose the **Keyboard** icon.

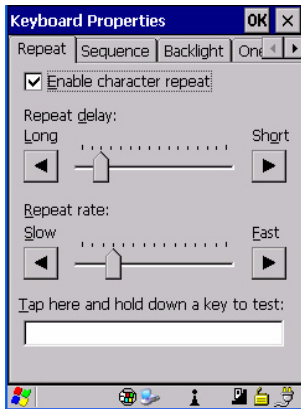


5.5.3.1 Key Repeat



Note: These settings apply when a key is held down continuously.

- In the *Keyboard Properties* dialog box, open the **Repeat** tab.



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, and sliding the bar to the right shortens the repeat delay time.

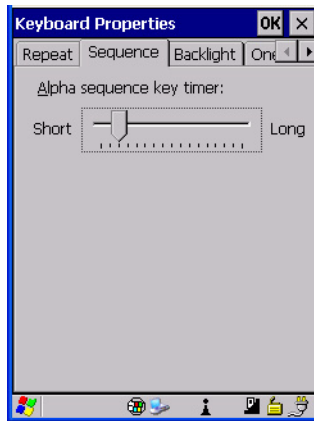
Repeat Rate

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 dialog box to test the repeat delay and rate settings you've chosen.

5.5.3.2 Sequence



This tab determines the allowable pause between alpha key presses on a numeric keyboard. For example, suppose you want to type the letter 'c' – you would need to press the [2] key *three* times. With the [ORANGE] key locked 'on', if you press [2] twice and then pause between key presses for 1 second, the letter 'b' will be selected automatically. Moving the *Sequence* slider to the right increases the allowable pause time between alpha key presses.

5.5.3.3 Keyboard Backlight

- In the *Keyboard Properties* dialog box, open the **Backlight** tab.



Intensity

This parameter is used to adjust the light intensity of the WORKABOUT PRO³ keyboard backlight. Sliding the bar to the left darkens the keyboard backlight intensity, and sliding it to the right lightens the intensity.

ON For

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



Note: Tapping in the checkbox next to 'When using external power, keep the backlight always ON' forces the keypad backlight to remain on when the unit is operating with external power.

5.5.3.4 Keyboard One Shots Mode

- In the *Keyboard Properties* dialog box, tap on the **One Shots** tab.



The options in this tab allow you to determine how modifier keys on your WORKABOUT PRO³ behave. For each modifier key – [ALT], [SHIFT], [CTRL], [ORANGE] and [BLUE] – you have the following options in the drop-down menu: *Lock*, *OneShot*, and *OneShot/Lock*.



Note: Keep in mind that checking the taskbar lets you know whether or not these keys are locked on. For example, if the [FN/ORANGE] key is locked 'on', the taskbar at the bottom of the screen displays it in uppercase characters, ORANGE KEY. If this key is displayed in lowercase characters in the taskbar, you'll know that the orange key is not locked. It will become inactive following a key press.



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

Lock

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

OneShot

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

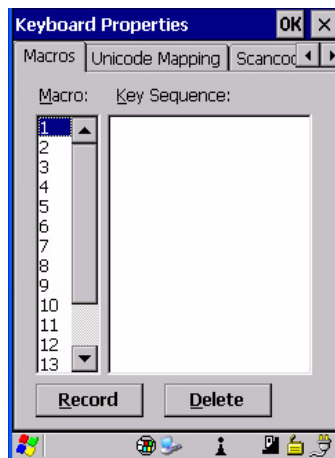
OneShot/Lock

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

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

5.5.3.5 Keyboard Macro Keys

- In the *Keyboard Properties* dialog box, open the **Macros** tab.



A macro has 200 programmable characters (or "positions"). The macro keys can be programmed to replace frequently used keystrokes, along with the function of executable keys including [ENTER], [BKSP] and [DEL] ([FN/BLUE]-[BKSP]), function keys and arrow keys.

Recording and Saving a Macro

Macro keys are only available on WORKABOUT PRO³ C units. You can program up to 10 macro keys on the WORKABOUT PRO³ C.

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

A message screen is displayed instructing you to *Enter Key Strokes to Record*



- 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], or choose the **Stop Recording** button.

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

- Press [ENTER] to save your macro, or tap on the **Cancel** button to discard it.

Executing a Macro

To execute 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.

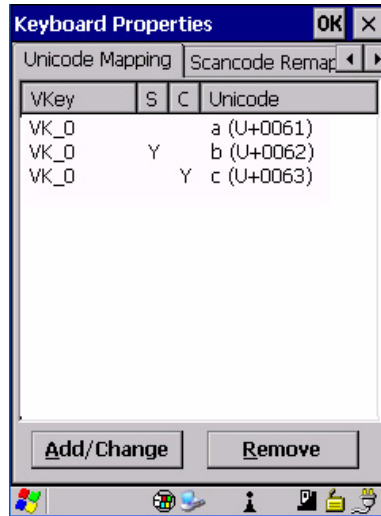
Deleting a Macro

To delete a macro:

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

5.5.3.6 Unicode Mapping

- In the *Keyboard Properties* dialog box, open the **Unicode Mapping** tab.



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.

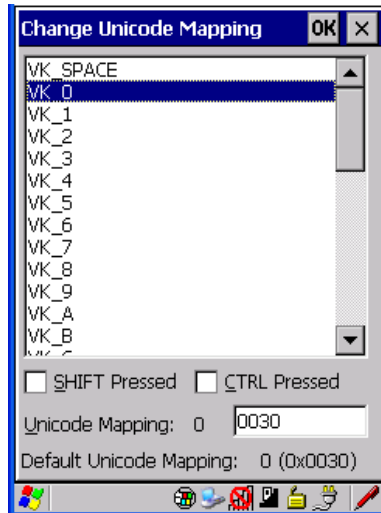
Adding and Changing Unicode Values



Important: *Changes to Unicode mappings are not saved until you exit the Keyboard Properties dialog box.*

- Choose the **Add/Change** button.

Figure 5.2 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], press [TAB] to position the cursor in the checkbox next to 'SHIFT Pressed' and/or 'CTRL Pressed'. Press [SPACE] to select the shift state you want to assign.

Removing Unicode Values

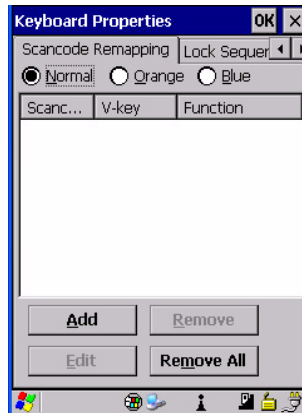
- In the *Unicode Mapping* tab, highlight the item you want to delete, and choose the **Remove** button.

5.5.3.7 Scancode Remapping

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

There are three different tables of scancode mappings: the *Normal* table, the *Blue* table and the *Orange* table. The *Normal* table defines unmodified key presses; the *Blue* table defines

key presses that occur when the [FN/BLUE] modifier is on; the *Orange* table defines key presses that occur when the [FN/ORANGE] modifier is on. The default mappings of these scancodes can be overwritten for each of these three tables using the *Scancode Remapping* tab accessed from the *Keyboard Properties* dialog box.



The first column in the *Scancode Remapping* tab displays the scancodes in hexadecimal. If the scancode is remapped to a virtual key, that virtual key is displayed in the next column labelled 'V-Key'. A virtual key that is 'Shifted' or 'Unshifted' is displayed in the third column labelled 'Function'.

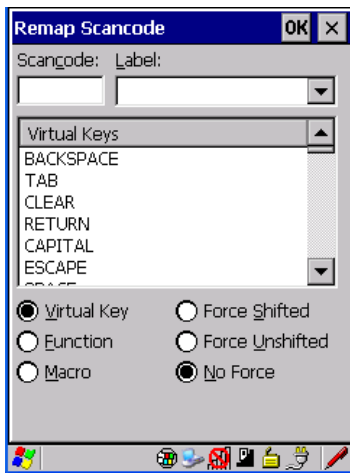
If the scancode is remapped to a function or a macro, the first and second columns remain blank while the third column contains the function name or macro key number (for example, Macro 2).

Adding a Remap

To add a new remapping:

- Choose the **Add** button at the bottom of the dialog box.

The *Remap Scancode* dialog box is displayed.



- Type the scan code in hexadecimal in the field labelled *Scancode*.



Note: The *Label* field displays the default function of the scan code you are remapping.

Virtual Key, Function and Macro

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

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

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

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

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

Editing a Scancode Remap

To edit a scancode:

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

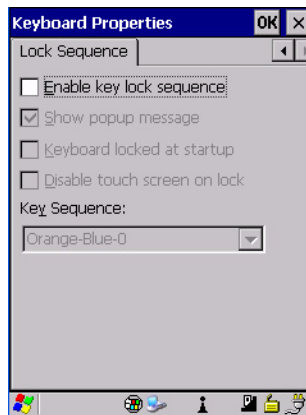
Removing a Remap

To delete a remap:

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

5.5.3.8 Lock Sequence

The *Lock Sequence* tab allows you to lock the hand-held keyboard to prevent keys from being pressed accidentally when, for example, the unit is inserted in a holster.

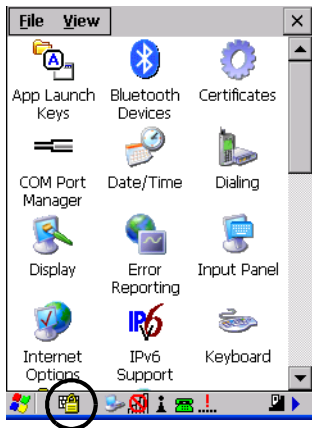


- To lock the keyboard, tap in the checkbox next to *Enable key lock sequence*.
- Tap in the checkbox next to *Keyboard locked at startup*.
- In the *Key sequence* drop-down menu, choose the key sequence you need to type to unlock the keyboard.



Note: If 'Show popup message' is enabled (default), the key sequence required to unlock the keyboard is displayed on the screen as soon as any key is pressed. The operator will need to enter that sequence to unlock the keyboard for use.

A *locked keyboard* icon is displayed in the taskbar when the keyboard is locked.



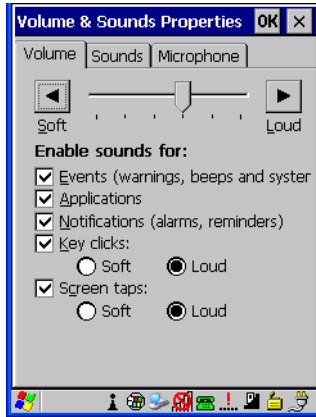
- Type the **key sequence** to unlock the keyboard. The icon disappears from the taskbar when the keyboard is unlocked.

5.5.4 Volume And Sound Properties

- In the *Control Panel*, choose the **Volume & Sounds** icon.

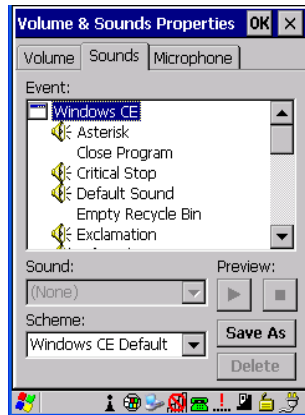


5.5.4.1 Volume Adjustments



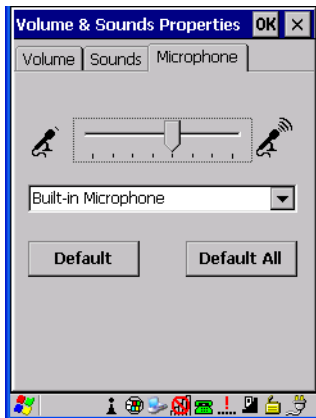
- Slide the volume button to the left to lower the beeper volume or to the right to increase the beeper volume.
- Under the heading *Enable sounds for*, enable the conditions under which you want the WORKABOUT PRO³ to emit a beep.

5.5.4.2 Sound Adjustments



This dialog box allows you to assign sounds to identify a particular actions. For example, you can choose the sound your hand-held will emit when you close a program and choose another sound for a failed scan, etc.

5.5.4.3 Microphone Adjustments



Use this dialog box to adjust the gain for the specific microphones associated with your hand-held.

- Tap on the drop-down menu, and choose the microphone for which you want to adjust the gain.
- Slide the microphone tab to the left to decrease the gain and to the right to increase the gain.

Tapping on the *Default* button sets the current microphone you've chosen to the default gain. Tapping on *Default All* sets *all* microphones listed to their default gain.

5.5.5 Power Management Properties

The *Power Properties* dialog box indicates battery capacity and allows you to manage battery use.

- In the *Control Panel*, choose the **Power** icon.



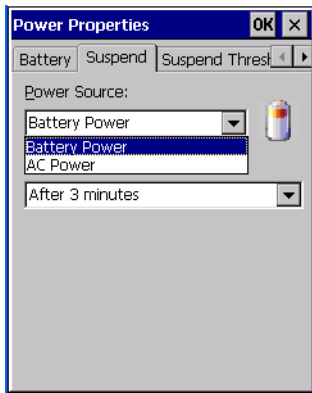
5.5.5.1 Battery Capacity Tab

- In the *Power Properties* dialog box, open the **Battery** tab to view battery details.



5.5.5.2 Suspend Tab

- In the *Power Properties* dialog box, tap on the **Suspend** tab.



Power Source

This drop-down menu allows you to choose a power source – *AC Power* or *Battery Power* – so that you assign the suspend timeout for each.

Suspend Timeout



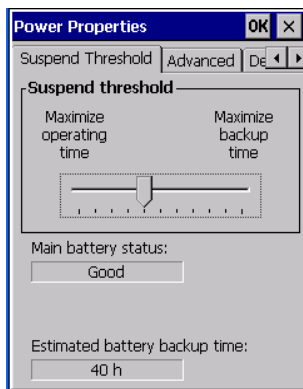
Important: *Psion Teklogix recommends setting the Suspend value to 10 minutes. To further reduce power consumption, carefully consider the duration of time that the display backlight is ‘on’ (see “Display Backlight” on page 95).*

When the WORKABOUT PRO³ 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 *Suspend Timeout* field to determine when the unit will go to sleep (appear to be off).

When the time in the *Suspend Timeout* field elapses without any activity, the unit enters *suspend* state. In suspend state, the WORKABOUT PRO³ CPU enters a sleep state, and the radio is shut off. The state of the device (RAM contents) is preserved. Pressing [ENTER] wakes the system from suspend state. When the WORKABOUT PRO³ is in suspend state, the network connection will not be broken immediately. If the connection is dropped, you must re-establish the network connection.

5.5.5.3 Suspend Threshold

The *Suspend Threshold* tab allows you to determine the amount of battery power that you want to reserve in the main battery to protect the data stored in the WORKABOUT PRO³.



If left at the default value, *Maximum Operating Time*, the hand-held will run until the battery power is completely depleted; the RAM is only backed up for a short period of time. If you choose *Maximum Backup Time*, the hand-held shuts off with more power left in the battery so RAM can be backed up for a longer period of time.

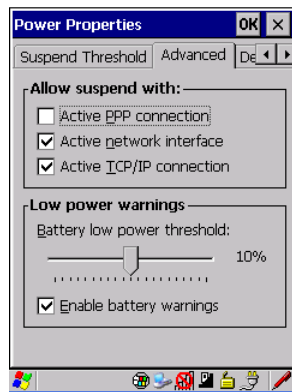


Important: *Selecting 'Maximum backup time' will reserve approximately 20% of the battery capacity for memory backup. Once the battery is drained, the system RAM memory is lost and the unit must cold boot.*

In most real-time transaction environments this is not a problem (it only takes a few seconds to cold boot). However, batch transaction environments, where data are not saved to a non-volatile memory (such as an SD FLASH card), may need to pay particular attention to this parameter. Psion Teklogix does not recommend the storage of any valuable data in system RAM. The WORKABOUT PRO³ Windows CE 5.0 environment does not store any critical data in RAM (such as the registry or file system).

If the operator's application does not save data to RAM, Psion Teklogix recommends keeping the Suspend Threshold setting as low as possible to maximize battery run time.

5.5.5.4 Advanced



Allow Suspend With:

This tab allows you to specify whether or not your unit will enter suspend state while it is operating with an *active PPP connection*, an *active network interface* or an *active TCP/IP connection*.

Low Power Warnings

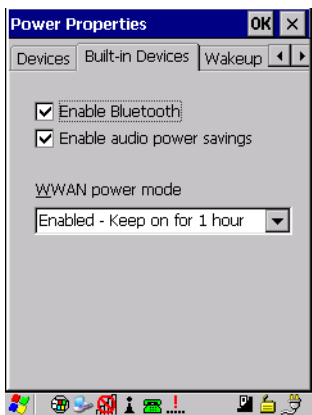
The sliding scale at the bottom of this tab allows you to specify the remaining battery capacity at which a warning message is displayed on the WORKABOUT PRO³ screen, from 0% to 20%.

5.5.5.5 Devices

This tab controls power to individual CF and SDIO slots. Enable or disable the checkboxes as needed, then tap on **Apply** followed by **OK** to save your changes.



5.5.5.6 Built-In Devices

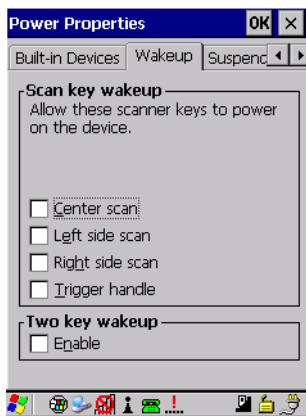


The *Built-In Devices* tab allows you to enable (provide power) or disable (terminate power) to the device(s) installed in your unit. Keep in mind that the content of this screen varies depending on the devices installed. Tapping on **OK** activates your selections.

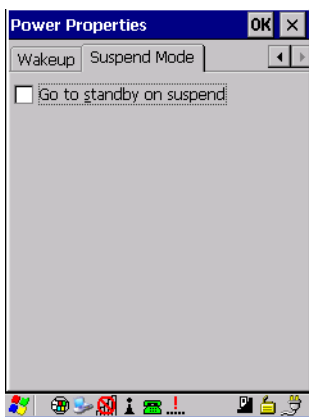
5.5.5.7 Wakeup

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

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



5.5.5.8 Suspend Mode



When this option is enabled, any time the WORKABOUT PRO³ enters suspend mode (e.g., following an idle timeout), *Go to standby on suspend* forces the WORKABOUT PRO³ to enter *Standby* mode. In *Standby* mode, the display is turned off, the keyboard is locked and the touchscreen is locked. The processor remains on so that any running applications will continue while the hand-held is in a *Standby* state. In addition, the radios continue to run, making them instantly available when the unit is powered up again.

5.5.6 Stylus Properties



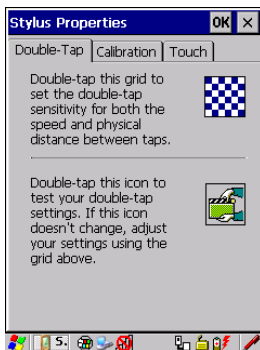
Note: Touchscreen calibration may not be enabled on your unit. If your screen appears to require recalibration, contact your supervisor.

- In the *Control Panel*, choose the **Stylus** icon.



5.5.6.1 Double-Tap

- In the *Double-Tap* tab, follow the directions to tailor the sensitivity of the stylus when you tap on the touchscreen.



5.5.6.2 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.



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

5.5.6.3 Touch

This tab allows you to disable the touchscreen.

- Choose the **Touch** tab. Tap the checkbox next to *Disable the touch panel*.

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 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 uses an internal antenna.

The *Bluetooth* radio is disabled by default. Before you begin the setup process:

- In the *Control Panel*, tap on the **Power** icon.
- Tap on the **Built-in Devices** tab, and tap in the **checkbox** next to *Enable Bluetooth*. Tap on **OK**.

When the radio is enabled, a *Bluetooth* icon appears in the taskbar at the bottom of the screen.

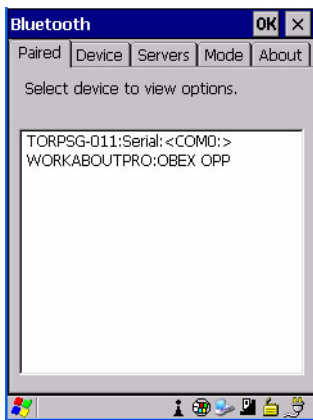
- In the *Control Panel*, choose the **Bluetooth Device Properties** icon to display the *Bluetooth Manager*.



The *Bluetooth Manager* allows users to search, pair and connect to other *Bluetooth* devices within their personal area network.

5.6.1 Paired Tab

This tab lists all paired devices and their corresponding services. The format of the name is <Device Name>:<Service Name>. Additional information may appear in this screen such as the Port Numbers for Serial Profiles service.

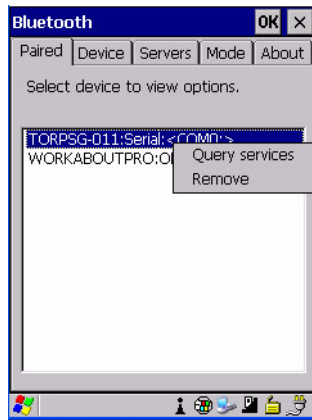


To learn how to scan for devices that will appear in this tab, review “Device Tab” on page 120.



Note: If a service is actively paired and connected, the device and its services are displayed in bold typeface in this list.

- Tap and hold down the stylus on an item in the *Paired* tab to display an associated pop-up menu.



This is a service-dependent menu – that is, it varies slightly depending on the service chosen in the *Servers* tab. Refer to “Servers Tab” on page 124 for more details.

Query Services and Remove Commands



*Note: The **Query Services** and **Remove** commands are available in all service-dependent menus, regardless of the type of service chosen.*

- *Query Services* displays a *Services* dialog box where a pairing service is chosen.
- *Remove* unpairs the highlighted service and deletes the entry from the tab.

OBEX OPP (Object Exchange-Object Push Profile) Commands

The *OPP* defines two roles – a *Push Server* and a *Push Client*. *Push Server* is the device that provides an object exchange server. *Push Client* is the device that pushes and pulls objects to and from the *Push Server*.

OBEX OPP contains the following unique menu option:

- *Send File* displays an *Open File* dialog box where the file to be sent can be selected. When the transmission begins, another dialog box tracks the progress of the file transmission.

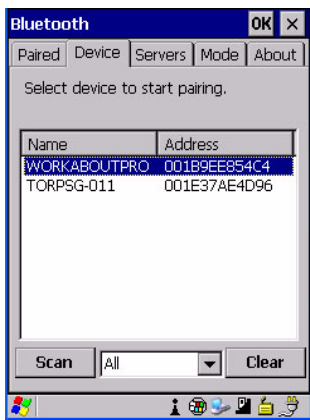
HSP/HFP (Headset Profile/Hands-Free Profile) Service Commands

The *HSP (Headset Profile)* allows users to connect their device to *Bluetooth* enabled headsets and other audio devices.

HSP/HFP services provide the following unique menu options:

- *Connect Audio* establishes an audio connection to the *Bluetooth* headset.
- *Disconnect Audio* disconnects the audio connection from the *Bluetooth* headset.
- *Volume Control* displays a dialog box where the headset and microphone volume can be adjusted.

5.6.2 Device Tab



This tab discovers and displays *Bluetooth* devices.

5.6.2.1 Discovering and Removing Devices

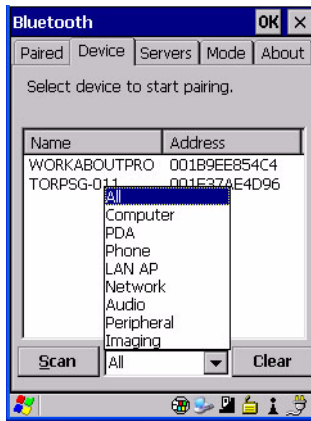
Scan discovers *Bluetooth* devices in range of the WORKABOUT PRO³ and lists them in this tab. Any existing devices previously discovered and listed will also be displayed.

Clear removes all *Bluetooth* devices listed except those with currently paired and connected services.



Note: To limit the scope of the scan to a particular type of device, refer to “Filtering By Class of Device (COD)” on page 121.

5.6.2.2 Filtering By Class of Device (COD)



This menu allows you to limit the scope of the scan to a particular type of device. If, for example, you choose *Computer* from this menu, only computers within range of the WORKABOUT PRO³ are listed in the *Device* tab. Choosing *All* lists all detected devices.

5.6.2.3 Device Pop-up Menu



The *Device* pop-up menu allows you to pair a device, update a device name or delete a device from the list.

Pair begins the pairing process by inquiring the services and profiles of the discovered device. An *authentication* dialog box is displayed the first time a *Bluetooth* device is paired.

Refresh Name repeats the device name inquiry, updating the name. This command is useful if a device is listed without a name (unknown), or if a device name has been changed remotely.

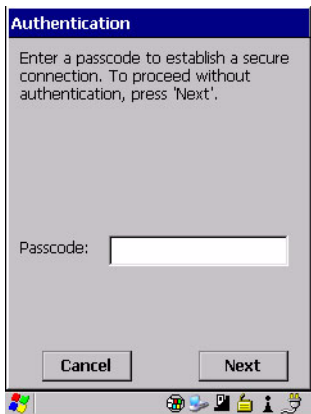
Delete removes this device from the list.

5.6.2.4 Pairing a Device

To pair devices:

- Follow the manufacturer's instructions to place the remote device in pairing mode.
- Choose the **Devices** tab and **Scan** for devices in your area.
- When the scan is complete, tap on the **device** to which you want to pair.
- In the pop-up *Device* menu, tap on **Pair**.

An *Authentication* dialog box is displayed.



- If the remote device has authentication enabled, type the PIN in this dialog box.
- To proceed *without* authentication, tap on **Next**.



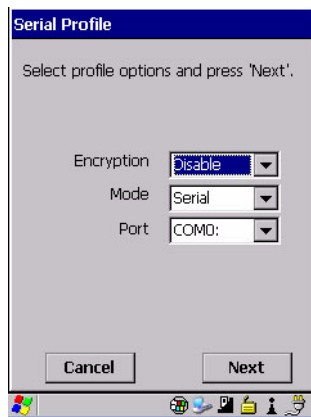
Note: If a remote device has authentication enabled and you've skipped the authentication process, a pop-up screen will ask if you want to allow the remote device to connect to the WORKABOUT PRO³. Tap on **Yes** and type the PIN. When authentication is complete, tap on **Done**.

After entering the device *PIN*, the *Services* dialog appears with a list of services available for that device.



- Click in the checkbox to the left of the service to activate it.
- Click on **Done**.

Services that require more information present a configuration dialog box. *Serial Profile* is an example.



This dialog box offers a number of additional options such as enabling *Encryption* and selecting three different *modes*: *Serial*, *ActiveSync* and *Scanner*

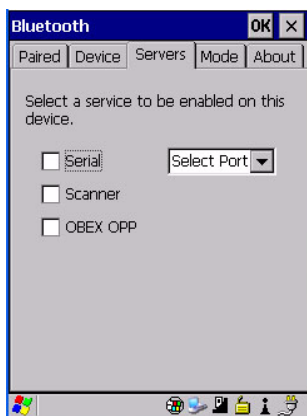
- *Serial* is used for simple serial port communication.
- *ActiveSync* is for ActiveSync-over-Bluetooth.

- *Scanner* is used to create a seamless connection between the incoming *Bluetooth* bar code and the WORKABOUT PRO³.

Once you've completed the information:

- Tap on **Next** and then in the *Services* screen, click on **Done**.

5.6.3 Servers Tab



When a remote *Bluetooth* device initiates a *Bluetooth* connection to the WORKABOUT PRO³, the remote device is considered the '*Bluetooth* master' and the hand-held, the '*Bluetooth* slave'. In order for the remote device to connect to the WORKABOUT PRO³, the WORKABOUT PRO³ must offer a service in the form of a server. The *Servers* tab allows these services to be enabled and configured. There are three server services available: *Serial*, *Scanner* and *OBEX OPP*.

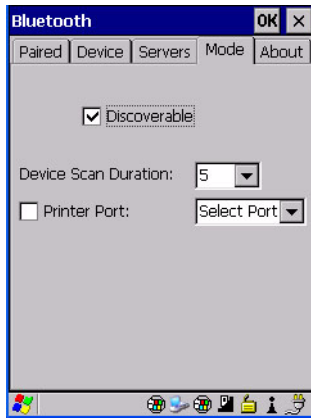
Serial server enables the Serial Port Profile server; a Serial Port can be selected from the drop-down menu. Keep in mind that when a port is chosen, an application must be open (connected) to the chosen port for a remote device to be able to connect.

Scanner server enables a Serial Port Profile server and then relays it to the Scanner Service (SCS). This is used for *Bluetooth* bar code scanners that operate in client mode. SCS opens the server port and handles the scanner input.

OBEX OPP server enables the Object Push Profile server. A warm reset must be performed on the WORKABOUT PRO³ after a change is made to this option. The OPP Server allows other *Bluetooth* devices to send files to this device.

- Tap on the checkbox to activate the server – the associated port name is displayed beside the server name.

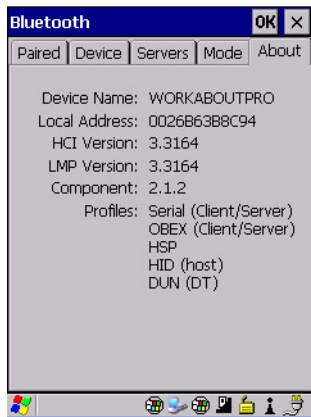
5.6.4 Mode Tab



The *Discoverable* option determines whether the WORKABOUT PRO³ is visible or invisible to other devices.

Device Scan Duration can be used to controls the duration in which the WORKABOUT PRO³ scans for other devices. The higher the value assigned, the greater the scan duration.

5.6.5 About Tab



Device Name displays the broadcasted name of the WORKABOUT PRO³. The name can be changed in the *System Properties* applet – *Start>Settings>Control Panel>System icon>Device Name tab*.

Local Address displays the MAC address (BD_Addr) of the *Bluetooth* chip.

HCI Version & LMP Version display the version of the chip firmware.

Component indicates the version of the Psion Teklogix *Bluetooth* Subsystem (the manager, drivers, etc).

Profiles lists the supported profiles on this specific WORKABOUT PRO³.

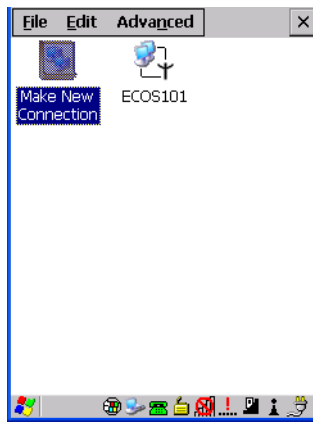
5.6.6 The Bluetooth GPRS WAN Connection

The following steps describe how to set up an internet data connection using a GSM cellular telephone with Bluetooth. The WORKABOUT PRO³ communicates via Bluetooth to the cell phone, which then accesses a WAN (Wide Area Network) and transfers data using GPRS.

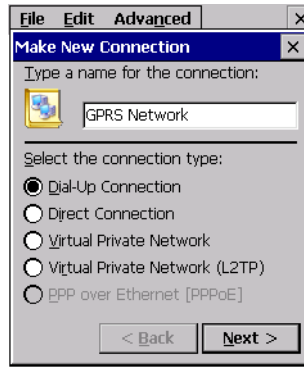
1. Enable the *Dial-Up Networking service* in the cell phone.
2. Make the phone *discoverable*.
3. Pair the phone service with the WORKABOUT PRO³ Dial-Up Networking service using the *Bluetooth Manager*. (For instructions on pairing devices, refer to “Pairing a Device” on page 122.)
4. To set up the internet parameters, choose the **Network And Dial-up Connections** icon from the *Control Panel*.



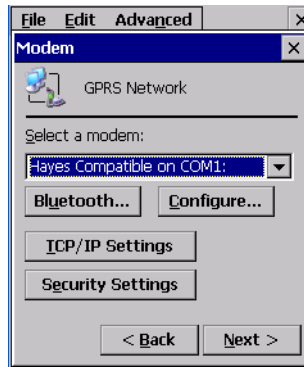
5. Tap on the **Make New Connection**.



6. In the *Make New Connection* dialog box, choose **Dial-Up Connection**. Enter a name for your GPRS network connection.

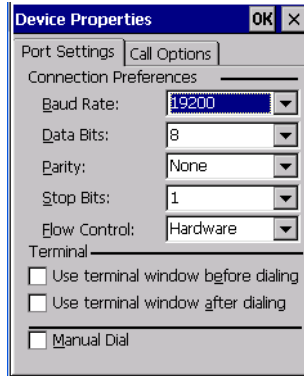


7. Choose the **Next** button to display the *Modem* dialog box.

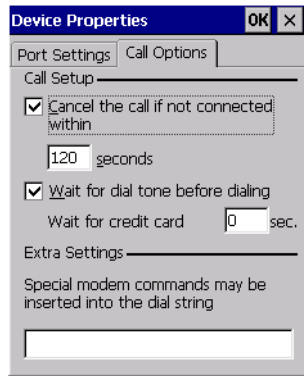


8. In the drop-down menu labelled *Select a modem*, choose the name of the modem with which you want to connect, and then choose the **Configure** button to display the *Device Properties* dialog box.

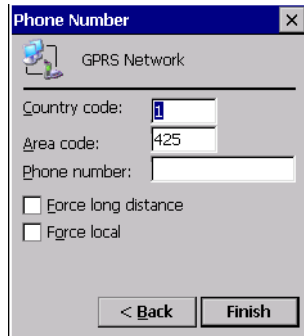
The WORKABOUT PRO³ communicates via *Bluetooth* to your *Bluetooth* equipped cellular telephone and retrieves the parameters for the *Device Properties* dialog box. The WORKABOUT PRO³ then disconnects.



9. Under the *Call Options* tab, turn off **Cancel the call if not connected within**, and press [ENTER] to save your changes.



10. In the *Modem* dialog box, choose the **Next** button to display the *Phone Number* dialog box.



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

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



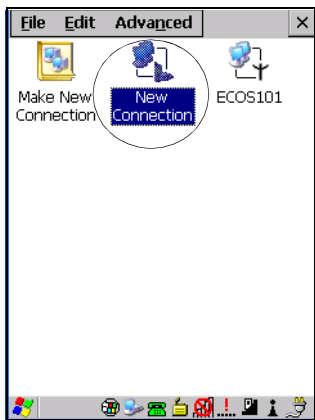
12. The values in the *Dialing Properties* dialog box need to be edited according to your network carrier specifications.



Once you've edited this dialog box to reflect your network carrier requirements, press **[ENTER]** to save your changes.

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

14. In the network connection window, the new network configuration – in this case, *New Connection* – is displayed. Tap on the **new** icon.



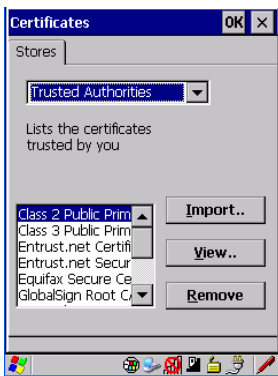
When you tap on your new connection, an onscreen message indicates the status of your connection: *connected*, *disconnected*, *error messages*, and so on.

5.7 Certificate Assignment

- In the *Control Panel*, choose the **Certificate** icon.



This option is used in conjunction with 802.1x authentication to enhance WORKABOUT PRO³ security.



Your WORKABOUT PRO³ has certificates already preinstalled in the computer. *My Certificates* establish your identity, *Other Authorities* certificates identify intermediate certification authorities and *Trusted Authorities* certificates establish the identity of the servers with which you can connect.

You can import or remove certificates, and view certificate information for any listing, including names, dates, serial numbers, etc.

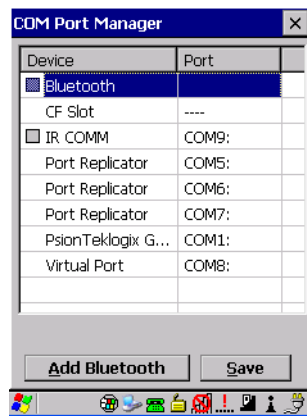


Note: When importing certificates, the WORKABOUT PRO³ only recognizes .cer files.

5.8 COM Port Manager

The *COM Port Manager* dialog box lists the device names and COM port mappings stored in the registry for the currently active and for dynamic devices like port replicators, USB serial dongles and virtual ports.

The *COM Port Manager* allows you to edit the COM port mappings and add new ports for Bluetooth external connections.



Note: A grey box to the left of a Device name indicates that this is a fixed port; the COM Port assignment cannot be changed.

For those ports that can be changed, each *COM Port* has a drop-down menu.

- Tap on **COM#** in the *Ports* column to display a menu from which you can choose the COM Port you want to assign.

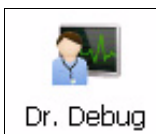
If you assign a conflicting port, an *asterisk* * is displayed to the left of device name indicating that this port has already been assigned.

A double-dash “--” in the *Port* column indicates that a COM port has not been assigned. Tapping on the drop-down menu allows you to assign a port.

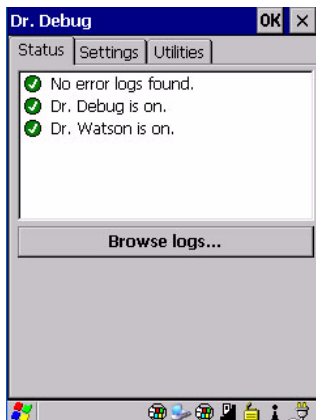
5.9 Dr. Debug

Dr. Debug is an error diagnostic tool.

- Tap on **Start>Settings**. Tap on **Control Panel** followed by the **Dr. Debug** icon.

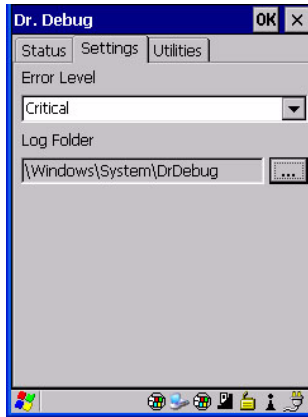


5.9.1 Status



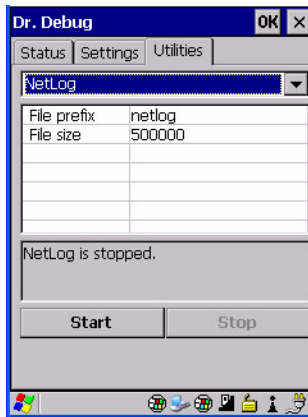
This tab indicates the status (on/off) of the tools. Tapping on *Browse logs* displays error logs for your review.

5.9.2 Settings



- Choose an **Error Level** from the drop down menu.
- To change the location where debug information will be stored, tap on the button to the right of the *Log Folder* option.

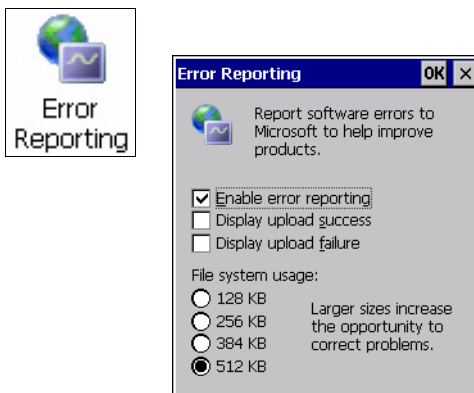
5.9.3 Utilities



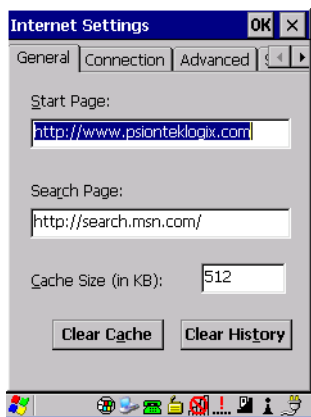
The *Utilities* tab is used to log network traffic. When you tap on the *Start* button, debug data is collected so that, if necessary, it can be forwarded to a Psion Teklogix technician for evaluation.

5.10 Error Reporting

Error Reporting allows you to enable or disable Microsoft error reporting prompts.



5.11 Internet Options



The tabs available for *Internet Options* allows you to customise the way the Internet works on your WORKABOUT PRO³.

- **General Tab:** Define your home page and search page.
- **Connection Tab:** Set up, view and change your dialup and local network connections.

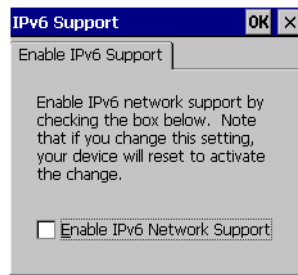
- **Advanced Tab:** Determine how internet pages behave on your unit – display images, play sounds, enable scripting and script error notification.
- **Security Tab:** Block or allow cookies and allow versions of TLS (Transport Layer Security) and SSL (Secure Socket Layer) security.
- **Security Zone Tab:** Determine the security level for websites, local network sites, trusted sites and sites you've restricted. When available, the *Sites* button allows you to add to a list.

5.12 IPv6 Support

The *IPv6 Support* icon in the *Control Panel* allows you to activate IPv6 network support on your unit if your network setup requires this. This internet protocol specification (version 6) supports 128-bit IP addresses, replacing version 4.



- Choose the **IPv6 Support** icon to display the associated dialog box.



- Choose the checkbox next to *Enable IPv6 Network Support* to enable this internet protocol.

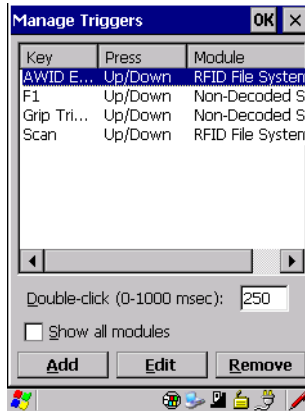
5.13 Manage Triggers

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

- In the *Control Panel*, choose the Manage **Triggers** icon.



In the *Manage Triggers* screen, you'll see a list of trigger mappings.



5.13.1 Trigger Mappings

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



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

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

Double-Click

When a key is pressed and released, then pressed again within the configured time (between 0 to 1000 milliseconds), a double-click occurs. See also “Trigger-Press Type” on page 139.

Show All Modules

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

Add

Tapping this button brings up the Add mapping dialog (see “Add and Edit Trigger Mapping” on page 138), so that you can add new trigger mappings.

Edit

Tapping this button brings up the Edit mapping dialog (see “Add and Edit Trigger Mapping” on page 138), so that you can edit existing trigger mappings.

Remove

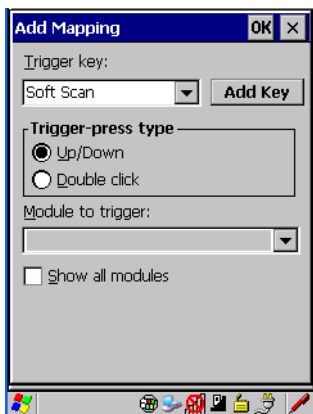
Tapping this button removes an existing mapping.

OK

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

5.13.2 Add and Edit Trigger Mapping

These dialogs allow the user to add and edit trigger mappings.



Trigger Key

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



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

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

Add Key

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



Trigger-Press Type

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

Module Trigger

This identifies the driver or application receiving the trigger presses.

Show All Modules

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

5.14 Storage Manager

The *Storage Manager* allows the user to view information about the storage devices that are present in the WORKABOUT PRO³, such as SD-MMC flash cards and Compact Flash cards.



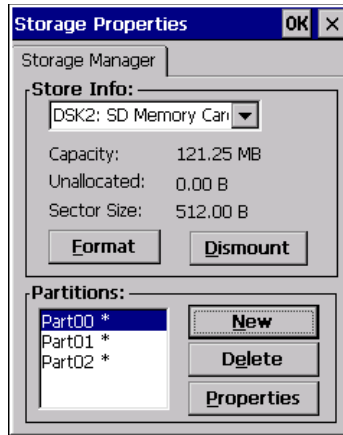
5.14.1 Formatting a Memory Card

Formatting a memory card bulk-erases it. Once a card is erased, partitions may be created in it, similarly to those on a hard drive. Memory-card devices are normally 'mounted' (made available to the system) automatically when they are inserted. They must be dismounted before they can be formatted.

To format an entire memory card:

1. Tap on **Start> Settings>Control Panel**.
2. In *Control Panel*, double-click on the **Storage Manager** icon.

Figure 5.3 Storage Manager Screen



3. Choose the memory card from the drop-down list.
4. Tap on the **Dismount** button to dismount the memory card. All partitions on the card will be dismounted.
5. Tap on the **Format** button to format the memory card.

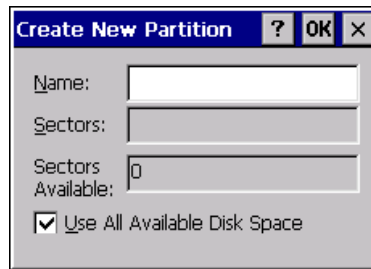
All partitions and information on the card will be erased during the formatting process.

5.14.2 Creating Partitions

Once the card is formatted, new partitions can be created in it. The default is to create one partition that occupies the whole card, but a card can be divided into more than one partition if desired. Each partition appears as a separate folder in Windows Explorer.

Creating a New Partition

1. Tap the **New** button next to the *Partitions* list box. The *Create New Partition* dialog box appears.

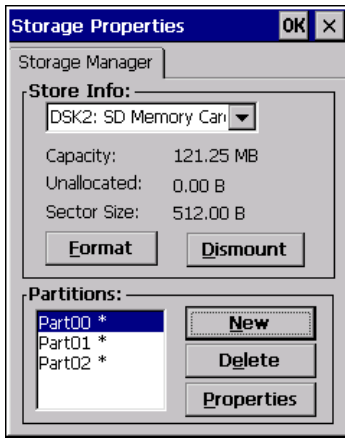


2. Type a **name** for the partition.
3. If more than one partition is desired, uncheck the *Use All Available Disk Space* checkbox, then specify the desired number of sectors to be used by the partition.



Note: The sector size of the card is given on the left-hand side of the Storage Properties dialog.

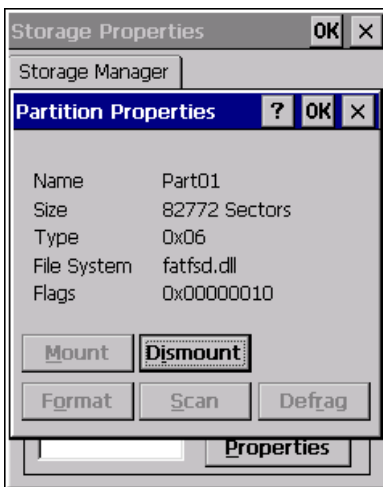
4. Tap **OK**. The new partition appears in the Partitions list.



The new partition is automatically mounted. This is indicated by an asterisk (*) next to its name in the partition list. Any unallocated space on the card is indicated at the left, and additional partitions can be created in it.

5.14.3 Partition Properties

Partitions can be individually dismounted, mounted, deleted or formatted as well. These and additional tasks are available from the *Partition Properties* dialog box.



Dismounting a Partition

1. Choose the desired partition.

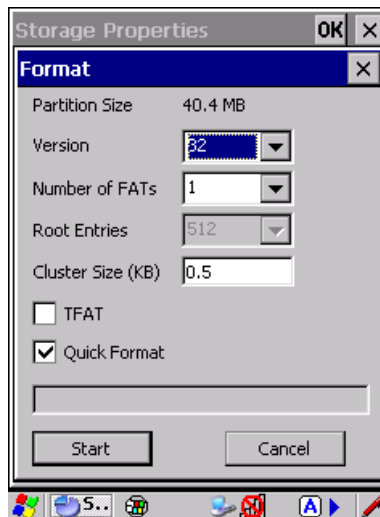
2. Tap the **Properties** button. The *Partition Properties* dialog box appears.
3. Tap the **Dismount** button. The partition is dismounted. The asterisk disappears next to its name in the partitions list.

Deleting a Partition

1. Select the desired partition.
2. Tap the **Delete** button. A warning dialog box appears.
3. Tap the **OK** button. The partition is deleted.

Formatting a Partition

1. Choose the desired partition.
2. Tap the **Properties** button. The *Partition Properties* dialog box appears.
3. Tap the **Dismount** button. The partition is dismounted. The asterisk disappears next to its name in the partitions list.
4. Tap the **Format** button. The *Format* dialog box appears.



5. Choose your format options. These options include:
 - Version of file system (FAT-16, for devices holding up to 4 GB; or FAT-32, for devices containing up to 32 GB).
 - Number of FATs (File-Allocation Tables).
 - Number of entries allowed in the root directory.

- Cluster size (.5 KB to 64 KB).

Two additional checkboxes govern:

- Whether to use the transaction-safe FAT file system (TFAT). This file system keeps multiple copies of the file-allocation table, changing one while maintaining another as a backup.
- Whether to perform a quick format. Quick formatting removes all reference to data in the partition without erasing the actual partition. The partition will be treated as empty, and new data will overwrite it.

6. Tap **Start**. The partition is formatted.

Mounting a Partition

1. Choose the desired partition.
2. Tap the **Properties** button. The *Partition Properties* dialog box is displayed.
3. Tap the **Mount** button. The partition is mounted. The asterisk appears next to its name in the partitions list.

The *Partition Properties* dialog box has buttons for additional functions. Partitions can be defragmented, and their file structure can be scanned.

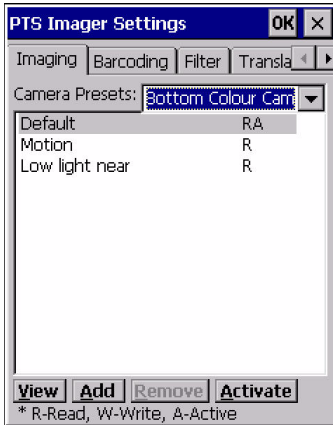
5.15 Teklogix Imagers Settings

The *Teklogix Imagers* applet is used to create, modify, delete and activate imager settings. The principle uses of the applet are to decode bar codes and to capture images.



Note: This icon is only displayed when the appropriate imager is installed in your hand-held computer.

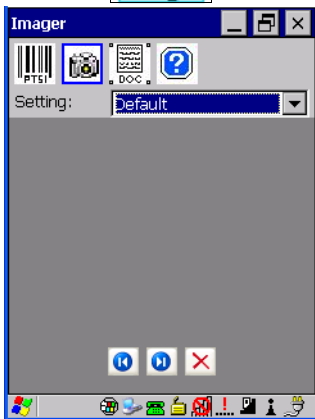
- To launch this applet, tap on **Start>Settings>Control Panel**, and then tap on the **Teklogix Imagers** icon.



Important: Refer to Appendix E: “Teklogix Imagers Applet” for details about this applet.

An *Imager* demo applet is also provided to illustrate how the imager works.

- To launch the demo applet, tap on **Start>Programs**, and then tap on the **Imager** icon.



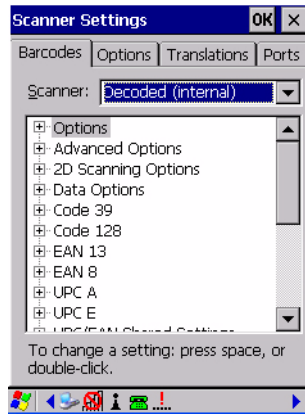
5.16 Teklogix Scanner Settings

The *Teklogix Scanners* icon in the *Control Panel* provides dialog boxes in which you can tailor bar code options and choose the bar codes your scanner will recognize. The parameters are preset with the default settings of the decoded scanner installed in the unit.



For a listing of available scanners and their specifications, please refer to Chapter 7: “Specifications”.

- Tap on **Start>Settings>Control Panel**, and then tap on the **Teklogix Scanner** icon.



5.16.1 The Scanner Menu



Important: *Appendix D: “Bar Code Settings” provides descriptions of the bar codes listed in the scanner menus.*

The drop-down menu to the right of the *Scanner* option allows you to choose from one of the following: *Decoded (internal)*, *Decoded (HHP)*, and *Decoded (Intermec ISCP)*.

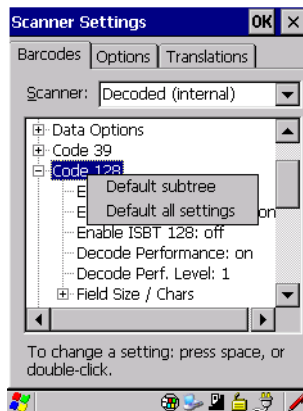
The symbologies listed change to reflect the scanner you choose and the bar codes it supports. To improve the decode speed and performance, enable only those codes that are required by the application.

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

5.16.2 Restoring Default Settings

If you want to restore the factory defaults after making changes, the defaults can be applied to a selected parameter, sub-tree of parameters or all scanner parameters.

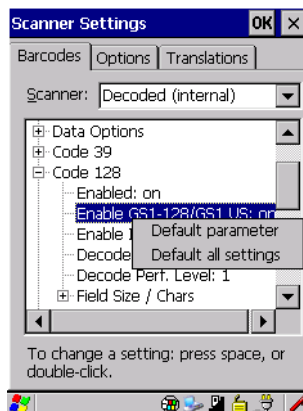
- Press and hold the stylus on a symbology (e.g., Code 128) to display a pop up a menu.



- Choose **Default subtree** to reset only the parameters in the symbology you selected, or choose **Default all settings** to reset all scanner parameters to default settings.

To reset a single parameter to its default setting:

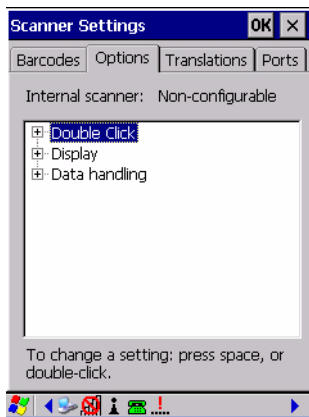
- Press and hold the stylus on the parameter you want to reset.



- Choose **Default parameter** to reset the parameter to the default setting.

5.16.3 Options

This tab allows you to tailor the double-click parameters and the display options associated with your scanner.



5.16.3.1 Double Click Parameters

Click

Time (msec)

This parameter controls the maximum gap time (in milliseconds) for a double-click. If the time between the first and second clicks of the scanner trigger is within this time, it is considered a double-click. The allowable range is 0 to 1000. A value of zero disables this feature.

A double-click produces different results depending on whether or not a value is assigned in the "Click Data" parameter. When a value is not assigned for the "Click Data", double-clicking the scanner trigger overrides the target dot delay set in the "Dot Time" parameter and initiates a normal scan sweep. If a value is assigned for the "Click Data" parameter, double-clicking the scanner trigger inserts the "Click Data" value rather than initiating a scan.

Click Data

For both integrated and external scanners, this parameter determines which character is sent to the application installed in your hand-held following a double-click. A dialog box ap-

pears, asking that you press the key you want to insert. The ASCII/Unicode key value of the keypress is displayed.

5.16.3.2 Display Parameters

Scan Result

When this parameter is enabled, the type of bar code and the result of the scan appear on the screen. Note that this information is only displayed after a successful decode and is visible only while the scanner trigger is pressed. When the trigger is released, this information is cleared from the screen.

Scan Indicator

When this parameter is enabled, the laser warning logo appears on the display whenever the scanner is activated.

Scan Result Time (sec)

The value assigned to the “Scan Result Time (sec)” parameter determines how long the scan results of a successful scan are displayed on the screen. Time is measured in seconds, and a value of “0” (zero) disables the parameter. When you choose this option, a dialog box appears where you can enter a value.



Note: To remove the scan result from the screen before the “Result Time” has expired, point the scanner away from the bar code and press the trigger.

Good Scan Beep and Bad Scan Beep

These parameters determine whether or not the hand-held emits an audible scanner ‘beep’ when a good (successful) scan or a bad (unsuccessful) scan is performed. Set these parameters to either *on* to enable the beeper or *off* to disable it.

Soft Scan Timeout

This parameter is used by the SDK “Scan” function (soft-scan: starting a scan session via the SDK function, instead of a physical user trigger press). The value assigned to this parameter determines the soft-scan timeout from 1 to 10 sec. (default is 3 sec.).

Scan Log File

If this parameter is enabled, the input barcode and the modified/translated output bar code are logged in the file \Flash Disk\ScanLog.txt. Keep in mind that if the “Scan Log File” is enabled, there is a slight performance effect when performing multiple scans since the log file is written to persistent storage.

5.16.3.3 Data Handling

This option allows you to choose the code page your WORKABOUT PRO³ will use to display data – *Default Local ASCII* or *ISO-8859-1 Latin 1*.

Codepage:

Tapping on this option displays a window in which you can define the code page your WORKABOUT PRO³ will use.



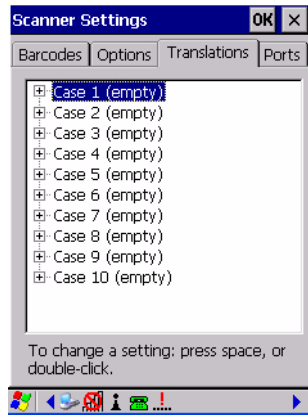
If you choose *Default Local ASCII*, the code page of the local OS is used. For example, if the local OS uses double-byte Chinese characters, choosing this option will filter data through the local ASCII of *that* OS and display it accurately, in this example, using double-byte characters.

If you choose *ISO-8859-1 Latin 1*, data will be displayed according to the character mapping of this Latin 1 code page, ignoring the local OS code page.

5.16.4 Translations Tab

The *Translations* tab allows you to define up to 10 cases, each consisting of up to 10 rules in sequential order. Only one case will be applied to a bar code and a case will only be applied

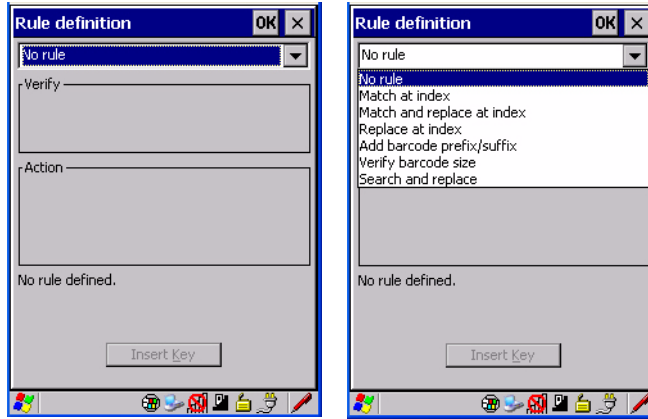
if all rules specified in the case are successful – if a rule within a case fails, the entire case fails.



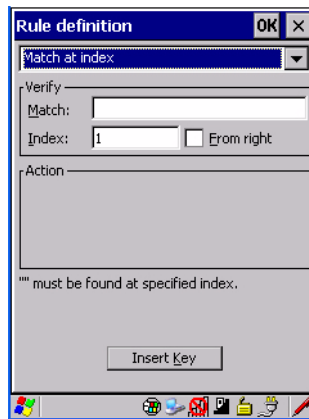
- In the *Translation* tab, tap on the **Case #** to create rules.



- Tap on the *No rule* drop-down menu to display the rules.



When you choose a rule, an associated screen is displayed in which you can define the rule.



5.16.4.1 Case Rules

The case rules are defined as follows:

- No rule – ignored.
- Match at index – matches the match string at a specified index.
- Match and replace at index – matches the match string at a specified index and replaces/changes it.
- Replace at index – replaces/changes unspecified data in a given range.
- Add barcode prefix/suffix – adds a global prefix or suffix.

- Verify barcode size – verifies the bar code size. This rule should generally be assigned first, before creating subsequent rules.
- Search and replace – replaces all instances of the match string. (Note that this rule cannot fail.)

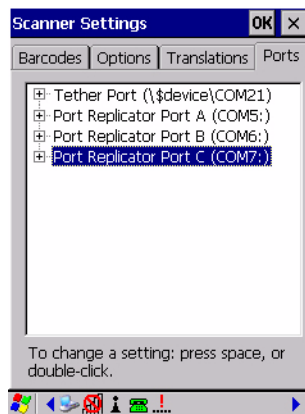


Note: Keep in mind that the effects of previously applied rules must be taken into account when creating subsequent rules. For example, if the bar code size is important, it should be checked before any rules that might change the size are applied.

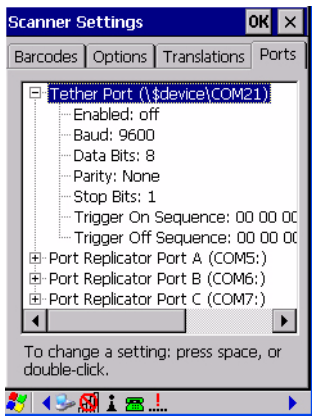
Translation information about the status of each case/rule is displayed in the scan log file (see “Scan Log File” on page 149) when enabled. This is useful if a case fails, and you are trying to determine why a rule is failing.

5.16.5 Ports Tab

While you cannot configure the scanner, you can configure communications with a serial decoded scanner using the options in this tab.



5.16.5.1 Tether Port (\\$device\COM21:)

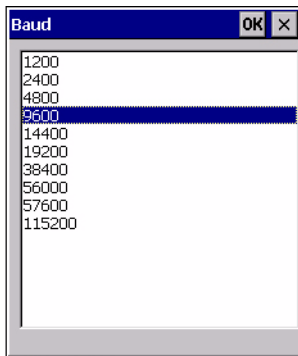


Enabled

This parameter allows you to turn the tether port *on* (enable) and *off*.

Baud

Double-tapping on this parameter displays a pop-up window in which you can choose an appropriate baud rate.

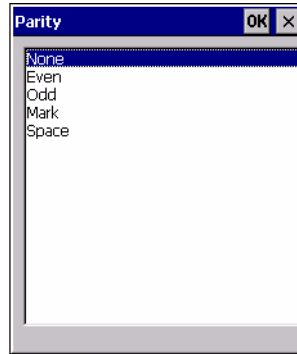


Data Bits

This parameter determines the number of data bits included in each asynchronous data byte. Most devices use 8 bit data bytes. Double-tapping on this option displays a pop-up window in which you can choose either 7 or 8 data bits.

Parity

This parameter determines the type of parity checking used on the data going through the tether port. Double-tapping on this option displays a pop-up window in which you can choose the appropriate *Parity*.



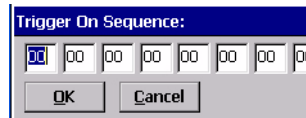
Stop Bits

This parameter specifies the number of stop bits – 1, 1.5, 2 – used for asynchronous communication.

Trigger On Sequence And Trigger Off Sequence

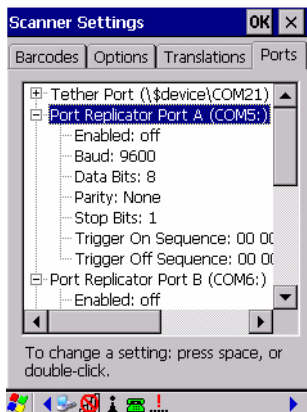
If a SICK scanner connected to the WORKABOUT PRO³ port requires a serial stream of data bytes to trigger the scanner *on* and another to trigger the scanner *off*, the *Trigger On Sequence* and *Trigger Off Sequence* parameters allow you to define these serial streams.

Double-tapping on *Trigger On Sequence* or *Trigger Off Sequence* displays a screen with a hex array of 10 elements.



These parameters work in conjunction with *Manage Triggers* sending on and off data streams to the trigger module you assigned. For example, supposed you launch *Manage Triggers* and choose *Decoded Scanner* as the ‘module to trigger’. Next, you assign a ‘trigger key’ – for this example, . (period). To define the serial stream of data bytes to control the *on* and *off* function of the ‘trigger key’, enter a hex value in the *Trigger On Sequence* and the *Trigger Off Sequence* fields. When you press the trigger key, the *Trigger On Sequence* is sent and when you release the trigger key, the *Trigger Off Sequence* is sent, turning the trigger key *on* and *off*.

5.16.5.2 Port Replicator Ports A, B And C



The following COM ports are available: *COM5*., *COM6*.: and *COM7*..



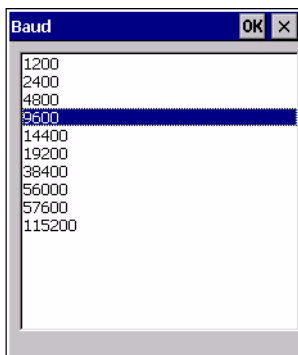
Note: Each port provides identical parameters to help you set up the port you choose. They are described in this section.

Enabled

This parameter allows you to turn this port *on* (enable) and *off*.

Baud

Double-tapping on this parameter displays a pop-up window in which you can choose an appropriate baud rate.

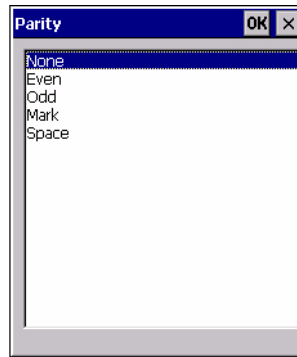


Data Bits

This parameter determines the number of data bits included in each asynchronous data byte. Most devices use 8 bit data bytes. Double-tapping on this option displays a pop-up window in which you can choose either 7 or 8 data bits.

Parity

This parameter determines the type of parity checking used on the data going through the tether port. Double-tapping on this option displays a pop-up window in which you can choose the appropriate *Parity*.



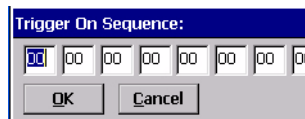
Stop Bits

This parameter specifies the number of stop bits – 1, 1.5, 2 – used for asynchronous communication.

Trigger On Sequence And Trigger Off Sequence

If a SICK scanner connected to the WORKABOUT PRO³ port requires a serial stream of data bytes to trigger the scanner *on* and another to trigger the scanner *off*, the *Trigger On Sequence* and *Trigger Off Sequence* parameters allow you to define these serial streams.

Double-tapping on *Trigger On Sequence* or *Trigger Off Sequence* displays a screen with a hex array of 10 elements.



These parameters work in conjunction with *Manage Triggers* sending on and off data streams to the trigger module you assigned. For example, supposed you launch *Manage*

Triggers and choose *Decoded Scanner* as the ‘module to trigger’. Next, you assign a ‘trigger key’ – for this example, . (period). To define the serial stream of data bytes to control the *on* and *off* function of the ‘trigger key’, enter a hex value in the *Trigger On Sequence* and the *Trigger Off Sequence* fields. When you press the trigger key, the *Trigger On Sequence* is sent and when you release the trigger key, the *Trigger Off Sequence* is sent, turning the trigger key *on* and *off*.

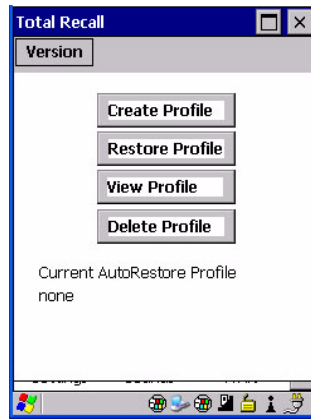
5.17 Total Recall

Total Recall is a Psion Teklogix utility developed to maintain applications and settings during a cold boot. This utility is based on a backup and restore concept.

- In the *Control Panel*, choose the **Total Recall** icon.



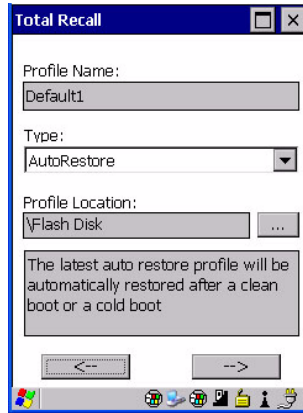
5.17.1 Creating a Backup Profile



In the start up screen, you can choose from four options: *Create Profile*, *Restore Profile*, *View Profile* and *Delete Profile*.

- Tap on the **Create Profile** button to begin the process.

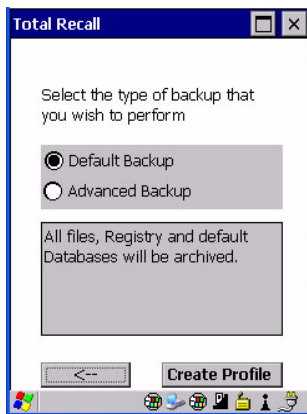
Profile Information



This dialog box displays the default profile name, the type of restore – *AutoRestore* or *ManualRestore*, and the possible storage destination for the profile file.

- To change the *Profile Name* (optional), tap on the [...] button to the right of the *Profile Location* field.
- In the *Name* field, type a new name. (You may need to move the onscreen keyboard down to make the *Name* field visible.)
- Tap on **OK** to save the new profile name.
- Next, choose the profile **Type** you want to create:
 - *ManualRestore* – creates a backup that is manually restored by the operator.
 - *AutoRestore* – creates a profile that automatically restores itself following a cold reset or a clean reset.
- Finally, if you want to choose another location for your backup file (optional), tap on the [...] button to the right of the *Profile Location* field.
- Navigate to the new location, and tap on **OK** to save it.
- Tap on the [->] (Next) button.

Defining the Type of Backup

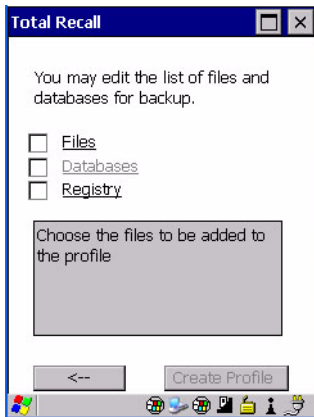


Default Backup

Default Backup is selected so that all installed or copied files, database entries, and the Registry are saved. Choose *Advanced Backup* if you want to tailor your backup.

Advanced Backup

Choosing *Advanced Backup* allows you to define what you would like to include in your backup profile.



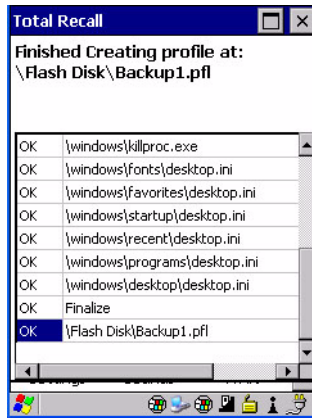
- Tap in the checkbox next to the option(s) listed here to tailor how what you want included in the backup.

Creating a Profile

Once you've defined the type of profile you want to create:

- Tap on the **Create Profile** button.

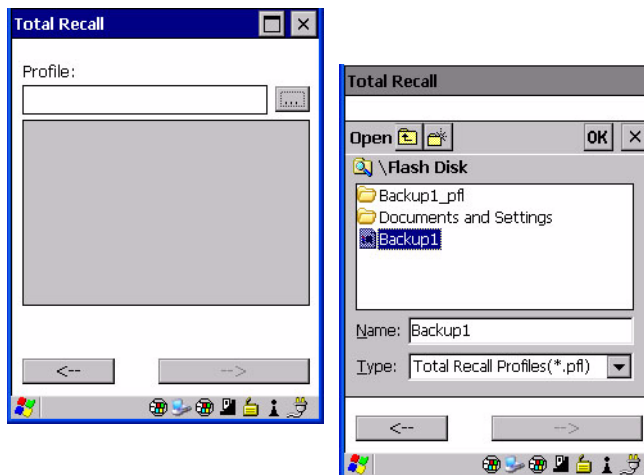
The options you chose to back up appear in your window as the backup progresses. When the backup is complete, the last item in the list indicates the location and name of the backup profile.



5.17.2 Restoring a Profile

To manually restore a profile:

- In the *Total Recall* home screen, tap on **Restore Profile**.
- Tap on the [...] button to the right of the *Profile* field and locate your backup file.



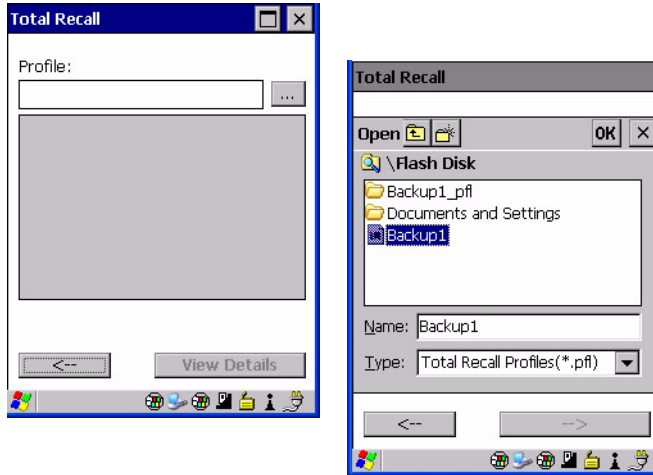
- Tap on **OK**.

- In the *Profile* restore screen, click on the [->] (Next) button.
- Click on **Restore Profile** to restore the files to your WORKABOUT PRO³.

5.17.3 Viewing a Profile

To view a profile:

- In the *Total Recall* home screen, tap on **View Profile**.
- Tap on the [...] button to the right of the *Profile* field, and locate your backup file.



- Tap on **OK**.



- Tap on **View Details** to review your backup files.

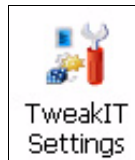
5.17.4 Deleting a Profile

- In the *Total Recall* home screen, tap on **Delete Profile**.
- In the next screen, locate your backup file, and tap on **OK**.

A warning pop-up screen appears asking if you're certain that you want to delete this file.

- Tap on **Yes** to delete the file.

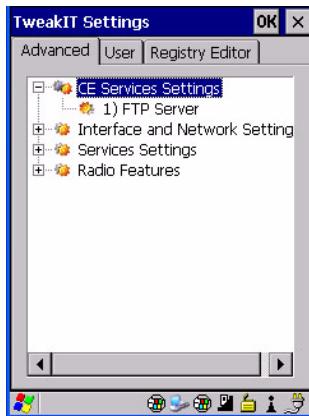
5.18 TweakIT Settings



This utility allows you to ‘tweak’ or adjust *Advanced* system settings (interface, network, servers, driver, and radio), *User* settings (Internet Explorer settings, font size, and docking port message) and provides a *Registry Editor*.

5.18.1 Advanced

5.18.1.1 CE Services Settings

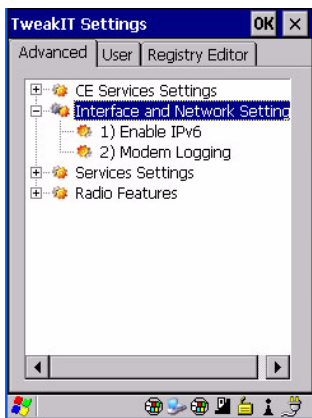


FTP Server

This option is enabled by default to allow file transfers. Keep in mind that data transfer in either direction is restricted to the Temp folder—that is, data are always loaded from the *FTP Server* to the *Temp* folder and from the *Temp* folder to the *FTP Server*.

If this option is disabled, a warm reset must be performed to accept the change.

5.18.1.2 Interface and Network Settings



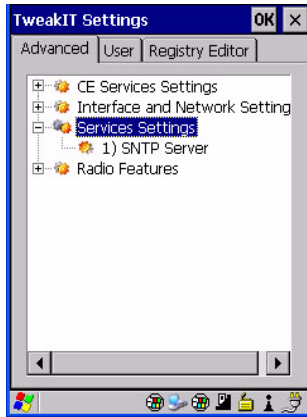
Enable IPv6

This option allows you to enable Internet Protocol specification, version 6, that has been published to use 128-bit IP address (replacing version 4).

Modem Logging

When this option is enabled, the WORKABOUT PRO³ logs AT commands (e.g., dial-out information, password string, etc.) that the administrator can monitor for debugging purposes. Modem commands are stored in: \MdmLog.txt.

5.18.1.3 Services Settings



SNTP (Simple Network Time Protocol) Server

The *SNTP Server Name* typed in this dialog box is used to synchronize WORKABOUT PRO³ time with the time server time. A warm reset must be performed once the server name as been entered.

5.18.1.4 Radio Features



AP Density

This option allows you to determine the signal strength at which the WORKABOUT PRO³ radio will begin searching for a new Access Point (AP): High, Medium or Low. If, for example, this option is set to *High*, the radio will begin searching for a new Access Point while

still at a fairly strong signal strength. Setting AP Density to *Low* will cause the radio to wait until the signal strength is significantly low before attempting to connect to another Access Point.

Depending on your site configuration—for example, the shelving, the Access Point coverage, etc.—a higher setting may improve through-put, increase and maintain signal strength, and reduce missed transmissions.

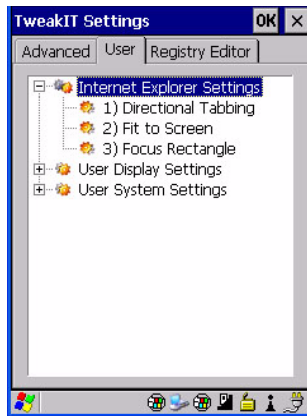
Radio Power Management

When this option is enabled, access points that support it will use *Radio Power Management* guidelines to control the client (WORKABOUT PRO³) radio. Access points determine how often the WORKABOUT PRO³ radio enters sleep mode when no activity is detected to reduce power consumption on the client side. Another benefit is that when *Radio Power Management* is enabled, even when no activity is detected, the access point does not disassociate the WORKABOUT PRO³ (client).

5.18.2 User

5.18.2.1 Internet Explorer Settings

This option allows you to customize how your Internet Explorer is displayed and how the tabbing functions.

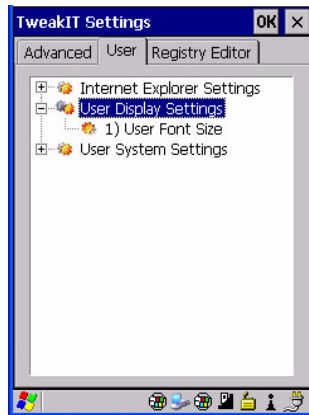


These *Internet Explorer* options are designed to make it easier to view and navigate web pages displayed on WORKABOUT PRO³.

Directional Tabbing, Fit-to-Screen and Focus Rectangle

When *Directional Tabbing* is enabled, arrow keys can be used to navigate to various links, text boxes and so on around the page rather than limiting you to the [TAB] key. *Fit-to-Screen* reformats the web page on the WORKABOUT PRO³ screen into a single column, eliminating the need for horizontal scrolling. Enabling *Focus Rectangle* adds a yellow rectangle around the cursor to make it clearly visible on the screen.

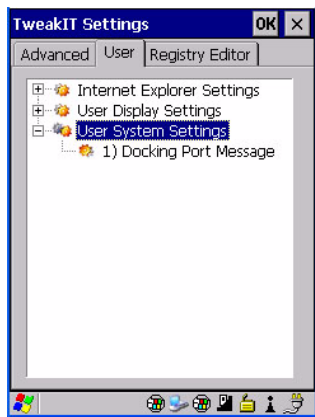
5.18.2.2 User Display Settings



User Font Size

This option allows you to adjust the size of the font used the WORKABOUT PRO³ display: *Large*, *Normal* or *Small*.

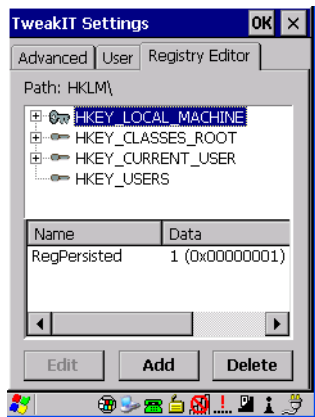
5.18.2.3 User System Settings



Docking Port Message

Checking this box blocks the message that normally pops up on the display when the WORKABOUT PRO³ is docked.

5.18.3 Registry Editor



This option is reserved for senior administrators who have a strong understanding of registry keys and values. Careless registry editing can cause irreversible damage to the WORKABOUT PRO³.

PERIPHERAL DEVICES & ACCESSORIES

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6.1 Carrying Accessories

There are a variety of carrying accessories to help the operator work safely and comfortably with the WORKABOUT PRO³.



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

Table 6.1

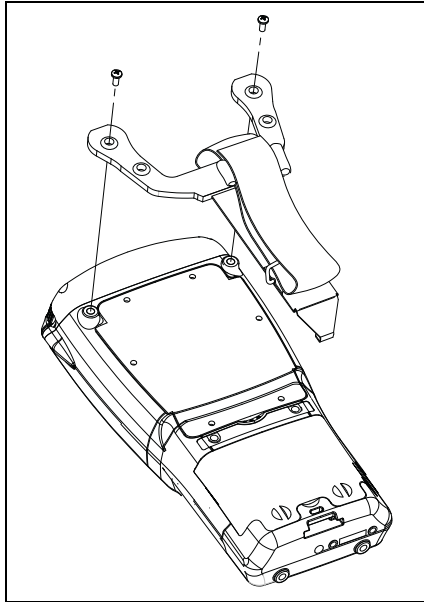
Carrying Accessory	Model Number
Hand Strap	WA6025 for WORKABOUT PRO ³ C WA6125 for WORKABOUT PRO ³ S
Pistol Grip	WA6001-G1
Pistol Grip for SX5393 Imager	WA6002-G1
Protective Carrying Case for WORKABOUT PRO ³ C (Model # varies depending on the end-cap installed on hand-held)	WA6091-G2 (with a belt clip – works with scanners) WA6094-G2 with GSM or 802.11b/g end-cap WA6095-G2 with 1D Scan or 1D Imager end-cap WA6096-G2 with 2D scan or 1D imager end-cap WA6097-G2 with universal end-cap (case's top open)
Protective Carrying Case for WORKABOUT PRO ³ S (Model # varies depending on the type end-cap installed on hand-held)	WA6190-G2 (with a belt clip – works with scanners) WA6194-G2 with GSM or b/g end-cap WA6195-G2 with 1D Scan or 1D Imager end-cap WA6196-G2 with 2D scan or 1D imager end-cap WA6197-G2 with universal end-cap (case's top open)
Soft Shell Holster	WA6050

6.2 Attaching the Hand Strap

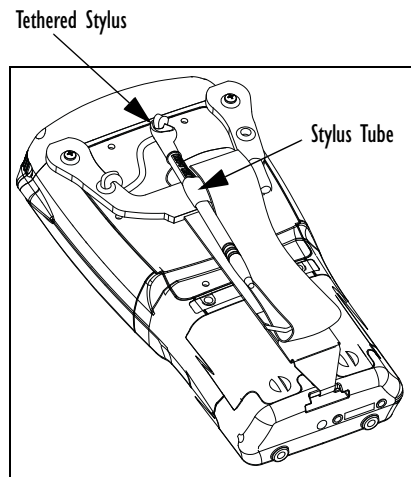
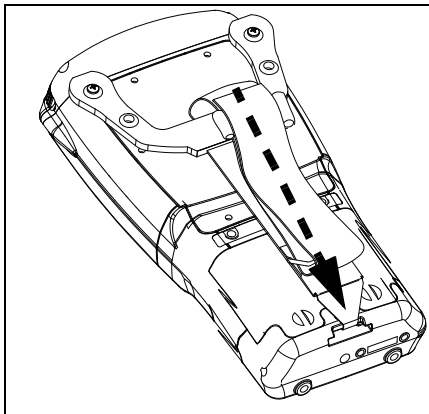
The hand strap can be attached to the back of the WORKABOUT PRO³ to provide a secure means for operators to carry the hand-held.

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 PRO³, near the top of the unit



- Stretch the hand strap toward the base of the WORKABOUT PRO³, and hook the bottom of the strap into the slot near the base of the battery pack. A tethered stylus and optional external stylus tube can be attached to the hand strap as illustrated below

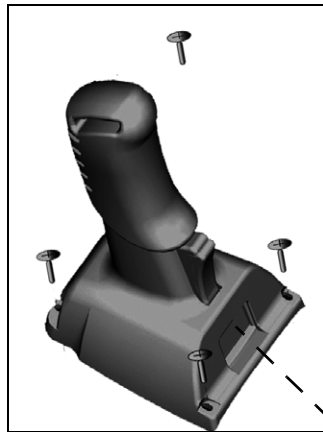


6.3 Attaching the Pistol Grip

There are a number of pistol grips available to you depending on the type of scanner/imager installed in your hand-held. Refer to Table 6.1 on page 173 for a list of pistol grip model numbers and the scanners/imagers with which they are compatible.



Note: The few steps required to attach the pistol grip to the WORKABOUT PRO³ are common to all types of pistol grips. However, if you plan to use the Flush Mount Pistol Grip (WA6103), you'll need to install a special trigger back plate before following these steps to attach the pistol grip. Refer to "The Trigger Back Plate Kit with Flush Mount Pistol Grip" on page 176 for details.





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 PRO³.
- Tighten the screws to a torque of 3 lbs-in (3kgf-cm) to secure the pistol grip in place.

6.4 The Trigger Back Plate Kit with Flush Mount Pistol Grip

The Trigger Back Plate kit, model number WA9300, provides a special back plate that incorporates a scanner interface board and a switch along with a Flush Mount Pistol Grip, model number WA6103. The trigger back plate (PN 1052211) and Flush Mount Pistol Grip are compatible with the following imager model numbers: WA9113-G1, WA9103-G1, WA9112-G1 and WA9102-G1.

Note that the Flush Mount Pistol Grip is also compatible with the WA9009 1D auto-ranging laser scanner; however this scanner is shipped with its own unique trigger back plate specially designed to interface with the Flush Mount Pistol Grip.



Warning: *The installation of this scanner/imager end-cap must be performed using the appropriate anti-static devices. If unavailable, discharge static from your body by touching a grounded metallic object before opening any covers on the unit.*



Warning: *Due to electrical incompatibility, the WA9300 kit cannot be used with the EV15 1D imagers bearing Psion Teklogix part numbers 1050732 and 1050733. Please choose the imagers with part numbers 1050732-001 and 1050733-001 instead. The part number is located on the imager's label.*



Warning: *The use of optical instruments with this product will increase eye hazard. This product may contain a laser scanner that emits less than 1.4 mW maximum radiant power at a wavelength of 650 nm. This product complies with CRH 21 CFR 1040 Class II and IEC 60825-1:1993+A1:1997+A2:2001 Class 2 laser product.*

What's Included

1. Scanner Flex Assembly

2. Screws (6)
3. Kapton Tape
4. Back Plate
5. Pistol Grip Kit (4 screws included)

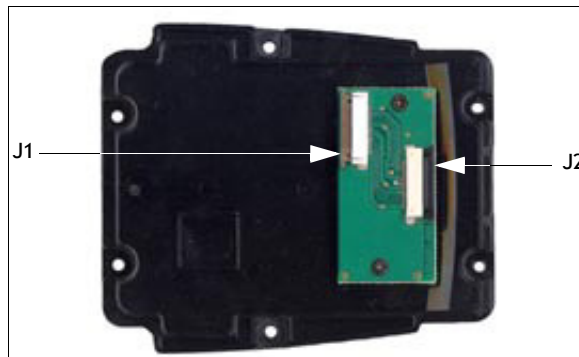


Warning: *Back up any data in RAM before you begin; data are erased when the internal power of the WORKABOUT PRO³ is turned off.*

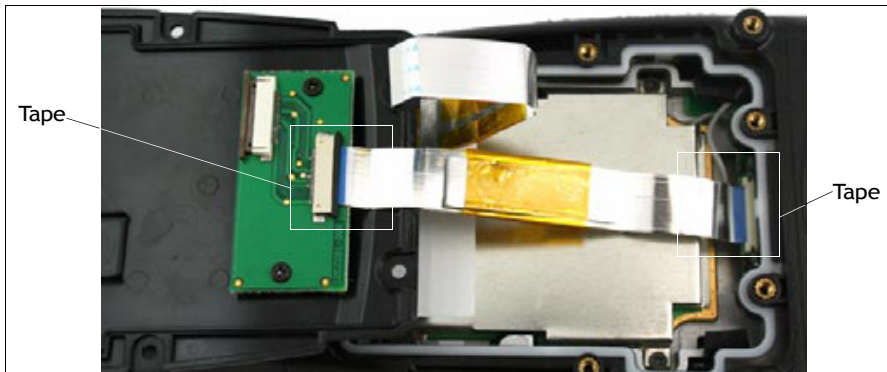
Installing the Back Plate

- If your unit is using AC power, disconnect it.
- Remove the stylus from the end-cap.
- Remove the battery pack. Switch off the internal power – the switch is located inside the battery compartment.
- Loosen the four screws securing the end-cap, and remove the end-cap.
- Unlatch the two connectors on the interface board on the new back plate.

Figure 6.1



- Position the lower end of the new back plate next to the back opening of the unit.
- Insert the flex cable from the end-cap into J2 on the interface board. The contacts on the flex cable face towards the interface board.



- Latch the connector.
- Flip the back plate upwards.
- Insert the flex cable from the WORKABOUT PRO³ main logic board into J1 on the interface board. The contacts on the flex cable face towards the interface board.
- Latch the connectors.
- Cut the Kapton tape square provided in two equal pieces.
- Remove the Kapton tape from the release liner. Apply one piece over the end of the flex cable and the imager's flex connector. Apply the other piece over the other end of the flex cable and the back plate flex connector, as shown in Figure 6.1. This secures the flex cable at both ends.
- Turn the back plate over.



- Fasten the new back plate onto the WORKABOUT PRO³ using the supplied screws (PN 9009770).



- Switch on the internal power switch in the battery compartment.
- Insert the battery, and install the battery compartment cover.

Installing the Flush Mount Pistol Grip

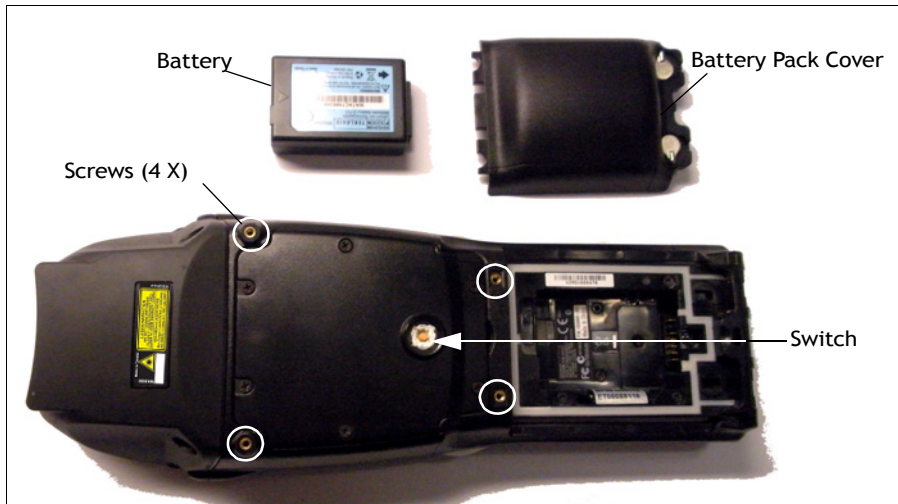
The Flush Mount Pistol Grip, model WA6103, is intended for use with second-generation WORKABOUT PRO³ units (models 7527C-G2 and 7527S-G2) which have the Trigger Back Plate installed. Review the first few paragraphs at the beginning of “The Trigger Back Plate Kit with Flush Mount Pistol Grip” on page 176 for a list of compatible scanners/imagers.



Important: *Back up any data in RAM before you begin; data are erased when the internal power of the WORKABOUT PRO³ is turned off.*

- If your unit is using AC power, disconnect it.
- Remove the battery cover and battery pack. Switch off the internal power – the switch is located inside the battery compartment.

- Remove the screw-on cap, if present, from the switch in the middle of the back plate.



- Lower the Flush Mount Pistol Grip into place over the back plate, aligning the screw inserts on the hand-held with the screw holes in the pistol grip.



- Insert and tighten the four screws provided with the pistol grip.
- Switch the power back on.
- Replace the battery and battery cover.
- Insert the stylus in the bottom of the pistol grip handle.

6.5 Protective Carrying Case

A carrying case is available for WORKABOUT PRO³s to shield the unit from damage. It is equipped with a soft plastic window to protect the unit display and keyboard. A variety of cases are available, depending on the type of end-cap attached to your unit.

6.6 Soft Shell Holster

A soft shell holster with removable belt and swivel holster pad can be used to hang a WORKABOUT PRO³ with a pistol grip from your waist.

Figure 6.2 Soft Shell Holster



- Insert the belt in the swivel holster pad.
- Attach the pad on either the left or right side of the holster case, depending on whether you are left- or right-handed.
- Fasten the belt comfortably around your waist. Slide the adjustable ring on the belt to tighten the holster in place.

- Connect the safety tether to one of the clips on the bottom of the soft shell holster. Connect the other end to the hole in the end of the WORKABOUT PRO³ pistol grip. This tether will catch the unit in case of a drop. The tether can be adjusted to the operator's height. The clips will break away in case of a severe force.

6.7 The Batteries



Note: Review “Battery Specifications” on page 221 in Chapter 7 for details.

The WORKABOUT PRO³ will operate with any of the following Lithium-Ion battery packs:

- High-Capacity – Model WA3006
- Super High-Capacity – Model WA3010

In addition to the main battery, the hand-held is equipped with a replaceable, rechargeable Lithium-Ion backup battery.

6.7.1 Secure Battery Cover

While the standard battery cover latches can be turned using your fingers or using the end of your stylus, the optional Secure Battery Cover has special safety latches that can only be

locked and unlocked using a special tool – Spanner #6 – that fits into the dimples on the safety latches.



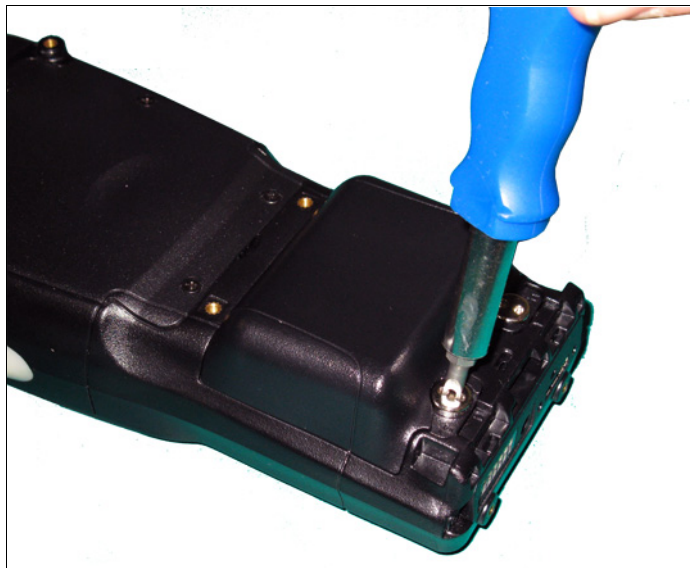
Spanner #6

Secure Battery Cover Latches
(in locked position)

- Insert the spanner into an appropriate handle.

Secure Battery Cover

- To *unlock* the secure battery cover, turn the spanner until the dimples are aligned vertically.



- To *lock* the secure battery cover, fit the spanner into the latch dimples, and turn the spanner until the dimples are aligned horizontally.

The battery covers vary to accommodate the type of battery installed and the type of WORKABOUT PRO you are using.

WORKABOUT PRO ³ Variant	Battery Type	Secure Battery Cover Part Number
7527C-G2	High-Capacity – Model No. WA3006	PN 1050922
	Super High-Capacity – Model No. WA3010	PN 1050924
7527S-G2	High-Capacity – Model No. WA3006	PN 1050923
	Super High-Capacity – Model No. WA3010	PN 1050925

6.8 Adaptor Cable Options

The following are adaptors can be ordered for your WORKABOUT PRO³:

Model No.	Adaptor Cable Description
WA1002	Tether to USB device. This cable is used to connect USB devices such as USB Flash memory devices.
WA4020-G2	Tether to RS232. This is a full RS232 port on COM2.
WA4001-G2	Tether to USB Client. (For ActiveSync)
WA4010-G1	USB to Ethernet adaptor.
WA4015	USB/RS232 adaptor. This cable is used with docking station WA4003-G2.

6.9 Chargers and Docking Stations



Important: *Keep in mind when ordering a charger or docking station, you must also order the appropriate power cord separately.*

Pision Teklogix offers a variety of chargers and docking stations for the WORKABOUT PRO³. These include:

- AC Adaptor–Model No. PS1050-G1
- Cigarette Lighter Adaptor–Model No. WA3113-G2
- Single Battery Charger–Model No. WA3001-G1
- Quad Battery Charger–Model No. WA3004-G1
- Desktop Docking Station–Model No. WA4003-G2
- Quad Docking Station For 7527C-G2–Model No. WA4204-G2
- Quad Docking Station For 7527S-G2–Model No. WA4304-G2

6.9.1 Installation-Chargers and Docking Stations

When installing a charger or docking station, consider the following guidelines.

- Keep chargers and docking stations away from excessive dirt, dust and contaminants.

- Chargers will not charge batteries outside an ambient temperature range of 0° C to 45° C (32° F to 113° F). It is recommended that the charger or docking station be operated at room temperature—between 18° C and 25° C (64° F to 77° F) for maximum performance.

After unpacking your unit:

- Visually inspect the charger for possible damage.
- Install the IEC power cord and apply power.

6.9.2 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.

6.9.3 Operator Controls

WORKABOUT PRO³ docking stations and chargers have no operator controls or power switches.

6.9.4 Important Charger Safety Instructions

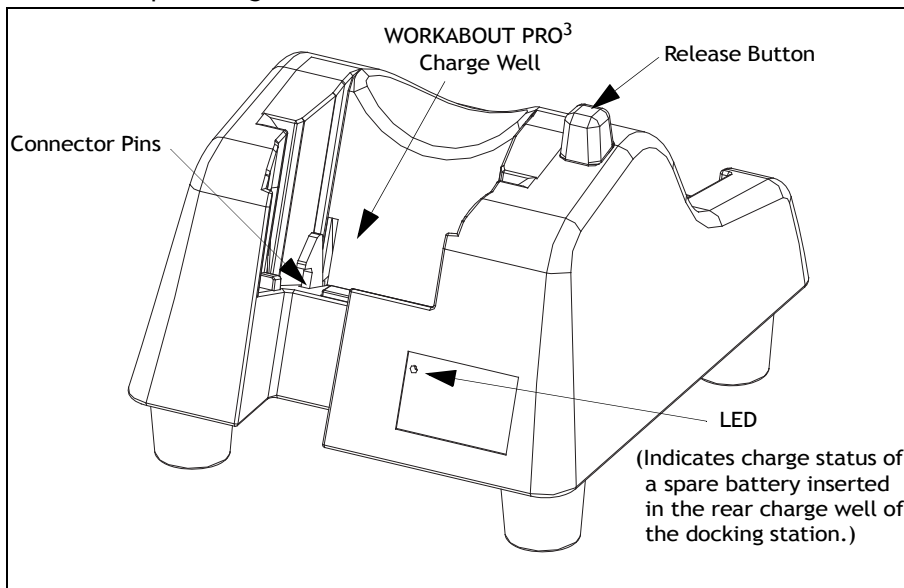
- **SAVE THESE INSTRUCTIONS**—This manual contains important safety and operating instructions for battery charger s.
- Before using the battery charger, read all instructions and cautionary markings on (1) battery charger, (2) battery, and (3) product using battery.
- The mains power cord shall comply 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.

6.10 Desktop Docking Station

The WORKABOUT PRO³ can be inserted in a desktop docking station, model number WA4003-G2.

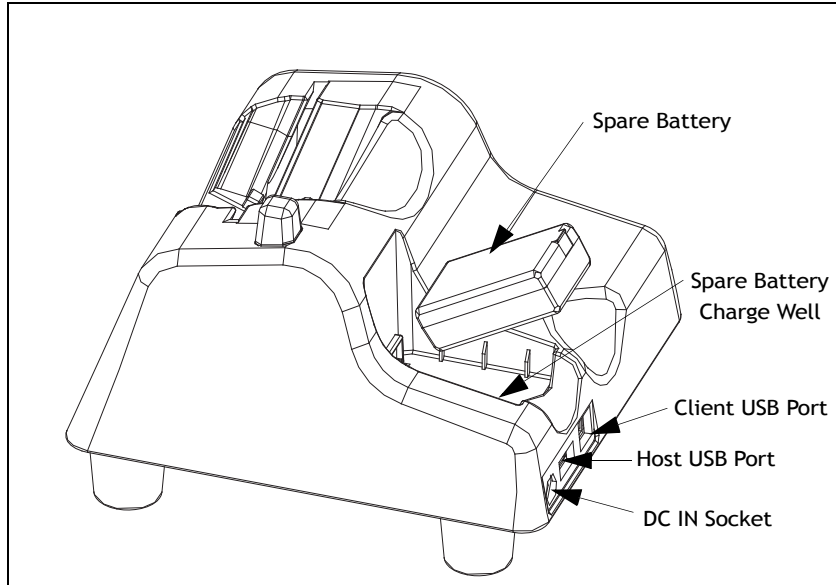
Figure 6.3 Desktop Docking Station



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 WORK-ABOUT PRO³ along with a spare battery pack. It is equipped with two USB ports—a Host USB port to connect peripherals such as a printer, keyboard, etc. and a Client USB to connect the docking station to a PC.

Figure 6.4 Back Of Desktop Docking Station



Important: *This docking station can only be used to charge Psion Teklogix approved Lithium-Ion batteries.*

6.10.1 Charging a Battery Installed in the WORKABOUT PRO³

- Insert the DC power cable to the DC IN socket on the desktop docking station. Plug the pronged end of the cable into an AC outlet.
- Slide the hand-held into the docking station, making certain that the LIF (Low Insertion Force) port on base of the WORKABOUT is securely seated on the docking station connector pins. An icon is displayed briefly in the navigation bar at the top of the hand-held screen indicating that the unit is properly installed in the station—  . This icon is only displayed when the unit is switched on.

The LED on the WORKABOUT PRO³ 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.

6.10.2 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.

6.10.3 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.

6.10.4 Charger LED Indicators

The desktop docking station is equipped with a single dual-coloured LED indicator in the lower-right corner of the front panel.

Table 6.1 Desktop Docking Station Battery Charge LED Behaviour

LED Behaviour	Charge Status
Off	No battery detected in the slot.
Solid Green	Charge complete.
Fast Flashing Green	Battery charged to less than 80% of capacity.
Slow Flashing Green	Battery charged to greater than 80% of capacity.
Solid Red	Battery temperature outside of charge range of 0° C to 45° C (32° F to 113° F)
Flashing Red	Battery is not charging. Battery fault.



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

6.11 Troubleshooting the Charging Operation of the Dock

The quad battery charger troubleshooting section beginning on page 196 also applies to the charging behaviour of the desktop docking station.

6.12 Linking a WORKABOUT PRO³ to a PC

The desktop docking station can be connected to a PC so that you can exchange files in the same way that you would between PC drives. A USB cable is included with your docking station.



Note: For details about data transfer through Windows XP and ActiveSync and through Vista, refer to “Data Transfer Between the PC & the Hand-Held” on page 31.

To link the WORKABOUT PRO³ 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.

6.13 Linking a WORKABOUT PRO³ to an Ethernet Network

A USB-Ethernet adaptor cable – model number WA4010-G1 – is used to connect the WORKABOUT PRO³ to an Ethernet network through a desktop docking station.

Figure 6.5 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.

6.13.1 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 PRO³ on the network.

If a link is established between a WORKABOUT PRO³ and a host, the application on the host and on the hand-held must have a recovery mechanism in the event that the WORKABOUT PRO³ is removed from the dock, interrupting the link.

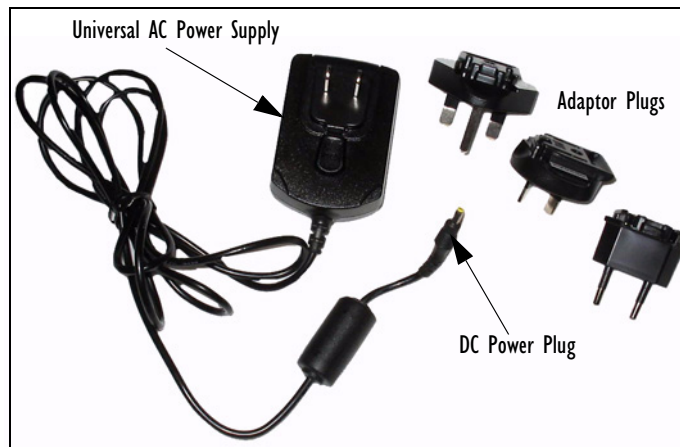
6.14 Troubleshooting the Docking Station Operations

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 PRO³ – no applications are present on the docking station itself.

6.15 AC Wall Adaptor- Model #PS1050-G1

The AC wall adaptor available for your WORKABOUT PRO³ allows you to operate your hand-held using AC power while charging the battery inserted in the unit.

Adaptor plugs suitable for use in the following countries are shipped with the AC wall adaptor: United Kingdom, Australia, Europe and North America.



- Choose the adaptor plug that is suitable for use in your country. Slide the adaptor plug into the Universal AC power supply, snapping it into place. These two pieces, coupled together, are referred to as an AC wall adaptor.
- Insert the DC power plug into the DC IN socket at the base of WORKABOUT PRO³, located between the tether and LIF ports.
- Plug the pronged end into an AC outlet.

6.16 Automotive Adaptor-Model #WA3113-G2



Important: *It is critical that you review the safety instructions outlined in the quick start guide enclosed with your automotive adaptor before using the accessory.*

The automotive adaptor allows you to power your hand-held and recharge your battery using power drawn from your vehicle's cigarette lighter outlet.

Figure 6.6 Automotive Adaptor



- Unscrew the adaptor end-cap, and remove the fuse inside the adaptor.
- Replace it with the fuse provided with your kit, and screw the adaptor end-cap back into position.
- Insert the DC power plug into the DC IN socket at the base of the WORKABOUT PRO³.
- Insert the automotive adaptor plug into cigarette lighter outlet in your vehicle.

6.17 Single Battery Charger-Model #WA3001-G1



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.

6.17.1 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.

6.17.2 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.

6.17.3 Charge Indicators - Single Battery Charge LED

The LED on the top of the charger indicates battery charge progress.

Table 6.2 Single Battery Charger - LED Behaviour

LED Behaviour	Charge Status
Off	No battery detected in the charge well.
Solid green	Battery is fully charged.

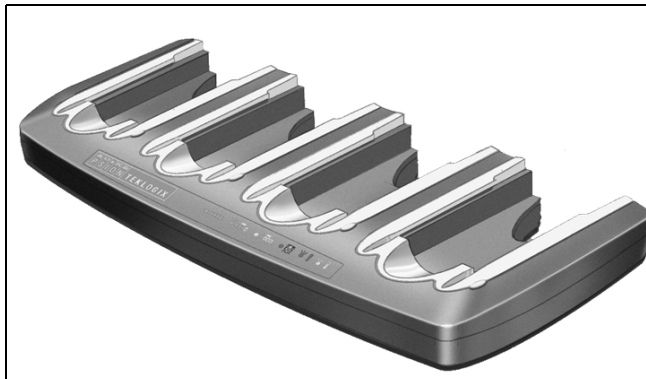
Table 6.2 Single Battery Charger - LED Behaviour

Fast flashing green	Battery is charged to 75% of capacity.
Slow flashing green	Charge in progress.
Solid red	Battery is outside ambient temperature range of 0° C to 45° C (32° F to 113° F).
Flashing red	Charge alarm indicating a charging circuit problem. Refer to “Troubleshooting” on page 196 for details.
Flashing red then green in a 3 second cycle	Power up test sequence.



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

6.18 Quad Battery Charger-Model #WA3004-G1



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.

6.18.1 Charging Batteries

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

6.18.2 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.

6.18.3 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 6.2 on page 194 for details.

6.18.4 Troubleshooting

6.18.4.1 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.

6.18.4.2 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.

6.18.4.3 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.

6.18.4.4 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.

6.19 Quad Docking Station-WA4204-G2 & WA4304-G2



Note: WA4204-G2 is designed for WORKABOUT PRO³ C models; WA4304-G2 is designed for WORKABOUT PRO³ S models.

The quad docking station is shipped with a docking manual. It is critical that this manual be reviewed for additional information and updates.

The quad docking station permits each of four docked WORKABOUT PRO³s 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.

6.19.1 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 PRO³ that utilizes the quad dock for communication. When the network is connected and this application is loaded, the quad dock is ready for use.

6.19.2 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.

6.19.3 Inserting a WORKABOUT PRO³ in the Quad Docking Station

- Slide the WORKABOUT PRO³ into the cradle portion of the quad dock until lightly latched.

The hand-held detects that it is in a quad dock and momentarily displays the appropriate icon in the navigation bar at the top of the screen—  .

The LED on the hand-held unit lights up to show it has external power and may start charging the battery.

Interaction with the WORKABOUT PRO³ while in the quad dock is a function of the user application software used to communicate with the host network.

6.19.4 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.

6.19.4.1 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 PRO³ on the network.

If a link is established between a WORKABOUT PRO³ and a host, the application on the host and on the hand-held must have a recovery mechanism in the event that the WORKABOUT PRO³ is removed from the dock and the link is interrupted.

6.19.5 Battery Charging-LED Behaviour

The quad docking station supplies DC power to enable the WORKABOUT PRO³ 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 PRO³ is switched on or off.

It can take up to 4 hours to fully charge the internal battery.

6.19.6 Troubleshooting

The indicators, applications and drivers required to use and monitor the docking station are installed on the WORKABOUT PRO³—no indicators or applications are present on the docking station itself.

6.19.6.1 Network Link Unsuccessful

If a network link fails, the WORKABOUT PRO³ application alerts the operator that the link was unsuccessful.

6.19.6.2 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 PRO³ in another well in the quad dock.
- Check for dirt or contamination on the docking contacts at the bottom of the WORKABOUT PRO³. 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 PRO³ 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 PRO³ is not defective.

6.20 The Vehicle Cradle

The vehicle cradle is a highly ruggedized, single station dock. Although it provides quick insertion and removal, the cradle holds the WORKABOUT PRO³ securely even when operated in high vibration environments.



Note: Shock and vibration specifications for the WORKABOUT PRO³ are verified using Psion Teklogix-approved RAM mounts and mounting hardware. Use of non-certified Psion Teklogix mounting hardware is not recommended, and may void warranty coverage.

The model number for vehicle cradles varies depending on the type of hand-held:

- WORKABOUT PRO³ C – Model # WA1210-G2
- WORKABOUT PRO³ S – Model # WA1310-G2

A port replicator option is available for powered vehicle cradles. Refer to “The Port Replicator” on page 204 for details.

6.20.1 Vehicle Cradle Mounting Recommendations

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, contact Psion Teklogix for assistance go to:

www.pSIONteklogix.com/service-and-support.htm

Note also that for better protection, the equipment should be mounted inside the vehicle roll cage.

Pedestal mounts are recommended for all fixed mount locations because they offer optimal operator access. In addition, for safety reasons, only pedestal mounts with fully locking joints should be used in vehicles. Always adjust the pedestal for the optimum viewing angle, and securely tighten the hex and wing screws.

The most effective way to mount the vehicle cradle is to use the four #8-32 threaded inserts on the rear of the unit. Bolts must not extend more than 10mm (3/8") into the cradle.

To accommodate the service loop of the connector cable, leave a 4" clearance at the bottom of the cradle. Leave a 7" (minimum) clearance at the top of the cradle to allow easy removal of the hand-held. Also remember to leave at least a 3" clearance at the sides of the cradle to allow activation of the release knobs. Refer to the detailed assembly instructions that are packaged with the cradle when selecting a mounting location.

6.21 Mounting Template

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

6.22 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.

6.23 Using the Vehicle Cradle

If your WORKABOUT PRO³ 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 hand straps, pistol grips or tethered devices from the unit.

- Slide the WORKABOUT PRO³ 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 PRO³ 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 its latch. The hand-held will be slightly raised so that it can be removed.

6.24 Maintaining the Vehicle Cradle

Two latches in the cradle hold the WORKABOUT PRO³ 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.

6.25 Powered Cradle Installation in High Voltage Vehicles

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 appropri-

ate 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.

6.26 Powered Vehicle Cradle Installation

The powered cradle is designed to allow the WORKABOUT PRO³ to be powered by a vehicle battery. The battery installed in the hand-held is also recharged by the vehicle battery. This option accepts DC power sources ranging from 9 to 20V, with optional pre-regulator.

The vehicle cradle can be ordered with the powered cradle option installed.

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.

6.26.1 Wiring Vehicle Power to the Cradle

An optional 1.8 meter (6 foot) extension power cable (PN 13985) compatible with your powered vehicle cradle can be purchased through Psion Teklogix. This optional 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 PRO³ 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.

6.27 The Port Replicator



The port replicator (Model# WA4005-G1) is an optional accessory that allows tethered devices as well as mounted peripherals (e.g., bar code printers or weigh scales) to be attached to the vehicle cradle. The replicator can be used with or without the cradle power option.

The functionality of the WORKABOUT PRO³ 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).

6.28 Scanners and Imagers

The WORKABOUT PRO³ supports a wide range of scanner/imager options to address a variety of user application requirements. Refer to Appendix D: “Bar Code Settings” and Appendix E: “Teklogix Imagers Applet” for details about configuring the unit installed in your hand-held.

Scanner/imagers available for your hand-held include:

Scan Engine	Kit Model Number
1D Laser SE955	WA9102-G1 WA9112-G1 WA9002-G1
1D Laser SE1223HP	WA9000-G1
1D Laser SE1223LR	WA9005-G1
1D Laser SE1524ER	WA9009
1D Imager EV15	WA9103-G1 WA9113-G1 WA9003-G1
2D Imager HHP 5180	WA8010-G1 WA9212-G1
2D Imager SX5400	WA9008

It is critical that you review the safety information in the *WORKABOUT PRO Hand-Held Computer Regulatory & Warranty Guide*, PN 8000126, before proceeding.

6.28.1 Scanning Techniques

- Hold the scanner at an angle. Do not hold it perpendicular to the bar code.
- Do not hold the scanner directly over the bar code. In this position, light can reflect back into the scanner's exit window and prevent a successful decode.
- Scan the entire bar code. If you are using a 1D or PDF laser scanner, make certain that the scan beam crosses every bar and space on the bar code, including the margins on either end of the symbol.
- If you are using a 2D imaging scanner, make certain the red, oval shaped framing mark is centered within the bar code you want to scan.
- When using imaging scanners, do not move the scanner while decoding the bar code. Movement blurs the image.
- Hold the scanner farther away for larger bar codes.

- Hold the scanner closer for bar codes with bars that are close together.

A bar code icon appears on the screen during a scan. While the scanner beam is active, the onscreen message states: SCANNING. If you want to turn off the onscreen message, disable “Scan Indication” in the Options tab of the Scanner Settings menu in the Control Panel.

When the scan is successful, the bar code data is displayed on the screen until the scan button (or pistol trigger) is released, but only if “Scan Result” is turned on in the Options tab of the Scanner Settings menu in the Control Panel.

6.28.2 Troubleshooting

If the scanner is not working, investigate the following:

- Is the unit on?
- Check that the bar code symbology being scanned is enabled for the hand-held you are using. Check any other parameters that affect the scanning procedure or the bar code.
- Check the bar code to make sure it is not damaged. Try scanning a different bar code to verify that the problem is not with the bar code.
- Check that the bar code is within the proper range.
- Does the hand-held display the warning without scanning? This suggests a hardware problem in the hand-held.
- Is the laser beam scanning across the bar code?
- Once the scan beam has stopped, check the scanner window for dirt or fogging.

6.28.3 Operating One Dimensional (1D) Laser Scanners

- Turn the hand-held on. Wait until the unit has booted up completely.



Important: *If an aiming dot is available on the installed scanner, the dot will be enabled for a configurable time period (including off), after which normal scanning begins. Refer to “Dot Time (msec)” on page D-2 for details.*

Double-clicking the trigger will override the aiming delay and initiate an immediate scan. Note that the aiming dot is standard on long-range and high visibility internal scanners.

- Aim at the bar code and press the scan key or the trigger. A scan beam and a warning indicator appear until a successful decode is achieved or six seconds have elapsed.

6.28.4 Operating Two Dimensional (2D) Imagers

An imager takes a snap shot of a single bar code or multiple bar codes (at one time). It can find a bar code regardless of its orientation—that is, even a bar code printed at a 45 degree angle to the hand-held will be decoded successfully.



Note: When scanning multiple bar codes, ensure that all of the desired bar codes are within the field of view of the scanner. It is possible that even when all bar codes are within the field of view, not all of them will be decoded. Only successfully decoded bar codes are passed to the application program. The application program then issues a warning, asking that you scan the missing bar codes.

When scanning a single bar code, ensure that only the desired bar code is within the field of view of the scanner.

Because imagers generally have a shorter depth of field than laser scanners, some practise may be required to find the optimal distance from the types of bar codes being scanned. Although the imager includes illumination LEDs, ambient light will help the imager decode the bar codes, especially if the bar code is far from the hand-held.



Important: *Keep in mind that the imager scanner is a camera, and the LED illumination is a flash. Glare can be an issue on reflective media such as plastic coated bar codes, just as glare is an issue for photographers. When pointing at a shiny surface, either shift the bar code to the side or top, or angle the bar code so that the glare reflects away from the imager scanner.*

Most imagers take several ‘snap shots’ of the bar code in order to decode it. It is normal for the LEDs to flash two or three times. Hold the unit steady between flashes to improve decode performance.

- Turn the hand-held computer on. Wait until the unit has booted up completely.
- Aim at the bar code and press the scan key or the trigger. Hold the trigger until a successful or failed scan result is obtained.
- When the scan button or trigger is pressed, a red, oval shaped light (the framing marker) is displayed. Centre the framing marker in the field—either in the centre of the bar code you want to scan or in the centre of the area in which multiple bar codes are to be scanned.

The illumination LEDs will flash (typically several times) and a picture of the bar code(s) is taken.

6.29 **Bluetooth Peripherals**

The WORKABOUT PRO³ is equipped with a *Bluetooth* radio, making it possible to communicate with a variety of *Bluetooth* peripherals, including GSM/GPRS handsets, scanners, printers, and so on.

The range of the *Bluetooth* radio is limited to approximately 5 meters.

Psion Teklogix provides built-in support for the *Bluetooth* peripherals listed below.

- GSM/GPRS universal handset
- *Bluetooth* printer
- *Bluetooth* headset

Keep in mind that *Bluetooth* and IEEE 802.11b/g radios both operate in the 2.4GHz band. Although the WORKABOUT PRO³ includes features to minimize interference, performance of the system will not be optimal if you use both radios simultaneously. Typically, when both radios operate in the hand-held at the same time, they cannot transmit simultaneously—this has a negative impact on overall system throughput. To minimize the impact on the backbone 802.11g network, Psion Teklogix recommends using *Bluetooth* peripherals that have low transaction rates (such as printers and scanners).

Refer to “Bluetooth Setup” on page 117 for information about setting up your Bluetooth devices for communication. In addition, review the manual shipped with your *Bluetooth* device to determine the method used to pair with the WORKABOUT PRO³ host.

SPECIFICATIONS

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7.1 WORKABOUT PRO³ Specifications



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

Model Variants

- WORKABOUT PRO³ C – Model 7527C-G2
- WORKABOUT PRO³ S – Model 7527S-G2

Platform

- PXA270M @ 624 MHz, 32 bit RISC CPU
- 1024 MB Flash ROM, 256 MB RAM

Operating System

- Microsoft® Windows® CE 5.0

Wireless Communication

Optional expansion modules for:

- 802.11b/g Compact Flash Radio operating in the 2.4GHz band
- 802.11a/b/g Compact Flash Radio with integrated antenna operating in 2.4GHz and 5GHz bands
- GSM/GPRS EDGE (via expansion interface)
Quad-Band – 850/900/1800/1900 Voice and Data
- UMTS/HSDPA (via expansion interface)
Triple band, 850/1900/2100MHz Voice and Data
- Integrated *Bluetooth*® class II, V 2.0 + EDR



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

Bar Code Applications

- Optional 1D imager expansion module
- Optional 2D imager expansion module
- Optional bolt-on pistol grip



Note: All are user upgradeable.

RFID Modules

- HF Module
- Frequency: 13.56 MHz
- Tags supported: ISO 15693, Philips ICode™; TI TagIt™; Tagsys (C210,C220,C240,C270)
- Read/write range up to: 3.15 in.(80 mm)
- MIFARE module
Frequency: 13.56 MHz
Tags supported: ISO 14443 A&B, Mifare
Read/write range up to: 1.97 in.(50 mm)
- LF module
Frequency: 125 KHz, 134.2 KHz
Tags supported: EM 4x0x, EM 4x50;
Hitag 1 & 2; ISO HDXA & FDXB
Read/write range up to: 2.756 in.(70 mm)
- UHF module
Frequency: 868 MHz or 915 MHz
Read range: up to 4.92 ft.(150 cm) [915MHz] and up to 2.62 ft.(80 cm) [868 MHz]
Tag supported: EPC Class 1 Gen 2, other protocols depending on regions



Note: All expansion modules are available factory configured or user installable.

User Interface

- Color Touch Screen Display
3.6 in.(9.144 cm) diagonal
Full VGA 480 x 640 resolution
Transflective, portrait mode TFT
Adjustable Backlight
Sunlight readable (for outdoor use)
High reliability LED backlight
- Touchscreen (standard)

- Passive stylus or finger operation
- Signature capture
- Keyboards
 - Full Alpha-Numeric (C model)
 - Numeric (S model)
 - Ergonomically enhanced for ambidextrous, one-hand operation
 - Backlit, high durability hard-capped keys
- Indicators And Controls
 - LED indicates battery charge status
- Audio
 - 90 db mono speaker
 - Mono microphone
 - 86 db beeper

Programming Environment

- Psion Teklogix Mobile Devices SDK
- HTML, XML
- Hardware Development Kit (HDK)
- .NET and C++ programming using Microsoft® Visual Studio® 2005
- Java programming supporting JDK 1.2.2 or higher
- Standard Protocol APIs Windows sockets (CE .net)

Application Software

- Internet Explorer 6.0 incl.with Windows CE 5.0
- Unique Psion Teklogix Voice Dialer and Contacts Manager incl.Windows CE 5.0
- PTX Connect VoIP
- Optional Open TekTerm terminal emulation software, supports IBM 5250,IBM 3270, HP2392, ANSI and TESS
- Mobile Control Center (MCC) device management

Expansion Slots

- One SD/MMC memory card slot – user accessible
- End-cap USB Interface supports GPS expansion module

- 100-PIN expansion interface: supports PCMCIA (type II), GSM/GPRS EDGE and other third-party expansion modules developed using Psion Teklogix WORKABOUT PRO Hardware Developer's Kit
- Flex cable interface with robust connector: supports scanner (serial) and imager (USB) modules
- One Type II CF Card Slot

External Connectors

- One Tether connection with full RS232 and USB 1.1 functionality
- One Low-Insertion Force (LIF) docking connector
- DC Power Jack

Power Management

- Optional 3.7V, 3300 mAh High Capacity Battery Pack
- Optional 3.7V, 4400 mAh Super High Capacity Battery Pack
- Advanced Smart Battery with gas gauge
- 3 power source options: Runs off battery, AC power, or automotive power supply
- Built-in charger
- Rechargeable, user replaceable backup battery pack

Environmental

- Withstands 26 drops (on 12 edges, 8 corners, 6 faces) at 5 ft. (1.5 meters) to polished concrete while powered on and configured with accessories such as CF radio, scanner/imager, and pistol grip
- Rain/Dust: IP65, IEC 60529
- Operating Temperature: -4°F to 122°F (-20°C to +50°C)
- 5%-95% RH non-condensing
- Storage Temperature: -40°F to 140°F (-40°C to +60°C)

Physical Dimensions And Weight

- WORKABOUT PRO³ C:
8.775 in. x 2.95/3.94 in. x 1.22/1.65 in. (223 mm x 75/100 mm x 31/42 mm)
- WORKABOUT PRO³ S:
7.87 in. x 2.95/3.94 in. x 1.22/1.65 in. (200 mm x 75/100 mm x 31/42 mm)
- Weight (w/o battery pack):

- WORKABOUT PRO³ C: 1 lbs (455 g)
- WORKABOUT PRO³ S: .859 lbs (390 g)

Power Accessories

- AC power supply (charge & operate hand-held)
- Automotive power supply (charge & operate hand-held)
- Single and Quad slot battery pack chargers
- Powered cradle for vehicle mount applications

Communication Accessories

- Quad Dock (4-site) with 10/100 BaseT Ethernet and charge functions
- Desktop Docking Station (charges hand-held & spare battery) provides USB1.1 host and device ports and supports optional plug-on expansion modules supporting 10/100 BaseT Ethernet or RS232 connections
- USB cable supports Active Sync without requiring a docking station
- Optional End-Caps supporting RS232, TTL, and IrDA

Carrying Accessories

- Hand-strap, pistol grip with trigger, holster and various protective carrying cases and pouches

Approvals

- Safety:
 - CSA/UL60950-1, IEC 60950-1, EN60950-1
- EMC:
 - FCC Part 15 Class B
 - EN 55022
 - EN 55024
 - EN 301 489
- Laser:
 - IEC 60825-1, Class 2
 - FDA 21 CFR 1040.10.
 - 1040.11 Class II
- *Bluetooth*: class II, V 2.0

- RF:
Bluetooth and 802.11b/g: EN300 328, Part 15.247
GSM/GPRS: EN301 511; EN50360/361, NAPRD03; 3GPP51.010; FCC Parts 22 & 24;
Industry Canada; RSS-132 & 133
- In-Vehicle Cradle: e Mark

7.2 Radio Specifications

7.2.1 Model RA2041: 802.11 b/g Direct Sequence Spread Spectrum (DSSS)

Form factor	Compact Flash Type I extended
Antenna port	Two Hirose U.FL connectors for antenna diversity
Transmit Power	802.11g: 32mW maximum (+15 dBm) 802.11b: 80mW maximum (+19 dBm)
Frequency Range	2.400 - 2.4897 GHz
Channels	FCC: 11 ETSI: 13 TELEC: 13
RX Sensitivity	-96dBm @ 1Mbps, -90dBm @ 11Mbps, -94dBm @ 6Mbps, -75dBm @ 54Mbps
Data Rates	802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11b: 1, 2, 5.5, 11 Mbps

7.2.2 Model RA2043: 802.11a/b/g Direct Sequence Spread Spectrum (DSSS)

Form factor	Compact Flash Type I/II extended
Antenna port	Integrated antenna (two-antenna diversity)
Transmit Power	Maximum 18 dBm, (including antenna gain, varies with data rate, channels, and environment)
Receive Power	280mA (maximum continuous receive power); Standby/idle: 17mA (while associated to the network)
Frequency Range	4.9 - 5.85 GHz; 2.4 to 2.5 GHz

Channels	FCC: 802.11a - 24; 802.11b/g - 11 ETSI: 802.11a - 19; 802.11b/g - 13 Japan: 802.11a - 35; 802.11b/g - 14
Range	3000 ft. (typical max., outdoor); 300 ft. (typical max., office environment)
Data Rates	1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, 54Mbps

7.2.3 Model RA3030-G2 GSM/GPRS/EDGE Radio

Quad-Band GSM 850/900/1800/1900 MHz

EDGE (E-GPRS) multi-slot class 12

GPRS multi-slot class 12

GSM release 99

Output power: - Class 4 (2 W) for EGSM850
 - Class 1 (1 W) for GSM1800
 - Class 1 (1 W) for GSM1900

Control via AT commands

(Hayes 3GPP TS 27.007 and 27.005)

SIM Application Toolkit (release 99)

Supply voltage range: 3.2 to 4.3 V

Specifications for:

EDGE data transmission: EDGE class 12: max 236.8 kbps (downlink)
 Mobile station class B
 Modulation and coding scheme MCS 1-9

GPRS data transmission: GPRS class 12
 Mobile station class B
 PBCCH support
 Coding schemes CS 1-4

CSD data transmission: Up to 14.4 kbps
 V.110

	Non-transparent mode
	USSD support
SMS:	Point-to-point MO and MT
	SMS cell broadcast
	Text and PDU mode
Fax:	Group 3, class 1
Voice:	Triple-rate codec for HR, FR, and EFR
	Adaptive multi-rate AMR
	Basic hands-free operation
	Echo cancellation
	Noise reduction
Interfaces:	Hirose U.FL-R-SMT 50 ohm antenna connector
	Molex 80-pin board-to-board connector
	- Power supply
	- Audio: 2x analog, 1x digital
	- 2 x serial interface (ITU-T V.24 protocol)
	- USB 2.0 full speed
	- SIM card interface 3 V, 1.8 V

7.2.4 Model RA3040-G2 (Siemens HC25 UMTS Modem)

Frequency band:	UMTS/HSDPA: Triple band, 850//1900/2100MHz
GSM/GPRS/EDGE:	Quad band, 850/900/1800/1900MHz
GSM class:	Small MS
Output power:	Class 4 (+33dBm \pm 2dB) for EGSM850
(as per Release 99)	Class 4 (+33dBm \pm 2dB) for EGSM900
	Class 1 (+30dBm \pm 2dB) for GSM1800
	Class 1 (+30dBm \pm 2dB) for GSM1900
	Class E2 (+27dBm \pm 3dB) for GSM 850 8-PSK
	Class E2 (+27dBm \pm 3dB) for GSM 900 8-PSK

	Class E2 (+26dBm +3/-4dB) for GSM 1800 8-PSK
	Class E2 (+26dBm +3/-4dB) for GSM 1900 8-PSK
	Class 3 (+24dBm +1/-3dB) for UMTS 2100, WCDMA FDD BdI
	Class 3 (+24dBm +1/-3dB) for UMTS 1900, WCDMA FDD BdII
	Class 3 (+24dBm +1/-3dB) for UMTS 850, WCDMA FDD BdV
RoHS:	All hardware components fully compliant with EU RoHS Directive
HSDPA features:	3GPP Release 5, DL 3.6 Mbps, UL 384 kbps UE CAT. [1-6], 11, 12 supported
UMTS features:	3GPP Release 4, PS data rate - 384 kbps DL / 384 kbps UL CS data rate - 64 kbps DL / 64 kbps UL
GSM/GPRS/EGPRS features:	Data transfer GPRS - Multislot Class 10 - Full PBCCH support - Mobile Station Class B - Coding Scheme 1 – 4 EGPRS - Multislot Class 10 - EDGE E2 power class for 8 PSK - Downlink coding schemes – CS 1-4, MCS 1-9 - Uplink coding schemes – CS 1-4, MCS 1-9 - Uplink coding schemes – CS 1-4, MCS 1-9 - BEP reporting - SRB loopback and test mode B - 8-bit, 11-bit RACH - PBCCH support - 1 phase / 2 phase access procedures - Link adaptation and IR

	- NACC, extended UL TBF
	- Mobile Station Class B
	CSD
	- V.110, RLP, non-transparent
	- 9.6 kbps
SMS:	Point-to-point MT and MO Text and PDU mode
Audio:	Audio speech codecs

7.2.5 **Bluetooth**

Embedded (920 kbps serial interface)

<i>Bluetooth</i> Version	2.0 compliant (features Adaptive Frequency Hopping for better co-existence with 802.11 radio)
Chip Antenna	2dBi peak
Transmit Power	-3dBm (0.5mW) minimum, +4dBm (2.5mW) max
Frequency Range	2.400 - 2.4835 GHz
RX Sensitivity (BER≤0.1%)	-80dBm max
Data Rate	732.2 kbps and 57.6 kbps asymmetric, 433.9 kbps symmetric

7.3 Battery Specifications

7.3.1 High-Capacity (Model WA3006)

7.3.1.1 Electrical Specifications



Note: The electrical specifications apply for ambient temperature TAMB of 0° to +40°C unless otherwise stated.

Item	Description	Specification	Remark
1	Interface Chipset	Maxim DS2762	-
2	Rated Voltage	3.7V	Typical
3	Rated Capacity	3300mAh	Typical
4	Rated Charge Current	1.5A	Maximum
5	Charge Voltage	4.2 +/- 0.05V	Maximum
6	Discharge Cut-off voltage	2.6V	Typical
7	Discharge Current	Constant voltage Current limited	-
8	Discharge Current	0.5C (-20°C to 60°C)	Typical
9	Internal Resistance	200 mΩ	Maximum

7.3.1.2 Battery Pack Electrical Specifications

Description	Specification		
	Minimum	Typical	Maximum
Over voltage detection voltage	4.325V	4.350V	4.375V
Charge enable	4.10V	4.15V	4.20V

Description	Specification		
Under voltage detection voltage	2.5V	2.6V	2.7V
Over current detection current	-	3.5A	-
Short-circuit detection current	5.0A	8.0A	11.0A
Short-circuit detection voltage	150mV	200mV	250mV
Over voltage delay time	0.8s	1s	1.2s
Under voltage delay time	90ms	100ms	110ms
Over current delay time	5ms	10ms	20ms
Short-circuit delay time	160μs	200μs	240μs
Recovery charge current	0.5mA	1mA	2mA

7.3.1.3 Standard Discharge



Note: Standard charge is defined as charging with constant voltage limit of 4.2V and constant current limit of 0.9A; the termination charge occurs when the current drops to 45mA.

Standard discharge is defined as discharging at a constant current of 350mA until the battery protection circuit switches the battery output off in over-discharge mode.

Acceptance Test Specifications

Description	Condition	Test Result
Open circuit voltage	After standard charge, measure within 24 hours.	4.15V or more
Internal Resistance	After standard charge, measure within 24 hours.	200 mΩ max.
Capacity_1	After standard charge, measure time taken for a fast discharge.	110 minutes or more
Charge/Discharge Cycle	After repeating standard charge and fast discharge, measure the fast discharge time after 300 discharge cycles.	90 minutes or more
Capacity_2	After standard charge, measure the time taken for a standard discharge.	500 minutes or more
Over Discharge	After standard charge, apply a standard discharge followed by a standby discharge. Then measure capacity after carrying out standard charge and then a fast discharge.	110 minutes or more
Self discharge	After a standard charge, keep battery at 25°C for 30 days. Measure the time taken for a fast discharge.	100 mins or more

Description	Condition	Test Result
Temperature	Perform a standard charge and fast discharge at 0°C, 25°C and 40°C and measured the time taken for a fast discharge at 25°C.	100 mins. @ 0°C 110 mins. @ 23°C 105 mins. @ 40°C
Temp./Humidity Cycle	After standard charge, carry out 5 cycles of the following: 65°C and 90% humidity for 8 hrs. 25°C and 65% humidity for 4 hrs. -20°C for 8 hrs. 25°C and 65% humidity for 4 hrs. Following that, perform a fast discharge, standard charge and then a fast discharge. Measure the time taken for the second discharge.	100 minutes or more
Dry heat	After standard charge, keep the battery at 60°C for 8 hrs. Carry out a fast discharge, standard charge and then a fast discharge, measured the time taken for the second discharge.	100 minutes or more
EMC/CE Testing	The battery will need to pass the requirements of the EMC directive 89/336/EEC (and amendments) when fitted into the product: Emissions to EN55022 Class B (1998) Immunity to EN55024 (1998)	Test to be performed by manufacturer.
Electro-Static Discharge Test	EN61000-4-8: A. Contact Discharge: +/-8kV for each contact pad by 10 times. B. Air Discharge: +/-15kV for 10 times (the discharge test point is for around battery casing.)	No damage

7.3.1.4 Safety Data

Description	Condition	Test Condition/Result
Short Circuit Test	After a standard charge, short terminals and discharge for 1 hr.	Protection circuit board to operate. No explosion, fire, smoke or leakage.
Over Charging Test	After a standard charge, charge continuously at 4.2V and 4A for 8 hrs.	Protection circuit board to operate. No explosion, fire, smoke, or leakage.
Reverse Charging Test	After a standard discharge, reverse-charge continuously at 4.2V and 4A for 8hrs.	Protection circuit board to operate. No explosion, fire, smoke or leakage.

7.3.1.5 Safety License

Item	Licenses	Standard
1	UL 1642	The lithium-ion cell has been listed and pass the UL1642 standard by UL Lab.
2	UL 2054	The battery pack is in the process to apply the UL 2054 battery standard.
3	89/336 EEC-EMC directive.	The battery pack is in the process to apply the below standard: -EN55022 -LVD 72/23 EEC -EN55024 -EN61326
4	RoHS Directive	The battery pack is in the process to apply the RoHS directive applicable report by SGS Lab.

7.3.1.6 Environmental Test

Description	Test Reference	Test Condition/Result
Drop	(mechanical)	Drop sample battery on all faces from height of 1.2 meters onto concrete floor. No explosion, fire, vent, leakage and the open circuit voltage higher than 3.7V.
Storage at high temp.	EN60068-2-2 Test	+60°C dry for 240 hours No explosion, fire, vent or leakage.
Storage at low temp.	EN60068-2-1 Test	-20°C dry for 240 hours No explosion, fire, vent or leakage.
Storage at high temp. and high humidity	IEC68-2-3 Test	+40°C at 90%RH for 240 hours. No explosion, fire, vent or leakage.
Storage temp. cycling	IEC68-2-14 Test	+60oC (2C) for 1 hour (T1), -20oC (2C) for 1 hour. 3 minutes Max allowed for change between T1 and T2. Cycle 10 times No explosion, no fire, no vent, and no leakage.
Vibration resistance	BS2011 Part 2.1 FDC (IEC68-2-37)	After standard charge, tested under the following conditions: Random vibration 5Hz-500Hz ASD 0.02g2/Hz in 3 axis for 15 mins. After which, carry out a standard discharge, charge, discharge. No parting joints/cracks or damage to connectors. No leakage or critical damage.
Impact shock resistance	-	3 cycles of 50G 11ms, 1/2 sine pulse acceleration applied in 6 directions. 18 shocks total.
ESD protection	-	Accordance with EN61000-4-8

7.3.2 Super High-Capacity (Model WA3010)

7.3.2.1 Electrical Specifications



Note: The electrical specifications apply for ambient temperature TAMB of 0° to +40°C unless otherwise stated.

Item	Description	Specification	Remark
1	Interface Chipset	Maxim DS2762	-
2	Rated Voltage	3.7V	Typical
3	Rated Capacity	4400mAh	Typical
4	Rated Charge Current	1.2A	Maximum
5	Charge Voltage	4.2 +/- 0.05V	Maximum
6	Discharge Cut-Off Voltage	2.6V	Typical
7	Charge Method	Constant voltage Current limited	-
8	Discharge Current	0.5C (-20°C to 60°C)	Typical
9	Internal Resistance	150 mΩ	Maximum
10	Charging Temperature	0 to 40	Typical

Battery Pack Electrical Specifications

Item	Description	Specification		
		Minimum	Typical	Maximum
1	Over voltage detection voltage	4.325V	4.350V	4.375V
2	Charge enable	4.10V	4.15V	4.20V
3	Under voltage detection voltage	2.5V	2.6V	2.7V
4	Over current detection current	2.97A	3.17A	3.36A
5	Short-circuit detection current	9.9A	13.33A	16.83A
6	Short-circuit detection voltage	150mV	200mV	250mV
7	Over voltage delay time	0.8s	1s	1.2s
8	Under voltage delay time	90ms	100ms	110ms
9	Over current delay time	5ms	10ms	20ms
10	Short-circuit delay time	160μs	200μs	240μs
11	Recovery charge current	0.5mA	1mA	2mA

7.3.2.2 Standard Discharge



Note: Standard charge is defined as charging with constant voltage limit of 4.2V and constant current limit of 0.9A; the termination charge occurs when the current drops to 45mA.

Standard discharge is defined as discharging at a constant current of 350mA until the battery protection circuit switches the battery output off in over-discharge mode.

Acceptance Test Specifications

Description	Condition	Standard
Open circuit voltage	After standard charge, measure within 24 hours.	4.15V or more
Internal Resistance	After standard charge, measure within 24 hours.	150 mΩ max.
Capacity_1	After standard charge, measure time taken for a fast discharge.	110 minutes or more
Charge/Discharge Cycle	After repeating standard charge and fast discharge, measure the fast discharge time after 300 discharge cycles.	90 minutes or more
Capacity_2	After standard charge, measure the time taken for a standard discharge.	500 minutes or more
Over Discharge	After standard charge, apply a standard discharge followed by a standby discharge. Then measure capacity after carrying out standard charge and then a fast discharge.	110 minutes or more
Self discharge	After a standard charge, keep battery at 25°C for 30 days. Measure the time taken for a fast discharge.	100 mins or more

Description	Condition	Standard
Temperature	Perform a standard charge and fast discharge at 0°C, 25°C and 40°C and measured the time taken for a fast discharge at 25°C.	100 mins. @ 0°C 110 mins. @ 23°C 105 mins. @ 40°C
Temp./Humidity Cycle	After standard charge, carry out 5 cycles of the following: 65°C and 90% humidity for 8 hrs. 25°C and 65% humidity for 4 hrs. -20°C for 8 hrs. 25°C and 65% humidity for 4 hrs. Following that, perform a fast discharge, standard charge and then a fast discharge. Measure the time taken for the second discharge.	100 minutes or more
Dry heat	After standard charge, keep the battery at 60°C for 8 hrs. Carry out a fast discharge, standard charge and then a fast discharge. Measure the time taken for the second discharge.	100 minutes or more
EMC/CE Testing	The battery will need to pass the requirements of the EMC directive 89/336/EEC (and amendments) when fitted into the product: Emissions to EN55022 Class B (1998) Immunity to EN55024 (1998)	Test to be performed by manufacturer.
Electro-Static Discharge Test	EN61000-4-8: A. Contact Discharge: +/-8kV for each contact pad by 10 times. B. Air Discharge: +/-15kV for 10 times (the discharge test point is for around battery casing.)	No damage

7.3.2.3 Safety Data

Description	Condition	Standard
Short Circuit Test	After a standard charge, short terminals and discharge for 1 hr.	Protection circuit board to operate. No explosion, fire, smoke, or leakage.
Over Charging Test	After a standard charge, charge continuously at 4.2V and 4A for 8 hrs.	Protection circuit board to operate. No explosion, fire, smoke, or leakage.
Reverse Charging Test	After a standard discharge, reverse-charge continuously at 4.2V and 4A for 8hrs.	Protection circuit board to operate. No explosion, fire, smoke, or leakage.

7.3.2.4 Safety License

Item	Licenses	Standard
1	UL 1642	The lithium-ion cell has been listed and pass the UL1642 standard by UL Lab. File No. MH12383
2	UL 2054	The battery pack is in the process to apply the UL 2054 battery standard. File No. MH29921.
3	89/336 EEC-EMC directive	The battery pack is in the process to apply the below standard: -EN55022 -LVD 72/23 EEC -EN55024 -EN61326
4	RoHS Directive	The materials of battery pack are used in accordance with the European RoHS directive.

7.3.2.5 Environmental Test

Description	Test Reference	Test Reference/ Results
Drop	(mechanical)	Drop sample battery on all faces from height of 1.2 meters onto concrete floor. No explosion, fire, vent, leakage and the open circuit voltage higher than 3.7V.
Storage at high temp.	EN60068-2-2 Test	+60°C dry for 240 hours No explosion, fire, vent or leakage.
Storage at low temp.	EN60068-2-1 Test	-20°C dry for 240 hours No explosion, fire, vent or leakage.
Storage at high temp. and high humidity	IEC68-2-3 Test	+40°C at 90%RH for 240 hours. No explosion, fire, vent or leakage.
Storage temp. cycling	IEC68-2-14 Test	+60°C (2C) for 1 hour (T1), -20oC (2C) for 1 hour. 3 minutes Max allowed for change between T1 and T2. Cycle 10 times No explosion, no fire, no vent, and no leakage.
Vibration resistance	BS2011 Part 2.1 FDC (IEC68-2-37)	After standard charge, tested under the following conditions: Random vibration 5Hz-500Hz ASD 0.02g2/Hz in 3 axis for 15 mins. After which, carry out a standard discharge, charge, discharge. No parting joints/cracks or damage to connectors. No leakage or critical damage.
Impact shock resistance	-	3 cycles of 50G 11ms, 1/2 sine pulse acceleration applied in 6 directions. 18 shocks total.
ESD protection	-	Accordance with EN61000-4-8

7.3.3 Backup Battery

7.3.3.1 Electrical Specifications



Note: The electrical specifications apply for ambient temperature TAMB of 0° to +45°C unless otherwise stated.

Item	Description	Specification	Unit	Remark
1	Protection Chipset	S-8261	-	-
2	Rated Voltage	3.7V	V	Typical
3	Rated Charge Current	28	mA	-
4	Charge Voltage	4.2 ± 0.05	V	-
5	Discharge Cut-Off Voltage	2.5	V	-
6	Charge Method	Constant voltage Current limited	-	-
7	Discharge Current	0.5C (-20°C to 60°C)	-	Typical
8	Internal Resistance	225	mΩ	Maximum

7.3.3.2 Battery Pack Electrical Specifications

Item	Description	Specification	Unit	Remark
1	Over charge detection voltage [VCU]	4.325	V	Typical
2	Over charge hysteresis voltage [VHC]	0.25	V	Typical
3	Over discharge detection voltage [VDL]	2.5	V	Typical
4	Over discharge hysteresis voltage [VHD]	0.4	V	Typical
5	Over current detection	3.125	A	Typical
6	Over charge detection delay time	1.2	s	Typical
7	Over discharge detection delay time	144	Ms	Typical
8	Over current detection delay time	9	Ms	Typical
9	Load short-circuiting detection delay time	320	Us	Typical
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

7.3.3.3 Safety Data

Item	Condition	Standard
Short Circuit Test	After a standard charge, short terminals and discharge for 1 hr.	Protection circuit board to operate. No explosion, fire, smoke or leakage.
Over Charging Test	After a standard charge, charge continuously at 4.2V and 2A for 8 hrs.	Protection circuit board to operate. No explosion, fire, smoke, or leakage.
Reverse Charging Test	After a standard discharge, reverse-charge continuously at 4.2V and 2A for 8hrs.	Protection circuit board to operate. No explosion, fire, smoke or leakage.

7.4 Scanner/Imager Model Numbers

Scanner/Imager Engine	Kit Model No.	Form Factor
1D Laser SE955	WA9102-G1	End-Cap without GSM
	WA9112-G1	End-Cap with GSM
	WA9002-G1	Pod
1D Laser SE1223HP	WA9000-G1	Pod
1D Laser SE1223LR	WA9005-G1	Pod
1D Laser SE1524ER	WA9009	End-Cap includes a trigger back plate so that it can interface with the Flush Mount Pistol Grip (WA6103)
1D Imager EV15	WA9103-G1	End-Cap without GSM
	WA9113-G1	End-Cap with GSM
	WA9003-G1	Pod

Scanner/Imager Engine	Kit Model No.	Form Factor
2D Imager SX5400	WA9008	Pod
2D Imager HHP 5180	WA8010-G1	End-Cap without GSM
	WA9212-G1	Slim Pod

7.5 Scanner Specifications

7.5.1 SE1223HP, LR and SE955HP Specifications

Scan Engine	SE 1223HP	SE 1223LR	SE 955HP
Scan Angle	42° ± 2°	23° ± 2°	47° ± 3° default / 35° ± 3° reduced
Scan Rate	35 (± 5) scans/sec (bi-directional)	35 (± 5) scans/sec (bi-directional)	104 (± 12) scans/sec (bi-directional)
Scan Pattern	Linear	Linear	Linear
Wavelength	650nm	650nm	650nm
Input Voltage	5.0 VDC ± 10%	5.0 VDC ± 10%	3.0-5.5 VDC ± 10%
Input Current	110 mA typical	115 mA typical	65 mA typical
Standby Current	130 µA typical	70 µA max.	8 µA max
Operating Temperature	-40°C to 60°C -40°F to 140°F	-30° to 55°C -22°F to 131°F	-20° to 60° C -4° to 140° F

Scan Engine	SE 1223HP	SE 1223LR	SE 955HP
Print Contrast	Minimum 20% absolute dark/light reflectance measured at 650 nm	Minimum 40% absolute dark/light reflectance measured at 650 nm	Minimum 25% absolute dark/light reflectance measured at 650 nm
Dimensions	1.93 cm max. H x 3.84 cm max. W x 3.51 cm max. D 0.76 in. max. H x 1.51 in. max. W x 1.38 in. max. D	1.93 cm max. H x 3.84 cm max. W x 3.51 cm max. D 0.76 in. max. H x 1.51 in. max. W x 1.38 in. max. D	1.21 cm H x 2.16 cm W x 1.55 cm (max) 0.47 in. H x 0.85 in. W x 0.61 in. D (max)
Symbologies	UPC/EAN, Code 128, Code 39, Code 93, I 2 of 5, Discrete 2 of 5, Codabar, MSI UCC/EAN 128, TriOptic Code 39	UPC/EAN, Code 128, Code 39, Code 93, I 2 of 5, Discrete 2 of 5, Codabar, MSI UCC/EAN 128, TriOptic Code 39	UPC/EAN, Code 128, Code 39, Code 93, I 2 of 5, Discrete 2 of 5, Codabar, MSI Plessey

7.5.1.1 SE 1223HP Decode Zone

4,844 Lux to 86,112 Lux				
	Minimum Range	Width of Field	Maximum Range	Width of Field
Mil Size	Inches	Inches	Inches	Inches
5	2.75	1.25	7	3
7.5	2.25	1	11	4
10	1.75	0.5	15.75	6
UPC	2	1	22	9
15	2	1	25	10
20	2	1	30	12.5
40	3.75		56	23
55	5		66	25

7.5.1.2 SE 1223LR Decode Zone

4,844 Lux to 86,112 Lux				
	Minimum Range	Width of Field	Maximum Range	Width of Field
Mil Size	Inches	Inches	Inches	Inches
10	11	2	24	5
15	7.5	1	39	8
20	7.5	1	48	10
40	10	2	90	19
55	10	2	120	24
70 reflective	48		200	40
100 reflective	60		240	48

High quality symbols in normal room light.

7.5.1.3 SE 955HP Decode Zone

Decode Zone Typical	
4 mil	1.0 in. - 5.5 in. / 2.54 cm - 13.97 cm
5 mil	1.25 in. - 8 in. / 3.18 cm - 20.32 cm
7.5 mil	1.5 in. - 13.25 in. / 3.81 cm - 33.66 cm
10 mil	1.5 in. - 17.5 in. / 3.81 cm - 44.45 cm
UPC 100%	1.5 in. - 23.5 in. / 3.81 cm - 59.69 cm
15 mil	1.5 in. - 29.5 in. / 3.81 cm - 74.93 cm
20 mil	1.75 in. - 35.5 in. / 4.45 cm - 90.17 cm
40 mil	* - 40 in. / * - 101.6 cm
55 mil	* - 55 in. / * - 139.7 cm

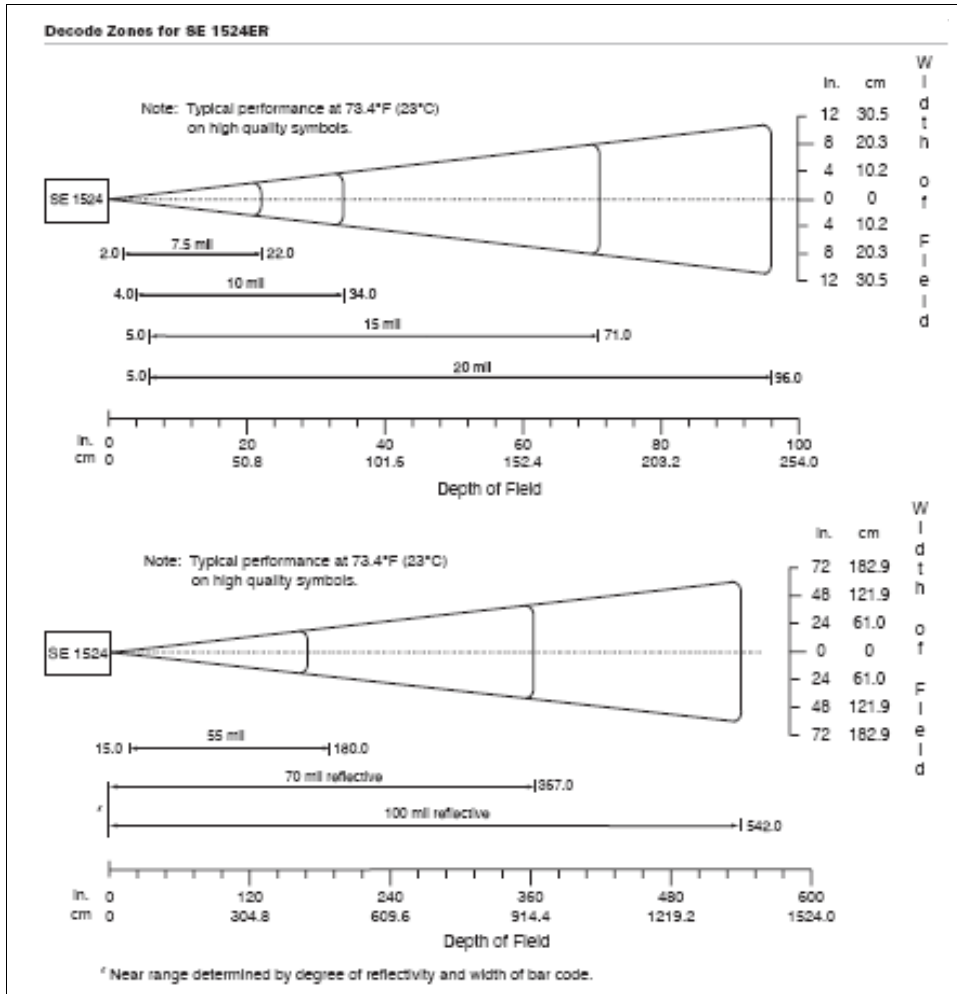
* dependent on width of bar code

7.5.2 SE1524ER Scanner Specifications

Parameter	SE1524ER
Light Source	Laser @ 650nm
Programmable Parameters	Laser on time, Aim duration, Power mode, Trigger mode, Bi-directional redundancy, Symbology types/lengths, Data formatting, Serial parameters, Beeper tone, Scan angle
Scan Angle	13.5° ±0.7°
Scan Pattern	Single line
Scan Rate	35 ±5 scans/sec (bi-directional)
Technology	Laser

Parameter	SE1524ER
Undecoded	Decoded only
Ambient light immunity	Artificial: 450 ft. candles (4,844 Lux); Sunlight: 4,000 ft. candles (86,112 Lux)
Humidity	5% to 95% non-condensing
Operating Current	Scanning current: 210 mA typical, 240 mA max.; Motor on current: 150 mA typical, 170 mA max.; Standby current: 60 uA
Operating Temperature	-22° to 140° F (-30° to 60° C) chassis temperature
Power Supply Voltage	Input voltage: 3.3 VDC ±10%
Storage Temperature	-40° to 158° F (-40° to 70° C)

7.5.2.1 SE1524 Scanner Decode Zone



7.5.3 EV15 Imager Specifications

Parameter	EV15
Light Source	617nm Highly Visible LED
Scan Angle	40°
Minimum Print Contrast	Minimum 25%
Min. x Dimension	0.1 mm (4 mils)
Reading Distance	Up to 90cm (35 in)
Symbologies	UPC (E&A), EAN, RSS, Code 39, Code 128, UCC/EAN 128, ISBN, ISBT, Interleaved, Matrix, Industrial and Standard 2 of 5, Codabar, Code 93/93i, Code 11, MSI, Plessey, Telepen, PDF417, Micro PDF417
Ambient Light	Works in any lighting conditions, from 0 to 100,000 lux
Shock	2000G, 0.7ms, half sinus, 3 axes
Vibration	50G r.m.s

7.5.3.1 EV15 Imager Decode Zone

0 Lux to 100,000 Lux		
	Minimum Range	Maximum Range
Mil Size	Inches	Inches
5	2.5	7
10	3	14
UPC	2	14.5
20	2.5	22
40	3	35.5
20	2.5	22

High quality symbols in normal room light.

7.5.4 SX5400* Imager

Specification	SX5400
Optical resolution	752H x 480V
Field of view at 160mm	120mm (H) x 78mm (V) 41.1° (H) x 27.4° (V)
Pitch angle	±45°
Skew angle	±45°
Ambient light	0 to 100,000 lux (full sunlight) 300 lux nominal
Minimum contrast	10%
Targeting	Intuitive range finding 626 nm LED
Self illumination	Red LED (standard)
Supply voltage	5 V ± 10%

Power supply	3.6 Volt DC nominal (2.7 - 5 Volts DC)
Connectivity	USB 1.1 or serial async
Connector to the interface board	Molex 52892-1295 or HiRose FH12-12S-.5SH
Symbologies supported	Code 39; Code 39 Full ASCII; UPC-A, -A2, -A5; UPC-E, -E2, -E5; EAN-8 -13; JAN; I2of5; Code 128; Codabar/NW7; RSS 14, RSS Limited, RSS Expanded, RSS 14 Truncated, PDF417, microPDF417; Composite, CC-A, CC-B, CC-C; image capture, Data Matrix; QR Code; Maxicode; Aztec Code; Planet; Postnet; Royal Mail 4SCC; 4 State postal codes from Australia, Canada, Japan; Korean Post 3of5.

*Formerly known as Symagery SX5400.

7.5.4.1 SX5400 Imager Performance

The table below presents the typical performance of the SX5400 Imager at 300 lux (@ 160mm focus when using Grade A photographic-quality bar codes). Listed are the average near, far, and Depth of Reading (DOR) numbers.

Symbology	Size (mil)	Near Avg. (inches)	Far Avg. (inches)	DOR Avg. (inches)
C39	7.5	4.0	7.0	3.0
C39	10	2.75	9.25	6.5
C39	15	2.25	11.0	8.75
PDF6.6	6.6	4.0	6.5	2.5
PDF10	10	3.25	9.0	5.75
PDF15	15	2.25	10.75	8.5
DM15	15	3.0	8.0	5.0
QR15	15	3.75	7.5	3.75
UPC	12.5	3.0	9.5	6.5

7.5.5 HHP5180 Imager

Parameter	HHP5180
Image Sensor	752 X 480 CMOS sensor
Motion Tolerance	4 in. (10.2cm) per second
Rotational Sensitivity	360°
Viewing Angle	±40°
Ambient Light	Total darkness to 100,000 lux (full sunlight)
Illumination LEDs	626nm ±30nm
Aiming:	LEDs: 526nm ±30nm Laser: 650nm ±10nm
Symbologies supported	2D: PDF417, MicroPDF417, MaxiCode, Data Matrix, QR Code, Aztec, Aztec Mesa, Code 49, UCC Composite Linear: Code 39, Code 128, Codabar, UPC, EAN, Interleaved 2 of 5, RSS, Code 93, Codablock Postal: Postnet (US), Planet Code, BPO 4 State, Canadian Post, Japanese Post, KIX (Netherlands) Post
Size	1.78cm Depth x 2.79cm Width (without mounting tabs) x 1.21cm Height 0.7 in. Depth x 1.1 in. Width (without mounting tabs) x 0.475 in. Height
Weight	5.9 grams (.21 ounces)
Operational Input Voltage:	Imager: 3.3 VDC ±5% (23°C) Illumination + Aimer 5300: 3.0 VDC to 5.5 VDC (23°C)
Current Draw:	Imager: Operating Current – 100 mA Standby Current: 100 µA
Operating Temperature	-30° to +50°C (-34° to 122°F)
Storage Temperature	-40° to +70°C (-40° to 158°F)
Humidity	up to 95% RH, non-condensing at 122° F (50°C)
Shock	18 shocks of 3,500 G for 0.5 msec at 23°C (73° F)

7.5.5.1 HHP5180 Imager Decode

Performance						
Focal Point						
SR	7 inches (17.8 cm) from lens plate					
SF	4.5 inches (11.4 cm) from lens plate					
SF Working Range*	8.3 mil Linear (.020 cm)	10 mil PDF417 (.025 cm)	13 mil UPC (.033 cm)	15 mil Data Matrix (.038 cm) ⁶	15 mil QR (.038 cm)	35 mil Maxicode (.089 cm)
Near	3.5 in. (8.9 cm)	3.1 in. (7.9 cm)	2.1 in. (5.3cm)	2.3 in. (5.8 cm)	2.1 in. (7.9 cm)	2.0 in. (5.1 cm)
Far	7.6 in. (19.3cm)	9 in. (22.9 cm)	13.2 in. (33.5 cm)	10.2 in. (25.9 cm)	8.8 in. (22.4 cm)	13.0 in. (33 cm)
SF Working Range*	6.6 mil PDF417 (.017 cm)	7.5 mil Linear (.019 cm)	8.3 mil Data Matrix (.021 cm)	8.3 mil QR (.021 cm) ⁶	10 mil Linear (.025 cm)	13 mil UPC (.033 cm)
Near	2.8 in. (7.1cm)	2.5 in. (6.4cm)	3.4 in. (8.6cm)	3.4 in. (8.6cm))	2.2 in. (5.6cm)	2.0 in. (5.1cm)
Far	6 in. (15.2cm)	6.5 in. (16.5cm)	5.7 in. (14.5cm)	5.4 in. (13.7cm)	7.6 in. (19.3cm)	8.9 in. (22.6cm)

*Data characterized at 23°C and 0 lux ambient light.

APPENDIX A

PORT PINOUTS

A.1 LIF (Low Insertion Force) Port Pinout

PIN #	Signal Name
1	Ground
2	Ground
3	USB Host Data Plus, For connecting USB devices
4	USB Host Data Minus, For connecting USB Devices
5	USB Host Power, for powering USB devices (5V, 100mA Max)
6	DC Power in, for supplying power to WORKABOUT PRO ³ / charging battery (5V, 3A)
7	DC Power in, for supplying power to WORKABOUT PRO ³ / 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 ³ as a USB device
10	USB Device Data Plus, for operating the WORKABOUT PRO ³ as a USB device
11	Ground
12	Ground

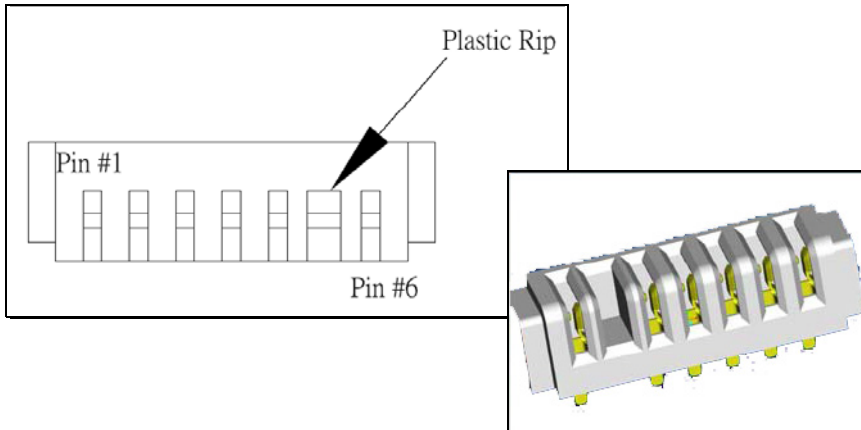
Tether Port Pinout**A.2 Tether Port Pinout**

PIN #	Signal Name
1	Ground
2	USB Data Plus (can be configured as Host or Device)
3	USB Data Minus (can be configured as Host or Device)
4	USB VBUS (can provide 5V, 100mA Max for powering USB Devices)
5	RS232 Tx data
6	RS232 Rx Data
7	Tether detect resistor ID. Determines what kind of device is attached to the Tether port
8	DC Power In
9	DC Power In
10	DC Power In
11	RS232 CTS
12	RS232 RTS
13	RS232 DSR
14	RS232 DTR
15	RS232 DCD
16	RS232 RI
17	Ground
18	Ground
19	Ground
20	Ground

A.3 Battery Contact Pinout-WA3006 & WA3010

PIN #	Signal Name	Function
1	P-	Power Pin for Battery Pack Negative
2	DQ	Maxim DS2762 Data
3	TH (GND)	Ground
4	P+	Power Pin for Battery Pack Positive
5	PS	Power Switch Sensor
-	Plastic Rip	-
6	P-	Power Pin for Battery Pack Negative

A.4 Positive Female Battery Connector



APPENDIX B

WIRELESS WIDE AREA NETWORK (WWAN)

B.1 Wireless WAN

Psion Teklogix offers a quad band, GPRS radio – Model Number RA3030-G2; a WORKABOUT PRO³ equipped with a GSM/GPRS radio has wide area networking capabilities. With this radio and a SIM card, you can wirelessly transfer data, and you use the hand-held voice option to place phone calls.

B.1.1 Taskbar Icons

Wireless WAN icons in the taskbar indicate the status of your wide area network connection. Note that these icons are only visible when a GSM/GPRS radio is installed in the computer, and the interface is enabled.

The letter in the signal strength icon (G for GSM/GPRS) indicates that a packet data service is available and initialized. Keep in mind that the signal strength icon is displayed without a letter if packet data service is not available or if it is available but not yet initialized.



User interaction is required (e.g. the user is required to enter a PIN).



A non-recoverable (fatal) error has occurred.



The modem status is unknown or the modem is not connected to any network (the signal strength is 0%).



The modem has found a network, and the signal strength is between 1% and 20%.



The modem has found a network, and the signal strength is between 21% and 40%.

Wireless WAN



The modem has found a network, and the signal strength is between 41% and 60%.



The modem has found a network, and the signal strength is between 61% and 80%.



The modem has found a network, and the signal strength is between 81% and 100%.



A GPRS packet data connection is active, the signal strength is between 41% and 60% and GSM.GPRS packet service is available.

The signal strength icon is replaced by a connection indicator icon when a packet data connection is started.



A GPRS packet data connection is active.

In addition to the signal strength or connection indicator a second icon may be shown.



A new SMS (Short Message Service) message has arrived.



The dialer icon is displayed when the Voice option is available (SIM card and GPRS radio are installed). When you have an active call, this icon flashes yellow and then green.

B.1.2 Establishing A Connection

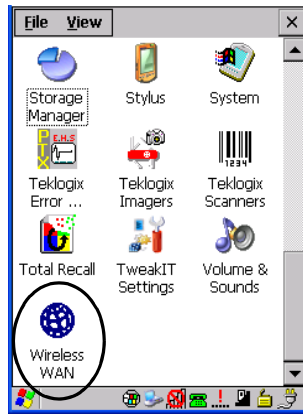
To display the main *Wireless WAN dialog* box:

- Double-tap on the **Wireless WAN** icon in the taskbar.

If the icon is not visible in the taskbar, the radio interface has been shut down or the modem has been removed:

- In the *Control Panel*, choose the **Wireless WAN** icon.

Figure B.1 Wireless WAN Icon



The main *Wireless WAN* dialog box is displayed.

Figure B.2 Establishing A Connection



Note: If you are prompted to enter a PIN, refer to “Entering A PIN Number” on page B-4 for details.

When *Ready to connect* is displayed in the *Status* field, the *Connect Data* button is enabled.

- Tap on the **Connect Data** button.

The progress of the connection is tracked in the *Status* field.

- PPP link to modem active.
- Authenticating user.
- User authenticated.
- Connected.



Note: Keep in mind that these states may be displayed fairly quickly if the progress of the connection is rapid.

When the connection state reaches *PPP link to modem active*, the taskbar icon changes to indicate an active connection. The *Connect Data* button changes to *Disconnect*.

Disconnecting From A Network

To disconnect from the network:

- Tap the stylus on the **Disconnect** button, and then on **OK**.

When the computer's network connection is severed, the *Status* field displays *Ready to connect*.

The signal strength is displayed in the main *Wireless WAN* screen, even while a connection is active. The *Rx bytes* and *Tx bytes* fields estimate the amount of data transmitted and received, respectively.

Shutting Down The Wireless WAN User Interface

While it is not usual to shut down the GSM/GPRS user interface, you can accomplish this by tapping on the *File* menu and choosing the *Exit* command at the bottom of the main *Wireless WAN* dialog box.



Note: Once you've shut down the user interface, you can only enable the radio by opening the Control Panel and tapping on the Wireless WAN icon to display the Wireless WAN dialog box.

B.1.3 Advanced Information

In most cases, when a GSM/GPRS radio and SIM are installed in your computer, setup is automatic. Follow the steps outlined under the heading "Establishing A Connection" on page B-2 to make a connection. The information in this section is for advanced setup purposes.

Entering A PIN Number

If a PIN is required, a PIN entry dialog box is displayed.

- Type your PIN, and press [ENTER].



Note: If you exceed the number of allowable attempts, a PUK entry window is brought to the foreground. You'll need to enter a new PIN number.

Once the correct PIN or PUK is entered or if none was required, the modem is instructed to perform a GSM network registration followed by a GPRS attach. The main *Wireless WAN* dialog box reflects the progress of the initialization.

- Searching for modem
- Initializing modem
- SIM is ready
- Searching for network
- Registered on network
- Searching for GPRS
- Ready to connect

If the modem loses the connection to the GSM network, the following states are repeated: *Searching for network*, *Registered on network*, *Searching for packet data*, and *Ready to connect*.

Error States

The following temporary error states (i.e., these states may disappear without interaction) may be displayed:

- ***Emergency calls only.*** The modem has found a network but is not allowed to register (e.g. no roaming agreement between networks). The modem keeps searching for another network.
- ***No network found.*** A network is not currently available. The modem continues searching for a network.
- ***Packet data not available.*** The current network does not support a packet data service.
- ***Packet data not allowed.*** The modem is not allowed to use the packet data service on the current network (e.g. no GPRS roaming agreement between network; a roaming agreement for voice may still be in place). It is also possible that you do not have a subscription for GPRS at all.

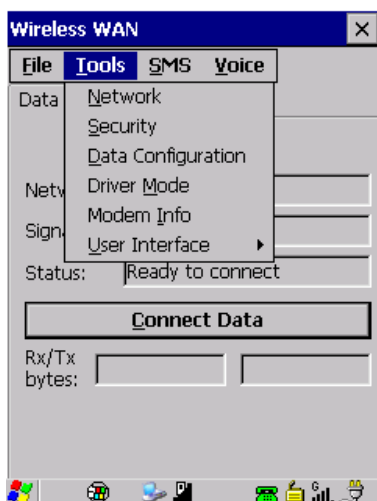
The remaining error states are permanent:

- ***SIM is missing.*** The SIM card is missing. After the SIM has been inserted a warm boot may be required.
- ***SIM failure.*** The SIM card is permanently disabled (e.g. because the wrong PUK has been entered too many times). A new SIM is needed.
- ***Modem failure.*** The modem did not respond to commands as expected. If a warm boot does not clear this condition, the modem may need to be replaced.

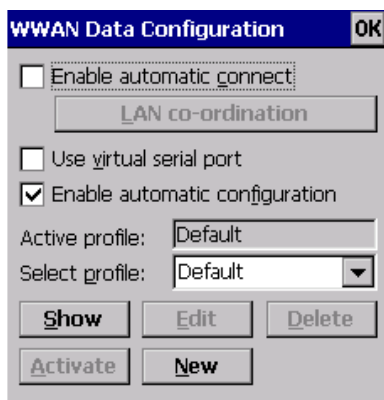
- **NDIS error:** An internal software error has occurred. If a warm boot does not clear this condition, Psion Teklogix technical support may need to investigate further.

B.1.4 Tools Menu

The *Tools* menu in the main *Wireless WAN* dialog box offers some additional, advanced setup features.



B.1.4.1 Data Configuration



Enable Automatic Connect

If the *Enable automatic connect* checkbox is checked (unchecked by default), the Wireless WAN user interface will attempt to establish a GPRS connection whenever GPRS is available (e.g. after resume from suspend without further user interaction).

To activate the automatic connection mode:

- Tap on the **OK** button.

While automatic connection mode is enabled, the *Connect Data* button in the main *Wireless LAN* dialog box changes to *Disable Auto*. To close the currently active connection (if any) and disable the automatic connection mode:

- Tap on **Disable Auto**.



Important: *Automatic connection mode should not be used if applications other than the Wireless WAN user interface (e.g. Connection Manager) are expected to open and close connections.*

If the automatic connection mode is enabled and another application closes the GPRS connection, the WWAN user interface will immediately try to re-establish the connection.

Use Virtual Serial Port

If Use virtual serial port is enabled, packet data connections are established through the virtual serial port of the WWAN driver rather than through the WWAN driver directly. This checkbox should only be checked if certain third-party VPN (Virtual Private Network) clients are used that do not work correctly otherwise. The default setting is disabled (unchecked).



Note: The connection setup takes longer through the virtual serial port.

Enable Automatic Configuration

In most cases, the data connection is configured automatically and no user interaction is required. This is true even if multiple SIM cards from different operators are used with the same device. The connection parameters are adjusted automatically when a new SIM card is detected (this may require a warm boot). The connection parameters are retrieved from a database.

Manual configuration should be necessary only if:

- One or more parameters in the database are incorrect or a new operator is not yet in the database. (The database should be corrected for subsequent software releases.)
- An operator has assigned individual GPRS user names and passwords.
- A very large site has their own APN. Such connections always have to be configured manually.

- A customer has subscribed for a static IP address. By definition this must be configured manually.

Profiles

In the following section, all the parameters that need to be configured for a connection (such as APN, user name, password, DNS server addresses etc.) are referred to as a profile. Every profile is identified by an arbitrary, unique name. The profile named *Default* is special in that it is always present and can neither be edited nor deleted. The *Default* profile uses parameters from a built-in database. The home network (the network that issued the SIM) is used for the database look-up. While there can be many configured profiles, only one profile can be active at any time.

If connection profiles are configured manually, the *Enable automatic configuration* checkbox should normally be unchecked.

In one particular use case, manually configured profiles may be combined with automatic configuration. If multiple SIM cards are used with the same device, each SIM card being from a different operator and some or all of them requiring a manually set up profile, automatic configuration may be used to automatically pick the correct manually configured profile for each SIM card. For this to work, each profile must be configured while the corresponding SIM card is inserted in the device and initialized (i.e. the status is at least *SIM is ready*).

The *Select profile*: drop-down list in the data configuration profile selects to which profile a subsequent action applies. A profile named *Default* is always present and contains the current parameters from the database. The following actions are available:

Show

The parameters for the selected profile are displayed when you tap the stylus on this button. For the *Default* profile, the publicly known password is shown—otherwise, the password is hidden.

Edit

The parameters of the selected profile can be edited when you choose the *Edit* button. Keep in mind that you cannot edit the *Default* profile.

Delete

The selected profile is deleted. You cannot delete the *Default* profile.

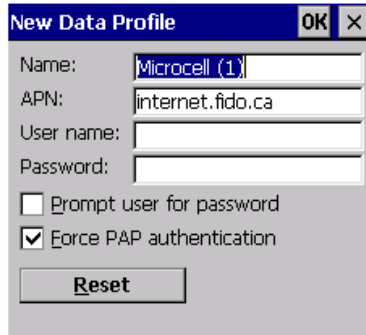
Activate

When this button is chosen, the selected profile becomes the active profile. Activation is possible only if the *Enable automatic configuration*: checkbox is unchecked.

New

Tapping on the *New* button allows you to create a new profile.

Figure B.3 Creating A New Profile



The screenshot shows a dialog box titled "New Data Profile" with "OK" and "X" buttons in the top right corner. The dialog contains the following fields and options:

- Name: Microcell (1)
- APN: internet.fido.ca
- User name: (empty)
- Password: (empty)
- Prompt user for password
- Force PAP authentication
- Reset button

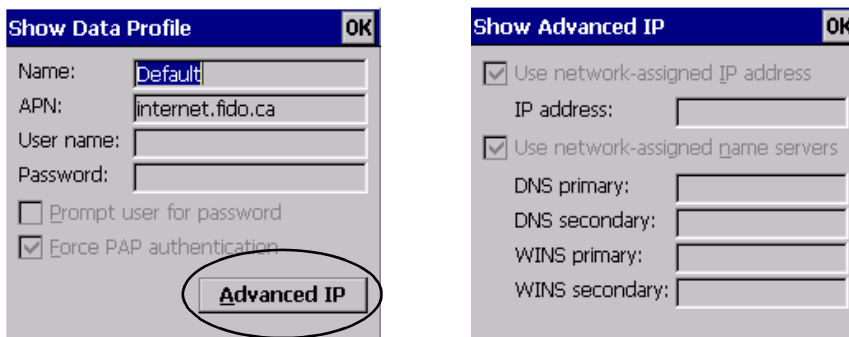
The name of the newly created profile must be different from all existing profiles. Also, the name cannot be *Default*. When the *New Data Profile* dialog box is opened, a proposal for a unique name is filled in the corresponding entry field. If a manually configured profile has a secret password and unauthorized access to the device is a concern even after the SIM PIN has been entered, the password should not be entered in the *New Data Profile* dialog box and the *Prompt user for password* checkbox should be checked instead. In this case, you will be prompted for the password each time a connection is initiated (the *Connect Data* button in the main *Wireless WAN* dialog box is selected). If *Force PAP authentication* (Password Authentication Protocol) is enabled, a simple authentication protocol is used to authenticate a user to a remote access server or Internet Service Provider.

Reset

The *Reset* button in the *New Profile* and *Edit Profile* dialog boxes resets all entry fields to the values they had when the dialog box was opened.

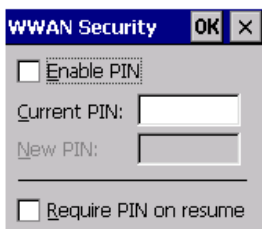
Advanced IP

Figure B.4 Assigning IP Information



The *Advanced IP* button in the *Show Profile* and *Edit Profile* dialog boxes opens another dialog box that allows you to configure a static IP address as well providing DNS and WINS fields so that you can specify DNS and WINS resolvers.

B.1.4.2 Security Configuration



The *Security Configuration* dialog box is accessed through the *Tools* menu. The *Security Configuration* dialog box allows you to enable, disable and change the PIN. You will need the current PIN to make any of these changes. The PIN must be enabled in order to be changed. (If the PIN is disabled, the *New PIN* entry field is greyed out.)



Note: Keep in mind that some network operators do not allow the SIM PIN to be disabled. A new PIN must consist of 4 to 8 numeric digits.

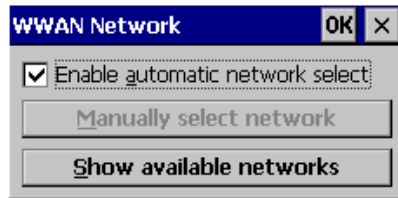
The *Require PIN on resume* checkbox is independent of the aforementioned settings. By default, this checkbox is unchecked. While this option remains unchecked, any PIN entered on startup or through the *Security Configuration* dialog box and submitted successfully to the modem is stored in memory for as long as the device is not rebooted. This stored PIN is then used without further user interaction whenever the modem requires a PIN (such as resume after suspend or modem removal). The stored PIN is also automatically entered in the *Current PIN* text box whenever the *Security Configuration* dialog box is called up.

If unauthorized access to the device is a concern, the *Require PIN on resume* checkbox should be checked. In this case, the PIN is not stored; whenever a PIN is required, you will be prompted to enter an appropriate value.

B.1.4.3 Network Configuration

In the main *Wireless WAN* window:

- Tap on the **Tools** menu, and choose **Network**.



By default the GSM radio modem automatically chooses from the available and allowed networks (allowed networks are the home network and all other networks with which the home network has a roaming agreement). You may find there are some situations in which you want to override this default behaviour. For example, you may want to disable roaming if you find yourself in a border area where the home network is not available but a foreign roaming partner is available. Abroad, you may find that an available network does not have GPRS roaming agreements. In this case, you'll need to manually select the network which you know to support GPRS roaming.

Automatic network selection is enabled or disabled by checking or unchecking *Enable automatic network select* in the *Network* dialog box. When automatic network selection is disabled, you must select a network manually.

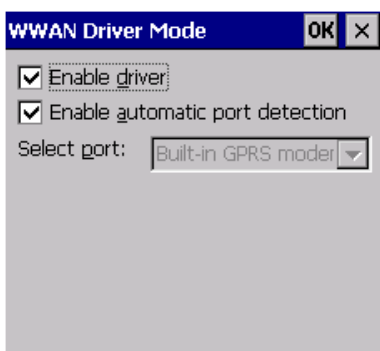
Available networks can also be viewed without changing any settings. Scanning for available networks is a lengthy operation—a progress bar is shown while the scan is active. For every network that is found, the network name, country, status and numeric network identifier (MCC/MNC, Mobile Country Code followed by the Mobile Network Code) is displayed.



Note: Your home network operator will need to let you know which other networks have roaming agreements. Even when a network is listed with an ‘Available’ status, it does not necessarily follow that it can be used or that the roaming agreement covers GPRS.

A status of ‘Forbidden’ indicates that the network cannot be used. If you choose a network that is not covered by a roaming agreement, the status in the main WWAN dialog box changes to ‘Emergency calls only’, ‘No network found’, ‘GPRS not available’ or ‘GPRS not allowed’.

B.1.4.4 Driver Mode Configuration



By default, the Wireless WAN driver is enabled (the *Enable driver* checkbox is checked). The driver must be disabled in order to use the modem for anything other than GPRS (e.g. dial-up data, fax, or in order to manually submit AT commands to the modem for development, testing, approvals, etc.). If the *Enable driver* checkbox is not checked, the driver is shut down as soon as the *OK* button in the *Driver Mode* dialog box is chosen.

If, on the other hand, the Wireless WAN driver is not running and the *Enable driver* checkbox is checked, the Wireless WAN driver is started as soon the *Driver Mode* dialog box is closed using the *OK* button.

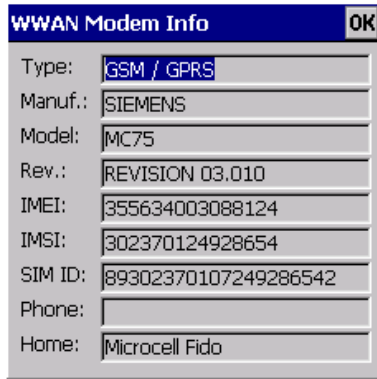


Note: When the driver is not running, no network status or signal strength can be displayed.

Since all currently supported GSM modems are automatically detected, the *Enable automatic port detection* checkbox should always be checked. If this checkbox is not checked, a serial port can be selected manually. This experimental feature allows the driver to be used with an internal GSM modem that was not recognized by the automatic detection or an external GSM modem connected to a serial port of the computer through USB or through

Bluetooth. An external modem connected to a serial port must support 115.2kbit/s, 8bit, no parity and hardware flow control.

B.1.4.5 Modem Information

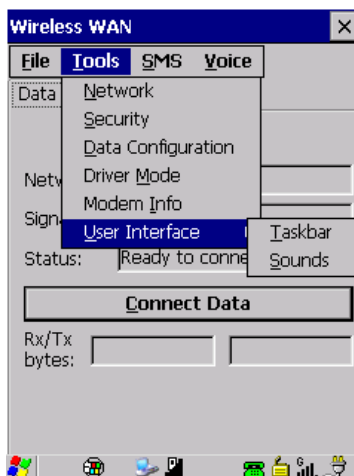


The image shows a dialog box titled "WWAN Modem Info" with an "OK" button in the top right corner. The dialog box contains several fields, each with a label on the left and a text input field on the right. The fields and their values are as follows:

Label	Value
Type:	GSM / GPRS
Manuf.:	SIEMENS
Model:	MC75
Rev.:	REVISION 03.010
IMEI:	355634003088124
IMSI:	302370124928654
SIM ID:	89302370107249286542
Phone:	
Home:	Microcell Fido

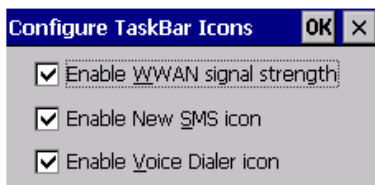
The fields in this dialog box cannot be edited, they only display information about the computer modem. If the network operator has not programmed a user phone number into his SIM, the *Phone:* field remains empty. If the main menu shows an error status, at least partial modem information may be available.

B.1.4.6 User Interface



Taskbar

Choosing *Taskbar* displays a dialog box in which you can determine which *Wireless WAN* icons will be displayed in the taskbar.



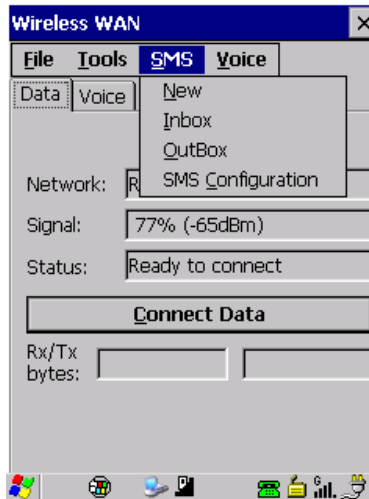
Sounds

Tapping on the *Sounds* option displays a dialog box in which you can customize which sounds your hand-held will emit and when these sounds will be played.



B.1.5 SMS Menu

SMS (Short Message Service) functions are accessed through the *SMS* menu. For modems that support a SIM card, the SIM initialization typically takes longer than the network initialization, resulting in a noticeable delay before the SMS functions become available.



New

Tapping on the *New* button opens a dialog for sending a new SMS message. The recipient's phone number (to be entered in the *To:* field) can consist of the digits 0 through 9, as well as the * and # characters, optionally preceded by one + character, indicating an international number (i.e. the country code follows immediately after the + character).

By checking the *Store* message in *Outbox* field a new message can be stored in the Outbox before being sent. If no storage space is available, or the modem does not support the storage of outgoing messages, then this checkbox is disabled.

Inbox

Tapping on the *Inbox* button opens the list of received messages. Reading 50 messages, for example, from the SIM can take about 30 seconds. By default the list of messages is sorted with the most recently received message first. The list can be sorted by any other column by clicking on the corresponding column heading. Clicking the same column heading twice reverses the sort order. Pressing any letter or digit moves the highlight to the next message whose address begins with that letter or number.



Note: The date and time formats can be changed through the Region and Language menu in Control Panel. For a new date or time format to take effect the Inbox has to be closed and re-opened.

The Open button opens the selected message in a new window such that the entire message can be read including the original formatting (line breaks are replaced by spaces in the Inbox message list). Pressing the Reply button opens the new message dialog as described above, except the destination phone number is filled in already.

Outbox

Tapping on the *Outbox* button opens the list of sent messages. Otherwise the Outbox behaves exactly as the Inbox described above. The date and time when a message was sent is not available for GSM modems.

SMS Configuration

Tapping on the *SMS Configuration* button opens the SMS configuration dialog. The SMS Centre address follows the same rules as the recipient's phone number in the New message dialog. The message validity period parameter is sent to the SMS Centre with each message sent subsequently and instructs the SMS Centre on how long it should attempt to deliver the message to the recipient (the SMS Centre may impose an upper limit on the validity period regardless of the setting).



Note: Only certain discrete validity period values can be sent and thus the validity period is rounded to the nearest allowed value. The next time the SMS configuration dialog is opened the rounded value is shown.

The user interface tries to keep the SMS storage location available for a new incoming message if the Delete oldest message when full checkbox is checked. In this case, when a new message arrives and the SMS storage becomes full, the oldest received message is deleted. If any string is entered as the Message Suppression Prefix, then messages beginning with that string will not be shown in either the Inbox or Outbox. In this way messages intended for another application running on the same device can be hidden from the user, as long as those messages begin with the string configured here.

B.1.6 Voice

The *Voice* tab is described in detail in Chapter 2: “Basic Checkout” on page 16.

B.2 Power Mode

The power mode of the modem is controlled through the *Power* menu in the *Control Panel* (not through the Wireless WAN user interface).

For *CF Card modems*, the settings are found under the *Devices* tab. If the checkbox for a modem is unchecked, no power is applied to the modem and no driver is loaded (neither the serial port driver nor the Wireless WAN driver). If the checkbox is checked, power is applied to the modem and the drivers are loaded when the computer is turned on. Power is removed from the modem when the computer enters suspend mode.

APPENDIX C

SUMMIT CLIENT UTILITY (SCU)

This appendix provides details about each tab in the Summit Client Utility (SCU). For quick, step-by-step setup instructions, refer to “Configuring the Summit RA2041 802.11b/g” on page 24.

C.1 SCU Tabs

This section provides a detailed description of each of the tabs available in the SCU — *Main* (below), *Profile* (page C-2), *Status* (page C-7), *Diags* (page C-7) and *Global Settings* (page C-8).

C.2 Main Tab

The *Main* tab is displayed when you tap on *Start>Programs>SCU icon*.



- **Enable/Disable Radio:** Enables or disables the radio. This is a toggle button; when the radio is enabled, this button reads Disable Radio, and when the radio is disabled, the button reads Enable Radio.
- **Active Profile:** Lists the name(s) of the active configuration profile(s) which are referred to as “configs”. When a profile is chosen from the Active Profile drop-down menu, the settings for that profile become active.

Profile Tab

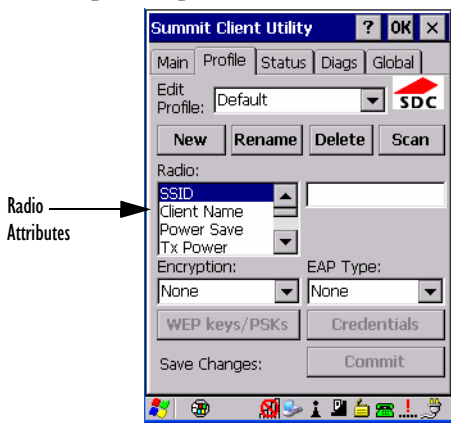
If *ThirdPartyConfig* is selected, after the WORKABOUT PRO³ goes through a power cycle, WZC is used for configuration of the radio. See “ThirdPartyConfig” on page C-6 for details.

- **Status:** Indicates if the radio is associated to an access point. If this is not the case, Association Status indicates the radio status.
- **Radio Type:** Indicates the type of radio installed in the device, e.g. “ABG” when an 802.11a/b/g radio is installed.
- **Reg Domain:** Indicates the regulatory domain (e.g. ETSI, FCC or TELEC) for which the radio is configured. “Worldwide” means that the radio can be used in any domain.
- **Auto Profile:** When this option is set to *On*, SCU automatically switches between configured network profiles depending on their availability. To specify which networks will be scanned, tap on the *List* button, and add a checkmark next to the profiles you want SCU to consider when switching between networks; only the selected networks will be scanned for *Auto Profile* selection.
- **Driver and SCU:** These fields display the version of the device driver and the SCU that are running on the WORKABOUT PRO³.
- **About SCU:** This box provides information about the SCU installed in your unit.

C.3 Profile Tab

The *Profile* tab allows you to define radio and security settings that are stored in the registry as part of the configuration profile.

The profile that you create and save is listed in the *Active Profile* drop-down menu in the *Main* tab. You can define up to 20 profiles.



- **Edit Profile:** Used to choose the profile to be viewed or edited. If *ThirdPartyConfig* is chosen, after the WORKABOUT PRO³ goes through a power cycle, WZC is used to configure the radio.
- **New:** Allows you to assign a profile name.
- **Rename:** Allows you to assign a profile name.
- **Delete:** Deletes the profile unless it is currently active.
- **Scan:** Opens a new window which displays a list of available access points with their respective SSIDs, Signal Strength (RSSI value) and Security Status. Selecting an AP returns you to the profile page and populates a new profile with the information available from the scan to simplify setting up a new profile.
- **Radio:** Lists radio attributes. These attributes can be individually chosen from this menu. When an attribute is chosen, an associated list of options is displayed where you can assign new settings or view existing settings.
- **Commit:** Saves all changes.

The following table describes the options in the *Radio Attributes* drop-down menu:

Radio Attribute	Description	Value	Default
SSID	Service set identifier (SSID) for WLAN to which the radio connects.	Maximum of 32 characters.	None
Client Name	Name assigned to radio & Ikôn into which it is installed.	Maximum of 16 characters.	None
Power Save	Power save mode for radio.	CAM: Constantly awake. Maximum: Maximum power savings. Fast: Fast power save mode.	Fast
Tx Power	Maximum transmit power.	Max: Maximum defined for current regulatory domain. Measured in mW: 50,30,10, 1.	Max
Bit Rate	Used by radio when interacting with WLAN access point.	Auto: Rate automatically negotiated with access point. Rates in Mbps: 1, 2, 5.5, 6.9 11, 12, 18, 24, 36, 48, 54.	Auto

Radio Attribute	Description	Value	Default
Radio Mode	Used by 802.11g when interacting with access point.	B rates only: 1, 2, 5.5, & 11 Mbps. G rates only: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps. BG rates full: All B and G rates. BG rates optimized: 1, 2, 5.5, 6, 11, 24, 36 & 54 Mbps.	BG rates optimized
Auth Type	802.11 authentication type used when associating with access point.	Open, shared-key, or LEAP (Network-EAP).	Open

- **EAP-Type & Encryption:** Security settings. These settings allow you to enhance the security of data across the wireless LAN. Refer to “EAP Credentials” on page C-5 and “SCU Security Capabilities” on page C-4 below, for details about these settings.
- **Credentials:** Authentication credentials for the selected EAP type. (Refer to “EAP Credentials” on page C-5 for details additional information.) The user name or domain/user name and password entered can contain up to 64 characters. For PEAP, a CA Cert-CA server certificate file name is required.

C.3.1 SCU Security Capabilities

The SCU provides integrated security to protect transmitted data as well as the hand-held and wireless WAN infrastructure that transmit and receive data.

A foundational element of the IEEE 802.11i WLAN security standard is IEEE 802.1X and a critical application on a mobile device is an 802.1X supplicant. This supplicant provides an interface between the radio and the operating system and supports the authentication and encryption elements required for 802.11i, also known as Wi-Fi Protected Access 2 (WPA2), as well as predecessors such as WPA and WEP. Summit software includes an integrated supplicant that supports a broad range of security capabilities, including:

- 802.1X authentication using pre-shared keys or an EAP type, required for WPA2 and WPA.
- Data encryption and decryption using WPA2 AES, WPA TKIP or WEP.

Common EAP types include:

- **LEAP:** Is an authentication method for use with Cisco WLAN access points. LEAP does not require the use of server or client certificates. LEAP supports Windows Active Directory and domains but requires the use of strong passwords to avoid vulnerability to offline dictionary attacks.

- **EAP-FAST:** Is a successor to LEAP and does not require strong passwords to protect against offline dictionary attacks. Like LEAP, EAP-FAST does not require the use of server or client certificates and supports Windows Active Directory and domains.
- **PEAP:** Provides secure user authentication by using a TLS tunnel to encrypt EAP traffic. Two different inner methods are used with PEAP:
 - **EAP-MSCHAPV2**, resulting in **PEAP-MSCHAP**: This is appropriate for use against Windows Active Directory and domains.
 - **EAP-GTC**, resulting in **PEAP-GTC**: This is for authentication with one-time passwords (OTPs) against OTP databases such as SecureID.
- **EAP-TLS:** Uses the same technology as a follow-on to Secure Socket Layer (SSL). It provides strong security, but relies on client certificates for user authentication.



Note: PEAP and EAP-TLS require the use of Windows facilities for the configuration of digital certificates.

C.3.2 SCU EAP Types

The following EAP types are supported by the integrated supplicant and can be configured in SCU: *PEAP-MSCHAP*, *PEAP-GTC*, *LEAP* and *EAP-FAST*. With each of these four types, if authentication credentials are not stored in the profile, you will be prompted to enter credentials the first time the radio attempts to associate to an access point that supports 802.1X (EAP).

Consider the following when configuring one of the EAP types:

- **PEAP-GTC:** SCU supports static (login) passwords only.
- **LEAP:** Strong passwords are recommended.
- **EAP-FAST:** SCU supports automatic, not manual, PAC provisioning.

EAP-TLS will work with a RA2041 radio module when *Windows Zero Config* (WZC) rather than the SCU is used to configure the type. With WZC, the native Windows supplicant is used instead of the SCU integrated supplicant.

C.3.3 EAP Credentials

Keep the following in mind when defining security settings:

- If the credentials specified in the profile are incorrect and that profile is used, the authentication fails without an error message; you will not be prompted to enter correct credentials.
- If the credentials are not specified in the profile, when the radio tries to associate using that profile, you will be prompted to enter the credentials.

ThirdPartyConfig

- When prompted, you can enter valid credentials, enter invalid credentials or cancel the operation.
 - If you enter valid credentials and tap **OK**, the radio will associate and authenticate.
 - If you enter invalid credentials and tap on **OK**, the radio will associate but will not authenticate; you will be prompted again to enter credentials.
 - If you tap on **Cancel** or clear the credentials fields and tap on **OK**, the radio will not attempt to associate with that profile until you perform one of the following actions (while the profile is the active profile):
 - i. Cause the WORKABOUT PRO³ to go through a power cycle or suspend/resume.
 - ii. Disable and enable the radio, or tap the **Reconnect** button on the *Diags* windows.
 - iii. Modify the profile, and tap on **Commit**.

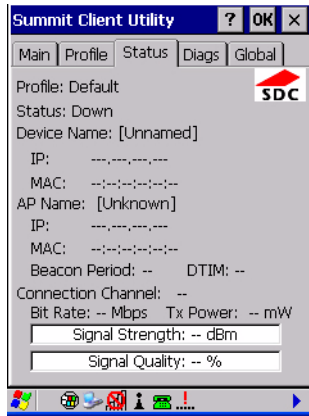
Alternatively, you can choose another profile as the active profile and then switch back to the profile for which EAP authentication was cancelled.

C.3.4 ThirdPartyConfig

If you choose to configure *ThirdPartyConfig*, the SCU will work with the operating system *Windows Zero Config* (WZC) to configure radio and security settings for the CF radio installed in the unit.

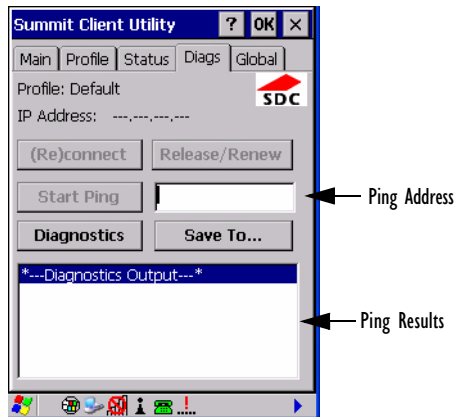
Choosing this profile means that WZC must be used to define the following radio and security options: *SSID*, *Auth Type*, *EAP Type* and *Encryption*. The SCU settings for *ThirdPartyConfig* include: *Client Name*, *Power Save*, *Tx Power*, *Bit Rate* and *Radio Mode*. These SCU settings along with SCU global settings and the WZC settings will be applied to the radio module.

C.4 Status Tab



The *Status* tab provides status information including IP address and MAC address for the client radio, IP address and MAC address for the AP, signal strength, channel, transmit power and data rate.

C.5 Diag Tab



Use the *Diags* tab as a troubleshooting tool. The functions are as follows:

- **(Re)Connect:** Enables/Disables the radio, applies/reapplies current profile and tries to associate and authenticate to the wireless LAN, logging all activity in the output area at bottom of the dialog box.

Global Settings Tab

- **Release/Renew:** Obtains a new IP address through DHCP and logs all activity in the output area.
- **Start Ping:** Starts a continuous ping to the address in the text box next to this button. This is a toggle button so when you tap on it, it changes to Stop Ping. Closing this window or tapping on another button also stops the ping.
- **Diagnostics:** Attempts to connect or reconnect to an AP, and provides a more detailed dump of data than if you used *(Re)connect*. The dump includes the radio state, profile settings, global settings and BSSID list of APs. The SCU is saved to a file called `_sdc_diag.txt` in the Windows directory.

C.6 Global Settings Tab



The *Global Settings* tab allows you to define radio and security settings that apply to all profiles, along with settings that apply specifically to the SCU.

The *Global Settings* in the table below can be edited in the SCU:

Global Setting	Description	Value	Default
Roam Trigger	If RSSI from AP is less than roam trigger value, radio performs roam scan or probes for an AP with stronger signal.	dBm: -50, -55, -60, -65, -70, -75, Custom	-75
Roam Delta	Amount by which second AP's RSSI must exceed the moving average RSSI for the current AP before the radio will attempt to roam to a second AP.	dBm: 5, 10, 15, 20, 25, 30, 35, Custom	10

Global Setting	Description	Value	Default
Roam Period	Following an association or roam scan (with no roam), the number of seconds the radio collects RSSI scan data before considering roaming.	Seconds: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, Custom	10
BG Channel Set	Defines the 2.4 GHz channels to be scanned when the radio is set to roam and needs to determine what APs are available.	Full (all channels) 1, 6, 11 1, 7, 13 Custom	Full
DFS Channels	Reserved	Off, On	Off
Aggressive Scan	When this setting is On and the current connection to an AP becomes unreliable, the radio scans for available APs more aggressively. Aggressive scanning complements and works in conjunction with the standard scanning that is configured through the Roam Trigger, Roam Delta, and Roam Period settings. It is recommended that Aggressive Scan is left On unless there is significant co-channel interference because of overlapping coverage from APs on the same channel.	Off, On	On
CCX features	Activates three CCX features: AP-assisted roaming, AP-specified maximum transmit power and radio management.	Optimized, Full, Off	Optimized
WMM	Use Wi-Fi Multimedia Extensions, also know as WMM.	On, Off	Off
TX Diversity	Defines how to handle antenna diversity when transmitting data to AP.	-Main only: Use main antenna only. -Aux only: Use auxiliary antenna only. -On: Use diversity.	Main only

Global Settings Tab

Global Setting	Description	Value	Default
RX Diversity	Defines how to handle antenna diversity when receiving data from AP.	-On-Start on Main: On startup, use main antenna. -On-Start on Aux: On startup, use auxiliary antenna. -Main only: Use main antenna only. -Aux only: Use auxiliary antenna only.	On-Start on Main
Frag Thresh	Packet is fragmented when packet size (in bytes) exceeds threshold.	Integer from 256 to 2346.	2346
RTS Thresh	Packet size above which RTS/CTS is required on link.	An integer from 0 to 2347.	2347
LED	Available only with MCF10G.	On, Off	Off
Tray Icon	Enables the System Tray icon.	Off, On	Off
Hide Passwords	On - SCU as well as EAP authentication dialog boxes hide passwords, WEP keys and other sensitive information.	On, Off	Off
Admin Password	Password that must be specified when Admin Login button is pressed.	A string of up to 64 characters.	SUMMIT
Auth Timeout	Specifies the number of seconds that the software will wait for an EAP authentication request to succeed or fail. If authentication credentials are specified in the active profile and the authentication times out, then association will fail. If authentication credentials are not specified in the active profile and the authentication times out, then the user will be re-prompted to enter authentication credentials.	An integer from 3 to 60.	8
Certs Path	Directory where certificates for EAP authentication are stored.	Valid directory path up to 64 characters.	Dependent on device.

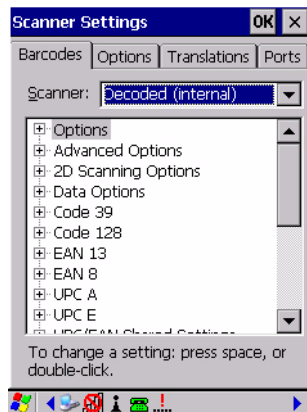
Global Setting	Description	Value	Default
Ping Payload	Amount of data to be transmitted on a ping.	Bytes: 32, 64, 128, 256, 512, 1024	32
Ping Timeout ms	Amount of time in milliseconds that passes without a response before ping request is considered a failure.	Integer from 0 to 30000.	5000
Ping Delay ms	Amount of time in milliseconds between successive ping requests.	Integer from 0 to 7200000.	1000

APPENDIX D

BAR CODE SETTINGS

D.1 Scanner Menu

- To display this dialog box, tap on **Start>Settings>Control Panel**. Tap on the **Teklogix Scanners** icon.



The drop-down menu to the right of the *Scanner* option allows you to choose from one of the following scanner types used with your WORKABOUT PRO³: *Decoded (internal)*, *Decoded (HHP)* or *Decoded (Intermec ISCP)*.

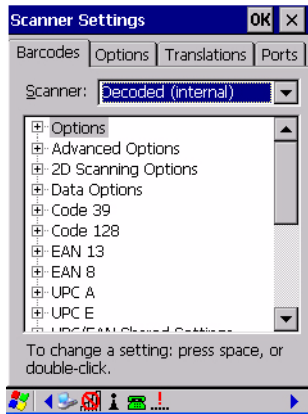
The symbologies listed change to reflect the scanner you choose and the bar codes it supports.



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

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

D.2 Decoded (Internal) Scanner



D.2.1 Options - Decoded (Internal) Scanner

Dot Time (msec)

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

Aim Duration

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

Laser On Time

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

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

D.2.2 Advanced Options - Decoded (Internal)

Continuous Scan Mode

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

Minimum Cancel Time

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

Power Mode

This parameter is a power-saving option. Tapping on it displays a screen listing two power mode options: *Continuous Power* and *Low Power*.

In *Continuous Power* mode, the scanner is always on, waiting for a trigger pull or a serial communication.

In *Low Power* mode, the scanner is in a standby state, drawing minimal power until a trigger pull or serial communication wakes it. Keep in mind that while this option is more suitable for battery powered applications, there will be a slight delay while the scanner powers up to scan a bar code.

Low Power Timeout

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

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



Note: This parameter is only used if the Trigger Mode has been set to Continuous On and the WORKABOUT PRO³ is mounted in a fixed position; otherwise, 'Low Power Timeout' is not used.

Parameter Scanning

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

Linear Security Level

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

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

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

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

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

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

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

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

Bi-Direction Redundancy



Note: This parameter is only valid if a “Linear Security Level” is enabled.

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

Scan Angle

This option allows you to choose from two scan angles: *Normal Angle* or *Alternate Angle*. Choosing *Normal Angle* allows the normal operation for scanning long range and short range. Choosing *Alternate Angle* widens the beam to allow scanning of long bar codes at short range but at the cost of long range scanning.

D.2.3 Decoded (Internal) 2D Scanning Options

Scanning Mode

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

Raster Height And Raster Expand Rate

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



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

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

D.2.4 Data Options – Decoded (Internal) Scanner

Transmit Code ID Char

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

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

Scan Data Format

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

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

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

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

Delete Char Set ECIs

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

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

ECI Decoder

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

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

D.2.5 Code 39

Enabled

Setting this parameter to *on* enables “Code 39”.

Enable Trioptic Code 39



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

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

Convert To Code 32



Note: “Code 39” must be enabled in order for this parameter to function.

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

Code 32 Prefix



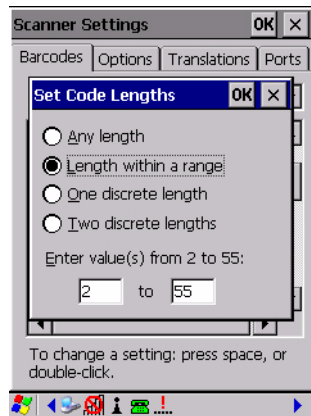
Note: “Convert to Code 32” must be enabled in order for this parameter to function.

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

Set Length L1 And Set Length L2

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

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



Choosing *One discrete length* allows you to decode only those codes containing a selected length. Choosing *Two discrete lengths* allows you to decode only those codes containing two selected lengths. *Length within a range* allows you to decode a code type within a specified range from 1 to 55.

Check Digit Verification

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



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

Transmit Check Digit

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

Full ASCII

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

Decode Performance

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

Decode Perf. Level

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

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

Length Restriction

The parameters in this sub-menu allow you to define the length of the bar codes that will be decoded using either the *Field Size* parameter or the *Minimum Size* and *Maximum Size* parameters (see below). The order of operation to either match the *Field Size* or determine if the length falls between the *Minimum Size* and *Maximum Size* is as follows:

- Strip the leading and trailing characters.
- Add the prefix and suffix characters.
- Count the number of characters remaining to either match the field size or determine if the length falls between the minimum and maximum size.

Field Size

When a value is assigned for this parameter, only bar codes that match the field size exactly can be transmitted. If a value is assigned to this parameter, a *Minimum Size* and *Maximum Size* value is not required.

Minimum Size And Maximum Size

When a value is assigned to these parameters, only bar code lengths that fall between the minimum and maximum value can be decoded. If values are assigned to these parameters, a *Field Size* value is not required.

Add/Remove Data

Prefix Char

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

Suffix Char

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

Strip Leading

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



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

Strip Trailing

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

D.2.6 Code 128

Enabled

Set this parameter to *on* to enable “Code 128”.

Enable GS1-128/GS1 US

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

Enable ISBT 128

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

Decode Performance

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

Decode Perf. Level

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

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

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.2.7 EAN 13

Enabled

Set this parameter to *on* to enable “EAN 13”.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.2.8 EAN 8

Enabled

Set this parameter to *on* to enable “EAN 8”.

EAN-8 Zero Extend

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

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.2.9 UPC A

Enabled

Set this parameter to *on* to enable “UPC A”.

UPC-A Check Digit

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

UPC-A Preamble

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

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.2.10 UPC E

Enable UPC-E

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

Enable UPC-E1

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

UPC-E And UPC-E1 Check Digit

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

UPC-E And UPC-E1 Preamble

When you double-tap on one of these parameters, a dialog box is displayed where you can choose one of three options for lead-in characters for UPC-E and UPC-E1 symbols transmitted to the host device: *System Char* – system character transmitted with the data, *Country code and System Char* – both the country code (“0” for USA) and system character are

transmitted with the data or *None* – no preamble is transmitted. The lead-in characters are considered part of the symbol.

Conv. UPC-E To UPC-A

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

Conv. UPC-E1 To UPC-A

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

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.2.11 UPC/EAN Shared Settings

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

Enable Bookland EAN

Setting this parameter to on allows your scanner to recognize “Bookland EAN” bar codes.

Supplementals

“Supplementals” are additionally appended characters (2 or 5).

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

Supp. Redundancy

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

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

Security Level

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

Linear Decode

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

2D UPC Half Block Stitching

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

D.2.12 Code 93

Enabled

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

Set Length L1 And Set Length L2

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

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

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

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.2.13 Codabar

Enabled

Set this parameter to on to enable “Codabar” or off to disable it.

Set Length L1 And Set Length L2

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

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

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

CLSI Editing

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



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

NOTIS Editing

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

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.2.14 MSI Plessey

Enabled

Set this parameter to *on* to enable “MSI Plessey”.

Set Length L1 And Set Length L2

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

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

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

Check Digits

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

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



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

Transmit Check Digit

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

Check Digit Algorithm

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

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.2.15 Interleaved 2 of 5

Enabled

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

Set Length L1 And Set Length L2

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

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

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

Check Digit Verification

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

Transmit Check Digit

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

Convert To EAN 13

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

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.2.16 Discrete 2 of 5

Enabled

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

Set Length L1 And Set Length L2

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

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

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

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.2.17 RSS Code

Enable RSS-14 (Reduced Space Symbology)

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

Enable RSS Limited

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

Enable RSS Expanded

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

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.2.18 Composite



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

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

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

Enable CC-C And Enable CC-AB

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

Enable TLC-39

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

D.2.19 PDF-417

Enable

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

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.2.20 Micro PDF-417

Enable

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

Code 128 Emulation

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

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

]C1 - if the first codeword is 903-907, 912, 914, 915

]C2 - if the first codeword is 908 or 909

]C0 - if the first codeword is 910 or 911

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

]L3 - if the first codeword is 903-907, 912, 914, 915

]L4 - if the first codeword is 908 or 909

]L5 - if the first codeword is 910 or 911

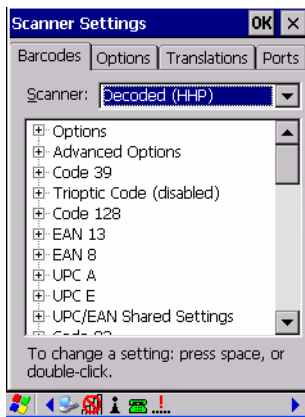
Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3 Decoded (HHP)



- Tap on the **Scanner** drop-down menu, and choose **Decoded (HHP)**.

D.3.1 Options - Decoded (HHP)

Laser On Time

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

Double-tapping on this parameter displays a dialog box in which you can enter a value between 1 and 10 seconds.

D.3.2 Advanced Options - Decoded (HHP)

Continuous Scan Mode

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

Minimum Cancel Time

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

Low Power Timeout

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

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



Note: This parameter is only used if the Trigger Mode has been set to Continuous On and the WORKABOUT PRO³ is mounted in a fixed position; otherwise, 'Low Power Timeout' is not used.

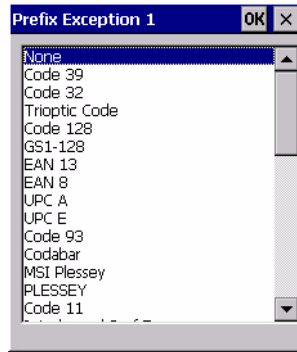
Add AIM ID Prefix

The *AIM ID* (Association for Automatic Identification and Mobility) is an international bar code identifier. When this parameter is enabled, the *AIM ID* is inserted at the beginning of the decoded bar code.

Prefix Exception 1:, 2: And 3:

This parameter works in conjunction with the *AIM ID* parameter. When *AIM ID* is enabled, an *AIM ID* prefix is added to *every* bar code. The *Prefix Exception* parameter allows you to switch off *AIM ID* for up to three bar codes.

Double-tapping on *Prefix Exception 1:*, *Prefix Exception 2:* or *Prefix Exception 3:* displays a list of bar codes.



When a bar code in this list is highlighted, an *AIM ID* prefix is **not** added to the selected bar code. (For a description of *AIM ID*, refer to “Add *AIM ID* Prefix” on page D-43.)

Conversely, if you only have two or three bar codes that require the *AIM ID* prefix, you can disable *AIM ID* and highlight the bar codes to which you want an *AIM ID* prefix applied using the *Prefix Exception* parameters.

D.3.3 Code 39

Enabled

Setting this parameter to on enables “Code 39”.

Start/Stop Transmit

Setting this parameter to *on* enables the transmission of start and stop characters, which are usually not transmitted. Code 39 can start and end with either a * or a \$ character (see also next parameter, “Accepted Start Char”).

Check Char

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

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

Setting this parameter to None disables this function.

Minimum And Maximum Length

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

Append

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

Pharmaceutical

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

Full ASCII

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

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.4 Trioptic Code

This code is used for labelling magnetic storage media.



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

Enabled

Setting this parameter to *on* enables “Trioptic Code”.

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.5 Code 128

Enabled

Setting this parameter to *on* enables “Code 128”.

ISBT Concatenation

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

Minimum And Maximum Length

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

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.6 EAN 13 Settings

Enabled

Set this parameter to *on* to enable “EAN 13”.

Check Digit

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

Addendum Add-on 2 And Addendum Add-on 5

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

Addendum Required

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

Addendum Separator

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

ISBN Translate

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

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.7 EAN 8

Enabled

Set this parameter to *on* to enable “EAN 8”.

Check Digit

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

Addendum Add-on 2 And Addendum Add-on 5

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

Addendum Required

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

Addendum Separator

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

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.8 UPC A Settings

Enabled

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

Check Digit

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

Transmit Number System

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

Addendum Add-on 2 And Addendum Add-on 5

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

Addendum Required

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

Addendum Separator

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

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.9 UPC E Settings

Enabled

Set this parameter to *on* to enable “UPC E”.

Enabled UPC-E1

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

Expand

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

Check Digit

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

Transmit Number System

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

Addendum Add-on 2 And Addendum Add-on 5

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

Addendum Required

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

Addendum Separator

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

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.10 UPC/EAN Shared Settings

Extended Coupon Code

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



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

D.3.11 Code 93

Enabled

Set this parameter to *on* to enable “Code 93”.

Minimum And Maximum Length

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

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.12 Codabar

Enabled

Set this parameter to *on* to enable “Codabar”.

Start/Stop Transmit

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

a, b, c, d

A, B, C, D

a, b, c, d, /, t, n, *, e

DC1, DC2, DC3, DC4

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

Check Char

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

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

Setting this parameter to *None* disables this function.

Concatenation

“Codabar” supports symbol concatenation. When you enable Concatenation, the imager looks for a Codabar symbol with a “D” start character that is adjacent to a symbol with a

“D” stop character. In this case, the two messages are concatenated into one with the “D” characters omitted.

Minimum And Maximum Length

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

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.13 MSI Plessey

Enabled

Set this parameter to *on* to enable MSI.

Enable Plessey

Set this parameter to *on* to enable Plessey.

Check Char

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

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

Setting this parameter to *None* disables this function.

Minimum And Maximum Length

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

Plessey Minimum And Plessey Maximum Length

These parameters apply to *Plessey* bar codes. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on

these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *4 to 48*.

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.14 Code 11

Enabled

Set this parameter to *on* to enable “Code 11”.

Check Digits

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

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

Minimum And Maximum Length

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

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.15 Interleaved 2 of 5

Enabled

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

Check Digit

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

Matrix 2 of 5

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

Setting this parameter to *None* disables this function.

Minimum And Maximum Length

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

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.16 Matrix 2 of 5

Enabled

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

Minimum And Maximum Length

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

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.17 IATA 2 of 5

Enabled

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

Minimum And Maximum Length

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

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.18 Discrete 2 of 5

Enabled

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

Minimum And Maximum Length

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

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.19 Telepen

Enabled

Set this parameter to *on* to enable “Telepen”.

Output

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

Minimum And Maximum Length

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

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.20 RSS Code (Reduced Space Symbology)

Enable

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

Enable RSS Limited

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

Enable RSS Expanded

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

Minimum And Maximum Length

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

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.21 PosiCode (Reduced Space Symbology)

Enable

Setting this parameter to *on* enables “PosiCode” scanning capability.

PosiCode

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

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

Minimum And Maximum Length

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

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.22 Composite



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

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

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

GS1 128

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

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

EAN/UCC 128 Emulation

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

Minimum And Maximum Length

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

D.3.23 TLC-39

This composite component integrates MicroPDF417 with the linear code.

Enabled

Setting this parameter to *on* enables this parameter.

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.24 PDF-417

Enabled

Set this parameter to *on* to enable “PDF-417”.

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 2750*.

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.25 Micro PDF-417

Enabled

Set this parameter to *on* to enable “Micro PDF-417”.

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 366*.

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.26 Code 16K

The “Code 16K” bar code is a multiple-row bar code that can encode the full ASCII character set below ASCII 128. It uses existing UPC and Code 128 character set patterns. Up to 77 full ASCII characters or 154 numeric characters can be encoded into 2 to 16 rows. Each row is divided by a separator bar. The top and bottom of the symbol also have separator bars that extend to the ends of the minimum quiet zones.

Enabled

Set this parameter to *on* to enable “Code 16K”.

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 160*.

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.27 Code 49

The “Code 49” bar code is a multiple-row bar code that can encode the full ASCII character set below ASCII 128. Up to 49 alphanumeric characters or 81 numeric characters can be encoded into two to eight rows. Each row is divided by a separator bar. The top and bottom of the symbol also have separator bars that extend to the ends of the minimum quiet zones.

Enabled

Set this parameter to *on* to enable “Code 49”.

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 81*.

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.28 Codablock

Enable

Set this parameter to *on* to enable “Codablock”.

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 2048*.

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.29 2D Data Matrix

Enable

Set this parameter to *on* to enable “2D Data Matrix”.

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 1500*.

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.30 2D QR Code

Enabled

Set this parameter to *on* to enable “2D QR Code”.

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 3500*.

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.31 2D Maxicode

Enabled

Set this parameter to *on* to enable “2D Maxicode”.

2D Aztec

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 150*.

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.32 2D Aztec

Enabled

Set this parameter to *on* to enable “2D Aztec”.

Aztec Runes

Aztec Runes, the smallest type of Aztec Code symbol, has the ability to encode a very short license plate message.

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 3750*.

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.33 Postal: PlaNET

Enabled

Set this parameter to *on* to enable “Postal: PlaNET”.

Check Digit

If enabled, the check digit will be transmitted at the end of the scanned data.

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.34 Postal: PostNET

Enabled

Set this parameter to *on* to enable “Postal: PostNET”.

Check Digit

If enabled, the check digit will be transmitted at the end of the scanned data.

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.35 Postal: Australian

Enabled

Set this parameter to *on* to enable “Postal: Australian”.

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.36 Postal: Canadian

Enabled

Set this parameter to *on* to enable “Postal: Canadian”.

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.37 Postal: China

Enabled

Set this parameter to *on* to enable “Postal: China”.

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *2 to 80*.

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.38 Postal: Japanese

Enabled

Set this parameter to *on* to enable “Postal: Japanese”.

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.39 Postal: Kix

Enabled

Set this parameter to *on* to enable “Postal: Kix”.

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.40 Postal: Korean

Enabled

Set this parameter to *on* to enable “Postal: Korean”.

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *2 to 48*.

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.3.41 Postal: Royal

Enabled

Set this parameter to *on* to enable “Postal: Royal”.

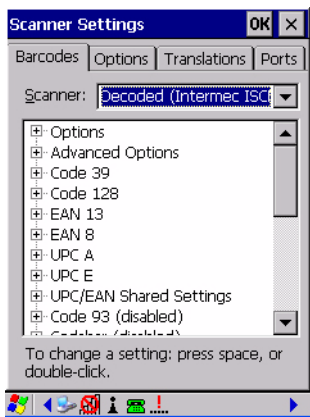
Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.4 Decoded



- Tap on the **Scanner** drop-down menu, and choose **Decoded (Intermec ISCP)**.

D.4.1 Options - Decoded Scanner

Laser On Time

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

Double-tapping on this parameter displays a dialog box in which you can enter a value between 1 and 10 seconds.

D.4.2 Advanced Options - Decoded Scanner

Continuous Scan Mode

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

Minimum Cancel Time

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

Low Power Timeout

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

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



Note: This parameter is only used if the Trigger Mode has been set to Continuous On and the WORKABOUT PRO³ is mounted in a fixed position; otherwise, 'Low Power Timeout' is not used.

Parameter Scanning

Setting this parameter to Enabled allows decoding of parameter bar codes.

Same Read Validate

The data is only transmitted after repeated reads give the same result. The value assigned at this parameter determines the number of reads required, from 0 to 10 times.

Same Read Timeout

Prevents the same bar code from being read more than once. The value assigned determines after what time period the scanner will timeout, from 0 to 2550 msec.

Diff Read Timeout

Prevents unwanted reading of other bar codes on the same label. The value assigned determines after what time period the scanner will timeout, from 0 to 2550 msec.

Add AIM ID Prefix

The *AIM ID* (Association for Automatic Identification and Mobility) is an international bar code identifier. When this parameter is enabled, the *AIM ID* is inserted at the beginning of the decoded bar code.

D.4.3 Code 39

Enabled

Setting this parameter to *on* enables “Code 39”.

Full ASCII

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

Reading Range

Determines the reading distance from which a bar code can be successfully scanned. The default setting, Extended, allows for increased reading distance.

Start/Stop Transmit

Setting this parameter to *on* enables the transmission of start and stop characters, which are usually not transmitted. Code 39 can start and end with either a * or a \$ character (see also next parameter, “Accepted Start Char”).

Accepted Start Char

This parameter allows the user the option of using one of the two start/stop characters or both (\$ char, * char, \$ and * char).

Check Digit Verification

Uses the specified algorithm of the option you've chosen to ensure the integrity of the symbol data before transmitting. If the data does not contain that algorithm, the data is not transmitted. The available options are: Disabled, MOD 43 Check, French CIP, or Italian CIP.



Note: French CIP (French pharmaceutical) is only used with bar codes containing 7 characters.

Italian CIP (Italian pharmaceutical) is also known as Code 32. It is transmitted as a standard Code 39 if checksum is not validated.

Transmit Check Digit

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

Minimum Length

Minimum lengths for the bar code can be set from 0 to 255. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.4.4 Code 128

Enabled

Setting this parameter to *on* enables “Code 128”.

GS1-128

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

GS1-128 Identifier

“GS1-128 Identifier” allows the AIM ID "JC1" for EAN 128 to be transmitted or removed. By default, this identifier is transmitted if EAN 128 is enabled.

GTIN Compliant

GTIN (global trade item number) processing transmits EAN 128 as the 14-character EAN/UCC GTIN. To use GTIN processing, you must activate the EAN 128 symbology.



Important: *When EAN 128 and GTIN processing are both activated, it is not possible to read normal EAN 128 Codes.*

FNC1 Conversion

“FNC1 Conversion” allows the embedded FNC1 character to be converted to another character for applications that cannot use the default <GS> Group Separator or hex (1d).

Double-tapping on this option displays a dialog box listing the allowable range – 0 to 255.

Enable ISBT 128

To successfully scan this type of bar code (International Society of Blood Transfusion), this option must be set to *on*. If you enable this type of bar code, Code 128/EAN 128 is deactivated to avoid any confusion.

ISBT Concat Transmit

The codes are not concatenated by default. You need to choose one of the options provided for this parameter to send concatenated code. Choosing Only Concatenated Codes transmits only concatenated codes—single codes will not be transmitted. Choosing Concatenated or

Single transmits single codes or concatenated codes. If only one code of a pair is read, that code will be transmitted as a single code. If both codes in a pair are detected, they will be concatenated provided that ISBT Concat Any Pair (see below) is enabled.

ISBT Concat Any Pair

Enabling this parameter causes all code pairs that can be, to be concatenated even if they do not comply with Section 4.1 of the “ISBT 128 Bar Code Symbology and Application Specification for Labeling of Whole Blood and Blood Components” (June 2000, Version 1.2.1).

Reading Range

Determines the reading distance from which a bar code can be successfully scanned. The default setting Extended, allows for increased reading distance.

Check Digit Verification

The available options for this parameter are Disabled or French CIP. This parameter uses the specified algorithm of the option you've chosen to ensure the integrity of the symbol data before transmitting. If the data does not contain that algorithm, the data is not transmitted.



Note: French CIP (French pharmaceutical) is only used with bar codes containing 7 characters.

Minimum Length

Minimum lengths for the bar code can be set from 0 to 255. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.4.5 EAN 13

Enabled

Set this parameter to *on* to enable “EAN 13”.

ISBN Conversion

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

Transmit Check Digit

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

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.4.6 EAN 8

Enabled

Set this parameter to *on* to enable “EAN 8”.

Transmit Check Digit

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

Convert To EAN 13

If this parameter is enabled, an EAN 8 bar code is converted to EAN 13.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.4.7 UPCA

Enabled

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

Transmit Check Digit

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

Transmit Number System

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

Convert To EAN 13

If this parameter is enabled, a UPC A bar code is converted to EAN 13.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.4.8 UPC E

Enabled

Set this parameter to *on* to enable “UPC E”.

Enable UPC-E1

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

Transmit Check Digit

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

Transmit Number System

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

Convert To UPC-A

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

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.4.9 UPC/EAN Shared

The setting assigned to the “Addendum” parameter associated with this option is shared across all UPC and EAN bar codes.

Addendum

An addendum is a separate bar code, supplementary to the main bar code. This parameter provides two options: *Not Required but Transmitted if Read* or *Required and Transmitted*.

- Double-tap on **Addendum** to display a dialog box listing your options.
- Highlight an item, and tap on **OK**.

When “Addendum” is set to *Not Required but Transmitted if Read*, the scanner searches for an addendum and if one exists, appends it to the main bar code. When the parameter is set to *Required and Transmitted*, the scanner does not accept the main bar code without an addendum.

Addendum Add-on 2 And Addendum Add-on 5

Enabling these parameters sets the length of the addendum bar code to either 2 or 5 characters.

Addendum Security

If you tap on “Addendum Security”, a dialog box is displayed in which you can define the security level of add-on 2 or add-on 5 with a value from 0 to 100. As security levels increase, the scanner decode speed decreases.

GTIN Compliant

GTIN (global trade item number) processing transmits EAN 128 as the 14-character EAN/UCC GTIN. To use GTIN processing, you must activate the EAN 128 symbology.



Important: *When EAN 128 and GTIN processing are both activated, it is not possible to read normal EAN 128 Codes.*

Reading Range

This parameter determines the reading distance from which a bar code can be successfully scanned. The default setting, *Extended*, allows for increased reading distance.

D.4.10 Code 93

Enabled

Set this parameter to *on* to enable “Code 93”.

Minimum Length

Minimum lengths for the bar code can be set from *0 to 255*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.4.11 Codabar

Enabled

Set this parameter to *on* to enable “Codabar”.

Start/Stop Transmit

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

a, b, c, d

A, B, C, D

a, b, c, d, /, t, n, *, e

DC1, DC2, DC3, DC4

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

CLSI Library System

When enabled, spaces are inserted after characters 1, 5, 10 in the 14-character label (used in the USA by libraries using the CLSI system).

Check Digit Verification

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

Transmit Check Digit

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

Set Length L1, Set Length L2, And Set Length L3

Lengths for “Codabar” can be set from 0 to 255. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Double-tapping on these parameters displays dialog boxes where you can define the code length that will be recognized by your scanner.

Length Mode

You can choose to set L1 as Minimum Length or L1,L2,L3 as Fixed Length.

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.4.12 MSI Plessey

Enabled

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

Enable Plessey

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

Check Digit Verification

The available options for this parameter are *MOD 10 Check* and *Double MOD 10 Check*. This parameter uses the specified algorithm of the option you've chosen to ensure the integrity of the symbol data before transmitting. If the data does not contain that algorithm, the data is not transmitted.

Transmit Check Digit

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

Plessey Transmit Check Digit

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

Minimum Length

Minimum lengths for the bar code can be set from *0 to 255*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Plessey Minimum Length

Minimum lengths for the Plessey bar code can be set from *0 to 255*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.4.13 Code 11

Enabled

Set this parameter to *on* to enable “Code 11”.

Check Digit Verification

The available options for this parameter are *MOD 10 Check* and *Double MOD 10 Check*. This parameter uses the specified algorithm of the option you've chosen to ensure the integrity of the symbol data before transmitting. If the data does not contain that algorithm, the data is not transmitted.

Transmit Check Digit

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

Minimum Length

Minimum lengths for the bar code can be set from 0 to 255. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.4.14 Interleaved 2 of 5

Enabled

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

Reading Range

This parameter determines the reading distance from which a bar code can be successfully scanned. The default setting, *Extended*, allows for increased reading distance.

Check Digit Verification

The available options for this parameter are *Disabled*, *MOD 10 Check* and *French CIP*. “Check Digit Verification” uses the specified algorithm of the option you've chosen to ensure the integrity of the symbol data before transmitting. If the data does not contain that algorithm, the data is not transmitted.



Note: French CIP (French pharmaceutical) is only used with bar codes containing 7 characters.

Transmit Check Digit

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

Set Length L1, Set Length L2, And Set Length L3

Lengths for “Interleaved 2 of 5” can be set from 0 to 255. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Double-tapping on these parameters displays dialog boxes where you can define the code length that will be recognized by your scanner.

Length Mode

You can chose to set L1 as Minimum Length or L1,L2,L3 as Fixed Length.

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.4.15 Matrix 2 of 5

Enabled

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

Minimum Length

Minimum lengths for the bar code can be set from 0 to 255. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page 9 for details.

D.4.16 Discrete 2 of 5

Enabled

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

Standard 2 of 5 Format

This parameter allows you to choose a standard format – either *Identical on (6 start/stop bars)* or *Computer Identicals (4 start/stop bars)*.

Check Digit Verification

The available options for this parameter are *Disabled* and *MOD 10 Check*. “Check Digit Verification” uses the specified algorithm of the option you've chosen to ensure the integrity of the symbol data before transmitting. If the data does not contain that algorithm, the data is not transmitted.

Transmit Check Digit

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

Set Length L1, Set Length L2, And Set Length L3

Lengths for “Discrete 2 of 5” can be set from *0 to 255*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Double-tapping on these parameters displays dialog boxes where you can define the code length that will be recognized by your scanner.

Length Mode

You can choose to set *L1 as Minimum Length* or *L1,L2,L3 as Fixed Length*.

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.4.17 Telepen

Enabled

Set this parameter to *on* to enable “Telepen”.

Format

This parameter allows you to set the bar code character format to either *ASCII* or *Numeric*.

Minimum Length

Minimum lengths for the bar code can be set from 0 to 255. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.4.18 RSS Code (Reduced Space Symbology)

Enable

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

Enable RSS-14

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

Enable RSS Limited

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

Enable RSS Expanded

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

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.4.19 Composite



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

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

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

Enable CC-C And Enable CC-AB

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

Linear Transmission Only

When ‘Linear Transmission Only’ is enabled, only the linear code portion of the composite bar code is transmitted when scanned.

UPC-EAN Composite Message

This option allows you to choose how UPC-EAN shared bar codes are transmitted: *Always Linked*, *Never Linked* or *Auto-discriminate*.

D.4.20 TLC-39

Enable

This composite component integrates MicroPDF417 with the linear Code 39 symbol. Setting this parameter to *on* enables this parameter.

Linear Transmission Only

When “Linear Transmission Only” is enabled, only the linear portion of the composite bar code is transmitted when scanned.

Security Level

This parameter is used to differentiate between TLC-39 and standard Code 39. Tapping on “Security Level” displays a dialog box in which you can assign a value from 0 to 100. The higher the value assigned, the lower the decode rate.

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.4.21 PDF-417

Enabled

Set this parameter to *on* to enable “PDF-417”.

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.4.22 Micro PDF-417

Enabled

Set this parameter to *on* to enable “Micro PDF-417”.

Code 128 Emulation

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

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

]C1 - if the first codeword is 903-907, 912, 914, 915

]C2 - if the first codeword is 908 or 909

]C0 - if the first codeword is 910 or 911

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

Codablock

]L3 - if the first codeword is 903-907, 912, 914, 915

]L4 - if the first codeword is 908 or 909

]L5 - if the first codeword is 910 or 911

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

D.4.23 Codablock

Enable Codablock A

Set this parameter to *on* to enable “Codablock type A”.

Enable Codablock F

Set this parameter to *on* to enable “Codablock type F”.

Length Restriction

Refer to “Length Restriction” on page D-8 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page D-9 for details.

APPENDIX E

TEKLOGIX IMAGERS APPLLET

The *Teklogix Imagers* applet is used to create, modify, delete and activate imager settings. The principle uses of the applet are to decode bar codes and to capture images. A *Demonstration Application* is provided to demonstrate how the imager works. Tap on **Start>Programs**, and then tap on the **PTSI Imager** icon to launch the demo.

E.1 Required Applets

In order to configure imaging, the *Manage Triggers* and *Teklogix Scanners* applets must be present in the *Control Panel* along with the *Teklogix Imagers* applet.

E.2 Presets

There are two methods that can be used to configure an imager using the *Teklogix Imagers* applet:

- Use a predefined preset.
- Create a custom preset based on a predefined preset.



Important: It is strongly recommended that a predefined preset is used whenever possible. Each predefined preset contains a coherent group of settings that are known to work together in the intended environment. In almost all situations, at least one of the predefined presets results in a satisfactory outcome.

A *preset* is a group of exposure and image correction settings. Each preset configures the imager for a specific purpose such as bar code decoding or image capture. Presets also allow easier and faster configuration of the imager after power-on or resume from suspend.

The predefined presets are generic and satisfy most user requirements. A custom preset can be created for a specific user application, such as: include only

specified bar codes, read only a specified number of bar codes or for reading unusual media.

Every preset belongs to a preset type. The following preset types are available:

- Imaging for photo capture.
- Imaging for bar code decoding.
- Symbology selection.

At any time, only one preset of each type can be designated as the user-selected *active* preset.

E.2.1 Predefined Presets

Predefined presets are built into the imaging software and cannot be changed. The predefined presets allow you to use the imager to perform specified tasks without having to understand and set numerous variables. In almost all cases these predefined presets are sufficient.

E.2.2 Bar Code Predefined Presets

These presets encompass the majority of the most popular bar codes and their subtypes. The *bar code decoding symbology* predefined presets define which bar codes can be decoded. The *bar code decoding camera* predefined presets determine how the bar code images are captured

E.2.2.1 Bar Code Decoding Symbology Predefined Presets

The following presets select groups of similar bar codes for decoding.



Note: It is recommended that the default preset be used whenever possible.

Factory Default

This preset enables the decoding of frequently used bar codes.

My Default

This preset is synchronized with the *Teklogix Scanners* applet and contains all the symbologies selected using the *Teklogix Scanner* applet. For details on this synchronization see, “Configuring Symbologies in the Teklogix Imagers Applet” on page E-14.

All

This preset enables the decoding of all bar codes that the imager can decode.

Linear

This preset enables the decoding of all the 1D symbologies that the imager can decode.

Linear and PDF417

This preset enables the decoding of all the 1D and PDF symbologies that the imager can decode.

Matrix

This preset enables the decoding of all 2 D symbologies that the imager can decode.

Postal

This preset enables the decoding of all the postal symbologies that the imager can decode.

E.2.3 Bar Code Decoding Camera Predefined Presets

The following presets enable successful bar code image capture in almost all conditions.



Note: It is recommended that the default preset be used whenever possible.

Default

This preset works in a wide range of conditions. It is optimized for a normal office lighting (about 300 Lux).

Low light

This preset is designed for very dark conditions such as inside a warehouse where the lights are kept low, or inside an unlit truck. This preset increases either the exposure time or the gain.

Low power

This preset minimizes the use of the flash so as to conserve the battery power on the hand-held.

Glossy surface

This preset minimizes the use of the flash so as to reduce reflection. This preset is used to read bar codes that are behind glass, or inside the plastic window of an envelope.

E.2.4 Image Capture Predefined Presets

The following presets enable successful image capture in almost all conditions.



Note: It is recommended that the default preset be used whenever possible.

Default

This preset works in a wide range of conditions. It is optimized for a normal office lighting (about 300 Lux).

Motion

This preset uses a shorter exposure time so as to freeze motion.

Low light near

This preset is designed for dark conditions, it uses a longer exposure time and includes the flash.

E.3 Using the Teklogix Imagers Applet

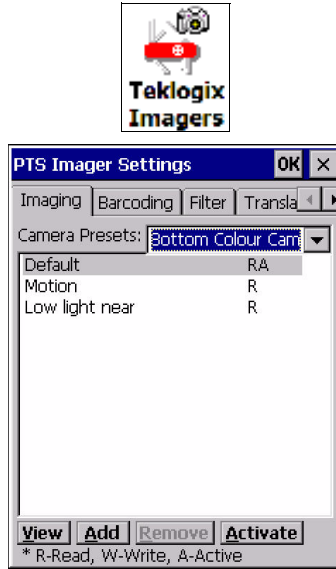
E.3.1 Configuring the Image Capture Presets

To configure the image capture presets, open the dialog box as follows:

- Tap on **Start>Settings>Control Panel**.
- Tap on the **Teklogix Imagers** icon, and if it's not already selected, tap on the **Imaging** tab.

The following screen is displayed:

Figure E.1 Imaging Tab



This window lists all the presets, both predefined and custom. Presets are identified as follows:

- Predefined presets are marked as *read-only*.
- Custom presets are marked as *read and write*.
- One preset – either predefined or custom – is marked as *active*.

E.3.2 Selecting a Camera

If your WORKABOUT PRO³ has more than one built-in camera, one camera must be selected for configuration. To select a camera:

- Tap on the **Camera Presets** drop-down menu to view the camera options.
- Choose a **camera** – specifically, *Front Imager* which is located at the top of the unit.

E.3.3 Setting the Active Preset

An active preset has an *A* to the right; in Figure E.1 on page E-5, the active preset is *Low light near*. To set an active preset:

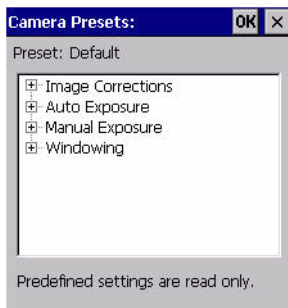
- Highlight the preset, and tap on the **Activate** button.

E.3.4 Viewing a Preset

To view the parameter settings in a preset:

- Highlight a preset, and tap on the **View** button.

The associated preset window is displayed.



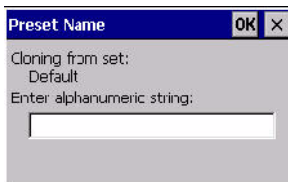
- Tap on the + sign to expand the lists so that you can view the parameter settings.

E.3.5 Creating a Custom Preset

A new custom preset is created by modifying a preset – either a predefined preset or an existing custom preset. To create a custom preset:

- Highlight a preset, and tap on the **Add** button.

A screen like the sample below is displayed.



- Type the **name** of the new preset in the dialog box.
- Tap on **OK** to save your changes.

The preset list is displayed; the new custom preset appears at the end of the list. It is marked as read and write.

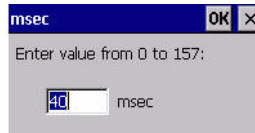
E.3.6 Modifying a Custom Preset

The parameter values in a custom preset can be modified. It is recommended that very few changes be made to a custom preset. To ensure that it will work reliably, it should be as close as possible to the original predefined preset. To change a parameter value:

- Highlight the custom preset, and tap on the **Edit** button.



- Tap on the + symbols to expand the lists so that you can view the parameter settings.
- Scroll through the parameter list until you reach the parameter that you want to change.
- For a parameter that can take a *range* of values:
 - Highlight the parameter, and then press the [SPACE] key or double-click the parameter.
 - An associated dialog box containing the valid range of values for the parameter and the current setting like the sample screen following is displayed.



- Type a value in the field provided.
- For a parameter that toggles between two values such as *on* or *off* and *enabled* or *disabled*:
 - Highlight the parameter and then press the [SPACE] key, or double-click on the parameter. Either method toggles between the two available values.
- When you've completed your edits, tap on **OK**.

The parameter list is displayed; the new value for the changed parameter is shown.

- Tap on **OK** to exit to the preset list and save the changes.

E.3.7 Removing a Custom Preset

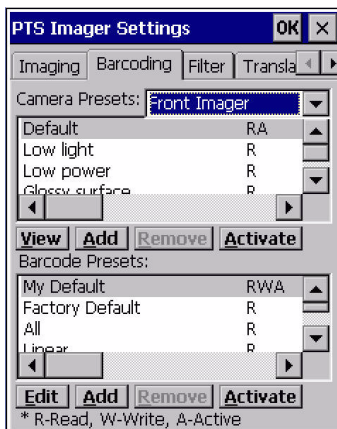
- Highlight the custom preset you want to delete, and tap on the **Remove** button. A window is displayed warning you that you are about to remove a preset.
- Tap on **Yes** to remove the preset or **No** to cancel the operation.

E.4 Configuring the Bar Code Decoding Camera Presets

To configure the bar code decoding camera presets:

- Tap on **Start>Settings>Control Panel>Teklogix Imagers** icon.
- Tap on the **Barcoding** tab.

Figure E.2 Bar Code Presets



This window lists all the presets, both predefined and the custom. Presets are identified as follows:

- Predefined presets are marked as read-only. For a description, review “Predefined Presets” on page E-2.
- Custom presets are marked as read and write.
- One preset – either predefined or custom – is marked as active.



Note: The top portion of the window displays the bar code decoding camera presets.

The top port of the window displays the bar code decoding camera presets.

E.4.1 Selecting a Camera

If your WORKABOUT PRO³ has more than one built-in camera, one camera must be selected for configuration. To select a camera:

- Tap on the **Camera Presets** drop-down menu to view the camera options.
- Choose a **camera** – specifically, *Front Imager* which is located at the top of the unit.

E.4.2 Setting the Active Preset

An active preset has an *A* to the right; in Figure E.2 on page E-8, the active preset is *Defaults*. To set an active preset:

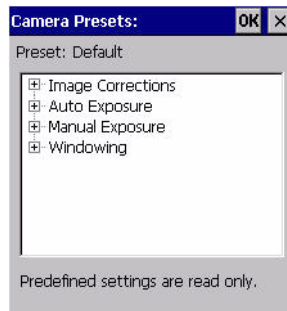
- Highlight the preset, and tap on the **Activate** button.

E.4.3 Viewing a Preset

To view the parameter settings in a preset:

- Highlight a preset, and tap on the **View** button.

The associated preset window is displayed.



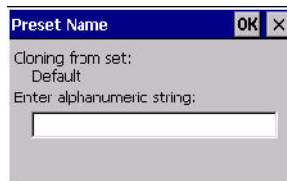
- Tap on the + sign to expand one of the lists so that you can view the parameter settings.

E.4.4 Creating a Custom Preset

A new custom preset is created by modifying a preset – either a predefined preset or an existing custom preset. To create a custom preset:

- Highlight a preset, and tap on the **Add** button.

A screen like the sample following is displayed.



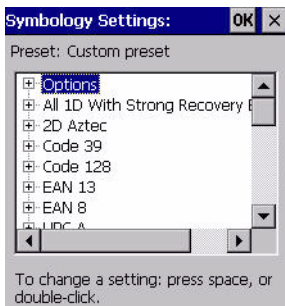
- Type the **name** of the new preset in the dialog box.
- Tap on **OK** to save your changes.

The preset list is displayed; the new custom preset appears at the end of the list. It is marked as read and write.

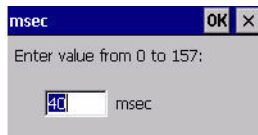
E.4.5 Modifying a Custom Preset

The parameter values in a custom preset can be modified. It is recommended that very few changes be made to a custom preset. To ensure that it will work reliably, it should be as close as possible to the original predefined preset. To change a parameter value:

- Highlight the custom preset, and tap on the **Edit** button.



- Tap on the + symbols to expand the lists and view the parameter settings.
- Scroll through the parameter list until you reach the parameter that you want to change.
- For a parameter that can take a *range* of values:
 - Highlight the parameter, and then press the [SPACE] key or double-click the parameter.
 - An associated dialog box containing the valid range of values for the parameter and the current setting like the sample screen following is displayed.



- Type a value in the field provided.
- For a parameter that toggles between two values such as *on* or *off* and *enabled* or *disabled*:
 - Highlight the parameter and then press the [SPACE] key, or double-click on the parameter. Either method toggles between the two available values.
- When you've completed your edits, tap on **OK**.

The parameter list is displayed; the new value for the changed parameter is shown.

- Tap on **OK** to exit to the preset list and save the changes.

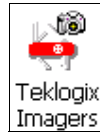
E.4.6 Removing a Custom Preset

- Highlight the custom preset you want to delete, and tap on the **Remove** button. A window is displayed warning you that you are about to remove a preset.
- Tap on **Yes** to remove the preset or **No** to cancel the operation.

E.4.7 Configuring the Bar Code Decoding Symbologies

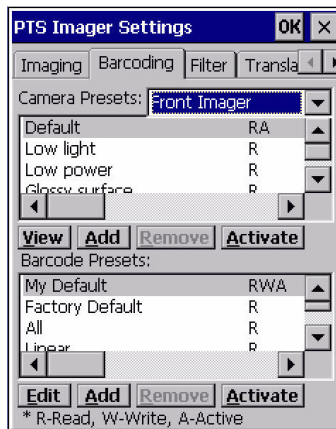
To configure the bar code decoding camera presets:

- Tap on **Start>Settings>Control Panel>Teklogix Imagers** icon.



- Tap on the **Barcoding** tab.

Figure E.3 Viewing Bar Code Decoding Symbologies



E.4.8 Setting the Active Preset

An active preset has an *A* to the right; in Figure E.2 on page page E-8, the active preset is *Defaults*. To set an active preset:

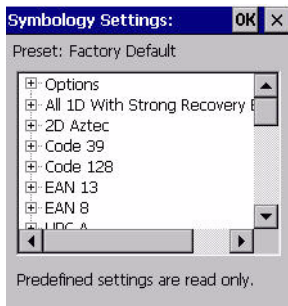
- Highlight the preset, and tap on the **Activate** button.

E.4.9 Viewing a Preset

To view the parameter settings in a preset:

- Highlight a preset, and tap on the **View** button.

The associated preset window is displayed.



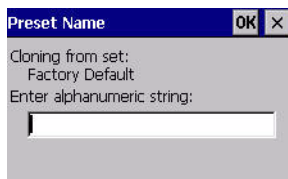
- Tap on the + sign to expand one of the lists so that you can view the parameter settings.

E.4.10 Creating a Custom Preset

A new custom preset is created by modifying a preset – either a predefined preset or an existing custom preset. To create a custom preset:

- Highlight a preset, and tap on the **Add** button.

A screen like the sample following is displayed.



- Type the **name** of the new preset in the dialog box.
- Tap on **OK** to save your changes.

The preset list is displayed; the new custom preset appears at the end of the list. It is marked as read and write.

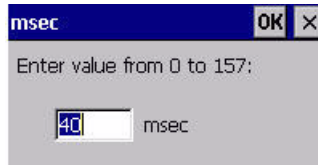
E.4.11 Modifying a Custom Preset

The parameter values in a custom preset can be modified. It is recommended that very few changes be made to a custom preset. To ensure that it will work reliably, it should be as close as possible to the original predefined preset. To change a parameter value:

- Highlight the custom preset, and tap on the Edit button.



- Tap on the + symbols to expand the lists and view the parameter settings.
- Scroll through the parameter list until you reach the parameter that you want to change.
- For a parameter that can take a *range* of values:
 - Highlight the parameter, and then press the [SPACE] key or double-click the parameter.
 - An associated dialog box containing the valid range of values for the parameter and the current setting like the sample screen following is displayed.



- Type a value in the field provided.
- For a parameter that toggles between two values such as *on* or *off* and *enabled* or *disabled*:
 - Highlight the parameter and then press the [SPACE] key, or double-click on the parameter. Either method toggles between the two available values.
- When you've completed your edits, tap on **OK**.

The parameter list is displayed; the new value for the changed parameter is shown.

- Tap on **OK** to exit to the preset list and save the changes.

E.4.12 Removing a Custom Preset

- Highlight the custom preset you want to delete, and tap on the **Remove** button. A window is displayed warning you that you are about to remove a preset.

- Tap on **Yes** to remove the preset or **No** to cancel the operation.

E.4.13 Configuring Symbologies in the Teklogix Imagers Applet

All changes made in the *Symbologies Presets* in the *Imagers Applet* are also made in the *Scanners Applet*. The Scanner Applet will reflect the settings of whichever Symbologies Preset is made active in the Imager Applet.

Configuring Symbologies in the Teklogix Scanners Applet

When a symbology is enabled or configured using the Teklogix Scanners applet, the changes are also made in the **My Default** preset. **My Default** automatically becomes the active bar code symbology preset.

None of the other bar code decoding predefined presets is changed.

Configuring Symbologies in the My Default Preset

When My Default is the active preset

In this case, the changes to the symbology configuration are also made in the Teklogix Scanners applet.

When My Default is not the active preset

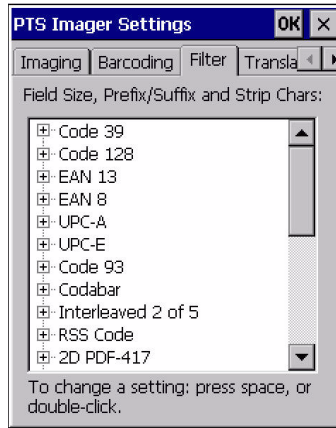
In this case, the changes to the symbology configuration are not made in the Teklogix Scanners applet.

E.4.14 Filter Tab - Manipulating Bar Code Data

To configure rules for manipulating bar code data:

- Tap on **Start>Settings>Control Panel**.

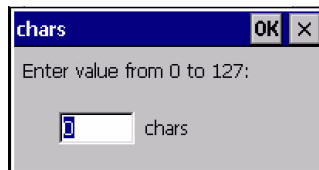
- Tap on the **Teklogix Imagers** icon, and then tap on the **Filter** tab.



E.4.14.1 Modifying a Bar Code Setting

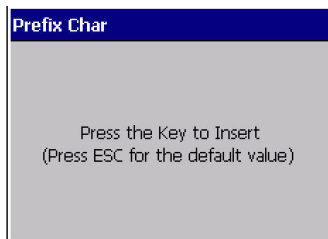
The rules for manipulating data from selected bar code symbologies can be modified. To change the settings for a symbology:

- Tap on the + symbols to expand the lists and view the parameter settings.
- Scroll through the parameter list until you reach the parameter that you want to change.
- For a parameter that can take a *range* of values:
 - Highlight the parameter, and then press the [SPACE] key or double-click the parameter.
 - An associated dialog box containing the valid range of values for the parameter and the current setting like the sample screen following is displayed.



- Type a value in the field provided.
- For a parameter that takes a single character:

- Highlight the parameter and then press the [SPACE] key, or double-click on the parameter. The following screen is displayed:



- When you've completed your edits, tap on **OK**.

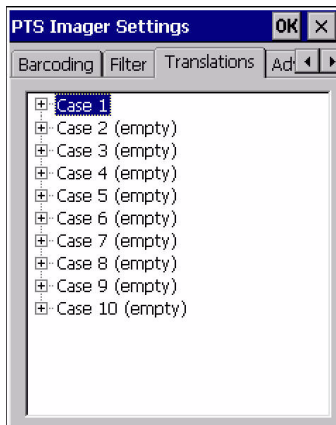
E.4.15 Translation Tab - Configuring Rules

Translation rules enable the automatic processing of bar code data. Up to 10 cases can be defined, each consisting of up to 10 sequential rules.



Note: Changes made to the translations configuration using the Teklogix Scanner Control Panel program are synchronized with changes made here. Changes made in either place affect both translation tables.

- Tap on **Start>Settings>Control Panel**.
- Tap on the **Teklogix Imagers** icon, and then tap on the **Translation** tab.



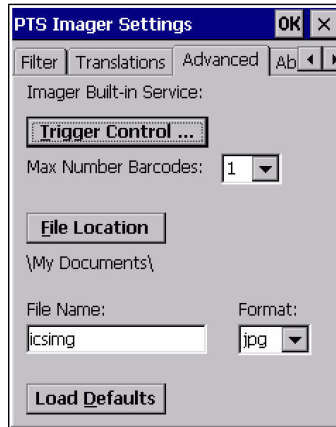
For instructions on adding, editing, and removing translation rules, refer to the “Translations Tab” on page 150.

E.4.16 Advanced Tab

E.4.16.1 File Locations for Captured Images

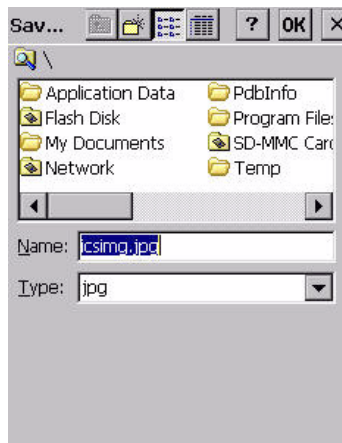
To configure the location for saved images, open the dialog box as follows:

- Tap on **Start>Settings>Control Panel**.
- Tap on the **Teklogix Imagers** icon, and then tap on the **Advanced** tab.



To define the location where imager files will be stored:

- Tap on the **File Location** button.



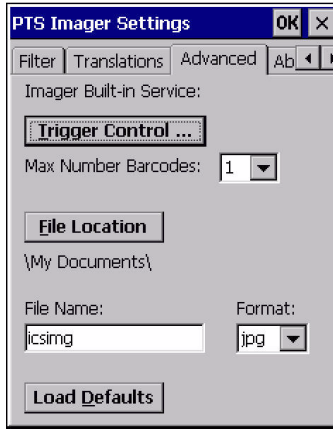
- Choose the folder name and file **Type**. Then enter the file **Name**.
- When you have completed all the changes, tap on the **OK** button.

E.4.16.2 Configuring Triggers

Viewing the Trigger Configuration

The trigger on the WORKABOUT PRO³ is configured using the *Manage Triggers* applet. The *Teklogix Imagers* applet provides a shortcut to the *Manage Triggers* applet.

- In the *Advanced* tab, tap on the **Trigger Control** button.
- To view all the triggers and the hardware devices that are configured to use them, tap in the checkbox next to **Show all modules**.



Adding, Editing and Removing Triggers

For instruction about adding, editing and removing triggers, refer to “Manage Triggers” on page 135.

E.5 Teklogix Scanners Applet

The bar code symbologies that are to be read by the imager can be enabled using the *Teklogix Scanners* applet. Tapping on **Start>Settings>Control Panel** followed by the **Teklogix Scanners** icon displays this applet.



Warning: *Changes made to the symbology configuration using the Teklogix Scanner applet are synchronized only with the My Defaults bar code symbology preset. For details, refer to “Configuring Symbologies in the Teklogix Imagers Applet” on page E-14.*

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