5.1 Remote Connect

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

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

http://www.microsoft.com/WindowsXP/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 includes unique features that support TekTerm—a Psion Teklogix application that has the ability to maintain multiple simultaneous sessions with a variety of host computers. For detailed information, please refer to the *TekTerm Software User Manual, PN 8000073.*

5.3 The Control Panel

The Windows CE 5.0 *Control Panel* provides a group of icons through which you can set a variety of system-wide properties, such as mouse sensitivity, network configuration and the desktop color scheme.

Note: *If you are uncertain how to move around a dialog box and make selections, review "Using A Dialog Box" on page 71.*

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

To access the *Control Panel*:

- 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.

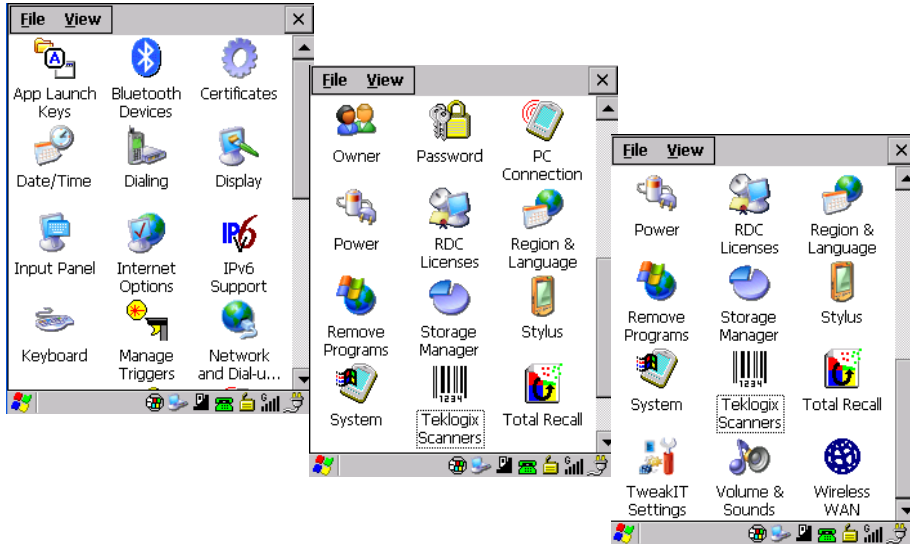
Figure 5.1 Control Panel

5.4 Control Panel Icons

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

App Launch Keys

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

Bluetooth Devices

Provides the tools to manage device pairing and configuration.

Certificates

A public key is transmitted as part of a certificate. The certificate assigned through this icon is used to ensure that the submitted public key is, in fact, the public key that belongs to the submitter. The client checks that the certificate has been digitally signed by a certification authority that the client explicitly trusts. "Certificate Assignment" on page 108 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 configure each of the trigger buttons. You can configure the trigger ID for each trigger button for both single- and double-click, and the double-click time.

Network And Dial-up Connections

Displays a network window from which the WORKABOUT PRO 802.11g radio can be configured and an existing configuration can be executed. Refer to "Configuring The Summit RA2041 802.11b/g" 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 63 for details.

PC Connection

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

Power

Displays battery pack power status. (Alternately, battery status can be accessed through the taskbar.) Additional tabs allow you to determine suspend states, specify a suspend threshold and, when seated in either the

Combo Dock or Quad Dock, determine whether or not a battery that requires it can be recalibrated. This dialog box also allows you to activate card slots and built-in devices. (Refer to "Devices" on page 102 for details.)

RDC Licenses

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

Region & Language

Allows you to specify the local language that is to be displayed on the hand-held screen along with the format of numbers, currency, time and date for your region.

Remove Programs

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

Storage Manager

Allows the user to view information about the storage devices that are present, such as SD-MMC flash cards. For details, see page 128.

Stylus

Adjusts how Windows CE 5.0 recognizes your double-tap (as slow or rapid successive taps). In the *Calibration* tab, you can recalibrate your touch-screen 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 WORKABOUT PRO scanner will successfully read.

5.5.1.1   Display Backlight

The backlight is activated for a configurable amount of time when the WORKABOUT PRO 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.
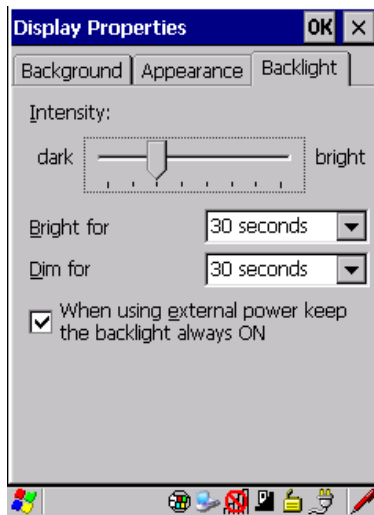
Notes: Backlight changes take effect immediately. You do not need to reset the unit.

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

5.5.1.2   Display Appearance

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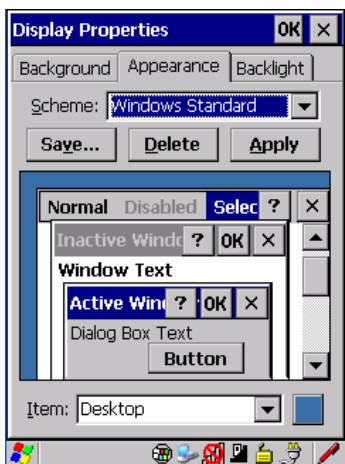
This dialog box allows you to customize the display colour scheme.

5.5.2 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 [FN/BLUE] and [ORANGE] modifier keys. This dialog box also allows you to define macro keys and Unicode characters.

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

Figure 5.3 Choosing The Keyboard Icon

5.5.2.1 Key Repeat

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

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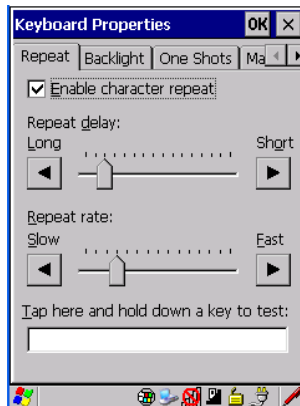
Repeat Delay

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.

5.5.2.2 Keyboard Backlight

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

Intensity

This parameter is used to adjust the light intensity of the WORKABOUT PRO 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.

5.5.2.3 Keyboard One Shot Modes

• In the Keyboard Properties dialog box, open the One Shots tab.
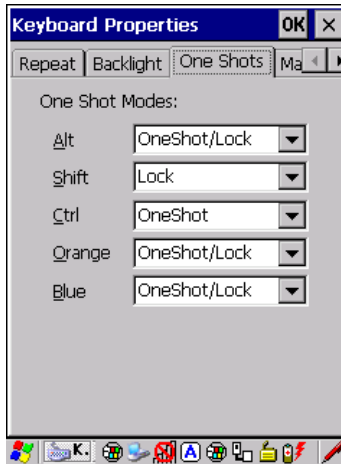
The options in this tab allow you to determine how modifier keys on your WORKABOUT PRO behave. For each modifier key—[ALT], [SHIFT], [CTRL], [FN/ORANGE] and [FN/BLUE]—you have the following options in the drop-down menu: Lock, OneShot, and OneShot/Lock.

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

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

Lock

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

OneShot

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

OneShot/Lock

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

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

5.5.2.4   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. On a *36-key* WORKABOUT PRO, 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.

5.5.2.5   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.
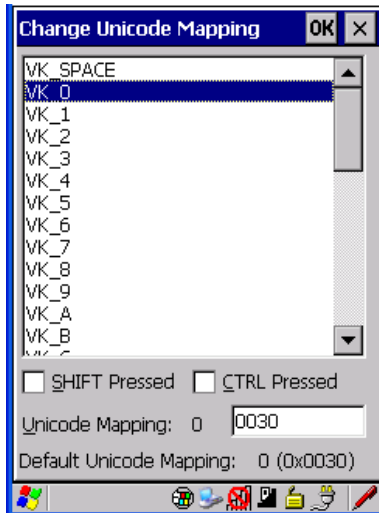
Figure 5.4 Adding And Change Unicode Values

- 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.

5.5.2.6 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] 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.
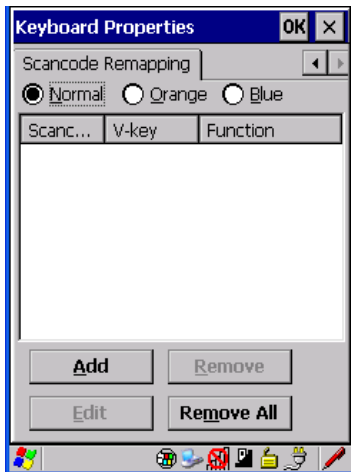
The first column in the *Scancode Remapping* tab displays the scancodes in hexadecimal. If the scancode is remapped to a virtual key, that virtual key is displayed in the next column labelled 'V-Key'. A virtual key that is 'Shifted' or 'Unshifted' is displayed in the third column labelled 'Function'.

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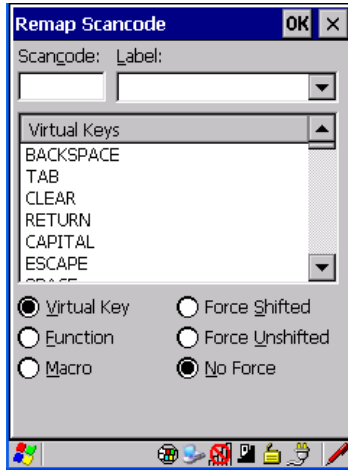
- Type the scan code in hexadecimal in the field labelled *Scancode*

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**.

5.5.3 Volume And Sound Properties

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

Figure 5.5 Choosing The Volume Icon

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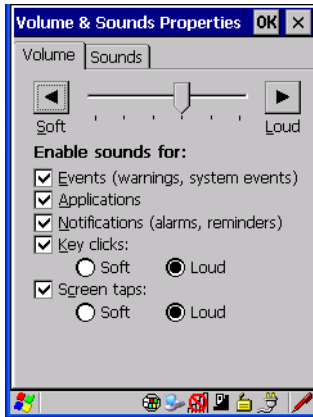
- Slide the volume button to the left to lower the beeper volume or to the right to increase the beeper volume.
- Under the heading *Enable sounds for*, enable the conditions under which you want the WORKABOUT PRO to emit a beep.

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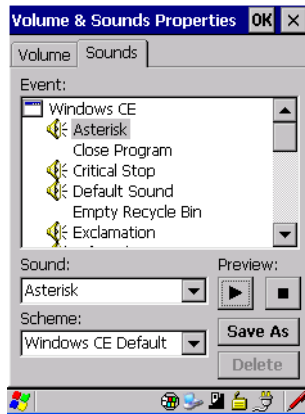
This dialogue box allows you to assign sounds to identify a particular actions. For example, you can choose the sound your hand-held will emit when you close a program and choose another sound for a failed scan, etc.

5.5.4 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.
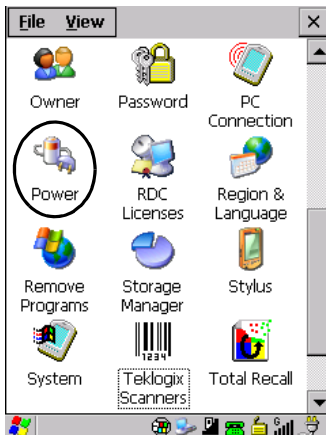
5.5.4.1 Battery Capacity

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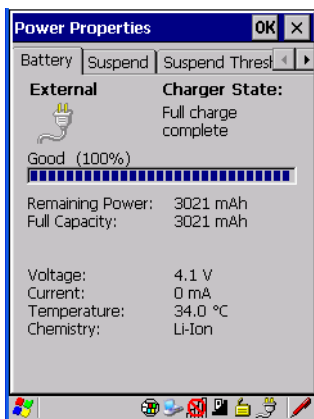
5.5.4.2   Power Saving Suspend

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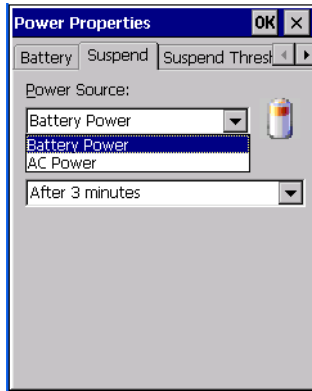
Power Source

This dialog box allows you to specify the suspend time for either *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 85).*

When the WORKABOUT PRO is idle—not receiving any user input (a key touch, a
scan, and so on) or system activity (serial data, an activity initiated by an
application, and so on)—the hand-held uses the value assigned in the *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 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 is in suspend state, the network connection will not be broken immediately. If
the connection is dropped, you must re-establish the network connection.

5.5.4.3   Suspend Threshold
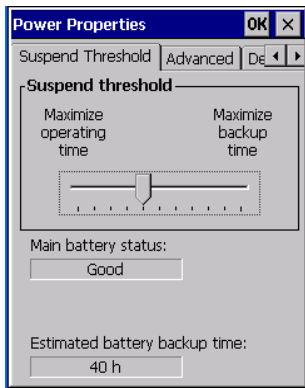
The *Suspend Threshold* adjustment tells the system when to shut down when the battery drains. If left at the default value, *Maximum Operating Time*, the hand-held will run until the battery is completely empty; the RAM is only backed up for a short period of time. If you choose *Maximum Backup Time*, 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 Windows 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.*

5.5.4.4   Advanced
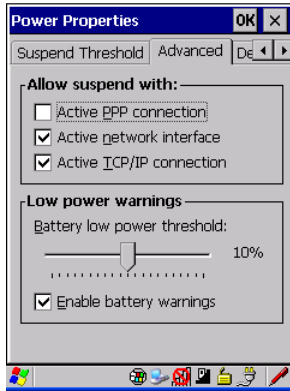
Allow Suspend With:

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 screen, from 0% to 20%.

5.5.4.5   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.
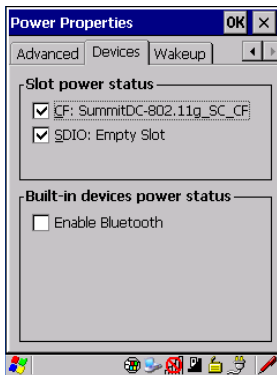
5.5.4.6   Wakeup

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

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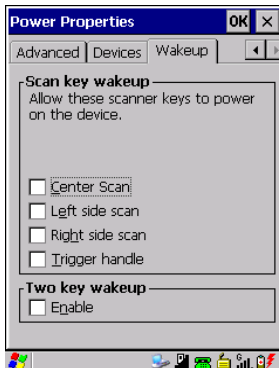
5.5.5 Stylus Properties

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

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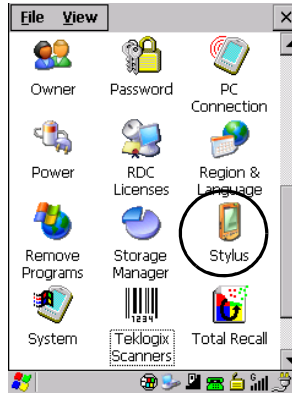
5.5.5.1 Double-Tap

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

5.5.5.2 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.
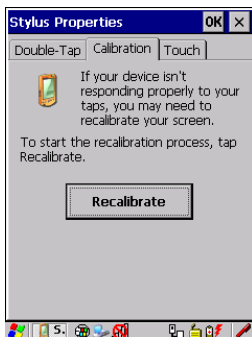
• Follow the directions in the *Calibration* tab to recalibrate the screen.

5.5.5.3 Touch

This tab allows you to disable the touchscreen.

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

5.5.6 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.
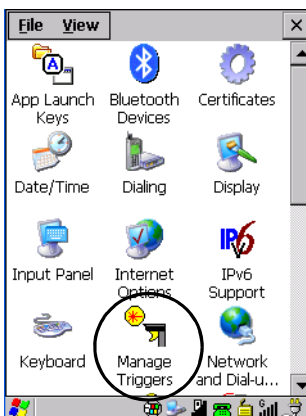
Figure 5.6 Manage Triggers Icon

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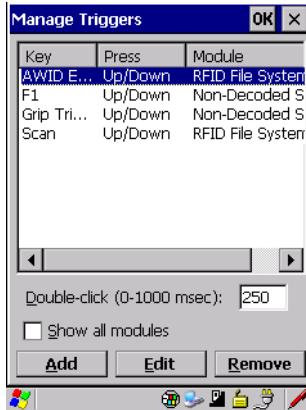
5.5.6.1 Trigger Mappings

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

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

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

Double-Click

When a key is pressed and released, then pressed again within the configured time (between **0** to **1000** milliseconds), a double-click occurs. See also "Trigger-Press Type" on page 107.

Show All Modules

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

Add

Tapping this button brings up the *Add* mapping dialog (see page 106), so that you can add new trigger mappings.

Edit

Tapping this button brings up the *Edit* mapping dialog (see page 106), 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.

5.5.6.2   Add And Edit Trigger Mapping

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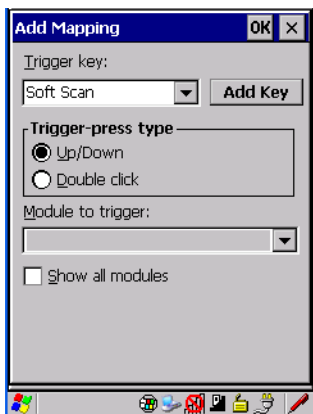
Trigger Key

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.

5.5.7 Certificate Assignment

• In the *Control Panel*, choose the **Certificate** icon.
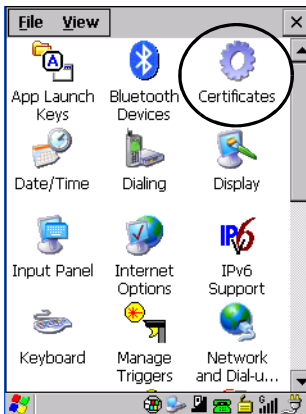
Figure 5.7 Certificates Icon

This option is used in conjunction with 802.1x authentication to enhance WORKABOUT PRO security.
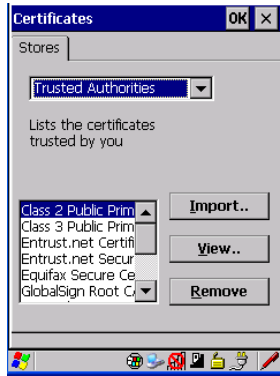
For a detailed description about *Certificate* setup for both the server and client-side devices (WORKABOUT PROs), refer to the following website:

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

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

5.6 *Bluetooth* Setup

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

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

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

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

When the radio is enabled, a *Bluetooth* icon appears the taskbar at the bottom of the screen. It is ready for setup.

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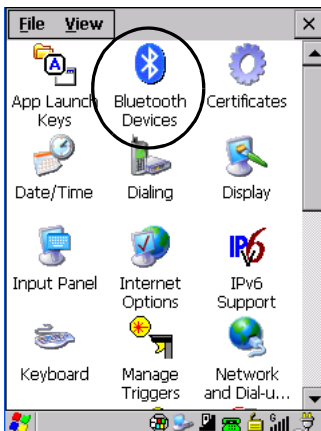
Figure 5.8 *Bluetooth* Icon

The *Bluetooth* Manager dialog box displays the other *Bluetooth* devices with which
you can communicate.

5.6.1   The Devices Tab
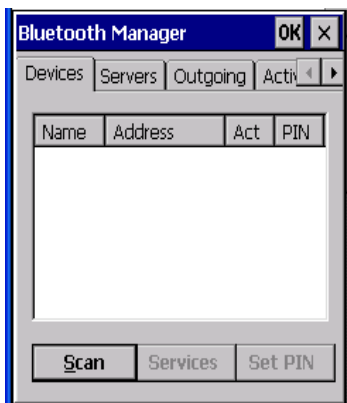
If you intend to pair devices (a headset, for example), power on and bring the
devices within 5 m (16.4 ft.) of the hand-held before proceeding with the discovery
process described below.

5.6.1.1   Pairing A Device

To pair devices:

- Follow the manufacturer's instructions to place the device you want to pair in pairing mode

- Choose the **Devices** tab and **Scan** for devices in your area.

- When the scan is complete, highlight the device you want to pair with and either double-click or press the **Services** button.

- If a PIN dialog box appears, type your PIN and tap on OK.

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

- To select a service, double-click on the service you want, or highlight the service and press the space bar.

- In the dropdown list of options available, choose **Active** to pair the device.

A COM/BSP port name will appear next to the service for this device. Your device is now paired.

Scan

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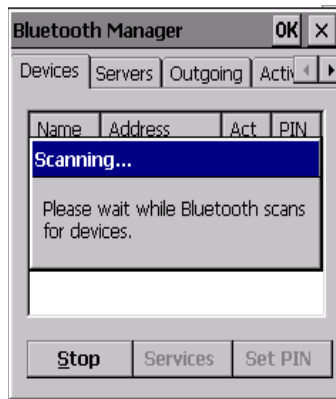
Figure 5.9 Available *Bluetooth* Devices

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

Note: *During the scanning process, addresses are located first, followed by names. 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), Headset 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 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.

5.6.2 The Servers Tab

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

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

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

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

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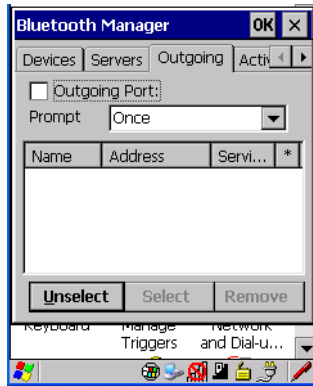
Outgoing Port acts as a serial port that can be used to connect to a list of *Bluetooth* devices (one at a time), but you have the freedom to ***switch on-the-fly***.

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).*

5.6.4 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 Proper-
ties 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 (for cold reset instruc-
tions, see "Resetting The Hand-Held" on page 26).*

5.7 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 CE 5.0, the registry and installed programs are stored in the Flash file system and are not lost on reset. However, in special cases where Psion Teklogix personnel find it necessary to perform a **clean** start, this will reset not only the registry settings to factory defaults, but will also erase any files or applications stored or installed on the built-in Flash file system, including any Total Recall profiles. This is why any data that needs to be protected must be stored on a SD/MMC card or externally to the device on a USB memory stick or on a PC.*

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

Figure 5.12 Total Recall Icon

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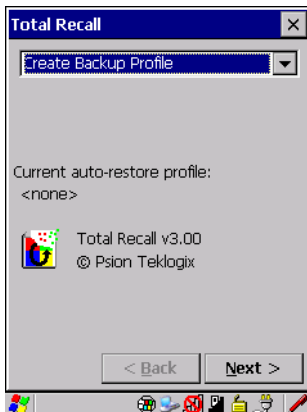
In the drop-down menu, you can choose from four options: Create Backup Profile, View Selected Profile, Restore Selected Profile and Delete Selected Profile. Keep in mind however that until a profile is created, the only available option is *Create Backup Profile*.

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

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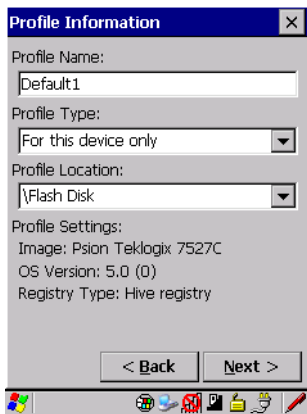
This dialog box lists the possible storage destinations for the profile file.

   • 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 cold start.
    - *AutoRestore for this and other devices* – creates a profile that automatically restores after resuming from a cold 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
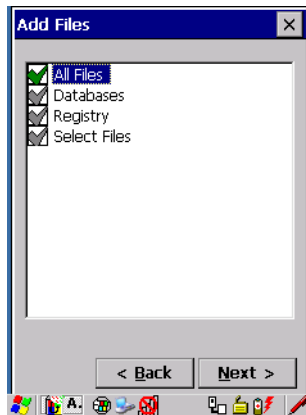
Figure 5.13 Adding Files

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.
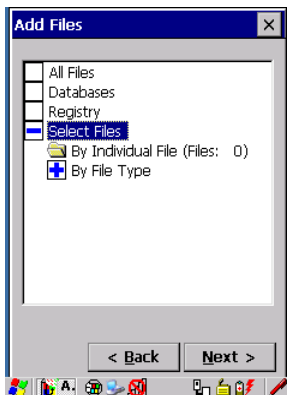
Choosing *By Individual File* displays a pop-up menu where you can tailor the list of files you want to back up.
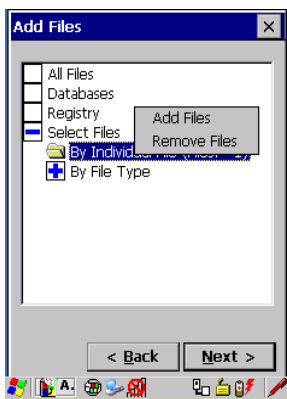
To *add a file* to your backup list:

- 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.

Add Files dialog showing:
- All Files
- Databases
- Registry
- Select Files
  - By Individual File (Files: 1)
  - By File Type (selected)
    - *.lnk
    - *.dat
    - *.dll
    - *.lib
    - *.exe

With < Back and Next > buttons.
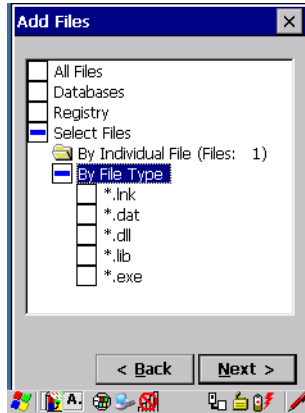
View Selections

Depending on what you have selected for inclusion in your profile, you can view a list of the selected files, databases and/or registry.

View Selections dialog showing:
View: Files Added

File Name	Last Modified
\Application D…	7\1\2004, 17…
\Control Panel…	1\1\2003, 12…
\My Documen…	7\1\2004, 17…
\My Documen…	1\1\2003, 12…
\Program Files…	7\1\2004, 17…
\Program Files…	1\1\2003, 12…
\Program Files…	1\1\2003, 12…
\Program Files…	1\1\2003, 12…
\Program Files…	1\1\2003, 12…
\Temp\Syste…	3\9\2004, 10…
\Windows\cer…	3\9\2004, 09…
\Windows\KillP	3\9\2004, 09…

With < Back and Next > buttons.
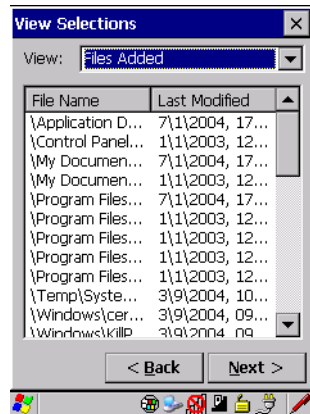
• Choose the **Next** button to perform the operation.

Perform The Operation
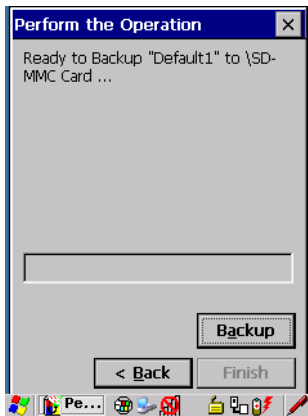
- Choose the **Backup** button to start the process, and create a profile.

5.7.2 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.

5.8 The Storage Manager

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

5.8.1 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. Choose **Start> Settings>Control Panel**.

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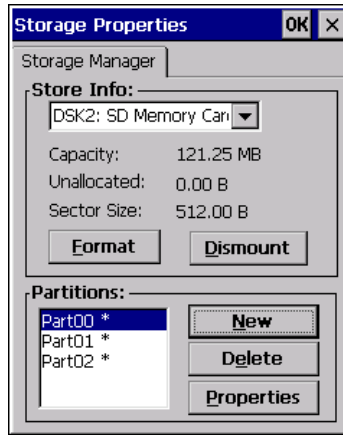
3. Choose the memory card from the drop-down list.

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.***

5.8.2 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. Tap the **New** button next to the *Partitions* list box. The *Create New Partition* dialog box appears:
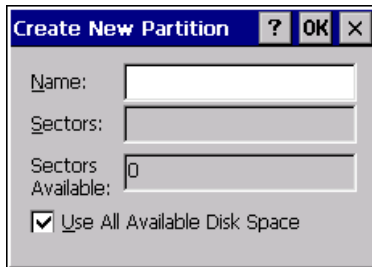
2. Type a name for the partition.

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

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

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

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

5.8.3   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. Choose the desired partition.
2. Tap the **Properties** button. The *Partition Properties* dialog appears.

3. Tap 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. Tap the **Delete** button. A warning dialog appears.

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

To format a partition:

1. Choose the desired partition.
2. Tap the **Properties** button. The *Partition Properties* dialog appears.

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

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

5. Choose your format options. These options include:

- Version of file system (FAT-16, for devices holding up to 4 GB; or FAT-32, for devices containing up to 32 GB).

- Number of FATs (File-Allocation Tables).

- Number of entries allowed in the root directory.

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

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 reference to data in the partition without erasing the actual partition. The partition will be treated as empty, and new data will overwrite it.

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

To mount a partition:

1. Choose the desired partition.

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

3. Tap 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.

5.9 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.
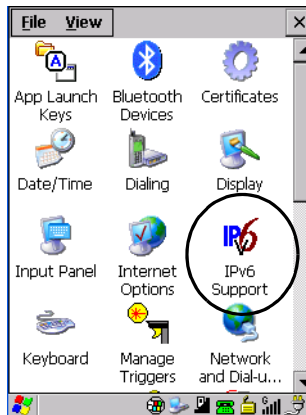
Figure 5.14 IPv6 Support Icon

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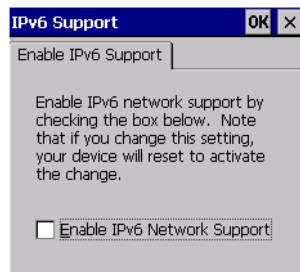
•   Choose the checkbox next to *Enable IPv6 Network Support* to enable this internet protocol.

5.10 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.
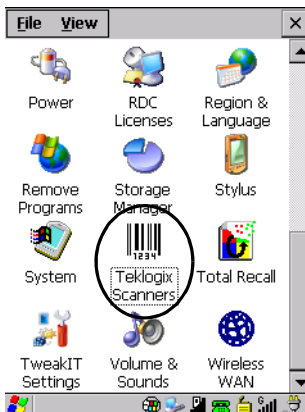
Figure 5.15 Teklogix Scanners Icon

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

5.10.1 Bar Codes
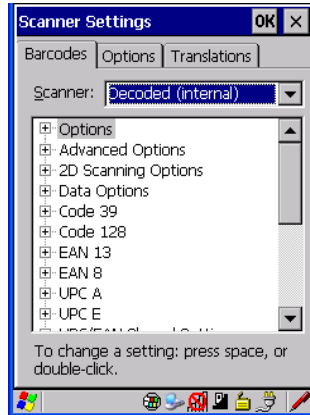
5.10.1.1 Scanner

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.

5.10.1.2 Restoring Default Settings

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

• Press and hold the stylus on a symbology (e.g., Code 128) to display a pop up a menu.
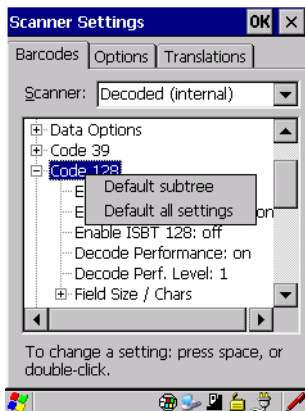
• Choose *Default subtree* to reset only the parameters in the symbology you selected, or choose *Default all settings* to reset all scanner parameters to default settings.

To reset a single parameter to its default setting:

• Press and hold the stylus on the parameter you want to reset.
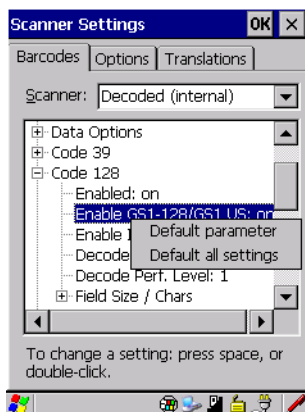
• Choose *Default parameter* to reset the parameter to the default setting.

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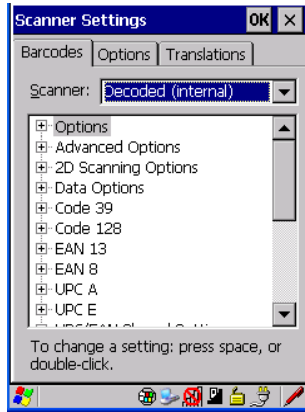
• Tap on the **Scanner** drop-down menu, and choose **Decoded (internal)**.

5.10.2.1   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.

5.10.2.2   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.

5.10.2.3   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.

5.10.2.4   Decoded (Internal) Data 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.

5.10.2.5   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
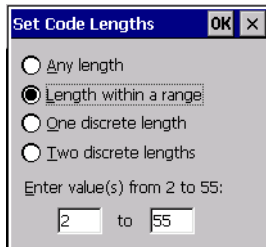
Choosing *One discrete length* allows you to decode only those codes containing a selected length. Choosing *Two discrete lengths* allows you to decode only those codes containing two selected lengths. *Length within a range* allows you to decode a code type within a specified range from 1 to 55.

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.

5.10.2.6   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.

5.10.2.7   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.

5.10.2.8 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.

5.10.2.9 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

See "Prefix/Suffix" beginning on page 144.

5.10.2.10 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

5.10.2.11 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 omnidirectional scanner engine only.

5.10.2.12 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.

5.10.2.13 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.

5.10.2.14 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.

5.10.2.15 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.

5.10.2.16 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.

5.10.2.17 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.

5.10.2.18 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.

5.10.2.19 PDF-417

Enable

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

Field Size/Char

Refer to page 143 for details.

5.10.2.20 Micro PDF-417

Enable

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

Code 128 Emulation

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

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

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

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

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

Field Size/Char

Refer to page 143 for details.

5.10.3   Decoded (HHP)
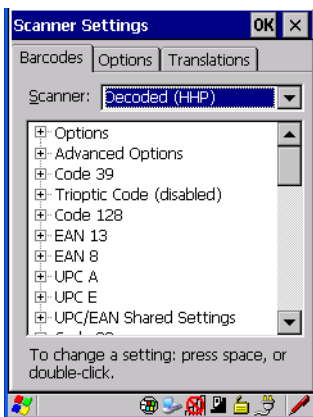
5.10.3.1   Decoded (HHP) Scanner Options

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.

5.10.3.2   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.*

5.10.3.3 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.

5.10.3.4 Trioptic Code

This code is used for labelling magnetic storage media.

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

5.10.3.5 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.

5.10.3.6   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.

5.10.3.7   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.

5.10.3.8   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.

5.10.3.9   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.

5.10.3.10 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.*

5.10.3.11 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.

5.10.3.12 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.

5.10.3.13 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*.