WORKABOUT PRO G2
Hand-Held Computer With
Windows Embedded CE 5.0
User Manual

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ISO 9001 Certified
Quality Management System   PSION TEKLOGIX

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INTRODUCTION

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1.1 About This Manual

This manual describes how to configure, operate and maintain the Psion Teklogix WORKABOUT PRO G2 hand-held computer.

Chapter 1: Introduction
> provides a basic overview of the WORKABOUT PRO G2 hand-held.

Chapter 2: Basic Checkout
> describes the steps required to get the WORKABOUT PRO G2 ready for operation, including setting up your RA2041 802.11b/g radio.

Chapter 3: Getting To Know Your WORKABOUT PRO G2
> describes the WORKABOUT PRO G2 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 Embedded CE 5.0, and so on.

Chapter 4: Working With Windows Embedded CE 5.0
> describes the Microsoft Windows Embedded CE 5.0 desktop and how to use it. This chapter also outlines the basics of moving around a Windows Embedded CE 5.0 window, selecting and opening icons, files, folders and working with a Windows dialog box.

Chapter 5: Configuration
> describes the Windows Embedded CE 5.0 Control Panel and how to use it to configure the WORKABOUT PRO G2, along with the scanners attached to the hand-held, and so on.

Chapter 6: Peripheral Devices & Accessories
> describes the peripherals and accessories available for your WORKABOUT PRO G2 hand-held.

Chapter 7: Specifications
> lists radio, hand-held computer and battery specifications.

Appendix A: Port Pinouts
> describes the WORKABOUT PRO G2 pinouts

Appendix B: Wireless Wide Area Network (WWAN)
> describes WWAN configuration information (GPRS radio model no. RA303-G2).

1.2   Text Conventions

Note: *Notes highlight additional helpful information.*

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

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

1.3   WORKABOUT PRO G2 Features

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

- Processor:
  - PXA270 520 MHz, 32 bit RSIC CPU.
  - CPU temperature range -20° to +50° C
- Software:
  - Microsoft Windows Embedded 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
- Internal Memory:
  - 128 MB M-System Flash (BOM expandable up to 512 MB)
  - 128 MB SDRAM (BOM expandable up to 512 MB)
- User Accessible Memory:
  - One SD expansion slot (accessible via the battery compartment)
- Display:
  - 480 x 640, 3.6 in., Full VGA TFT Colour LCD
  - Easily replaceable and customizable bezel

- Keyboards:
    - Alphanumeric keyboard option with 52 keys and blue backlight, or
    - Numeric keyboard option with 25 keys and blue backlight
    - Four, direct push function keys
    - Side-Scan buttons
- Audio:
    - One mono speaker
    - One mono microphone
    - One internal audio connector for future external audio interfaces
    - Beeper capable of producing 85db @ 10cm
- Internal Connectors:
    - 100-pin expansion interface; supports PCMCIA (type II), WAN and other expansion modules
    - Flex cable interface with robust connector; supports scanner (serial) and imager (USB) modules.
    - Additional USB connection at top edge of MLB (Powered from the battery; user voltage regulation required)
    - One Type II CF Card Slot
    - One SD Slot (memory card form factor only)
    - Full pin-to-pin compatibility shall be maintained with WORKABOUT PRO G1 series
- External Connectors "On The Go":
    - One Tether connector with full RS232 and USB OTG functionality
    - Tether connection backward compatible with WORKABOUT PRO G1 series
    - One LIF connection backward compatible with WORKABOUT PRO G1 series
    - DC Power Jack
- Bluetooth Radio:
    - Integrated Bluetooth 1.2 radio
    - Class II Compliant / Range 5 to 10 metres
    - Support for 802.11b/g CF radio with non-integrated antenna
- GSM Support:
    - Support for RA3030-G2 GPRS radio (connecting via the 100-pin Expansion Connector)

- Support for GSM/GPRS/EDGE data and voice communications
- User-accessible SIM card
- 802.11b/g Support
  - Support for RA2041 802.11b/g Compact Flash radio module
- Power System:
  - High Capacity battery pack: Li-Ion, 3.7V, 3000mAh
  - Super High Capacity battery pack: Li-Ion, 3.7V, 4000mAh
  - One removable backup batter
  - User-replaceable backup battery
- Dimensions and Weight:
  - RS232 serial (decoded scanner, printer)
  - Undecoded scanner support
  - USB host

  Docking station port with:
  - RS232 serial with diagnostics
  - USB device
  - USB host
  - Power in/out
- Power management:
  - Typical 8-hour usage Lithium-Ion standard battery
  - Quick swap packs
  - Advanced smart battery with gas gauge
  - Runs with battery, wall adaptor or cigarette lighter
  - Built-in fast charger (2 hours)
  - System backup during battery swap (more than 10 minutes)
  - One week real-time clock backup
- Network Management:
  - SNMP MIB 2 support
  - Remote software download
  - Remote WLAN management

1.4 About The WORKABOUT PRO G2 Hand-Held

The WORKABOUT PRO G2 is a ruggedized hand-held personal computer, running the Microsoft Windows Embedded 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.

1.4.1 The WORKABOUT PRO C G2 Hand-Helds

Figure 1.1 WORKABOUT PRO C G2 With 52-Key Keyboard

1.4.2 The WORKABOUT PRO S G2 Hand-Held

Figure 1.2 WORKABOUT PRO S G2 With 25-Key Keyboard

Basic Checkout

<div style="text-align: right; font-size: 2em;">2</div>

2.1 Preparing The WORKABOUT PRO G2 For Operation
2.1.1 The Main Battery

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

The WORKABOUT PRO C G2 and WORKABOUT PRO S G2 can be powered with one of the following lithium-in battery packs:

- High-Capacity Battery Pack – 3000mAh
- Super High-Capacity Battery Pack – 4000mAh

2.1.1.1 Charging The Main Battery

Important: ***Before opening the battery cover on your WORKABOUT PRO G2, press [BLUE] [ENTER] to turn off the hand-held. When the battery cover is removed, a power-off switch is automatically activated and the unit power is switched off; if the battery cover is opened while the hand-held is still powered on, the unit may reboot.***

Battery packs shipped from the factory are charged to approximately 40% and must be fully charged prior to use. Batteries can be charged using a variety of chargers and docking stations along with a WORKABOUT PRO G2 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 213.

Note: *If you are powering up a new unit, a warning message may appear on the screen indicating that the backup battery capacity is low. To recharge the internal battery, you must fully charge the WORKABOUT PRO G2 with the main battery installed in the unit. An overnight charge is recommended.*

2.1.2 The Backup Battery

To preserve data stored in your WORKABOUT PRO G2 while you swap the main battery, the unit is equipped with an internal backup battery—a standard Lithium Alloy Manganese Dioxide coin battery—a Maxell ML2032. The backup battery will supply 5 minutes of continuous power while you install a charged, main battery.

The backup battery is trickle charged from the main battery. Provided that the main battery contains power, the backup battery will maintain a charge whether the WORKABOUT PRO G2 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 102) 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 100 hrs to fully charge from a fully discharged (flat) state. While you can continue to use the WORK-ABOUT PRO G2, 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 PRO G2 On And Off

2.2.1 Installing The Battery And Switching The Unit On

- To unlock the battery cover, turn the left-hand battery fastener to the left, and turn the right-hand battery fastener to the right. The top of the stylus is slot-shaped to help you loosen the fasteners.

- Remove the battery cover.

- Ensure that the ON/OFF switch in the battery compartment is set to ON before inserting the battery.

- Snap the *charged* battery into the unit. Replace the battery cover, and lock the fasteners in place.

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

To switch on the WORKABOUT PRO G2:

- Press and hold down the [ENTER/ON] key for at least one second.

- When the LED flashes green, release the [ENTER/ON] button.

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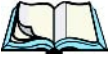
Note: *If the unit was already in use—the unit may be off (suspend state)—pressing [ENTER/ON] 'wakes' the unit from this state. The screen in which you were working prior to the suspend state is displayed.*

2.2.2 Switching The Unit Off (Suspend)

•   Press the [BLUE] key, and then press [ENTER/ON].

2.3 Calibrating The Touchscreen

Note: *Keep in mind that the touchscreen function can be turned off (see "Touch" on page 105).*

The WORKABOUT PRO G2 touchscreen is factory-calibrated and ready-to-go; however, over time the touchscreen operating parameters may change, and it may need to be recalibrated for correct operation. Refer to "Calibrating The Touchscreen" on page 45 for details.

2.4 Configuring The RA2041 802.11b/g Radio

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

If your WORKABOUT PRO G2 is equipped with an *RA2041 CF radio*, follow the steps under "Summit Client Utility (SCU) For Model RA2041" below to set up this type of radio for communication with a wireless LAN.

2.4.1 Summit Client Utility (SCU) For Model RA2041

This section describes the *Summit Client Utility (SCU)*. The *SCU* provides the utilities you will need to configure the Summit 802.11b/g Compact Flash radio module, model number RA2041 so that it can communicate through a wireless LAN effectively and securely.

2.4.2 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.

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

    If you're using the keyboard, press [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].

2. Choose the **Summit WLAN Adapter** icon to open the *802.11b/g Wireless LAN Settings* window. In Figure 2.1, this icon is labelled *SDCCF10G1*.
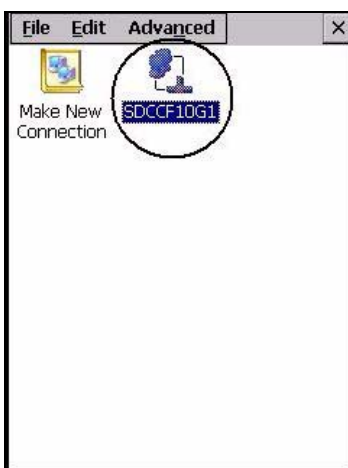
Figure 2.1 Summit WLAN Adapter Icon

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

3. Tap on the **IP Information** tab.
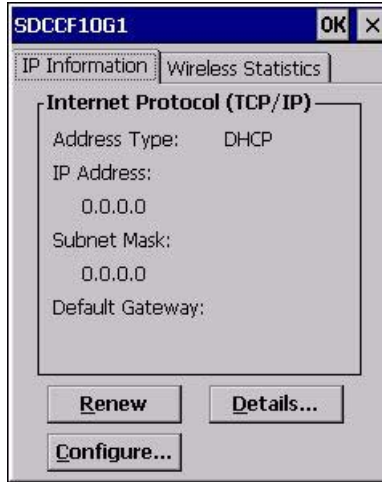
Figure 2.2 IP Information Tab

Note: *Choosing the Renew button forces the WORKABOUT PRO G2 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 WORK-ABOUT PRO G2 is dropped from the network.*

4. 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.
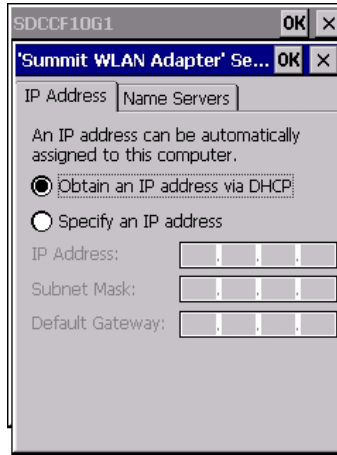
Figure 2.3 Defining An IP Address

2.4.3 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.
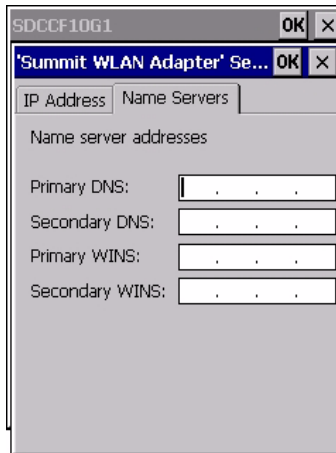
Figure 2.4 Name Servers Tab

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 ###.###.###.###.

2.4.4 Using The SCU To Connect To The WLAN

This section provides a quick set of steps to create a profile (referred to as a "config"). Detailed information about each of the SCU tabs—*Main*, *Config*, *Status*, *Diags* and *Global Settings*—is provided under "SCU Tabs" on page 19. To launch the *SCU* so that your WORKABOUT PRO G2 can connect to a wireless LAN:

1. Tap on **Start>Programs>Summit**, and then tap on the **SCU** icon.
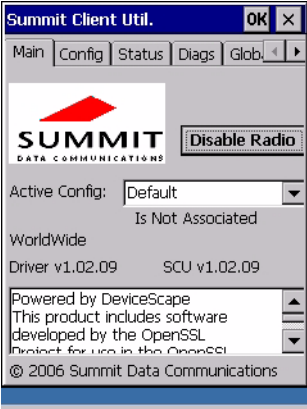
Figure 2.5 SCU Main Tab

2. Tap on the **Config** tab.
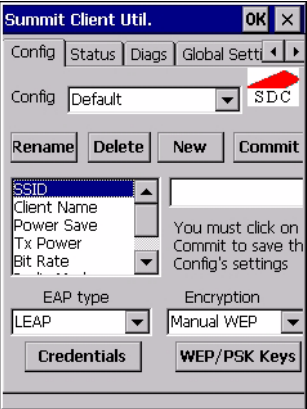
Figure 2.6 SCU Config Tab

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

2.4.4.1   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 "Config Tab" *on page 20.*

2.4.4.2   EAP Type

- Tap on the **EAP type** drop-down menu, and choose the appropriate type of authentication—*LEAP*, *EAP-FAST*, *PEAP-MSCHAP*, and *PEAP-GTC*.
- Next, tap on the **Credentials** button, and type credentials for IEEE 802.1X EAP types.

Important: Refer to "SCU Security Capabilities" on page 23 *for details about security settings. Additional EAP details are described in* "EAP Credentials" on page 25*.*

2.4.4.3   Encryption

- Tap on the **Encryption** drop-down menu, and choose the appropriate type of encryption—*Manual WEP*, *Auto WEP*, *WPA PSK*, *WPA TKIP*, *WAP2PSK*, *WAP2 AES*, and *CCKM TKIP*.

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

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

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

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

Once you've completed the configuration:

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

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

- Associate to the SSID.

- Authenticate to the network.

- If EAP authentication is being used, derive dynamic encryption keys.

- If DHCP is being used by the network, obtain an IP address.

If the RA2041 is not connecting properly:

- Tap on the **Status** tab.

The *Status* dialog box lists the IP and MAC 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 "Status Tab" on page 29*.*

2.5 SCU Tabs

This section provides a detailed description of each of the tabs available in the SCU—*Main* (below), *Config (*page 20*), Global Settings (*page 26*), Status (*page 29*),* and *Diags (*page 30*).*

2.5.1 Main Tab

The *Main* tab is displayed when you tap on the *Start>Programs>SCU* icon.

Figure 2.7 SCU Main Tab

• **Enable/Disable Radio:** Enables or disables the radio. This a toggle button; when the radio is enabled, this button reads *Disable Radio*, and when the radio is disabled, the button reads *Enable Radio*.

• **Active Config:** Lists the name(s) of the active configuration profile(s) which are referred to as "configs". When a *config* is chosen from the *Active Config* drop-down menu, the settings for that config become active. If *ThirdPartyConfig* is selected, after the WORKABOUT PRO G2 goes through a power cycle, WZC is used for configuration of the radio. See "ThirdPartyConfig" on page 26 for details.

• **Association Status:** Indicates if the radio is associated to an access point. If this is not the case, *Association Status* indicates the radio status.

• **Software Version:** This field displays the version of the device driver and the *SCU* that are running on the WORKABOUT PRO G2.

• **About Box:** This box provides information about the *SCU*.

2.5.2 Config Tab

The *Config* tab allows you to define radio and security settings that are stored in the registry as part of the configuration profile or *config*.

The *config* you create and save is listed in the *Active Config* drop-down menu in the *Main* tab You can define up to 20 *configs*.
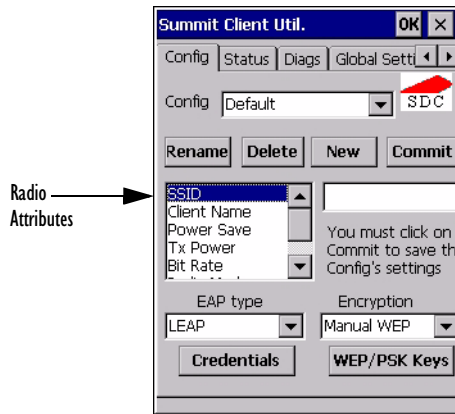
Figure 2.8 SCU Config Tab

- **Config:** Used to choose the *config* to be viewed or edited. If *ThirdParty-Config* is chosen, after the WORKABOUT PRO G2 goes through a power cycle, WZC is used for configuration of the radio.

- **Rename:** Allows you to assign a *config* name.

- **Delete:** Deletes the *config* unless it is currently active.

- **New:** Allows you to create a new *config* with default settings and assign it a name.

- **Commit:** Saves all changes.

- **Radio Attributes:** Lists radio attributes. These attributes can be individually chosen from this menu. When an attribute is chosen, an associated list of options is displayed where you can assign new settings or view existing settings.

The following table describes the options in the *Radio Attributes* drop-down menu:

Radio Attribute	Description	Value	Default
Config	Name of config (configuration profile). Use Rename button to change name.	Maximum of 32 characters.	None
SSID	Service set identifier (SSID) for WLAN to which the radio connects.	Maximum of 32 characters.	None
Client Name	Name assigned to radio & WORKABOUT PRO G2 into which it is installed.	Maximum of 16 characters.	None
Power Save	Power save mode for radio.	CAM: Constantly awake. Maximum: Maximum power savings. Fast: Fast power save mode.	Fast
Tx Power	Maximum transmit power.	Max: Maximum defined for current regulatory domain. Measured in mW: 50,30,10, 1.	Max
Bit Rate	Used by radio when interacting with WLAN access point.	Auto: Rate automatically negotiated with access point. Rates in Mbps: 1, 2, 5.5, 6.9 11, 12, 18, 24, 36, 48, 54.	Auto
Radio Mode	Used by 802.11g when interacting with access point.	B rates only: 1, 2, 5.5, & 11 Mbps. G rates only: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps. BG rates full: All B and G rates. BG rates optimized: 1, 2, 5.5, 6, 11, 24, 36 & 54 Mbps.	BG rates optimized

Radio Attribute	Description	Value	Default
Auth Type	802.11 authentication type used when associating with access point.	Open, shared-key, or LEAP (Network-EAP).	Open
EAP Type	Extensible Authentication Protocol type used for 802.1X authentication to access point.	None, LEAP, EAP-FAST, PEAP-MSCHAP – To use EAP-TLS, you must use WZC.	None
Credentials	Authentication credentials for the selected EAP type. Refer to "EAP Credentials" on page 25.	User: Username or Domain/Username (up to 64 characters). Password: up to 64 characters. For PEAP: CA Cert–CA server certificate filename.	None
Encryption	Type of encryption used to protect transmitted data.	None, Manual WEP, Auto WEP (generated during EAP authentication), WPA PSK, WPA TKIP, WPA2 PSK, WPA2 TKIP, WPA2 AES, CCKM TKIP. For Manual WEP: Up to four static WEP keys. For PSK: ASCII passphrase or hex PSK.	None

- **EAP-Type & Encryption:** Security settings. These settings allow you to enhance the security of data across the wireless LAN. Refer to "EAP Credentials" on page 25 and "SCU Security Capabilities" below, for details about these settings.

2.5.2.1 SCU Security Capabilities

The *SCU* provides integrated security to protect transmitted data as well as the hand-held and wireless WAN infrastructure that transmit and receive data.

A foundational element of the IEEE 802.11i WLAN security standard is IEEE 802.1X and a critical application on a mobile device is an 802.1X supplicant. This supplicant provides an interface between the radio and the operating system and supports the authentication and encryption elements required for 802.11i, also known as Wi-Fi Protected Access 2 (WPA2), as well as predecessors such as WPA and WEP. Summit software includes an integrated supplicant that supports a broad range of security capabilities, including:

- 802.1X authentication using pre-shared keys or an EAP type, required for WPA2 and WPA.
- Data encryption and decryption using WPA2 AES, WPA TKIP or WEP.

Common EAP types include:

- **EAP-TLS:** Uses the same technology as a follow-on to Secure Socket Layer (SSL). It provides strong security, but relies on client certificates for user authentication.
- **PEAP:** Provides secure user authentication by using a TLS tunnel to encrypt EAP traffic. Two different inner methods are used with PEAP:
    - EAP-MSCHAPV2, resulting in PEAP-MSCHAP: This is appropriate for use against Windows Active Directory and domains.
    - EAP-GTC, resulting in PEAP-GTC: This is for authentication with one-time passwords (OTPs) against OTP databases such as SecureID.
- **LEAP:** Is an authentication method for use with Cisco WLAN access points. LEAP does not require the use of server or client certificates. LEAP supports Windows Active Directory and domains but requires the use of strong passwords to avoid vulnerability to offline dictionary attacks.
- **EAP-FAST:** Is a successor to LEAP and does not require strong passwords to protect against offline dictionary attacks. Like LEAP, EAP-FAST does not require the use of server or client certificates and supports Windows Active Directory and domains.

Note: PEAP and EAP-TLS require the use of Windows facilities for the configuration of digital certificates.

SCU EAP Types

The following EAP types are supported by the integrated supplicant and can be configured in SCU: PEAP-MSCHAP, PEAP-GTC, LEAP and EAP-FAST. With each of these four types, if authentication credentials are not stored in the *config*, you will be prompted to enter credentials the first time the radio attempts to associate to an access point that supports 802.1X (EAP).

Consider the following when configuring one of the EAP types:

- • PEAP-GTC: SCU supports static (login) passwords only.
- • LEAP: Strong passwords are recommended.
- • EAP-FAST: SCU supports automatic, not manual, PAC provisioning.

EAP-TLS will work with a RA2041 radio module when *Windows Zero Config* (WZC) rather than the *SCU* is used to configure the type. With WZC, *the native Windows supplicant* instead of the *SCU* integrated supplicant is used.

2.5.2.2   EAP Credentials

Keep the following in mind when defining security settings:

- • If the credentials specified in the *config* are incorrect and that *config* is used, the authentication fails without an error message; you will not be prompted to enter correct credentials.
- • If the credentials are not specified in the *config*, when the radio tries to asso-ciate using that config, you will be prompted to enter the credentials.
- • When prompted, you can enter valid credentials, enter invalid credentials, or cancel the operation.
  - • If you enter valid credentials and tap **OK**, the radio will associate and authenticate.
  - • If you enter invalid credentials and tap on **OK**, the radio will associate but will not authenticate; you will be prompted again to enter creden-tials.
  - • If you tap on **Cancel** or clear the credentials fields and tap on **OK**, the radio will not attempt to associate with that *config* until you perform one of the following actions (while the *config* is the *active config*):
  - • Cause the WORKABOUT PRO G2 to go through a power cycle or sus-pend/resume.
  - • Disable and enable the radio, or tap the **Reconnect** button on the *Diags* windows.

- Modify the *config,* and tap on **Commit**.

Alternatively, you can choose another *config* as the active *config* and then switch back to the *config* for which EAP authentication was cancelled.

2.5.2.3   ThirdPartyConfig

If you choose to configure *ThirdPartyConfig*, the *SCU* will work with the operating system's *Windows Zero Config* (WZC) to configure radio and security settings for the CF radio installed in the unit.

Choosing this *config* means that *WZC* must be used to define the following radio and security options: SSID, Auth Type, EAP Type and Encryption.The *SCU* settings for *ThirdPartyConfig* include: Client Name, Power Save, Tx Power, Bit Rate and Radio Mode. These *SCU* settings along with SCU global settings and the WZC settings will be applied to the radio module.

2.5.3   Global Settings Tab
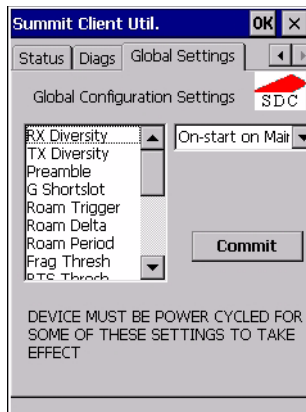
Figure 2.9 SCU Global Settings Tab

The *Global Settings* tab allows you to define radio and security settings that apply to all *configs* (profiles), along with settings that apply specifically to the *SCU*.

The *Global Settings* in the table below can be edited in the SCU:

Global Setting	Description	Value	Default
CCX features	Activates three CCX features: AP-assisted roaming, AP-specified maximum transmit power & radio management.	On, Off	Off
Certs Path	Directory where certificates for EAP authentication are stored.	Valid directory path up to 64 characters.	Dependent on device.
Frag Thresh	Packet is fragmented when packet size (in bytes) exceeds threshold.	Integer from 256 to 2346.	2346
G Shortslot	802.11g short slot timing mode.	Auto, Off, On	Auto
Admin Password	Password that must be specified when Admin Login button is pressed.	A string of up to 64 characters.	SUMMIT
Hide Passwords	On - SCU as well as EAP authentication dialog boxes hide passwords, WEP keys and other sensitive information.	On, Off	Off
LED	Available only with MCF10G.	On, Off	Off
Preamble	Type of radio preamble or headers.	Auto, Short, Long	Auto
Ping Payload	Amount of data to be transmitted on a ping.	Bytes: 32, 64, 128, 256, 512 & 1024	32
Ping Timeout ms	Amount of time in milliseconds that passes without a response before ping request is considered a failure.	Integer from 0 to 30000.	5000

Global Setting	Description	Value	Default
Ping Delay ms	Amount of time in milliseconds between successive ping requests.	Integer from 0 to 7200000.	1000
Roam Delta	Amount by which second AP's RSSI must exceed the moving average RSSI for the current AP before the radio will attempt to roam to a second AP.	dBm: 5, 10, 15, 20, 25, 30, 35	15
Roam Period	Following an association or roam scan (with no roam), the number of seconds the radio collects RSSI scan data before considering roaming.	Seconds: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60	10
Roam Trigger	If RSSI from AP is less than roam trigger value, radio performs roam scan or probes for an AP with stronger signal.	dBm: -50, -55, -60, -65, -70, -75	-70
RTS Thresh	Packet size above which RTS/CTS is required on link.	An integer from 0 to 2347.	2347
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

Global Setting	Description	Value	Default
TX Diversity	Defines how to handle antenna diversity when transmitting data to AP.	-Main only: Use main antenna only. -Aux only: Use auxiliary antenna only. -On: Use diversity.	On
WMM	Use Wi-Fi Multimedia Extensions, also know as WMM.	On, Off	Off

2.5.4 Status Tab
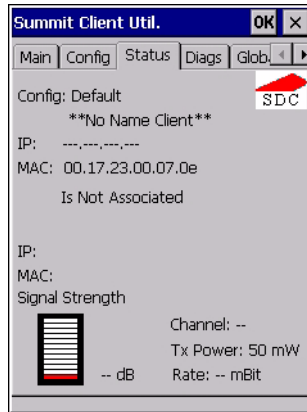
Figure 2.10 SCU Status Tab

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.

2.5.5 Diags Tab
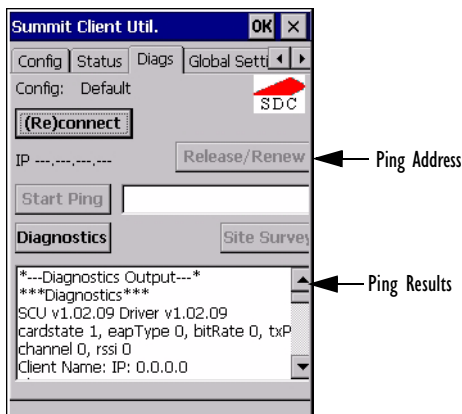
Figure 2.11 Diags Tab

Use the *Diags* tab as a troubleshooting tool. The functions are as follows:

- **(Re)Connect:** Enables/Disables the radio, applies/reapplies current *config* and tries to associate and authenticate to the wireless LAN, logging all activity in the output area at bottom of the dialog box.

- **Release/Renew**: Obtains a new IP address through DHCP and logs all activity in the output area.

- **Start Ping**: 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, config settings, global settings and BSSID list of APs. The SCU is saved to a file called *_sdc_diag.txt* in the Windows directory.

2.6 Checking The Scanner

If your WORKABOUT PRO G2 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 button 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 "Scanner Settings" on page 135 for details about bar codes.

2.7 Using Microsoft® ActiveSync®

ActiveSync®—Microsoft PC connectivity software—can be used to connect the hand-held to PCs running this software.

Note: *Keep in mind that you'll need to run the USB Setup program to configure your workstation before connecting the WORKABOUT PRO G2 via USB.*

By connecting the WORKABOUT PRO G2 to a PC with a cable and running ActiveSync on the PC, you can:

- View WORKABOUT PRO G2 files from Windows Explorer.
- Drag and drop files between the WORKABOUT PRO G2 and the PC in the same way that you would between PC drives.
- Back up WORKABOUT PRO G2 files to the PC, then restore them from the PC to the hand-held again, if needed, and so on.

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

2.8 Resetting The Hand-Held
2.8.1 Performing A Warm Reset

To execute a warm reset:

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

A warm reset closes open applications; any unsaved data are lost. Installed programs and saved data are preserved.

> *Note:* *You do not need to reset your WORKABOUT PRO G2 after configuring the radio.*

2.8.2 Performing A Cold Reset – Accessing The BooSt Menu

• Press and hold down the centre [SCAN] key and then press the [BLUE] and [ENTER] keys simultaneously for a minimum of six seconds.

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

• To load the Windows Embedded CE 5.0 operating system, type **1**.

> *Note:* *Authorized personnel can perform a 'clean start'. A clean start resets not only the registry settings to factory defaults, but also erases any files or applications stored or installed on the built-in flash file system. After a clean start, anything that is not part of the OS image is erased. Only data stored on a SD/MMC card or externally to the device on a USB memory stick or on a PC is preserved during a clean start.*

GETTING TO KNOW YOUR WORKABOUT PRO G2 3

3.1 Features Of The WORKABOUT PRO G2

Speaker

Stylus

LED
(Light Emitting Diode)

Microphone Port

Figure 3.1 Front Of WORKABOUT PRO G2

Figure 3.2 Back Of WORKABOUT PRO G2

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 PRO G2.

3.2.1 Battery Safety

Important: *Before attempting to install, use or charge the battery pack, it is <u>critical</u> that you review and follow the important safety guidelines in the 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 changing the battery. If you do not turn the hand-held off before removing the battery, it may be necessary to reboot the unit. Any active sessions may be lost. While the battery is being replaced, the WORKABOUT PRO G2 backup battery will save the current data for up to 5 minutes.*

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.

To protect against data loss, the unit will automatically shut down with enough reserve in the main battery to last up to 99 hours, the default setting. (Refer to "Suspend Threshold" on page 102 for details about reserving battery power for data backup purposes.) Even when the hand-held shuts down, the backup battery continues to draw a trickle charge from the main battery to maintain the data stored in the unit until a new battery can be installed.

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 PRO is equipped with an internal, backup battery that preserves data stored on the unit while the main battery is swapped.

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

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

3.2.3.1 Chargers And Docking Stations

Important: *FOR DETAILED INFORMATION about chargers and docking stations, refer to "Peripheral Devices & Accessories" on page 213.*

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

- Desktop Docking Station (Model # 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.

- Single Battery Charger (Model # WA3001-G1)—charges a single battery.
- Quad Battery Charger (Model # WA3004-G1)—charges up to four spare Standard or High-Capacity WORKABOUT PRO battery packs.

It can take up to 5 hours to charge a battery. The WORKABOUT PRO 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 49 for additional information about the battery.*

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

3.3 Switching The Hand-Held On And Off

Switching On The WORKABOUT PRO G2

Note: *Whenever the battery cover is removed, an auto-shutoff switch is activated. The battery cover must be installed before the unit can be switched on.*

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

If the unit does not power up, the power ON/OFF switch located in the battery compartment may be set to OFF. In this case, you'll need to remove the battery cover and battery and slide the ON/OFF switch to ON.

The startup screen is displayed.

Note: *If the WORKABOUT PRO G2 is in suspend state, pressing [ENTER/ON] key 'wakes' the unit from this state. The screen in which you were working before the computer entered suspend state is displayed.*

Switching Off The WORKABOUT PRO G2 (Suspend)

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

To switch off the WORKABOUT PRO G2:

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

3.4 The Keyboard

The WORKABOUT PRO G2 is available in two models, each with it's own keyboard layout. The WORKABOUT PRO C G2 model is equipped with a 52-key, alphanumeric keyboard; the WORKABOUT PRO S G2 model is equipped with a 25-key numeric keyboard.

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

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

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 PRO C G2, 52-key keyboard, a square bracket is printed in *orange* print above the [4] key. Pressing the [FN/ORANGE] key followed by the [4] key displays a square bracket rather than the number 4.

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

3.4.1.1 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 Shot Modes" on page 92 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 WORKABOUT PRO S G2 models, 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.

The [TAB] Key

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

The [ESC] Key

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

The [SCAN] Keys

All units are equipped with three yellow [SCAN] keys – one on the left side and one on the right side of the unit along with a curved, yellow scan bar just below the WORKABOUT PRO G2 display. For units that *do not have* internal scanners, this key can be re-mapped to another function.

3.4.3 Function Keys And Macro Keys

In addition to the standard keyboard functions, the WORKABOUT PRO G2 supports Function keys and Macro keys. All Function and Macro keys can be custom defined for each application.

3.4.3.1   Function Keys

The WORKABOUT PRO G2 keyboard is equipped with a total of 14 function keys. Function keys [F1] to [F4] are located across the top of the keyboard next to the [TAB], [ALT], [CTRL] and [ESC] keys and 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 numeric key.

For example, to access function key [F7]:

- 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 PRO C G2 Only)

Important: ***Refer to "Keyboard Macro Keys" on page 93 for details about creating macros.***

WORKABOUT PRO G2 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 (52-keys) keyboards have three macro keys: [M1] to [M3]. These keys are colour coded in *orange* print above alpha keys [O], [P] and [Q].

To access a macro key:

- Press the [FN/ORANGE] key followed by the appropriate alpha key from [O] to [Q].

    To access macro key [M1], press [FN/ORANGE] [O].

    To access macro key [M2], press [FN/ORANGE] [P], and so on.

3.4.4 52-Key Keyboard – Accessing Alpha Keys

The alpha and numeric keys on WORKABOUT PRO C G2 units are directly accessible from the keyboard – no key combination is required.

3.4.5 25-Key Keyboard – Accessing Alphanumeric Keys

On 25-key WORKABOUT PRO G2s, while numeric keys are directly accessible, 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 [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'. 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 [ALPHA/ORANGE] key twice to lock it 'on'. Refer to "Keyboard One Shot Modes" on page 92 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 [ALPHA/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 a 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 [FN/BLUE] [SHIFT]. An icon of an uppercase 'A' is displayed in the taskbar indicating that all letters will be displayed as uppercase characters.*

Choosing Multiple Alpha Characters

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

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

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

3.4.6 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 Embedded 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 91 for details about this option.

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

3.5 The Display

WORKABOUT PRO G2s are equipped with display backlighting to improve character visibility in low light conditions. The backlight switches on when a key is pressed and the ambient light is below the set threshold.

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

Note: *Refer to "Display Backlight" on page 87 for details about the Display Properties dialog box.*

3.5.2   Calibrating The Touchscreen

If your WORKABOUT PRO G2 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.
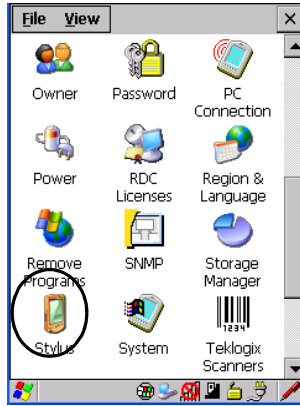
Figure 3.3 Stylus Icon

- 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 PRO G2 Indicators

The WORKABOUT PRO G2 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 [ON] key. When you press [ON], the LED flashes green to indicate that the unit has been powered up. The LED table following outlines the behaviour of the LED while the unit is docked in a charger.

Keep in mind that the application running on the WORKABOUT PRO G2 can dictate how the LED operates. Review the documentation provided with your application to determine LED behaviour.

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

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

3.6.2 Audio Indicators

The audio speaker provides a variety of sounds when a key is pressed, a keyboard character is rejected, scan input is accepted or rejected, an operator's entry does not match in a match field or the battery is low. To specify how you want your WORKABOUT PRO G2 to respond under various conditions, refer to "Volume And Sound Properties" on page 99.

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 PRO G2 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.
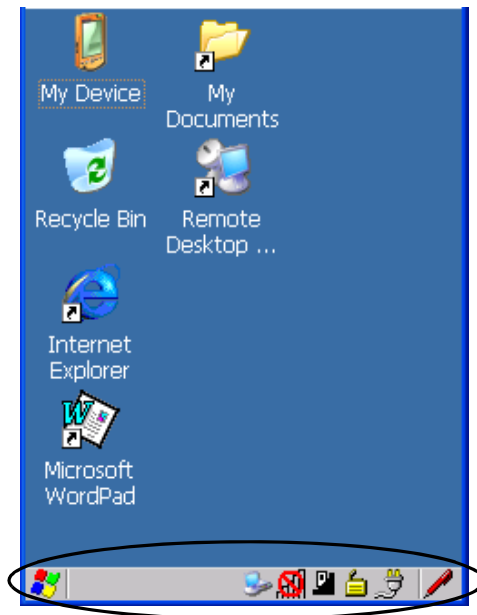
Figure 3.5 Taskbar

The taskbar changes dynamically, and only those icons that are applicable are displayed. For example, if a radio is not installed in your WORKABOUT PRO G2, 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 Shot Modes" on page 92for 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 PRO G2 will be powered down.

If the WORKABOUT PRO G2 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 PRO G2 GSM/GPRS wide area networking status. Refer to Appendix B: "Wireless WAN" for details about each of these taskbar icons.

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.

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

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

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

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

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

The desktop docking station and quad docking station allow the WORKABOUT PRO G2 to link to an Ethernet network. They are typically used to upload transaction data to a server computer when a radio link is not available.
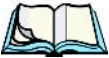
Note: *Refer to "Desktop Docking Station" on page 223 for more details.*

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

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

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

3.9 Bluetooth Radio

Note: *Integrated Bluetooth class II radios are standard on WORKABOUT PRO C and S G2 units. Keep in mind also that Bluetooth is available simultaneously with WAN and 802.11g on a single unit.*

The WORKABOUT PRO is equipped with an on-board Bluetooth radio. This type of radio enables short range data communication between devices. The Bluetooth also provides the capability to use a Bluetooth-enabled cellular phone as a data modem, exchanging information with other Bluetooth devices and providing network access. Refer to "Bluetooth Setup" on page 111for setup details.

3.10 The SD/MMC Card—Adding Memory

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

3.10.1 Inserting The Card

- Switch off the WORKABOUT PRO.

- Remove the battery cover and the battery.

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

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

To remove the card:

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

3.11 General Maintenance

3.11.1 Caring For The Touchscreen

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

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

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

If the touchscreen is used in harsh environments, consider applying a disposable screen protector (WA6110). These covers reduce the clarity of the display slightly but will dramatically extend the useful life of the touchscreen. When they become scratched and abraded, they are easily removed and replaced.

3.11.2 Cleaning The WORKABOUT PRO G2

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

- Use ***only*** mild detergent or soapy water to clean the hand-held unit.

- Avoid abrasive cleaners, solvents or strong chemicals for cleaning. The plastic case is susceptible to harsh chemicals. The plastic is partially soluble in oils, mineral spirits and gasoline. The plastic slowly decomposes in strong alkaline solutions.

- To clean ink marks from the keypad and touchscreen, use isopropyl alcohol.

WORKING WITH WINDOWS EMBEDDED CE 5.0 4

4.1 Navigating In Windows Embedded CE 5.0
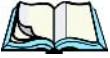
Note: In order to access many of the menus discussed in this chapter, the security level must be set to 'Supervisor' (see "Security Settings" on page 64).

Graphic user interfaces like Windows Embedded 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 Embedded 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 45.

Each WORKABOUT PRO G2 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 PRO G2.

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 PRO G2 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 Table 4.1 on page 58 for a description of the navigation keys.

Operation	Key or Key Combination
Switch between active applications	[ALT] [TAB]
Open task manager	[ALT] [ESC]
Move the cursor	Arrow keys
Open file, folder or icon	[ENTER]
Exit & Save	[ENTER]
Close/Exit & Do Not Save	[ESC]
Navigate Dialog Boxes	[TAB] To move cursor up [SHIFT] [TAB] To display the contents of the next 'tab' in a dialog box [CTRL] [TAB]
Select Radio Button/Press Button	[SPACE]
Go to Start Menu	[BLUE][0]

Table 4.1   Keyboard Navigation

Keep in mind that unlike a desktop computer, the WORKABOUT PRO G2 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" for additional details about keyboard navigation.

4.2   Working With Files, Folders And Programs
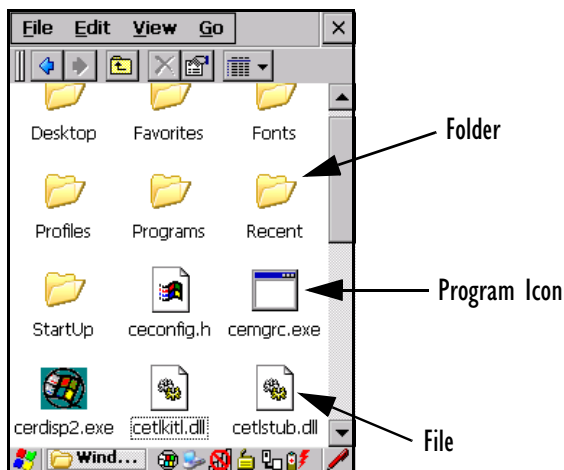
Figure 4.1 Working With Windows Icons

- 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 PRO G2 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.
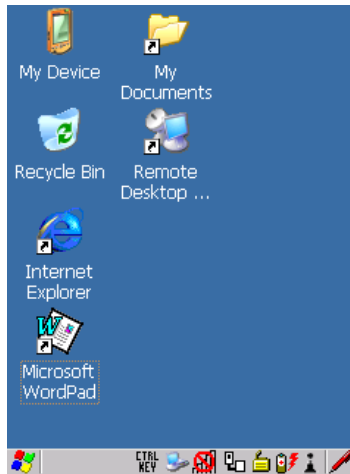
Figure 4.2 The WORKABOUT PRO G2 Startup Desktop

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 PRO G2 computer. If you're not sure how to work with the files, folders and programs displayed, refer to "Working With Files, Folders And Programs" on page 58.

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 Embedded 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*.

Remote Desktop Connection

This option allows your WORKABOUT PRO G2 to communicate with a remote desktop PC. "Remote Connect" on page 81 provides a website with step-by-step instructions.

4.3.2   The Taskbar
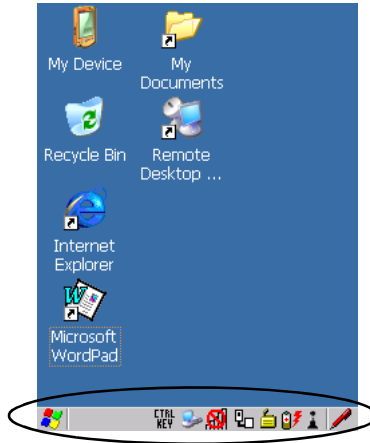
Figure 4.3 The Taskbar

The WORKABOUT PRO G2 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, docking station or PDM, 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 PRO G2.

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 39).

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 [FN/BLUE] [.] (period) to display the *Start Menu*.
- Choose **Shortcuts** from 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.
- 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:

- In the *Start Menu*, choose **Settings**, and then **Taskbar**.

If you're using the keyboard:

- Press [BLUE] [0] (zero) 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.
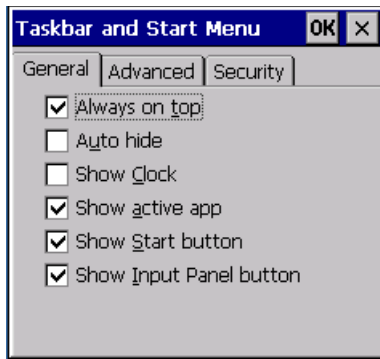
Figure 4.4 Taskbar And Start Menu Settings

- 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 to select them. A check mark indicates active items.

4.4 The Start Menu

Note: Some of the Start Menu items may be disabled based on the current
WORKABOUT PRO G2 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:

•   Press [FN/BLUE] [.] (period).
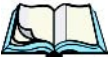
Note: Tap on the item in the menu with which you want to work.
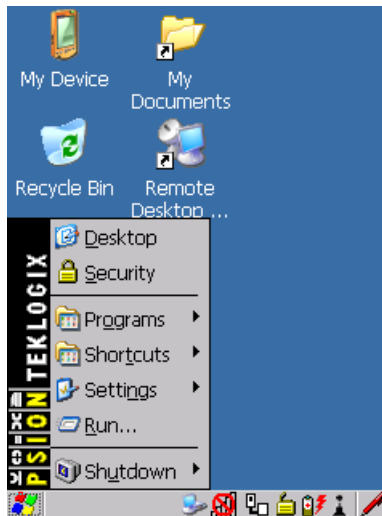
Figure 4.5 Start Menu

If you're using the keyboard:

•   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 the *Desktop* option from the *Start Menu* displays the WORKABOUT
PRO G2 desktop.
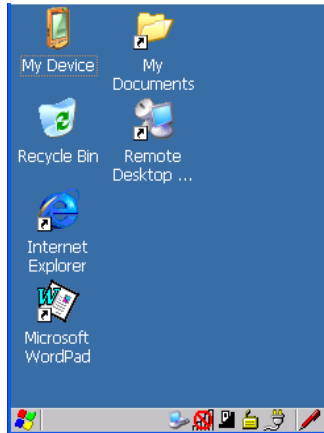
Figure 4.6 WORKABOUT PRO G2 Desktop

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 PRO G2: Supervisor or
User.

Figure 4.7 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 83.

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.
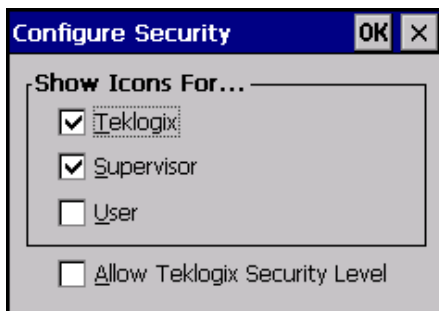
Figure 4.8 Configuring Security

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** to display a sub-menu of options.
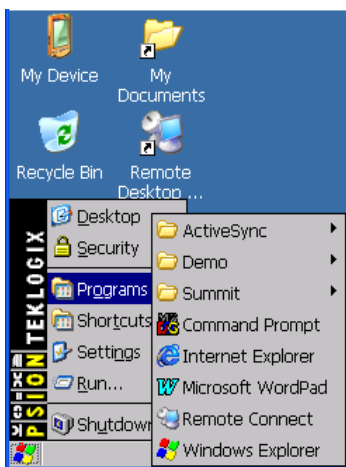
Figure 4.9 Program Sub-Menu

ActiveSync®

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

Demo

This folder contains the *Demo Imager*, *Demo Scanner*, and *Demo Signature* applications. *Demo Imager* is used for simple image-capturing purposes and for displaying bar code data and bar code statistics on the same screen with image data and information. *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.

Summit

This folder provides access to the Summit Client Utility (SCU), a utility that allows you to configure your Summit 802.11g 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.

Internet Explorer

The WORKABOUT PRO G2 is equipped with Microsoft Internet Explorer for Windows Embedded CE 5.0. You can access the *Internet Options* icon through the *Start Menu* under *Settings, Control Panel* or by double-tapping on the desktop *Internet Explorer* icon.

Remote Connect

Remote Connect is a WORKABOUT PRO G2 application used to connect to a Windows Terminal Server so that you can run a "session" on the Server machine using the WORKABOUT PRO G2 (Windows Embedded CE 5.0 device). "Remote Connect" on page 81 provides a website with details about this option.

Windows Explorer

The Windows Explorer installed on your WORKABOUT PRO G2 is consistent with all Windows Embedded CE 5.0 devices. You can access this option from the *Start Menu* under *Programs, Windows Explorer*.

4.4.4 Shortcuts
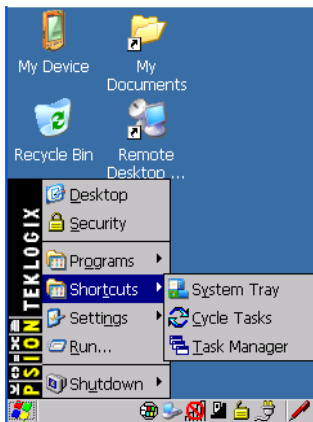
Figure 4.10 Shortcuts Sub-Menu

System Tray

If your touchscreen is not enabled, 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.

- Choose **Shortcuts>System Tray**.

When *System Tray* is chosen, the taskbar icons become accessible. To display the dialog box attached to an icon:

- Use the arrow keys to highlight an icon, for example, the security icon.
- Press [ENTER] to display the security level dialog box.

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:

- Choose **Shortcuts>Cycle Tasks**, *or*

  Press [ALT] [TAB].

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 **Shortcuts>Task Manager**, *or*

    Press [ALT] [ESC].
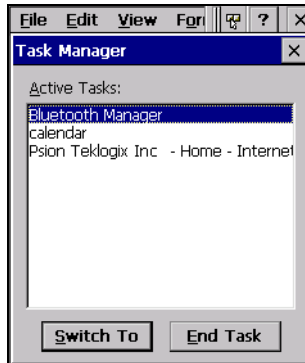
Figure 4.11 Task Manager

4.4.5   Settings

The **Settings** sub-menu includes the following settings: *Control Panel*, *Network and Dial-up Connections* and *Taskbar and Start Menu*.
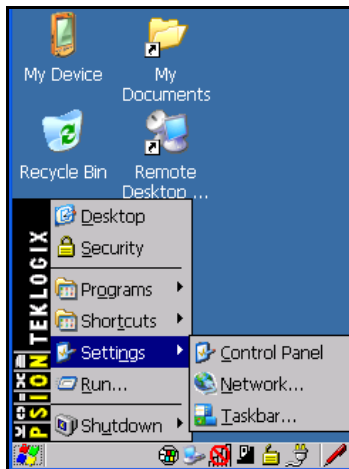
Figure 4.12 Settings Sub-Menu

Control Panel

The *Control Panel* contains applets used to configure hardware, the operating system and the shell. If your WORKABOUT PRO G2 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 WORKABOUT PRO G2 radio or execute an existing configuration. Refer to "Configuring Your Radio" on page 13 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 62 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.

Figure 4.13 Run Dialog Box

4.4.7 Shutdown

The *Shutdown* menu includes these options: *Suspend, Warm Reset* and *Cold Reset*.
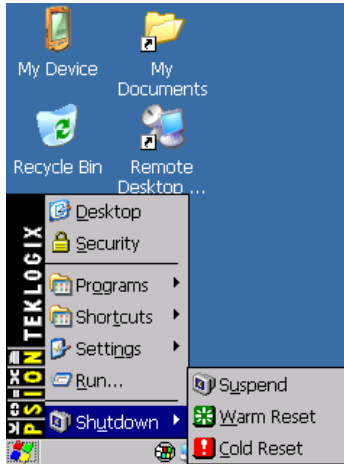
Figure 4.14 Shutdown Sub-Menu

Note: *This menu varies slightly depending on the security level chosen. When the WORKABOUT PRO G2 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 PRO G2 immediately. This is equivalent to turning the hand-held off.

Warm Reset

The *Warm Reset* option resets the WORKABOUT PRO G2, leaving all saved files and (registry) settings intact. Any unsaved data is lost.

Cold Reset

The *Cold Reset* option resets the WORKABOUT PRO G2 (see page 31). Any files not stored in permanent memory are lost; however, the registry settings are saved.

4.5   Using A Dialog Box

A dialog box (like the samples in Figure 4.15) 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).
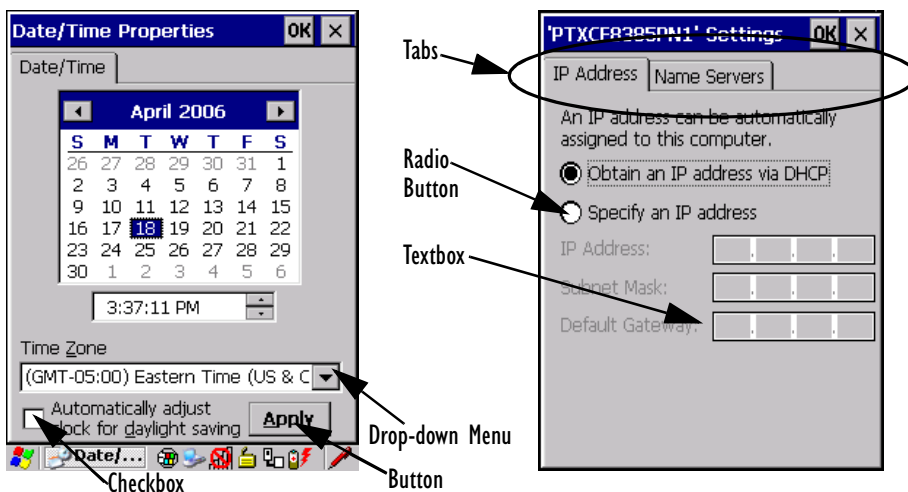
Figure 4.15 Dialog Boxes

Note: You can use the stylus to tap on an element in a dialog box to select or deselect it, display drop-down menu items, 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.

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 4.15 on page 72 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.*

CONFIGURATION

5

5.1 Remote Connect

Remote Connect is a WORKABOUT PRO G2 application used to connect to a Windows Terminal Server so that you can run a "session" on the Server machine, using the WORKABOUT PRO G2 (Windows Embedded CE 5.0 device).

Refer to the following website for step-by-step information about setting up this connection:
http://www.microsoft.com/WindowsXP/pro/using/howto/gomobile/remotedesktop/default.asp,

or contact Psion Teklogix support services. (Refer to *WORKABOUT PRO Hand-Held Computer Regulatory & Warranty Guide*, *PN 8000126*, or locate the office closest to you at *www.psionteklogix.com*).

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 PRO G2 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 Pocket PC Compatibility

The WORKABOUT PRO G2 supports the AYGShell API set that allows Pocket PC-compatible applications to run on the hand-held. Windows Embedded CE 5.0 includes application programming interface (API) compatibility support for the Microsoft Windows Powered Pocket PC 2002 shell in units running Windows Embedded CE 5.0.

The website listed below describes the APIs exposed through AYGShell and the application compatibility between Windows Powered Pocket PC 2002-based applications and Windows Embedded CE 5.0-based devices:

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

5.4 The Control Panel

The Windows Embedded 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 72.*

When the WORKABOUT PRO G2 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 [FN/BLUE] [.] 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 PRO G2.
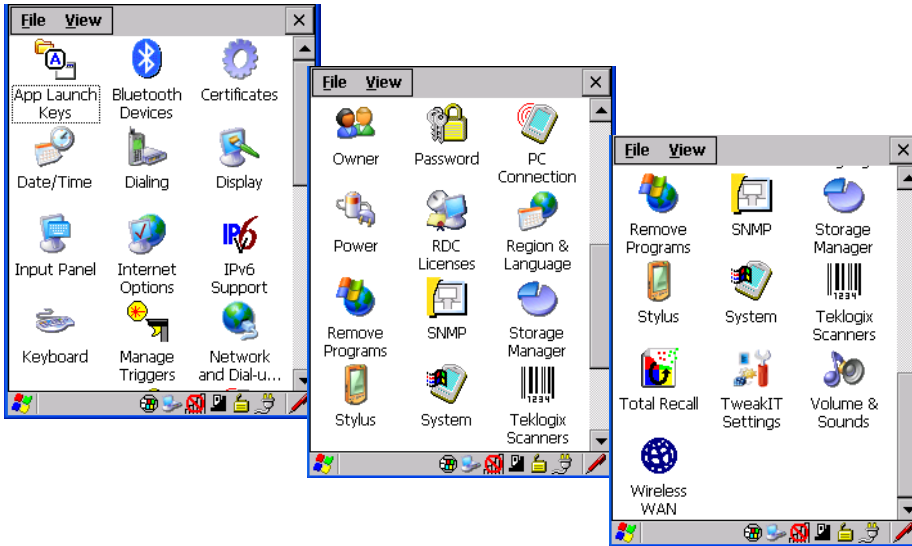
Figure 5.1 Control Panel

5.5   Control Panel Icons

The *Control Panel* provides a group of icons that allow you to customize and adjust settings on your WORKABOUT PRO G2.

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 options for Bluetooth radio setup. It also provides the capability to use a Bluetooth-enabled cellular phone as a data modem to exchange information with other Bluetooth devices and provide network access.

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 110 directs you to the appropriate setup information.

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.

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 con-figure 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 PRO G2 802.11g radio can be configured and an existing configuration can be exe-cuted. Refer to "Configuring Your Radio" on page 13 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 64 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. (Refer to "Devices" on page 104 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.

SNMP

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

Storage Manager

Allows the user to view information about the storage devices that are present, such as SD-MMC flash cards. For details, see page 129.

Stylus

Adjusts how Windows Embedded 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 Scanners

Provides scanner parameters and the bar code symbologies that the WORK-ABOUT PRO G2 scanner will successfully read.

Total Recall

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

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

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

Wireless WAN

Provides access to technology like GSM/GPRS, which allows wide area networking capability such as internet browsing via GSM/GPRS. For detailed information, see Appendix B: "Wireless WAN".

5.6 Basic Setup

5.6.1 Display Properties

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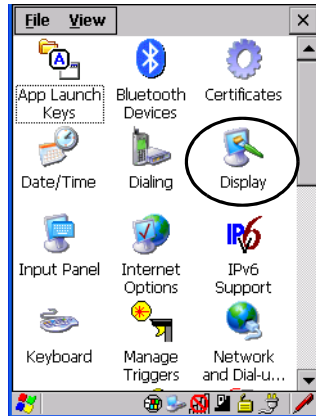
Figure 5.2 Choosing The Display Icon

5.6.1.1   Display Backlight

The backlight is activated for a configurable amount of time when the
WORKABOUT PRO G2 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.

Notes: 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 PRO G2 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 PRO G2 is operating with external power (not battery power). If the WORKABOUT PRO G2 is drawing power from its battery, this option is ignored and the other parameters defined in *Display Properties* dialog box are used.

5.6.1.2   Display Appearance

- In the *Display Properties* dialog box, open the **Appearance** tab.
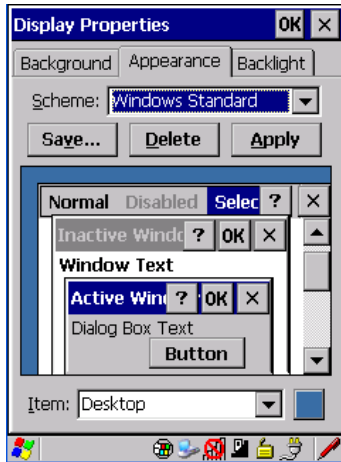
This dialog box allows you to customize the display colour scheme.

5.6.2 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 [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.
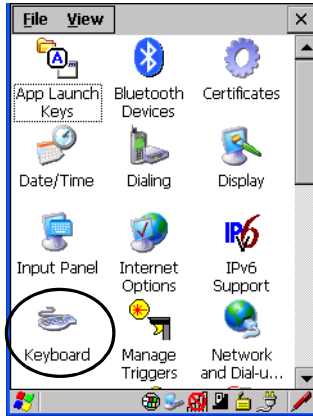
Figure 5.3 Choosing The Keyboard Icon

5.6.2.1   Key Repeat

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

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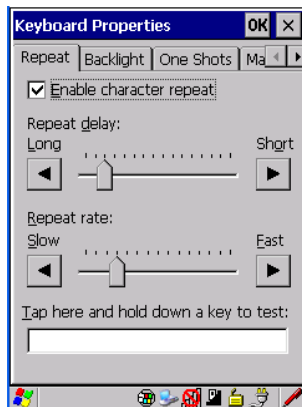
Repeat Delay

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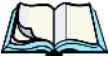
Note: Use the field at the bottom of this dialog box to test the repeat delay and rate settings you've chosen.

5.6.2.2   Keyboard Backlight

• In the *Keyboard Properties* dialog box, open the **Backlight** tab.
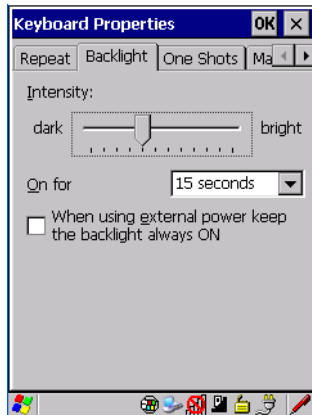
This parameter is used to adjust the light intensity of the WORKABOUT PRO G2 keyboard backlight. Sliding the bar to the left darkens the keyboard backlight intensity, and sliding it to the right lightens the intensity.

ON For

The value chosen from this dropdown 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.

5.6.2.3 Keyboard One Shot Modes

• In the Keyboard Properties dialog box, open the One Shots tab.

The options in this tab allow you to determine how modifier keys on your
WORKABOUT PRO G2 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** char-
acters, 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 inac-
tive 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 selec-
tion.*

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'.

5.6.2.4   Keyboard Macro Keys

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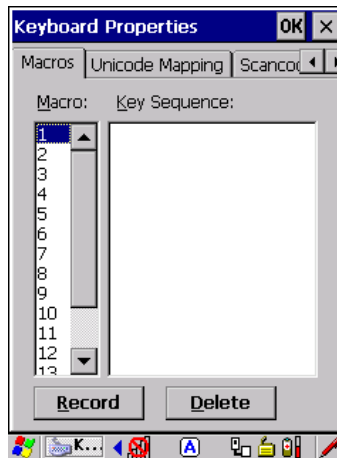
A macro has 200 programmable characters (or "positions"). The macro keys can be programmed to replace frequently used keystrokes, along with the function of executable keys including [ENTER], [BKSP] and [DEL] ([FN/BLUE]-[BKSP]), function keys and arrow keys.

Recording And Saving A Macro

You can program up to 12 macro keys on a *58-key* WORKABOUT PRO G2. On a *36-key* WORKABOUT PRO G2, you can program a maximum of 6 macro keys.

- 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 highlight **CANCEL** and press [ENTER] 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.
- Choose the **Delete** button.

5.6.2.5   Unicode Mapping

- In the *Keyboard Properties* dialog box, open the **Unicode Mapping** tab.
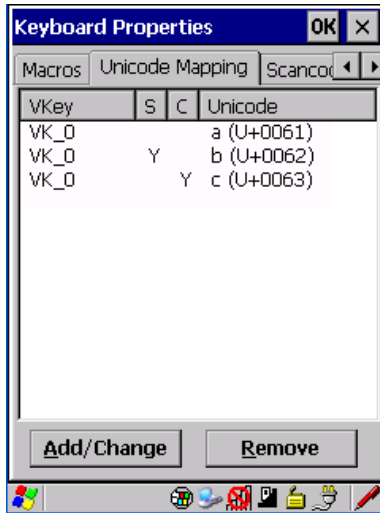
The *Unicode Mapping* tab is used to map combinations of virtual key values and [CTRL] and [SHIFT] states to Unicode™ values. This tab shows the configured Unicode character along with the Unicode value. For example, the sample screen above shows "a (U+0061)" indicating that the character "a" is represented 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.
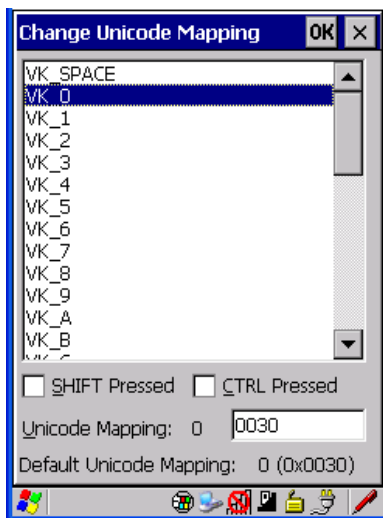
Figure 5.4 Adding And Change Unicode Values

• 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.

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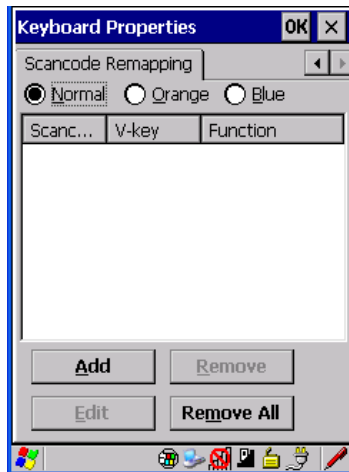
The first column in the *Scancode Remapping* tab displays the scancodes in hexadecimal. If the scancode is remapped to a virtual key, that virtual key is displayed in the next column labelled 'V-Key'. A virtual key that is 'Shifted' or 'Unshifted' is displayed in the third column labelled 'Function'.

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 (e.g., 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 scancode you are remapping.

Virtual Key, Function And Macro

The radio buttons at the bottom of the dialog box allow you to define to what the scan code will be remapped: 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**.

5.6.3 Volume And Sound Properties

- In the *Control Panel*, choose the **Volume & Sounds** icon.
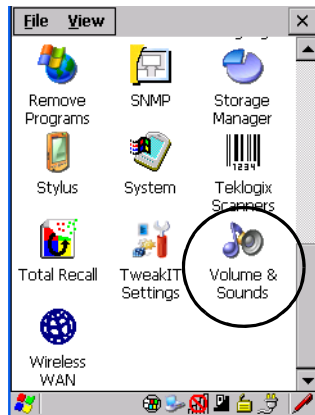
Figure 5.5 Choosing The Volume Icon

5.6.3.1 Volume Adjustments
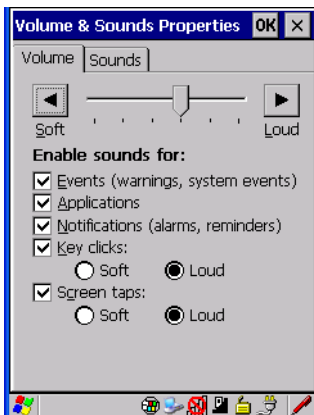
- Slide the volume button to the left to lower the beeper volume or to the right to increase the beeper volume.

- Under the heading *Enable sounds for*, enable the conditions under which you want the WORKABOUT PRO G2 to emit a beep.

5.6.4 Power Management Properties

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

- In the *Control Panel*, choose the **Power** icon.
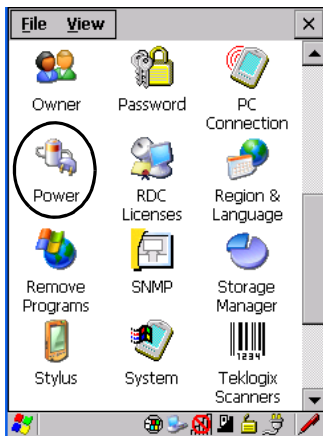
5.6.4.1   Battery Capacity

• In the *Power Properties* dialog box, open the **Battery** tab to view battery details.
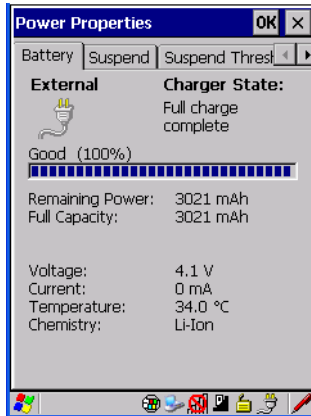
5.6.4.2   Power Saving Suspend

• In the *Power Properties* dialog box, open the **Suspend** tab.
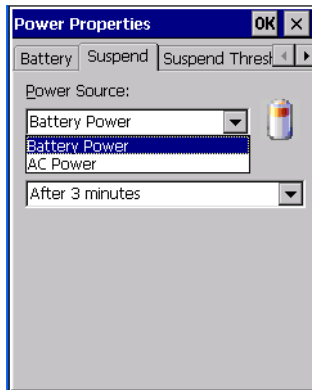
Power Source

This drop-down menu allows you to specify whether the unit is using *AC Power* or *Battery Power*.

Suspend Timeout

> ⚠️ *Important:* ***Psion Teklogix recommends setting the Suspend value to 10 min-***
> ***utes. To further reduce power consumption, carefully consider the***
> ***duration of time that the display backlight is 'on' (see "Display***
> ***Backlight" on page 87).***

When the WORKABOUT PRO G2 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 PRO G2 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 PRO G2 is in suspend state, the network connection will not be broken immediately. If the connection is dropped, you must re-establish the network connection.

5.6.4.3   Suspend Threshold
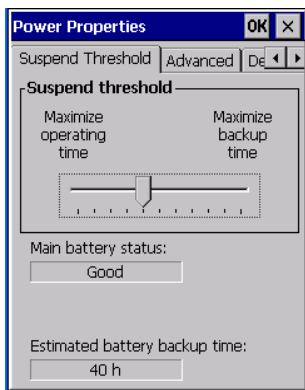
The *Suspend Threshold* adjustment tells the system when to shut down when the battery drains. If you choose *Maximum Operating Time*, the unit will run until the battery is completely empty; the RAM is only backed up for a short period of time. If you choose *Maximum Backup Time*, the hand-held shuts off with more energy left in the battery so RAM can be backed up for a longer period of time.

![!] *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). Batch transaction environments, where data is 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 PRO G2 normal Windows Embedded CE 5.0 environment does not store any critical data in RAM (such as the registry or file system).

If the user'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.*

5.6.4.4   Advanced
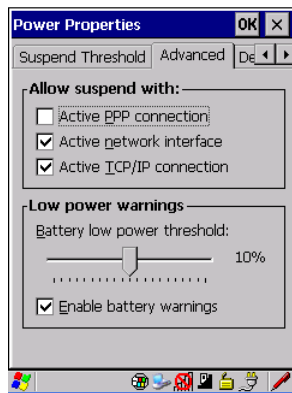
Allow Suspend With:

This tab allows you to specify whether or not your unit will enter *Suspend* state while it is operating with an active PPP connection, network interface or 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 PRO G2 screen, from 0% to 20%.

5.6.4.5   Devices

This tab controls power to individual CF and SDIO slots, and built-in devices. Enable or disable the checkboxes as needed, then tap on **OK** to save your changes.
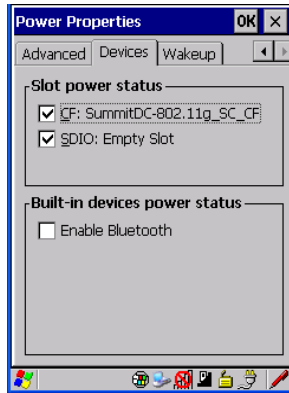
5.6.5   Stylus Properties

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

• In the *Control Panel*, choose the **Stylus** icon.
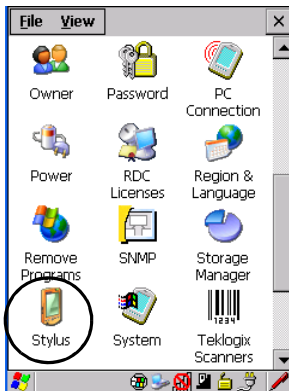
5.6.5.1   Double-Tap

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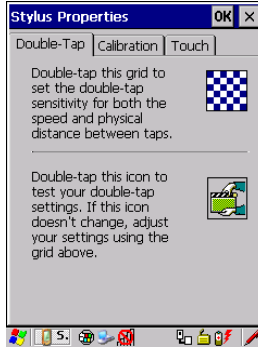
5.6.5.2   Calibration

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.

5.6.5.3   Touch

This tab allows you to disable the touchscreen.

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

5.6.6 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.
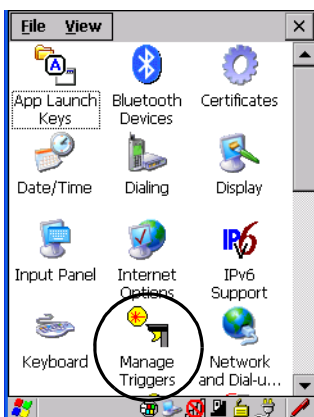
Figure 5.6 Manage Triggers Icon

- In the *Manage Triggers* screen you'll see a list of trigger mappings.
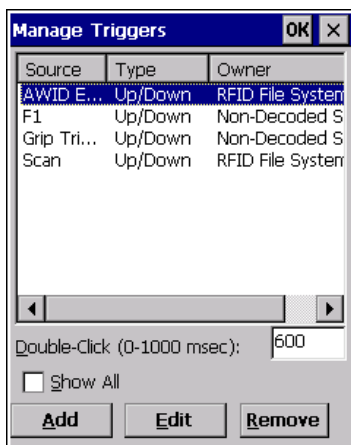
5.6.6.1   Trigger Mappings

A trigger mapping is an association between a particular key on the keyboard and a driver or application, the "owner(s)" of the trigger source. When the specified key is pressed, the owner (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 109.

Show All

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 page 108), so that you can add new trigger mappings.

Edit

Tapping this button brings up the *Edit* mapping dialog (see page 108), 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.

5.6.6.2   Add And Edit Trigger Mapping

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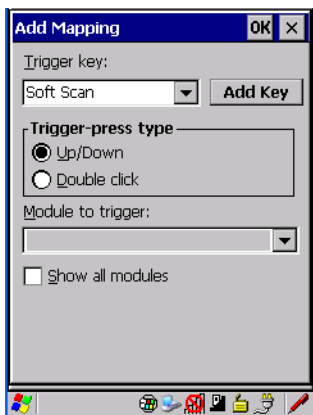
Trigger Key

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

Notes: *It is possible to map the same source to different modules (trigger 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.

5.6.7 Certificate Assignment

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

Figure 5.7 Certificates Icon

This option is used in conjunction with 802.1x authentication to enhance WORKABOUT PRO G2 security.

For a detailed description about Certificate setup for both the server and client-side devices (WORKABOUT PRO G2s), refer to the following website:

http://www.microsoft.com/windowsserver2003/techinfo/overview/security.mspx

Note: When importing certificates, the WORKABOUT PRO G2 only recognizes .cer files.

5.7 Bluetooth Setup

Bluetooth is a global standard for wireless connectivity for digital devices and is intended for Personal Area Networks (PAN). The technology is based on a short-range radio link that operates in the ISM band at 2.4 GHz. When two Bluetooth-equipped devices come within a 5 meter range of each other, they can establish a connection. Because Bluetooth utilizes a radio-based link, it does not require a line-of-sight connection in order to communicate.

Note: The Bluetooth radio uses an internal antenna.

- In the *Control Panel*, choose the **Bluetooth Device Properties** icon to display the Bluetooth Control screen.
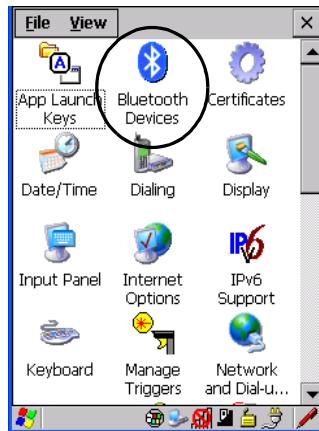
Figure 5.8 Bluetooth Icon

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

5.7.1   The Devices Tab
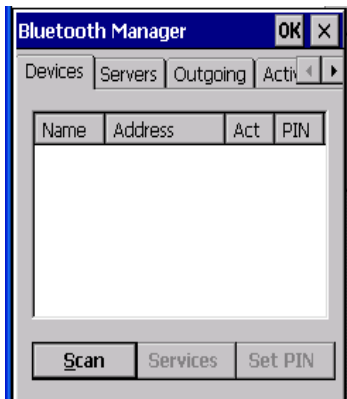
If you intend to configure Bluetooth communication with specific devices (a scanner or printer for example), power on and bring the devices within 5 m (16.4 ft.) of the hand-held before proceeding with the discovery process described below.

Scan

• Click on the **Scan** button to list available devices.
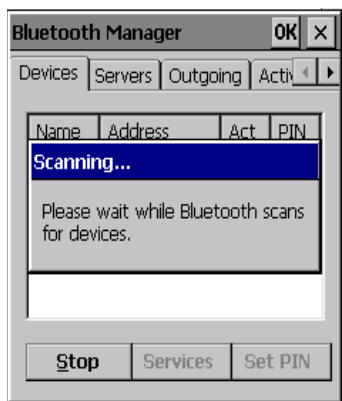
Figure 5.9 Available Bluetooth Devices

Wait for the WORKABOUT PRO G2 to complete its scan (approximately 20 seconds). When scanning starts, the *Scan* button will change to *Stop*—if necessary, you can tap on this button to stop the process. Once scanning is complete, all discovered devices will be displayed in the list box, with *Name, Address, Active* status, and *PIN* information.
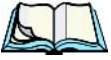
Note: During the scanning process, addresses are located first, followed by names. Only the names of devices that are within the Bluetooth radio coverage range will be retrieved.

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

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

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

Services

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

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

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

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

- Highlight the service to be activated.
- Press [SPACE] or right-click to display the Activation menu.

The Activation menu contains four options: Activate, Authenticate, Outgoing, and Encrypt.

Once the service is successfully activated, the assigned port (if applicable) will appear in the *Port* column of the *Services* list box. You can choose to use *BSP* or *COM* as the port name. BSP is the latest Microsoft Bluetooth stack standard, but older applications assume serial ports are COM. When using *COM* as the port name, the Bluetooth manager will try to find and use a free port between COM7 and COM9. When using *BSP* as the port name, BSP2 to BSP9 are available for use. The port is available as soon as it is activated.

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

To add a service to the *Outgoing* port, an active service must first be deactivated. Then you can choose the 'Outgoing' option from the Activation menu (highlight a service, right-click or press the [SPACE] bar to display the Activation menu).

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

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

Set PIN

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

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

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

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

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

To remove the PIN:

- Choose **Set PIN,** and press **[ENTER]**.

If the WORKABOUT PRO G2 attempts to connect to a remote device that has Authentication enabled and does not have a required PIN set, an *Authentication Request* dialog
box appears.

- Enter the **PIN**, and tap on **OK** to connect the devices.

5.7.2 The Servers Tab

The Bluetooth connection is initiated from your WORKABOUT PRO G2 to the remote device. Therefore the WORKABOUT PRO G2 is called the 'client' and the remote is called the 'server'. The Servers tab displays the server profiles that can be activated in your WORKABOUT PRO G2. There is currently one server profile available: Serial.

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

Once you activate a server profile, it is recommended that the WORKABOUT PRO G2 be rebooted before you try to bond from a server.

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

5.7.3   Outgoing Tab

Outgoing Port acts as a serial port that can be used to connect to a list of Bluetooth devices (one at a time), but you have the freedom to **switch on-the-fly**.

The Outgoing Port checkbox allows you to create the Outgoing port. When the port is created, the *Outgoing* tab lists the port name.

The Outgoing list dialog box displays a list of services marked as 'Outgoing'. The * column indicates the currently selected service. You can tap on Unselect to reset the current selection, or you can tap on Select to make a selection. The Remove button deletes the service from the outgoing list.

The Prompt menu determines the behaviour of the pop-up Selection menu. Choosing *Everytime* causes the Selection menu to be displayed each time an outgoing port is created. If you choose *Once*, the menu is displayed only when a partner service is not selected.

To display the *Selection* menu at any time:

• Press [CTRL] [ALT] [F1], and switch the partner Bluetooth device.

If a connection to a partner device already exists, the connection is dropped and another connection to the newly selected device is created instantly without disrupting the application that has opened the outgoing port.

*Note: To add a service to the **Outgoing** port, an active service must first be deactivated. Then you can choose the 'Outgoing' option from the Activation menu (highlight a service, right-click or press the [SPACE] bar to display the Activation menu).*

5.7.4   Active Conn. Tab

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

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

Although the name will have changed in the Properties menu in Bluetooth Controls, the radio only reads it on boot-up. For the changes to take effect, you must cold reset the WORKABOUT PRO G2 (for cold reset instructions, see "Resetting The Hand-Held" on page 31).

5.7.5 The Properties Tab
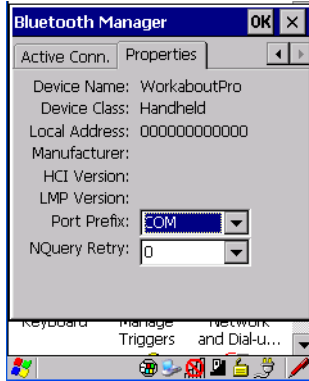
The **Properties** tab displays information about your WORKABOUT PRO G2, and provides some port options.

The *Device Name* field shows the device name of your WORKABOUT PRO G2. This name can be changed (see the *Note* on the previous page for details).

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

Local Bluetooth Address shows the address of your WORKABOUT PRO G2 radio.

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

NQuery Retry (Name Query Retry) governs the number of times the hand-held will attempt to query the names of other Bluetooth devices if the first attempt fails. (When the WORKABOUT PRO G2 scans for other devices, it sometimes fails to scan names.)

Note: Keep in mind that setting this parameter to a higher value will lengthen the scan time.

5.7.6 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 PRO G2 communicates via Bluetooth to the cell phone, which then accesses a WAN (Wide Area Network) and transfers data using GPRS.

1. To set up the internet parameters, choose the **Network And Dial-up Connections** icon from the *Control Panel*.
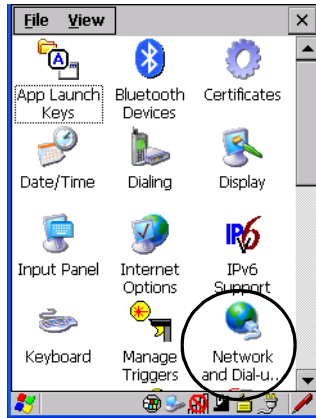
Figure 5.10 Network And Dial-up Connection Icon

2. Choose the **Make New Connection** icon.
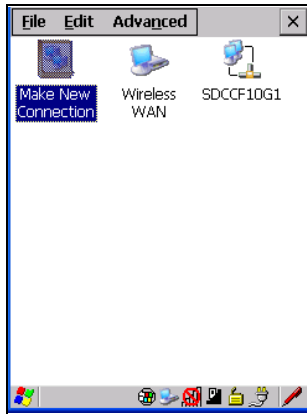
Figure 5.11 Creating A GPRS Connection

3. In the *Make New Connection* dialog box, choose **Dial-Up Connection**.
    Enter a name for your GPRS network connection.
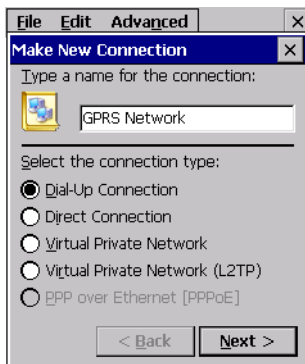
4. Choose the **Next** button to display the *Modem* dialog box.
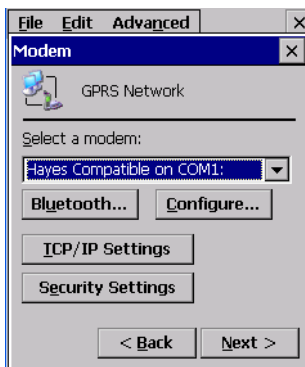
5. In the drop-down menu labelled *Select a modem*, choose the name
    of the modem with which you want to connect, and then choose the
    Configure button to display the Device Properties dialog box.

The WORKABOUT PRO G2 communicates via Bluetooth to your Bluetooth-equipped cellular telephone and retrieves the parameters for the *Device Properties* dialog box. The WORKABOUT PRO G2 then disconnects.
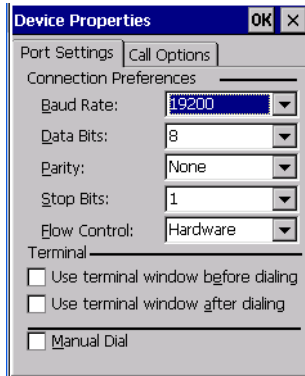
6. Under the *Call Options* tab, turn off **Cancel the call if not connected within,** and press [ENTER] to save your changes.
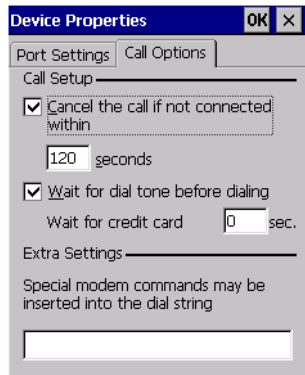
7. In the *Modem* dialog box, choose the **Next** button to display the *Phone Number* dialog box.

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

8. In the *Control Panel*, choose the **Dialing** icon.
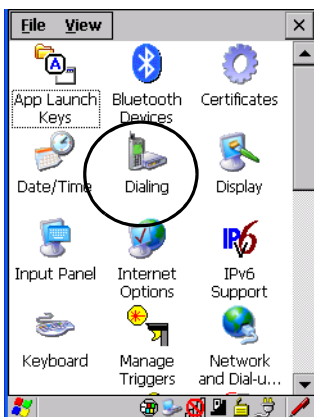
9. The values in the *Dialing Properties* dialog box need to be edited according to your network carrier specifications.

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

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

11. In the network connection window, the new network configuration, in this case *GPRS Network* is displayed. Tap on the **new** icon.
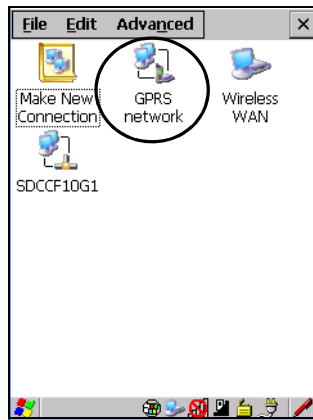
When you tap on your new connection, an onscreen message indicates the status of your connection: connected, disconnected, error messages, and so on.

5.8 Total Recall

Total Recall is a Psion Teklogix utility developed to back up/restore applications and settings. Keep in mind that to protect your data from erasure during a 'clean start', the Total Recall profile must be stored on a SD/MMC card or externally to the device on a USB memory stick or on a PC.

Note: *In Windows Embedded CE 5.0, the registry and installed programs are stored in the Flash file system and are not lost on reset. However, a **clean** start will reset not only the registry settings to factory defaults, but will also erase any files or applications stored or installed on the built-in Flash file system, including any Total Recall profiles. This is why any data that needs to be protected must be stored on a SD/MMC card or externally to the device on a USB memory stick or on a PC.*

- In the *Control Panel*, choose the **Total Recall** icon
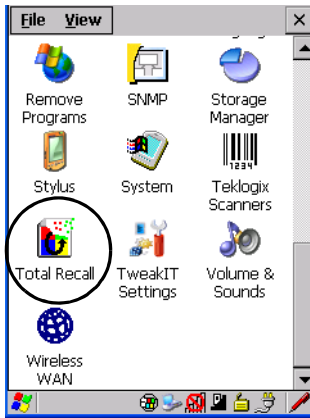
Figure 5.12 Total Recall Icon

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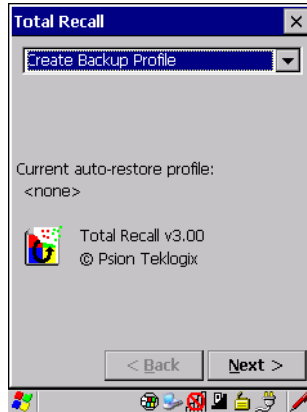
In the drop-down menu, you can choose from four options: Create Backup Profile, View Selected Profile, Restore Selected Profile and Delete Selected Profile. Keep in mind however that until a profile is created, the only available option is *Create Backup Profile*.

- Choose the **Next** button to begin the process.

Profile Information
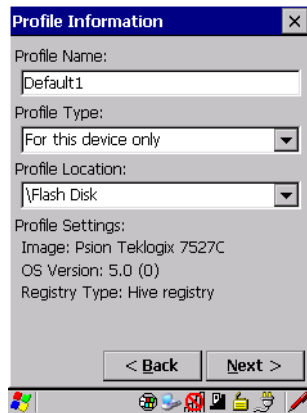
This dialog box lists the possible storage destinations for the profile file.

- To begin, type a name for the profile in the field labelled *Profile Name*.
- Next, choose the *Profile Type* you want to create:

- **For this device only**—creates a backup that is manually restored by the operator.
- **AutoRestore for this device only**—creates a profile that automatically restores itself following a clean start.
- **AutoRestore for this and other devices**—creates a profile that automatically restores after resuming from a clean start, but it will not contain the touchscreen calibration coordinates or the Wireless radio settings.
- *Finally, choose a Profile Location* – The location for the profile is either *\Flash Disk* or *\SD-MMC Card*.

- Tap on the **Next** button to display the next dialog box *Add Files*.

Add Files
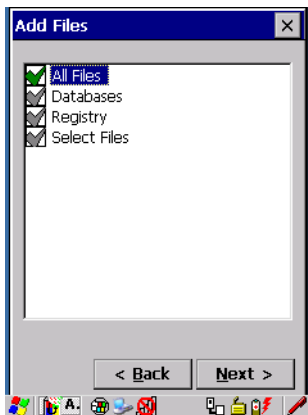
Figure 5.13 Adding Files

By default, *All Files* is selected so that all installed or copied files, database entries, and the Registry will be saved. You can, however, limit the backup to databases, and/or the registry only. By tapping the checkbox next to these items, you can add or remove a check mark to enable or disable the option.

The *Select Files* option allows you to select predefined file types.

- Remove the check mark next to *All Files*. You'll notice the checkbox next to *Select Files* changes 🔳, indicating that additional options are available.

- Choose this icon 🔳 next to *Select Files* to view your options.
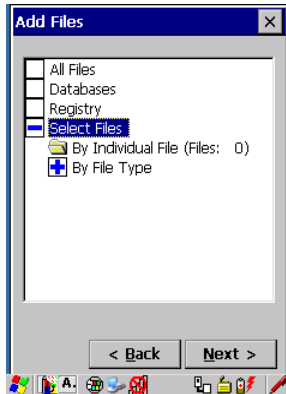
Figure 5.14 By File Type

Choosing *By Individual File* displays a pop-up menu where you can tailor the list of files you want to back up.
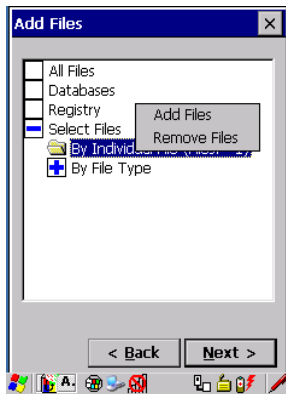
Figure 5.15 Add Files

To *add a file* to your backup list:

- Choose **Add Files**. Browse to and choose the files you want to add to your list.

To *remove a file* from your backup list:

- Choose **Remove Files**—a dialog box is displayed listing the files that will be backed up.

- Highlight the item you want to remove from the list, and tap on the **Remove** button.

Choosing *By File Type* allows you to select the file types that you want backed up.
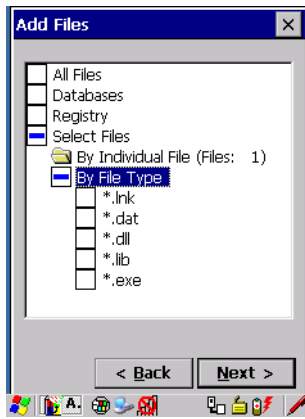
Figure 5.16 Adding Files By File Type

View Selections

Depending on what you have selected for inclusion in your profile, you can view a list of the selected files, databases and/or registry.
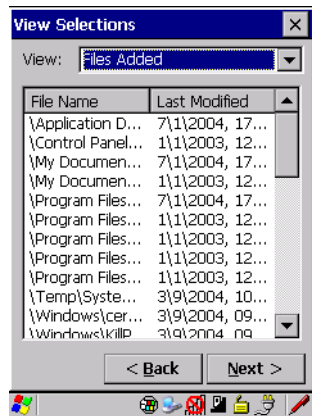
- Choose the **Next** button to perform the operation.

Perform The Operation
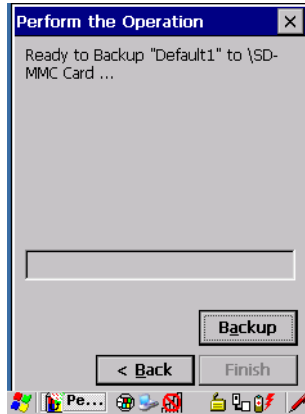
Figure 5.17 Performing The Backup

• Choose the **Backup** button to start the process, and create a profile.

5.8.2 Restoring A Profile

To manually restore a profile:

• Choose **Restore Selected Profile** from the drop-down menu, and choose
the **Profile Name** displayed in the drop-down menu.

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

5.9 The Storage Manager

The Storage Manager allows the user to view information about the storage devices
that are present in the WORKABOUT PRO G2, such as SD-MMC flash cards and
Compact Flash cards.

5.9.1 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. Select *Start> Settings>Control Panel*.

2. In *Control Panel*, double-click on the **Storage Manager** icon.
    The Storage Manager menu opens:
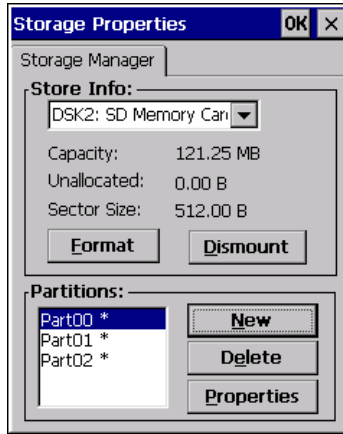
3. Select the memory card from the drop-down list.

4. Press the **Dismount** button to dismount the memory card. All partitions
    on the card will be dismounted.

5. Press the **Format** button to format the memory card.

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

5.9.2 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.

To create new partitions:

1. Press the **New** button next to the Partitions list box. The New Partition dialog appears:

    Create New Partition

    Name:

    Sectors:

    Sectors Available: 0

    ☑ Use All Available Disk Space
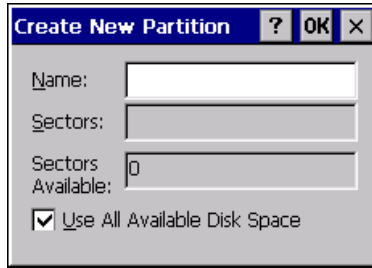
2. Enter a name for the partition.

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. Press **OK**. The new partition appears in the Partitions list:

    Storage Properties

    Storage Manager

    Store Info:

    DSK2: SD Memory Car

    Capacity: 121.25 MB

    Unallocated: 0.00 B

    Sector Size: 512.00 B

    Format   **Dismount**

    Partitions:

    Part00 *
    Part01 *
    Part02 *

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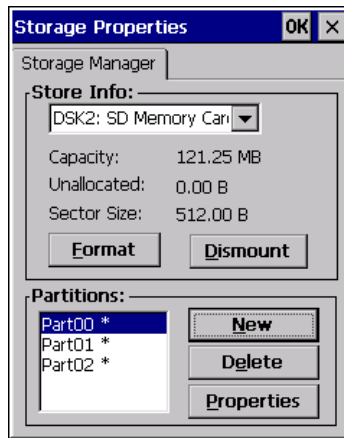
The new partition is automatically mounted. This is indicated by an asterisk (*) next to its name in the partition list. Any unallocated space on the card is indicated at the left, and additional partitions can be created in it.

5.9.3 Partition Management

Partitions can be individually dismounted, mounted, deleted, or formatted as well.
These and additional tasks are available from the Partition Properties dialog:
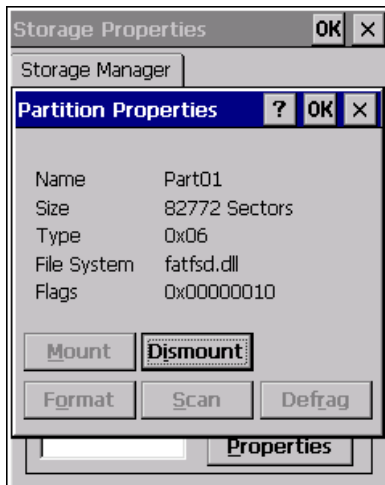
To dismount a partition:

1.   Select the desired partition.
2.   Press the **Properties** button. The Partition Properties dialog appears.

3.   Press the **Dismount** button. The partition is dismounted. The asterisk
     disappears next to its name in the partitions list.

To delete a partition:

1.   Select the desired partition.
2.   Press the **Delete** button. A warning dialog appears.

3.   Press the **OK** button. The partition is deleted.

To format a partition:

1.   Select the desired partition.
2.   Press the **Properties** button. The Partition Properties dialog appears.

3.   Press the **Dismount** button. The partition is dismounted. The asterisk
     disappears next to its name in the partitions list.

4. Press the **Format** button. The Format dialog appears:

Storage Properties [OK] [×]

Format [×]

Partition Size	40.4 MB
Version	32 ▼
Number of FATs	1 ▼
Root Entries	512 ▼
Cluster Size (KB)	0.5

☐ TFAT

☑ Quick Format

[Start]   [Cancel]
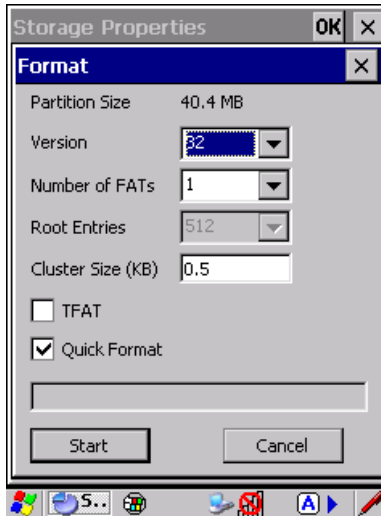
5. Choose your format options. These options include:

    •   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).

    There are also two checkboxes, which 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 ref-
        erence to data in the partition without erasing the actual partition. The
        partition will be treated as empty, and new data will overwrite it.

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

To mount a partition:

1. Select the desired partition.

2. Press the **Properties** button. The Partition Properties dialog appears.

3. Press the **Mount** button. The partition is mounted. The asterisk appears next to its name in the partitions list.

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

5.10 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.
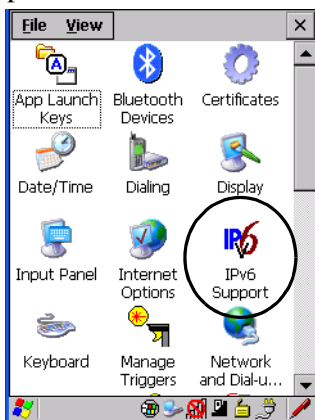
Figure 5.18 IPv6 Support Icon

• Choose the **IPv6 Support** icon to display the associated dialog box.
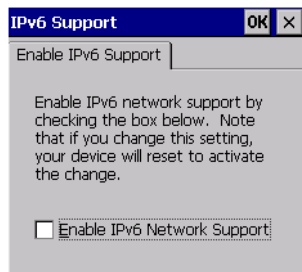
• Choose the checkbox next to *Enable IPv6 Network Support* to enable this internet protocol.

5.11 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.

If you wish to recover the factory defaults after making changes, the defaults can be applied to a selected parameter, sub-tree of parameters, or all scanner parameters. Using the stylus, holding on a symbology will pop up a menu to default the sub-tree, or all settings. Holding on an individual setting will pop up a menu to default that setting, or all settings. This option cannot be accessed without a touchscreen.

For a listing of available scanners and their specifications, please refer to Chapter 7: "Specifications".
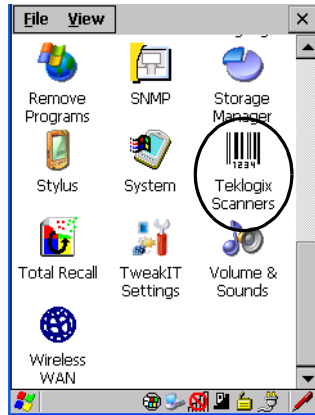
Figure 5.19 Teklogix Scanners Icon

5.11.1   Bar Codes
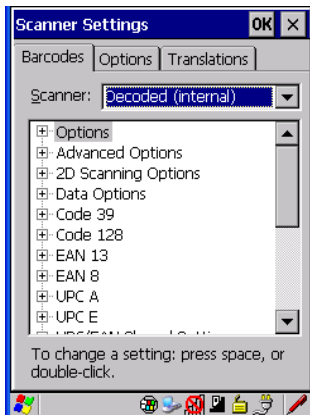
5.11.1.1   Scanner

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

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

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

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

5.11.2 Decoded (Internal) Scanners
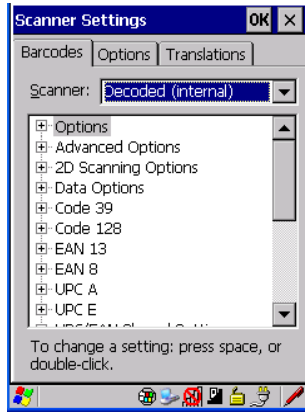
- Tap on the **Scanner** drop-down menu, and choose **Decoded (internal)**.

5.11.2.1 Options

Note: Some options are available only for specific scanners. Refer to the option names in this section for scanner model identification.

Dot Time (msec)

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

Aim Duration

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

Laser On Time

The value assigned to this parameter determines how long the laser will remain on when the scan button or trigger is pressed.Double-tapping on this parameter displays a dialog box in which you can enter a value between `5` and `99`, each number representing `0.1` seconds.

5.11.2.2   Decoded (Internal) Advanced Options

Continuous Scan Mode

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

Minimum Cancel Time

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

Low Power Timeout

To extend laser life, you can select the 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.

This is only used if the unit's Trigger Mode has been changed to Continuous On. If the unit is used in a fixed mount this parameter might be used, but not if the unit is used as a hand-held.

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.

Parameter Scanning

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

Linear Security Level

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

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

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

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

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

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

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

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

Bi-Direction Redundancy

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

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

5.11.2.3   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.

5.11.2.4   Decoded (Internal) 2D Scanning Options

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 data that was not interpreted.

5.11.2.5   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
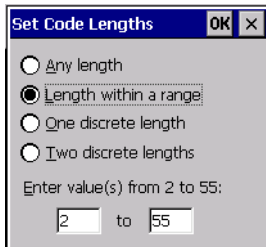
Choosing *One discrete length* allows you to decode only those codes containing a selected length. Choosing *Two discrete lengths* allows you to decode only those codes containing two selected lengths. *Length within a range* allows you to decode a code type within a specified range from 1 to 55.

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.

Field Size/Chars

Field Size

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

Prefix Char

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

Suffix Char

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

Strip Leading

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

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

Strip Trailing

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

5.11.2.6   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.

Field Size/Chars

Refer to page 143 for details.

5.11.2.7   EAN 13

Enabled

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

Prefix/Suffix

Prefix Char

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

Suffix Char

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

Strip Leading

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

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

Strip Trailing

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

5.11.2.8   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.

Prefix/Suffix

See "Prefix/Suffix" beginning on page 144.

5.11.2.9   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 data, or

None – no preamble is transmitted. The lead-in characters are considered part of the symbol.

Prefix/Suffix

5.11.2.10 UPC E

Enabled UPC-E

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

Enabled UPC-E1

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

UPC-E And UPC-E1 Check Digit

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

UPC-E And UPC-E1 Preamble

When you double-tap on one of these parameters, a dialog box is displayed where you can choose one of three options for lead-in characters for UPC-E and UPC-E1 symbols transmitted to the host device:

System Char – system character transmitted with the data,

Country code and System Char – both the country code ("0" for USA) and system character are transmitted with the data, or

None – no preamble is transmitted. The lead-in characters are considered part of the symbol.

Conv. UPC-E To UPC-A

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

Conv. UPC-E1 To UPC-A

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

Prefix/Suffix

Refer to "Prefix/Suffix" beginning on page 144.

5.11.2.11 UPC/EAN Shared Settings

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

Enable Bookland EAN

Setting this parameter to ON allows your scanner to recognize Bookland EAN bar codes.

Supplementals

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

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

Supp. Redundancy

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

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

Security Level

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

Linear Decode

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

2D UPC Half Block Stitching

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

5.11.2.12 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.

Field Size/Char

Refer to page 143 for details.

5.11.2.13 Codabar

Enabled

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

Set Length L1 And Set Length L2

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

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

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

CLSI Editing

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

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

NOTIS Editing

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

Field Size/Chars

Refer to page 143 for details.

5.11.2.14 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 n which you can choose the algorithm to be used: MOD 10/MOD 11 or MOD 10/MOD 10.

Field Size/Chars

Refer to page 143 for details.

5.11.2.15 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.

Field Size/Char

Refer to page 143 for details.

5.11.2.16 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.

Field Size/Char

Refer to page 143 for details.

5.11.2.17 RSS Code

Enable

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

Enable RSS-14 (Reduced Space Symbology)

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

Enable RSS Limited

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

Enable RSS Expanded

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

Field Size/Char

Refer to page 143 for details.

5.11.2.18 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.

5.11.2.19 PDF-417

Enable

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

Field Size/Char

Refer to page 143 for details.

5.11.2.20 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:

>]C1if the first codeword is 903-907, 912, 914, 915
>
>]C2if the first codeword is 908 or 909
>
>]C0if 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:

>]L3if the first codeword is 903-907, 912, 914, 915
>
>]L4if the first codeword is 908 or 909
>
>]L5if the first codeword is 910 or 911

Field Size/Char

Refer to page 143 for details.

5.11.3   Decoded (HHP)
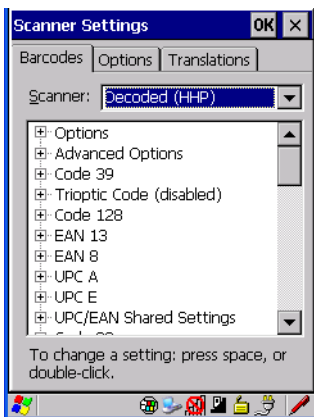
5.11.3.1   Decoded (HHP) Scanner Options

Laser On Time

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

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

5.11.3.2   Decoded (HHP) Advanced Options

Continuous Scan Mode

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

Minimum Cancel Time

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

Low Power Timeout

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

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

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

5.11.3.3   Code 39

Enabled

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

Strip Start/Stop Chars

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

Check Char

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

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

Setting this parameter to *None* disables this function.

Minimum And Maximum Length

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

Append

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

Pharmaceutical

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

Full ASCII

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

Field Size/Char

Refer to page 143 for details.

5.11.3.4 Trioptic Code

This code is used for labeling magnetic storage media.

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

5.11.3.5 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.*

Field Size/Char

Refer to page 143 for details.

5.11.3.6   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.

Prefix/Suffix

Refer to "Prefix/Suffix" beginning on page 144.

5.11.3.7   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.

Prefix/Suffix

Refer to "Prefix/Suffix" beginning on page 144.

5.11.3.8   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.

Prefix/Suffix

Refer to "Prefix/Suffix" beginning on page 144.

5.11.3.9   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.

Prefix/Suffix

Refer to "Prefix/Suffix" beginning on page 144.

5.11.3.10 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.

5.11.3.11 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.*

Field Size/Char

Refer to page 143 for details.

5.11.3.12 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*.

Field Size/Char

Refer to page 143 for details.

5.11.3.13 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.*

Field Size/Char

Refer to page 143 for details.

5.11.3.14 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.*

Field Size/Char

Refer to page 143 for details.

5.11.3.15 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.

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

Setting this parameter to *None* disables this function.

Minimum And Maximum Length

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

Field Size/Char

Refer to page 143 for details.

5.11.3.16 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*.

Field Size/Char

Refer to page 143 for details.

5.11.3.17 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*.

Field Size/Char

Refer to page 143 for details.

5.11.3.18 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*.

Field Size/Char

Refer to page 143 for details.

5.11.3.19 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*.

Field Size/Char

Refer to page 143 for details.

5.11.3.20 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*.

Field Size/Char

Refer to page 143 for details.

5.11.3.21 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.*

Field Size/Char

Refer to page 143 for details.

5.11.3.22 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*.

5.11.3.23 TLC-39

This composite component integrates MicroPDF417 with the linear code.

Enabled

Setting this parameter to *on* enables this parameter.

Field Size/Char

Refer to page 143 for details.

5.11.3.24 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*.

Field Size/Char

Refer to page 143 for details.

5.11.3.25 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*.

Field Size/Char

Refer to page 143 for details.

5.11.3.26 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*.

Field Size/Char

Refer to page 143 for details.

5.11.3.27 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*.

Field Size/Char

Refer to page 143 for details.

5.11.3.28 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*.

Field Size/Char

Refer to page 143 for details.

5.11.3.29 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.*

Field Size/Char

Refer to page 143 for details.

5.11.3.30 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.*

Field Size/Char

Refer to page 143 for details.

5.11.3.31 2D Maxicode

Enabled

Set this parameter to *on* to enable "2D Maxicode".

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 150.*

Field Size/Char

Refer to page 143 for details.

5.11.3.32 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*.

Field Size/Char

Refer to page 143 for details.

5.11.3.33 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.

Field Size/Char

Refer to page 143 for details.

5.11.3.34 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.

Field Size/Char

Refer to page 143 for details.

5.11.3.35 Postal: Australian

Enabled

Set this parameter to *on* to enable "Postal: Australian".

Field Size/Char

Refer to page 143 for details.

5.11.3.36 Postal: Canadian

Enabled

Set this parameter to *on* to enable "Postal: Canadian".

Field Size/Char

Refer to page 143 for details.

5.11.3.37 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.*

Field Size/Char

Refer to page 143 for details.

5.11.3.38 Postal: Japanese

Enabled

Set this parameter to *on* to enable "Postal: Japanese".

Field Size/Char

Refer to page 143 for details.

5.11.3.39 Postal: Kix

Enabled

Set this parameter to *on* to enable "Postal: Kix".

Field Size/Char

Refer to page 143 for details.

5.11.3.40 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.*

Field Size/Char

Refer to page 143 for details.

5.11.3.41 Postal: Royal

Enabled

Set this parameter to *on* to enable "Postal: Royal".

Field Size/Char

Refer to page 143 for details.

5.11.4 Decoded (Intermec ISCP)
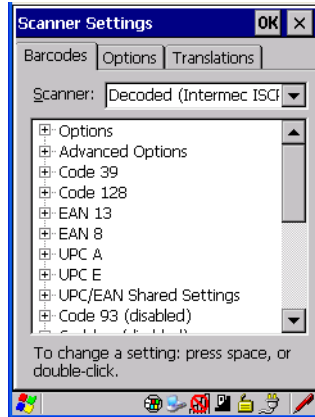
• Tap on the **Scanner** drop-down menu, and choose **Decoded (Intermec ISCP).**

5.11.4.1 Decoded (Intermec ISCP) Options

Laser On Time

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

Double-tapping on this parameter displays a dialog box in which you can enter a value between 1 and 10 seconds.

5.11.4.2 Decoded (Intermec ISCP) Advanced Options

Continuous Scan Mode

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

Minimum Cancel Time

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

Low Power Timeout

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

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

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

Parameter Scanning

Setting this parameter to *Enabled* allows decoding of parameter bar codes.

Same Read Validate

The data is only transmitted after repeated reads give the same result. The value assigned at this parameter determines the number of reads required, from 0 to 10 times.

Same Read Timeout

Prevents the same bar code from being read more than once. The value assigned determines after what time period the scanner will timeout, from 0 to 2550 msec.

Diff Read Timeout

Prevents unwanted reading of other bar codes on the same label. The value assigned determines after what time period the scanner will timeout, from 0 to 2550 msec.

5.11.4.3   Code 39

Enable

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

Full ASCII

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

Reading Range

Determines the reading distance from which a bar code can be successfully scanned. The default setting, *Extended*, allows for increased reading distance.

Start/Stop Transmit

Setting this parameter to *on* enables the transmission of start and stop characters, which are usually not transmitted. Code 39 can start and end with either a ***** or a **$** character (see also next parameter *Accepted Start Char*).

Accepted Start Char

This parameter allows the user the option of using one of the two start/stop characters or both ($ char, * char, $ and * char).

Check Digit Verification

Uses the specified algorithm of the option you've chosen to ensure the integrity of the symbol data before transmitting. If the data does not contain that algorithm, the data is not transmitted. The available options are: Disabled, MOD 43 Check, French CIP, or Italian CIP.

Notes: *French CIP (French pharmaceutical) is only used with bar codes containing 7 characters.*

Italian CIP (Italian pharmaceutical) is also known as Code 32. It is transmitted as a standard Code 39 if checksum is not validated.

Transmit Check Digit

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

Minimum Length

Minimum lengths for the bar code can be set from *0 to 255*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Field Size/Char

Refer to page 143 for details.

5.11.4.4   Code 128

Enable

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

GS1-128

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

GS1-128 Identifier

"GS1-128 Identifier" allows the AIM ID "]C1" for EAN 128 to be transmitted or removed. By default, this identifier is transmitted if EAN 128 is enabled.

GTIN Compliant

GTIN (global trade item number) processing transmits EAN 128 as the 14-character EAN/UCC GTIN. To use GTIN processing, you must activate the EAN 128 symbology.

Important: When EAN 128 and GTIN processing are both activated, it is not possible to read normal EAN 128 Codes.

FNC1 Conversion

"FNC1 Conversion" allows the embedded FNC1 character to be converted to another character for applications that cannot use the default <GS> Group Separator or hex (1d).

Double-tapping on this option displays a dialog box listing the allowable range – 0 to 255.

Enable ISBT 128

To successfully scan this type of bar code (International Society of Blood Transfusion), this option must be set to *on*. If you enable this type of bar code, Code 128/EAN 128 is deactivated to avoid any confusion.

ISBT Concat Transmit

The codes are not concatenated by default. You need to choose one of the options provided for this parameter to send concatenated code. Choosing *Only Concatenated Codes* transmits only concatenated codes—single codes will not be

transmitted. Choosing *Concatenated or Single* transmits single codes or concatenated codes. If only one code of a pair is read, that code will be transmitted as a single code. If both codes in a pair are detected, they will be concatenated provided that *ISBT Concat Any Pair* (see below) is enabled.

ISBT Concat Any Pair

Enabling this parameter causes all code pairs that can be, to be concatenated even if they do not comply with Section 4.1 of the "ISBT 128 Bar Code Symbology and Application Specification for Labeling of Whole Blood and Blood Components" (June 2000, Version 1.2.1).

Reading Range

Determines the reading distance from which a bar code can be successfully scanned. The default setting *Extended*, allows for increased reading distance.

Check Digit Verification

The available options for this parameter are Disabled or French CIP. This parameter uses the specified algorithm of the option you've chosen to ensure the integrity of the symbol data before transmitting. If the data does not contain that algorithm, the data is not transmitted.

Note: French CIP (French pharmaceutical) is only used with bar codes containing 7 characters.

Minimum Length

Minimum lengths for the bar code can be set from *0 to 255*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Field Size/Char

Refer to page 143 for details.

5.11.4.5 EAN 13 Settings

Enabled

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

ISBN Conversion

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

Transmit Check Digit

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

Prefix/Suffix

Refer to "Prefix/Suffix" beginning on page 144.

5.11.4.6   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.

Prefix/Suffix

Refer to "Prefix/Suffix" beginning on page 144.

5.11.4.7   UPC A Settings

Enabled

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

Transmit Check Digit

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

Transmit Number System

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

Convert To EAN 13

If this parameter is enabled, a UPC A bar code is converted to EAN 13.

Prefix/Suffix

Refer to "Prefix/Suffix" beginning on page 144.

5.11.4.8 UPC E Settings

Enabled

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

Enable UPC-E1

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

Transmit Check Digit

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

Transmit Number System

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

Convert To UPC-A

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

Prefix/Suffix

Refer to "Prefix/Suffix" beginning on page 144.

5.11.4.9 UPC/EAN Shared Settings

The setting assigned to the "Addendum" parameter associated with this option is shared across all UPC and EAN bar codes.

Addendum

An addendum is a separate bar code, supplementary to the main bar code. This parameter provides two options: *Not Required but Transmitted if Read* or *Required and Transmitted*.

- Double-tap on **Addendum** to display a dialog box listing your options.
- Highlight an item, and tap on **OK**.

When "Addendum" is set to *Not Required but Transmitted if Read*, the scanner searches for an addendum and if one exists, appends it to the main bar code. When the parameter is set to *Required and Transmitted*, the scanner does not accept the main bar code without an addendum.

Addendum Add-on 2 And Addendum Add-on 5

Enabling these parameters sets the length of the addendum bar code to either *2* or *5* characters.

GTIN Compliant

GTIN (global trade item number) processing transmits EAN 128 as the 14-character EAN/UCC GTIN. To use GTIN processing, you must activate the EAN 128 symbology.

Important: **When EAN 128 and GTIN processing are both activated, it is not possible to read normal EAN 128 Codes.**

Reading Range

This parameter determines the reading distance from which a bar code can be successfully scanned. The default setting, *Extended*, allows for increased reading distance.

5.11.4.10 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).

Field Size/Char

Refer to page 143 for details.

5.11.4.11 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.

Field Size/Char

Refer to page 143 for details.

5.11.4.12 MSI Plessey

Enabled

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

Enable Plessy

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

Check Digit Verification

The available options for this parameter are *MOD 10 Check* and *Double MOD 10 Check*. This parameter uses the specified algorithm of the option you've chosen to ensure the integrity of the symbol data before transmitting. If the data does not contain that algorithm, the data is not transmitted.

Transmit Check Digit

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

Plessy Transmit Check Digit

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

Minimum Length

Minimum lengths for the bar code can be set from *0 to 255*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Plessy Minimum Length

Minimum lengths for the Plessy bar code can be set from *0 to 255*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Field Size/Char

Refer to page 143 for details.

5.11.4.13 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).

Field Size/Char

Refer to page 143 for details.

5.11.4.14 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.

Field Size/Char

Refer to page 143 for details.

5.11.4.15 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).

Field Size/Char

Refer to page 143 for details.

5.11.4.16 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 *Identicon (6 start/stop bars) or Computer Identics (4 start/stop bars)*.

Check Digit Verification

The available options for this parameter are *Disabled* and *MOD 10 Check*. "Check Digit Verification" uses the specified algorithm of the option you've chosen to ensure the integrity of the symbol data before transmitting. If the data does not contain that algorithm, the data is not transmitted.

Transmit Check Digit

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

Set Length L1, Set Length L2, And Set Length L3

Lengths for "Discrete 2 of 5" can be set from *0 to 255*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Double-tapping on these parameters displays dialog boxes where you can define the code length that will be recognized by your scanner.

Length Mode

You can chose to set *L1 as Minimum Length* or *L1,L2,L3 as Fixed Length*.

Field Size/Char

Refer to page 143 for details.

5.11.4.17 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).

Field Size/Char

Refer to page 143 for details.

5.11.4.18 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.

Field Size/Char

Refer to page 143 for details.

5.11.4.19 PDF-417

Enabled

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

Field Size/Char

Refer to page 143 for details.

5.11.4.20 Micro PDF-417

Enabled

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

Code 128 Emulation

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

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

>]C1if the first codeword is 903-907, 912, 914, 915

>]C2if the first codeword is 908 or 909

>]C0if 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:

>]L3if the first codeword is 903-907, 912, 914, 915

>]L4if the first codeword is 908 or 909

>]L5if the first codeword is 910 or 911

Field Size/Char

Refer to page 143 for details.

5.11.4.21 Codablock

Enable Codablock A
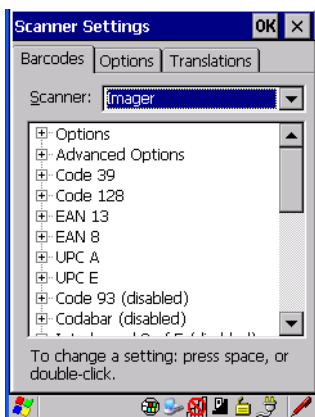
Set this parameter to *on* to enable "Codablock type A".

Enable Codablock F

Set this parameter to *on* to enable "Codablock type F".

Field Size/Char

Refer to page 143 for details.

5.11.5 Imager

• Tap on the **Scanner** drop-down menu, and choose **Imager**.

5.11.5.1 Imager Options

TekImager Enabled

Setting this option to *on* enables the imager installed in your hand-held.

Continuous Scan Mode

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

Center Bar Code Only

Note: This parameter must be disabled when reading Composite bar codes.

When more than one bar code is visible in a single snap shot, this parameter allows you to specify that only the centre image within the imager framing marker be read. When this parameter is set to *on*, the target dot is pointed at the centre image and only that image is returned.

Max Number Barcodes

This parameter specifies the maximum number of bar codes the imager will attempt to decode in an image. A maximum of 6 bar codes can be decoded at one time.

Barcodes Must Decode

This parameter specifies the minimum number of bar codes that the imager must decode in order to report success.

Note: This number must be less than the number of bar codes assigned to "Max Number Barcodes". The driver validates and reassigns the value if necessary.

Window Width

"Window Width" determines the width of the captured image in pixels.

Note: The driver will validate and reassign the value assigned to this parameter, if necessary; the driver will also use the Window Width value to horizontally center the image in the field of view.

Window Height

This parameter determines the height of the captured image in pixels.

Note: The driver will validate and reassign the value assigned to this parameter, if necessary; the driver will also use "Window Height" value to vertically center the image in the field of view.

Dot Time (msec)

The value selected for "Dot Time (msec)" determines (in milliseconds) how long the targeting dot remains on before the scanner begins capturing images. When you double-tap on this parameter, a dialog box is displayed in which you can enter a value of between 0 and 3000. A value of 0 disables the target dot.

5.11.5.2   Imager Advanced Options

⚠️ ***Important:***   ***Do not adjust the advanced options without first consulting Psion
Teklogix technical support.***

Factory Defaults On Reboot

The value assigned to this parameter determines whether or not the driver will
restore the factory defaults to the imager device on the next reboot.

📖 *Note:*   *The driver will default the imager device on a 'clean' reset, regardless of
the value of this parameter.*

Min Scan Duration

This parameter defines the minimum amount of time in seconds that the imager will
scan when the trigger is pressed and held down without successful decode.

📖 *Note:*   *The actual scan duration when the trigger is pressed relies on the value
assigned to* Captures Per HW Trigger, *below.*

Captures Per HW Trigger

The value assigned to this parameter determines the number of captures the imager
device will take while the imager's internal hardware trigger is held down.

📖 *Note:*   *This parameter, together with "Min Scan Duration", determines the
actual scan duration. When the scan trigger is pressed and held down, the
driver starts a timer based on the value of "Min Scan Duration" and also
sends a command to emulate the hardware trigger. When completed, if the
time has not yet expired, it will send another command to the imager
device, forcing the imager to flash again using the value assigned to
"Captures Per HW Trigger".*

Auto Exposure

⚠️ ***Important:***   ***This parameter value should only be changed by qualified Psion
Teklogix personnel. It should be left at the default value – 'on'.***