Ikôn™ Rugged PDA

(Windows CE 5.0)

User Manual

February &&, 2010   **Part No. 8100147.B**

ISO 9001 Certified
Quality Management System

PSION TEKLOGIX

This manual supports the following Ikôn models:

- 7505-BT
- 7505-BTSDCM
- 7505-BTMC75
- 7505-BTHC25
- 7505-BTSDCMMC75
- 7505-BTSDCMHC25

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INTRODUCTION

1

1.1   About This Manual

This manual describes how to configure, operate, and maintain the Psion Teklogix Ikôn Rugged PDA.

Chapter 1: Introduction

> provides a basic overview of Ikôn.

Chapter 2: Basic Checkout

> describes the steps required to get Ikôn ready for operation, including setting up your 802.11 radio.

Chapter 3: Getting to Know Your Ikôn

> describes Ikôn features, outlines how to charge and maintain the battery, describes the keyboard, display, etc.

Chapter 4: Working with Windows CE 5.0

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

Chapter 5: Configuration

> describes the Microsoft Windows Embedded CE 5.0 Control Panel and how to use it to configure Ikôn, alon g with attached scanners, and so on.

Chapter 6: Peripheral Devices & Accessories

> describes the peripherals and accessories available for your Ikôn.

Chapter 7: Specifications

> lists the specifications for Ikôn, radio, scanner, and battery .

Appendix A: Port Pinouts

> describes the Ikôn pinouts.

Appendix B: Wireless Wide Area Network (WWAN)

> describes WWAN configuration information (GPRS radio RA3030).

Appendix C: Bar Code Settings

> details your bar code options.

Appendix D: SCU for 802.11b/g Radio

> provides details on the Summit Client Utility (SCU), which is used to configure the Summit RA2041 802.11b/g Compact Flash radio module.

Appendix E: Teklogix Imagers Applet

> describes in detail your imager's settings.

1.2   Text Conventions

Note: Notes highlight additional helpful information.

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

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

1.3   Ikôn Rugged PDA Features

Important: For all safety, regulatory and warranty information, refer to the Ikôn Rugged PDA Regulatory & Warranty Guide, PN 8000148.

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

Note: For complete Ikôn Rugged PDA specifications, refer to "Specifications" on page 191.

Figure 1.1   Ikôn Rugged PDA

Platform

- XScale PXA270M @ 624 MHz, 32 bit RISC CPU.
- 256 MB Flash, 128 MB RAM.

Operating System

- Microsoft Windows CE 5.0.

Multi-Media Chipset

- NVIDIAGoForce 4000 Multi-Media Processor.

User Interface

- Colour Touch Screen Display 9.39 cm (3.7 in.) diagonal.
  - Full VGA 480x640 resolution.
  - Transflective, portrait mode TFT.

- Adjustable Backlight.
- Touchscreen.
    - Passive stylus or finger operation.
    - Signature capture.
- Keyboards.
    - Full Aphanumeric
    - Numeric, with or without Phone option.
    - Ergonomically enhanced for ambidextrous, one-hand operation.
    - Backlit, high durability hard-capped keys.

Wireless Communication

Optional expansion modules for:

- 802.11b/g (proprietary module) operating in the 2.4GHz band.
    - Supports IEEE 802.11b data rates of 1, 2, 5.5, and 11 Mbps using Direct Sequence Spread Spectrum (DSSS).
    - Supports IEEE 802.11g data rates of 6, 9, 12, 24, 36, 48, and 54 Mbps, using Orthagonal Frequency Division Multiplexing (OFDM) base band modulation.
- GSM/GPRS EDGE (via expansion interface).
    - Quad-Band – 850/900/1800/1900.
    - Voice and Data.
    - GPRS Class B, Multi-Slot Class 12.
    - EGPRS Class B, Multi-Slot Class 12.

Integrated *Bluetooth*® class 2, ver 2.0

- Supports Enhanced Data Rate (EDR) for up to 3 Mbps data rate.
- Supports Advanced Frequency Hopping (AFH) for reduced interference with 802.11b/g radio.

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

BASIC CHECKOUT 2

2.1   Ikôn Features

Figure 2.1 Front, Top, and Sides of Ikôn

Figure 2.2 Back of Ikôn

Speaker

Hand Strap Anchor

Battery Latch

Camera

Battery Latch

Cover for Battery and
SIM/microSD Card
Compartments

Stylus

Figure 2.3 Bottom of Ikôn (Ports)

Docking Port/USB on-the-go

DC IN Port

Hand Strap Anchor

2.2 Preparing Ikôn for Operation

2.2.1 The Battery

Ikôn is powered with a Lithium-ion Battery pack, 5000 mAh—Model No. CH3000.

> ⚠️ *Warning: **Before charging the battery, it is critical that you review the battery safety guidelines in the Ikôn Rugged PDA Regulatory & Warranty Guide, PN 8000148.***

Battery packs shipped from the factory are charged to approximately 40% and must be fully charged prior to use. Batteries can be charged using a variety of chargers and docking stations along with an Ikôn internal charger. When using the internal charger, a suitable power source is required. The battery, and all chargers and docking stations are described in Chapter 6: "Peripheral Devices & Accessories" beginning on page 161.

2.3 Turning Ikôn On and Off

2.3.1 Installing the Battery

> ⚠️ *Important: <u>Press the Power button to turn off the PDA </u>before opening the battery cover on your Ikôn (see "Switching Ikôn Off" on page 12).*

- To unlock the battery cover, turn the left-hand battery fastener to the left, and turn the right-hand battery fastener to the right.
- Remove the battery cover.
- Snap the *charged* battery into the unit. Replace the battery cover, and lock the fasteners in place.

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

2.3.2 Switching Ikôn On

- Press and hold down the Power button, located on the front of the unit at the top right, for at least one second.
- When the yellow LED flashes, release the Power button.

The desktop screen is displayed.

> *Note: If the unit was already in use—the unit may be off (suspend state)—pressing [ENTER] 'wakes' the unit from this state. The screen in which you were working prior to the suspend state is displayed. "GPS" on page 105 describes how you can assign other 'wakeup' keys or enable a two-key 'power on' sequence.*

> **Important: If your Ikôn fails to power up, consider the following troubleshooting options:**
>
> **The battery capacity may be too low (capacity < 100mAh), it may be over-heated (>60C°), a non-Psion Teklogix battery may be installed, or the battery may have fallen below the configured Suspend Threshold. See "Suspend Threshold" on page 103 for details.**
>
> **If you provide AC power to an Ikôn, and either the battery capacity is too low or the battery is overheated, a yellow LED will flash and the unit will <u>not</u> switch on. To switch on the PDA, you will need to replace the over-heated battery or, in the case of a depleted battery, wait for the capacity to reach an acceptable level.**
>
> **However, if you supply AC power to an Ikôn with a battery that falls below the configured Suspend Threshold, the PDA <u>will</u> switch on.**

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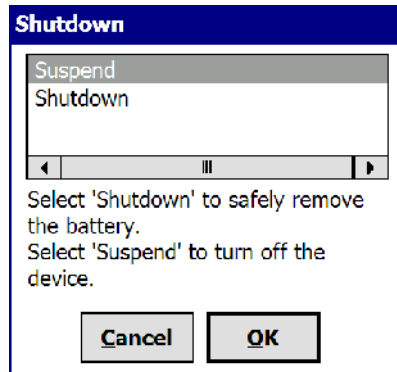
> **Important: Keep in mind that turning off Ikôn does <u>not</u> result in a complete reboot; rather, the unit enters a power-saving, "suspend" state. When the unit is turned on from suspend state, operation resumes within a few seconds.**

- To switch off Ikôn, press and hold the **Power** button for five seconds. The *Shutdown* dialog box (Figure 2.4 on page 13) will appear for you to choose whether you want to *Shutdown* or *Suspend*.

> *Note: If you press the **Power** button for only a second, Ikôn will automatically enter the Suspend state.*

Figure 2.4   Shutdown Dialog Box

The *Suspend* option will simply suspend the device. Radios such as the GPRS or UMTS can still operate while the device is suspended. In this case the blue LED radio indicator will continue blinking.

The *Shutdown* option will turn off all radios before suspending the device. When this happens, the blue LED radio indicator will stop blinking since all radios are turned off.

2.4   Calibrating the Touchscreen

Note: Keep in mind that the touchscreen function can be turned off (see "Touch" on page 108).

The Ikôn touchscreen is factory-calibrated and ready-to-go; however, over time the touchscreen operating parameters may change, and it may need to be recalibrated for correct operation. Refer to "Calibrating the Touchscreen" on page 38 for details.

2.5   Configuring the Summit RA2041 802.11b/g Radio

Psion Teklogix supports an 802.11b/g Compact Flash (CF) wireless LAN radio card. The Summit RA2041 Radio is a Direct Sequence Spread Spectrum radio.

If your unit is equipped with an 802.11b/g CF radio, follow the steps below to set up this type of radio for communication with a wireless LAN. For detailed information, see "SCU for 802.11b/g Radio" on page D-1.

2.5.1 Summit Client Utility (SCU) for 802.11b/g Radio

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

2.5.2 Assigning the IP Address

Before launching the SCU, you need to configure how the IP address will be obtained. If your network is not using a DHCP server, you will need to assign an IP address.
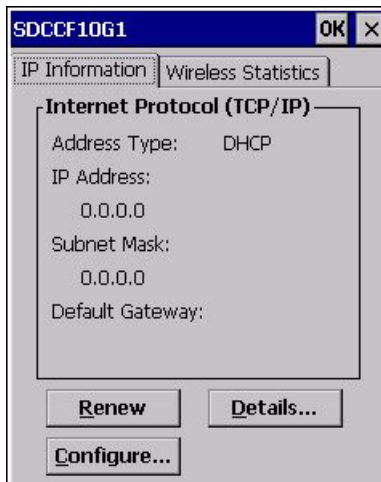
1. Tap on **Start>Settings>Network and Dial-up Connections.**

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

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

Figure 2.5 Summit WLAN Adapter Icon
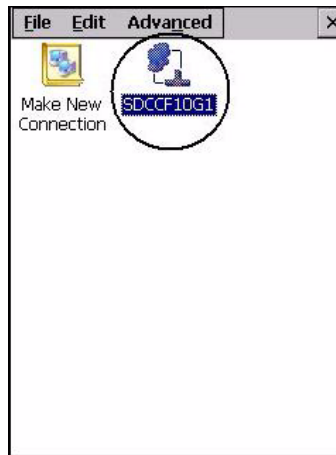
The *Summit WLAN Adapter Settings* menu is displayed (In this screen shown as the *SDCCF10G1* menu).

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

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

4. To define a static IP address, tap on the **Configure** button. The *Summit WLAN Adapter Settings* menu provides two options:

    • Tap on **Obtain an IP address via DHCP** to have an address assigned automatically, or

    • If you want to use a particular IP address, tap on **Specify an IP address**, and type the preferred address as well as the *IP, Subnet Mask* and *Default Gateway* addresses in the appropriate fields. Tap **OK** to save your information.
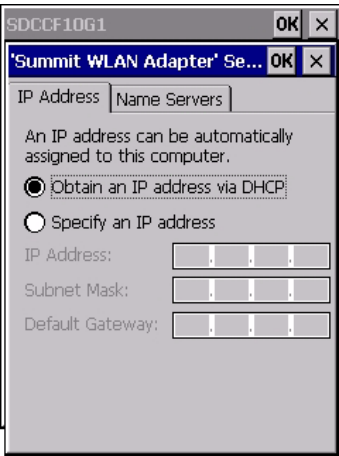
2.5.3   Name Servers Tab

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

- In the *SDCCF10G1* window, display the **IP Information** tab.
- In the *Summit WLAN Adapter Settings>IP Information* tab, tap on the **Configure** button.
- Display the **Name Servers** tab.
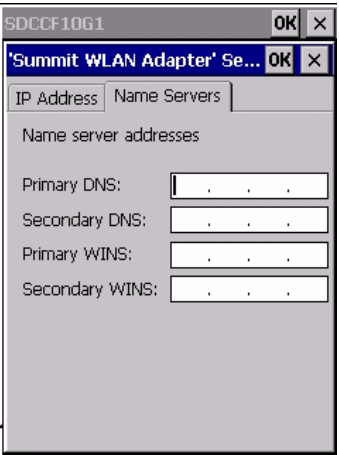
The DNS and WINS fields in the *Name Servers* tab allow you to specify additional WINS and DNS resolvers. The format for these fields is ###.###.###.###.

2.5.4 Using the SCU to Connect to the WLAN

This section provides a quick set of steps to create a profile. Detailed information about each of the SCU tabs—*Main, Profile, Status, Diags* and *Global*—is provided in Appendix D: "SCU for 802.11b/g Radio". To launch the SCU so that your Ikôn can connect to a wireless LAN:

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

Figure 2.6 SCU Main Tab

- Tap on the **Profile** tab.
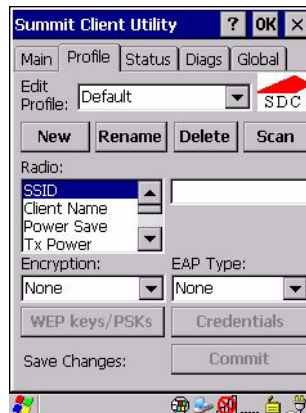
- Tap on the **New** button to define a new profile.

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

2.5.4.1 SSID

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

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

⚠ *Important: To learn more about the other options available in the radio attributes list, refer to page D-5 of Appendix D: SCU for 802.11b/g Radio.*

2.5.4.2 EAP Type

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

⚠ *Important: Refer to page D-6 of Appendix D: SCU for 802.11b/g Radio for details about security settings. Additional EAP details are described in "EAP Credentials" on page D-8.*

2.5.4.3 Encryption

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

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

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

Once you've completed the configuration:

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

When you tap on the profile you created, the 802.11b/g radio module attempts to connect to the network using the following steps:

- Associate to the SSID.

- Authenticate to the network.

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

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

If the radio is not connecting properly:

• Tap on the **Status** tab.

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

You can go to the *Diags* tab for DHCP renewal, ICMP Echo Requests (Pings), and diagnostics.

*Important: **For details about the Status dialog box, refer to page D-1 of Appendix D: SCU for 802.11b/g Radio.***

2.6   Checking the Scanner

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

Performance is improved if you disable all unneeded bar codes in the *Bar Codes* screen. Review "Teklogix Scanners" on page 130 or details about bar codes.

2.7   Data Transfer Between the PC and Ikôn

Data transfer options vary slightly depending on the type of operating system installed in your PC.

For Windows XP SP2 operating systems or earlier, Microsoft® ActiveSync® is PC connec-tivity software that can be used to connect your Ikôn to PCs running this software.

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

By connecting Ikôn to a PC with a cable, you can:

• View Ikôn files from Windows Explorer.

- Drag and drop files between Ikôn and the PC in the same way that you would between PC drives.
- Back up Ikôn files to the PC, then restore them from the PC to the PDA again, if needed, and so on.

2.7.1 Using Microsoft ActiveSync

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

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

Note: When you use an RS-232 serial port to connect devices like the Ikôn to your desktop computer, the connection may not succeed because ActiveSync has trouble connecting at non-default baud rates.

To workaround this problem, set the ActiveSync baud rate on the desktop to use the same baud rate as the device. You can set the baud rate by editing the registry on the desktop host computer, as detailed in the steps outlined at the following website:

http://support.microsoft.com/kb/324466

2.7.2 Using Windows Vista

If you have Windows Vista, your Ikôn data transfers do not require ActiveSync. To transfer data between your PC and your Ikôn:

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

2.8 Voice – Using the Phone Dialer

Note: The Phone option is only offered in countries with GPRS availability.
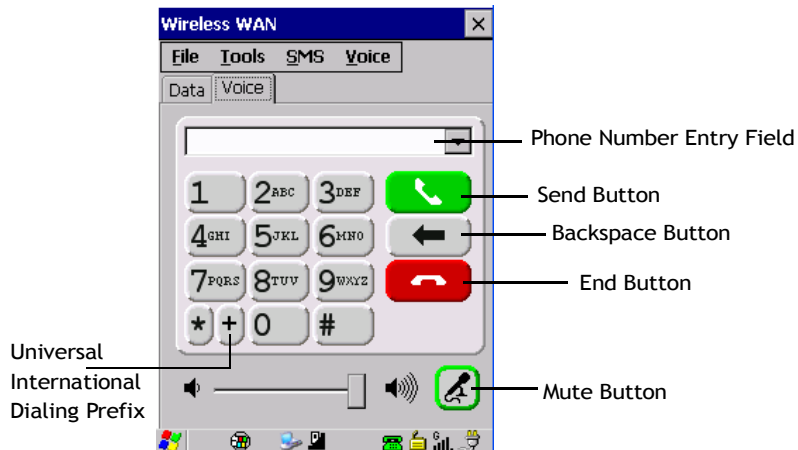
If the WWAN modem is installed and enabled, the *Phone* icon and the *GSM signal strength* icon will appear automatically on the taskbar.

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

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

- To access the dialer, tap on **Start>Settings>Control Panel**.
- Tap on the **Wireless WAN** icon, and then tap on the **Voice** tab.

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

2.8.1   Dialing a Number

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

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

Example: A standard phone number: *011 36 30 275 28466*

using the + substitution is typed as follows: *+36 30 275 28466*

The + symbol replaces the universal dialing prefix *011.*

2.8.2   Voice Menu

This menu allows you to manage calls, view your call history, and if required, assign a call forwarding service to your Ikôn.
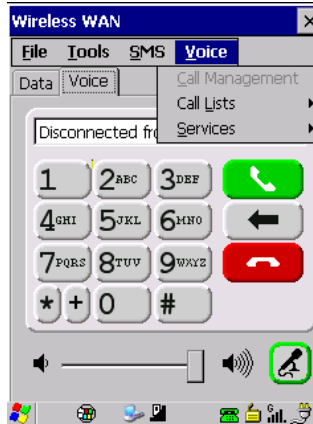
Call Lists
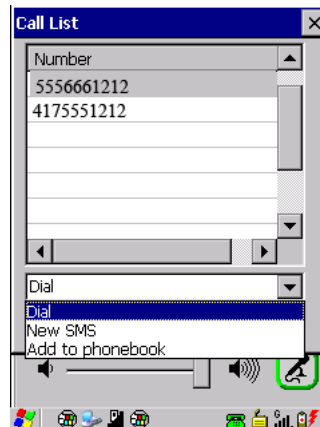
The *Call List* command manages your call history, listing calls you've *Dialed, Received* and *Missed*. When you choose one of these commands, a dialog box lists the phone number(s).

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

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

- **Add to phonebook** to add the highlighted phone number to your phonebook. (Refer to "Phonebook" on page 25 for additional details.)

In the *Call List*, highlight the phone number with which you want to work.

• Choose a command in the drop-down menu.

• Tap on the **Execute** button to carry out the command.

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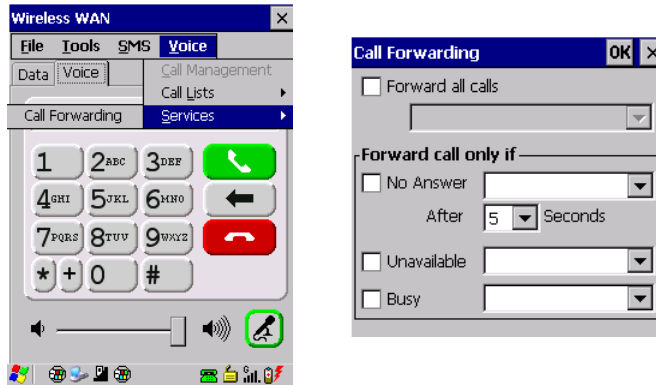
The *Service* menu offers a *Call Forwarding* option for your Ikôn. If you choose this option, it may take a number of seconds for your unit to read the network settings.

To forward *all* calls:

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

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

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

- Forward the call when you have identified yourself as 'unavailable', or

- Forward the call when your unit is busy:

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

Call Management

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

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

- **Hang Up All Calls** - This option only appears when more than one call is listed.
- **Hang Up** - This option disconnects only the call you've highlighted in the list.
- **Hold** - This option places the call you've highlighted on hold.
- **Retrieve** - This option is only available when a call is on hold, and choosing it retrieves the call you have highlighted from hold.

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

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

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

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

2.8.3   File Menu - Phonebook Management

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

Phonebook

The *Phonebook* allows you to store frequently used phone numbers. When no numbers have been added to your phonebook, the only command available to you is *New Entry*.
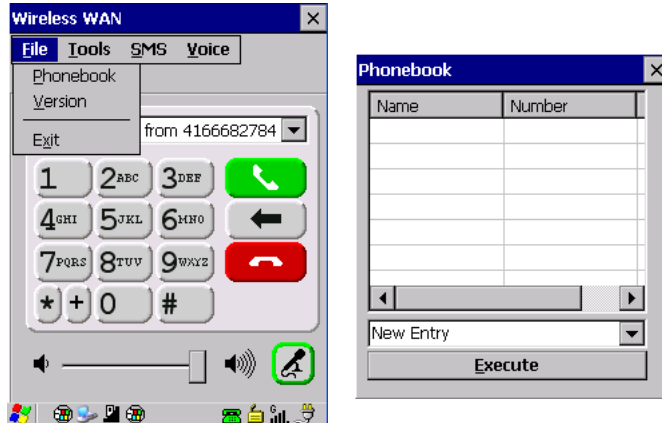
To add a new phone number to your phonebook:
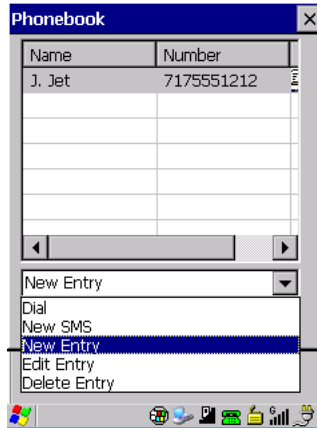
• Choose **New Entry** in the drop-down menu, and tap on **Execute**.

• Type the name corresponding to the phone number you want to add.

• Press **Tab** and type the **phone number** you want to store.

• Tap in the checkbox next to *Store in SIM* to save the phone number there, or leave this checkbox blank if you prefer not to store the number on the SIM card.

• Tap on the **Execute** button to save the phone number in your *Phonebook*.

Phonebook entries are saved even after you exit Wireless WAN.

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

You can choose one of the following:

- **New Entry** - to add another phone number,
- **New SMS** (Short Message Service) - to send a new SMS,
- **Edit Entry** - to change an existing name and/or phone number, or
- **Delete Entry** - to erase an existing phone entry.
- In the *Phonebook*, highlight the entry with which you want to work.
- Choose a command from the drop-down menu, and tap on **Execute** to carry out the command.

2.9   Resetting Ikôn

The Ikôn hardware can be reset in a number of ways, resulting in a cold reset or a warm reset.

During a cold reset:

- Running programs are halted, and any unsaved data in them is lost.
- The hardware is reset.
- The contents of flash memory, including the registry, custom settings and user-added programs, are retained.
- The OS is reloaded from saved settings.
- The contents of RAM are lost, and the RAM disk is reinitialized to its default.

During a warm reset:

- Running programs are halted, and any unsaved data in them is lost.
- The contents of flash memory, including the registry, custom settings and user-added programs, are retained.
- The OS is reloaded from saved settings.
- The contents of RAM are preserved.

You can perform a warm or cold reset by choosing those options in the Shutdown menu, or follow the directions below.

2.9.1   Performing a Cold Reset

Important: A cold reset returns Ikôn to factory settings.

To execute a cold reset:

- Press and hold down the [ENTER] key and the Power button simultaneously for a minimum of four seconds.

You will need to press the Power button to turn Ikôn back on.

2.9.2   Performing a Warm Reset

To execute a warm reset:

- Press and hold down the [BLUE] and [ENTER] keys simultaneously for six seconds.
- Select **Shutdown** from the *Start* menu.

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

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

GETTING TO KNOW YOUR IKÔN 3

3.1   The Battery

Ikôn operates with a Lithium-ion Battery pack, Model No. CH3000. Preparing the unit for operation requires that a battery pack be charged and installed in Ikôn.

3.1.1   Battery Safety

⚠️ *Important:* ***Before attempting to install, use or charge the battery pack, it is <u>critical</u> that you review and follow the important safety guidelines in the quick reference guide entitled Ikôn Rugged PDA Regulatory & Warranty Guide, PN 8000148.***

3.1.2   Removing the Battery Pack

⚠️ *Important:* ***Always switch the unit off <u>before</u> opening the battery cover to remove the battery.***

Refer to "Installing the Battery" on page 11.

3.1.2.1   Battery Swap Time

Assuming the default power saving parameters and battery reserve level have not been altered, battery swap time is a minimum of 10 minutes—you will not lose data if the battery is replaced within this time frame.

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

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

⚠ ***Important: Since there are some circuits that draw power directly from the battery, Ikôn can not run if the battery is low (capacity < 100mAh), even when external power is present. If you try to turn Ikôn on, you will see a blinking yellow LED, but it will not turn on unless the battery status changes within the next 30 seconds (battery charges up, battery is swapped for a different one, etc.).***

You will also get this blinking yellow LED and a refusal to wake up if the battery is too hot (>60C°).

Refer to "Suspend Threshold" on page 103 for details about reserving battery power for data backup purposes.

3.1.3   Charging the Battery

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

3.1.3.1   Chargers and Docking Stations

⚠ ***Important: FOR DETAILED INFORMATION about chargers and docking stations, refer to Appendix 6: "Peripheral Devices & Accessories".***

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

- AC wall adaptor (Model No. CH3110) operates as an AC power source and when plugged in, also charges the battery installed in the unit.
- Desktop Docking Station (Model No. CH4000) operates as both a charger and a docking station. Operating as a charger, both the battery installed in Ikôn and a spare battery can be charged simultaneously.
- Quad Docking Station (Model No. CH4004) can charge the battery of up to four Ikôns inserted in the docking station.

Normally it takes 2.5 to 3 hours to charge a battery. The Ikôn intelligent charging system protects the battery from over-charging by terminating the charge process when the battery is at maximum capacity.

📖 *Note: Refer to "Monitoring the Battery and Maximizing Run Time" on page 43 for additional information about the battery.*

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

3.2   The Keyboards

3.2.1   Ikôn Keyboards

The following Ikôn keyboards are available:

- 28-key numeric keyboard with or without [Talk] and [End] phone keys
- 47-key QWERTY keyboard with [Talk] and [End] phone keys. This keyboard option is *only* available for Ikôns equipped with the Windows Mobile 6 Professional operating system.

Figure 3.1 QWERTY and Numeric Keyboards with Phone Keys

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

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

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

3.2.2 Locking the Keyboard

You can lock either or both the keyboard and the touchscreen so that accidental key presses are prevented. When the keyboard is locked, a padlock icon shows in the Taskbar.

To lock the keyboard or touchscreen, go to *Start>Settings>Control Panel>Keyboard Properties>Lock Sequence* and enable the options you need. When the keyboard is locked, a padlock icon shows in the Taskbar.

3.2.3 Modifier Keys

The [SHIFT], [CTRL], [ALT], [BLUE] and [ORANGE] keys are "modifier" keys. Pressing a modifier key changes the function of the next key pressed. For example, on an 47-key keyboard, a left bracket is printed in orange print above the [U] key. Pressing the [ORANGE] key, a modifier key, followed by the [U] key displays a left bracket rather than the letter *U*.

*Note: Keep in mind that the [ALT] and [CTRL] keys are only available on **numeric** keypads that are **not** equipped with phone keys. You can, however, access the [CTRL] key using the onscreen, soft keyboard.*

Figure 3.2 Ikôn Keyboard without Phone Option

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

3.2.3.1 Activating Modifier Keys

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

Keep in mind, however, that the 'One Shot' function allows you to determine how many key presses will lock a modifier key 'on'—one press or two. Refer to "Keyboard One Shot Modes" on page 89 for details.

3.2.3.2 Locking Modifier Keys

When a modifier key is pressed twice, it is 'locked' on. A 'locked' modifier key is displayed in uppercase letters in the taskbar. For example, pressing the [CTRL] key twice locks it on—it is displayed as **CTRL KEY** in the taskbar at the bottom of the computer screen.

The locked modifier key will remain active until it is pressed a third time to unlock or turn it off. Once a modifier key is unlocked, the uppercase representation at the bottom of the screen is no longer displayed.

3.2.4 The Keys

The [SHIFT] Key

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

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

The Arrow Keys

The Arrow keys move the cursor around the screen in the direction of the arrow: up, down, left and right. The cursor is the flashing box or underline character that indicates where the next character you type will appear.

The [SPACE] Key

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

The [BKSP] Key

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

The [CTRL] and [ALT] Key

The [CTRL] and [ALT] keys modify the function of the next key pressed and are application-dependent. Note that these keys are *only* available on *numeric* keypads that are **not** equipped with [Talk] and [End] phone keys; however, you can access the [CTRL] key using the onscreen, soft keyboard.

The [TAB] Key

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

The [ESC] Key

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

The [SCAN] Keys

All units are equipped with three yellow [SCAN] keys—one yellow key on the left side of the unit along with two yellow triangular keys just below the Ikôn display. For units that *do not have* internal scanners, this key can be re-mapped to another function.

The Function Keys-[F1] to [F10]

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

The Macro Keys

While macro keys are not physically stamped on the keyboard, up to 12 macro functions can be added using the *Scancode Remapping* function. Refer to "Scancode Remapping" on page 93 for details about mapping keys.

For details about creating a macro, refer to "Keyboard Macro Keys" on page 90.

3.2.5 The Numeric Keyboard: Accessing Alpha Keys

On numeric keyboards, while numeric keys are directly accessible, all alpha characters are printed on the unit plastic in orange typeface above the numeric keys. An indicator in the left corner of the taskbar displays the currently selected character. To access an alpha character,

first press the [ORANGE] key and then press the numeric key above which the alpha character you want to type is printed.

Choosing a Single Alpha Character

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

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

To choose the letter **a**:

• Press the [ORANGE] key, and press the numeric key [2].

Note: To choose the second, third or fourth alpha character assigned to a numeric key, you may want to lock the [ORANGE] key 'on'. By default, the [ORANGE] key is locked 'on' when pressed once. However, depending on how your unit is set up in the 'One Shots' tab, you may find that you need to press the [ORANGE] key twice to lock it 'on'. Refer to "Keyboard One Shot Modes" on page 89 for details.

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

• Lock the [ORANGE] key 'on'. ORG KEY is displayed in upper-case characters in the taskbar to indicate that this key is locked 'on'.

• Press numeric key [2] twice to display the letter **b**.

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

• Lock the [ORANGE] key 'on'.

• Press numeric key [2] *three times* to display the letter **c**.

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

Creating Uppercase Letters

To display a capital letter:

• Press the [ORANGE] key and then the [SHIFT] key before typing the alpha character.

> *Note: If you want to use uppercase characters at all times, press [BLUE] [SHIFT]. An icon of an uppercase 'A' is displayed in the taskbar indicating that all letters will be displayed as uppercase characters.*

Choosing Multiple Alpha Characters

• Lock the [ORANGE] key 'on'.

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

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

3.2.6   The Keypad Backlight

The intensity of the keypad backlight and the conditions under which this backlight is activated can be configured using the *Keyboard* icon in the Windows CE 5.0 *Control Panel*. The behaviour of the keypad backlight is tailored in the *Keyboard Properties* dialog box. Refer to "Keyboard Backlight" on page 88 for details about this option.

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

3.3   The Display

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

3.3.1   Adjusting the Display Backlight

The *Display Properties* dialog box in the *Control Panel* allows you to determine the behaviour of the display backlight and its intensity. Refer to "Display Backlight" on page 83 for details about the Display Properties dialog box.

3.3.2   Calibrating the Touchscreen

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

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

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

Figure 3.3 Calibration Screen

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

3.4   Ikôn Indicators

Ikôn uses LEDs (Light Emitting Diodes), onscreen messages and audio tones to indicate the various conditions of the PDA, the batteries, the scans and so on.

3.4.1   LEDs

Three LEDs are located on the upper-left side of the unit, above the screen. The green LED is the battery charge indicator; the yellow LED indicates an application; the blue LED indicates whether the radio is on or off. When you press [ENTER], the LED flashes green to indicate that the unit has been powered up. The LED table following outlines the behaviour of the LED while the unit is docked in a charger.

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

Table 3.1   Function Of Ikôn LEDs

LED Behaviour	Charge Status
Green Charge LED (left-most LED)	Charge indicator. See Table 3.2 for descriptions of Charge LED behaviour.
Yellow Application LED (center LED)	Application LED. This LED's behaviour is application-dependent.
Blue Radio Power LED (right-most LED)	Radio power indicator.

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

Note: The yellow LED flashes when powering up Ikôn to show that it has started and the Power On/Off key may now be released.

Table 3.2   Ikôn Charge LED Behaviour

LED Behaviour	Charge Status
Solid Green	Charge complete.
Slow Blinking Green	Battery charged to greater than 80% of capacity.
Fast Flashing Green	There is a charging or battery fault. Battery should be inspected.
Blinking Yellow	The battery is low (capacity < 100mAh); or the battery is too hot (>60°C).

3.4.2   Audio Indicators

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

The grey volume key is located on the left side of the unit. To increase the volume, press the upper half of the key; to decrease the volume press the lower half.

3.4.3   Onscreen Indicators

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

Figure 3.4 Taskbar
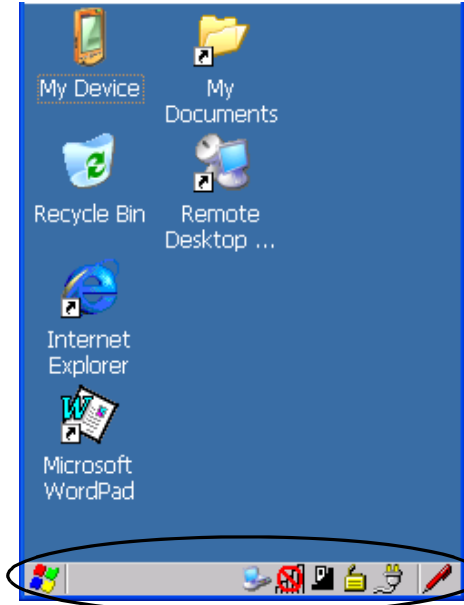
The taskbar changes dynamically, and only those icons that are applicable are displayed. For example, if a radio is not installed in your Ikôn, the radio signal icon is not displayed in the taskbar.

Windows® Start Button

If you are using the touchscreen, you can either tap the Windows icon at the bottom left of the screen, or press [ORANGE] [#] to display the Start Menu, and then tap on the desired application.

Modifier Key Indicators

Note: The [CTRL] and [ALT] keys are only available on the keyboard when the Phone option is not installed in Ikôn (see Figure 3.2 on page 34). Those keys are replaced by Phone keys when that option is present.

[SHIFT], [CTRL], [ALT], [BLUE] and [ORANGE] are modifier keys that when pressed, are displayed in the taskbar to indicate that they are active. If a modifier key is locked 'on', it

is displayed in uppercase characters. For example, if the [BLUE] key is locked on, it is displayed as **BLUE KEY** in the taskbar. A locked modifier key remains active until it is pressed again to unlock or turn it off.

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

Note: The locking function of the modifier keys can be set up so that pressing one of these keys once will lock the key 'on'. They can also be set up so that they must be pressed twice to be locked 'on'. Refer to "Keyboard One Shot Modes" on page 89 for details.

Battery Gauge

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

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

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

Full	75%	50%	25%	Empty	AC Connection

Battery Charge

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

802.11 Radio Signal Quality

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

Good Reception				Weak Reception	No Radio Link

Docking Device

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

Bluetooth Radio

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

Security Level

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

Wireless WAN

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

Dialer Icon

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

3.5   Monitoring the Battery and Maximizing Run Time

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

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

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

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

- The display backlight is a large drain on the battery. Try to keep its brightness as low as possible.

- Ikôn is 'event' driven—that is, when the unit is not in use, it reverts to sleep mode (even when it appears to be running), saving battery power. Events include a key press, touch-screen taps and scan triggers. Power consumption is reduced if you avoid unnecessary events, and allow the unit to sleep as much as possible.

- The battery is a 'smart battery' with built-in intelligence.

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

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

3.5.1 Storing Batteries

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

- Always try to use a 'first-in first-out' approach to minimize storage time.

- Lithium-ion batteries age much faster at elevated temperatures. Store batteries at temperatures between 0°C and 20°C (32°F and 68°F).

- Always charge batteries to at least 40 to 60% before storing them. Batteries can be damaged by an over-discharge phenomenon that occurs when an empty battery is stored for a long period of time such that the cell voltage drops below a lower limit.

- To minimize storage degradation, recharge stored batteries to 40 to 60% every 4 or 6 months to prevent over-discharge damage.

- A 'never used' Li-Ion battery that has been stored for 3 years may have limited or no useful life remaining once put into service. Think of batteries as perishable goods.

3.6   Uploading Data in a Docking Station

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

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

Note: Refer to "Quad Docking Station - Model No. CH4004" on page 168 for more details.

The desktop docking station can complete batch uploads to a Client USB connected PC or server.

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

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

3.7   *Bluetooth* Radio

*Note: Integrated **Bluetooth** radios are standard on Ikôn Rugged PDA units. Keep in mind also that **Bluetooth** is available simultaneously with WAN and 802.11g on a single unit.*

Ikôn is equipped with an on-board *Bluetooth* radio. This type of radio enables short range data communication between devices. The *Bluetooth* also provides the capability to use a *Bluetooth*-enabled cellular phone as a data modem, exchanging information with other *Bluetooth* devices and providing network access. Refer to "Bluetooth Setup" on page 109 for setup details.

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

3.7.1   Pairing a *Bluetooth* Headset or Other *Bluetooth* Device

*Note: If the **Bluetooth** radio is not already enabled, tap on the Power icon in the Control Panel, tap on the Devices tab and enable the **Bluetooth** radio.*

To pair a headset:

- Follow the headset manufacturer's instructions to place the headset you want to place in pairing mode.
- In the *Control Panel*, tap on the *Bluetooth* icon choose the *Devices* tab and scan for devices in your area. (Note that if you're pairing the device for the first time, the device scan occurs automatically—you do not need to tap on the *Scan* button to perform a scan.)

When the scan is complete, a list of devices is listed.

- Double-click on the **headset** you want to pair with. If you prefer, you can highlight **headset** and tap on the **Services** button.

If the headset has authentication enabled, a dialog box appears requesting that you enter a PIN number.

- Type your **pin number** and tap on **OK**.

A *Services* dialog box appears listing *headset*.

- Press and hold the stylus on **headset**. In the pop-up menu, choose **Active**.

Your headset is now paired. A COM/BSP port name will now appear beside the service for this device. An asterisk will appear under the *Active* list in the *Service* screen.

3.8   Inserting the microSD and SIM Cards

There are two slots available in the battery compartment—the left-hand slot is provided for a microSD (Secure Digital Card) and the right-hand slot is for a SIM (Subscriber Identity Module) card.

The microSD cards provide additional non-volatile memory to your Ikôn. SIM cards allow access to the Ikôn Voice option, access the Internet, and so on.

3.8.1   Inserting the Cards

- Switch off Ikôn.
- Remove the battery cover and the battery.
- Pull the SD door down as the arrow icon on the door indicates.
- Orient the microSD or SIM card according to the legend stamped into the battery well plastic.
- For microSDs, slide the card into the left-hand slot, pushing it inward until it latches into place.
- For SIM cards, slide the card into the right-hand slot, pushing it inward until it latches into place.
- Slide the door back into place, and snap it shut.

To remove the card:

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

3.9   General Maintenance

3.9.1   Caring For The Touchscreen

The top of the touchscreen is a thin, flexible polyester plastic sheet with a conductive coating on the inside. The polyester can be permanently damaged by harsh chemicals and is

susceptible to abrasions and scratches. Using sharp objects on the touchscreen can scratch or cut the plastic, or crack the internal conductive coating.

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

• sodium hydroxide,

• concentrated caustic solutions,

• benzyl alcohol, and

• concentrated acids.

If the touchscreen is used in harsh environments, consider applying a disposable screen protector (CH6110). These covers reduce the clarity of the display slightly but will dramatically extend the useful life of the touchscreen. When they become scratched and abraded, they are easily removed and replaced.

3.9.2   Cleaning Ikôn

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

• Use *only* mild detergent or soapy water to clean Ikôn.

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

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

WORKING WITH WINDOWS CE 5.0   4

4.1   Navigating in Windows CE 5.0

Note: In order to access many of the menus discussed in this chapter, the security level must be set to 'Supervisor' (see "Security settings" on page 60).

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

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

4.1.1   Navigating Using a Touchscreen and Stylus

Note: If the touchscreen is not registering your screen taps accurately, the touchscreen may need recalibration. Refer to "Calibrating the Touchscreen" on page 38.

Each Ikôn is equipped with a stylus—a pointing tool that looks like a pen—stored in a slot at the top of the unit. The stylus is used to select objects on the touchscreen.

Note: To prevent damage to the touchscreen, use only the stylus (pen) supplied with your Ikôn Rugged PDA.

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

•   Double-tap the stylus on the appropriate icon.

4.1.2   Navigating Using the Keyboard

If your Ikôn touchscreen has been disabled, you can use the keyboard to choose icons, navigate dialog boxes, display the desktop, and so on. If your unit has already been fully configured and your application is launched at startup, you'll have little need for keyboard navigation, but you can refer to Table 4.1 for a description of the navigation keys.

Table 4.1   Keyboard Navigation

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

Table 4.1   Keyboard Navigation

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

Note: The [CTRL] and [ALT] keys are only available on the keyboard when the Phone option is not installed in Ikôn (see Figure 3.2 on page 34). Those keys are replaced by Phone keys when that option is present.

Keep in mind that unlike a desktop computer, Ikôn does not support key chording (pressing two keys at the same time). You must press one key followed by the next in sequence. Refer to Section 4.2: "Working With Files, Folders and Programs" for additional details about keyboard navigation.

4.2   Working With Files, Folders and Programs

Figure 4.1 Working with Windows Icons
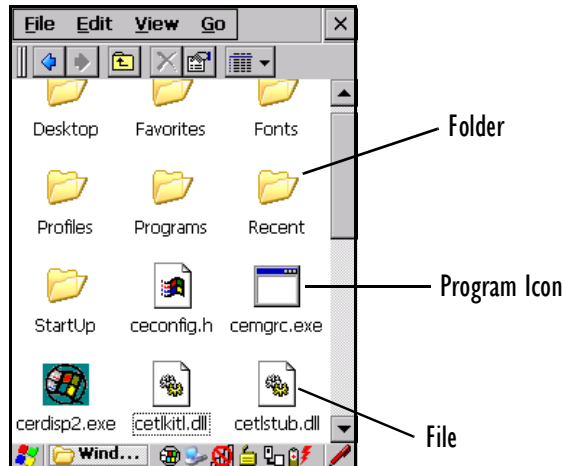
- Double-tap on the appropriate icon—either a folder icon, a program icon or a file icon—to open or launch your selection.

If you're using the keyboard:

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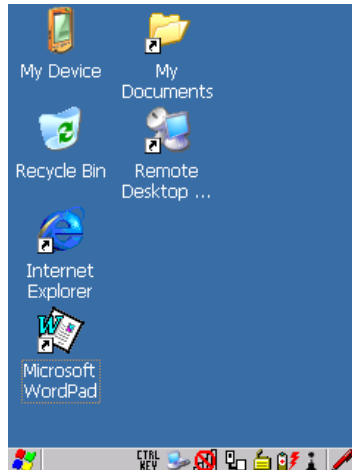
4.3   The Startup Desktop

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

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

Figure 4.2 Ikôn Startup Desktop

To access desktop icons:

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

On the keyboard:

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

Note: If the arrow keys do not highlight the desktop icons, the desktop may not be selected. Press [ORANGE] [#] to display the Start Menu, and select Desktop. Now the desktop will be "in focus" and the arrow keys will highlight the icons.

4.3.1   The Desktop Icons

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

My Device

Choosing this icon displays the contents of your Ikôn computer. If you're not sure how to access the files, folders and programs displayed, refer to "Working With Files, Folders and Programs" on page 53.

Recycle Bin

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

Internet Explorer
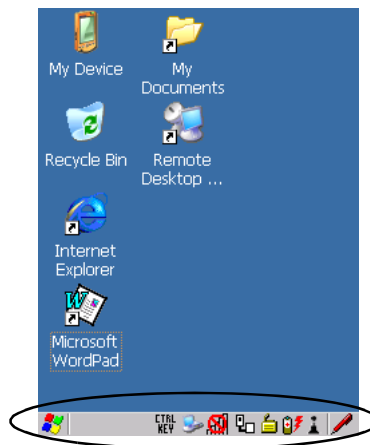
Choosing this icon launches Internet Explorer—a standard Windows CE 5.0 version. Keep in mind that your supervisor will need to set up access using the *Internet Options* and the *Network and Dial-up Connections* icons in the *Control Panel*.

Remote Desktop Connection

This option allows your Ikôn to communicate with a remote desktop PC. "Remote Desktop Connection" on page 75 provides a website with step-by-step instructions.

4.3.2 The Taskbar

Figure 4.3 The Taskbar

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

The taskbar also displays active modifier keys: [SHIFT], [ALT], [CTRL], [BLUE] and [OR-ANGE]. Keys that have been locked "on" are displayed in uppercase letters. For example, if you have set the [CTRL] key Lock to "on" in the Keyboard menu and you press the key, it is

displayed as CTRL KEY in the taskbar. (For detailed information on modifier keys and keyboard options, see "The Keyboards" on page 33).

4.3.2.1 Using the Taskbar

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

If you're using the touchscreen:

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

On the keyboard:

- Press [ORANGE] [#] to display the *Start Menu*.
- Choose **Shortcuts** from the *Start Menu*, and then press the [RIGHT] arrow key to display the sub-menu.
- Choose **System Tray** in the sub-menu.
- Use the arrow keys to highlight the icon in the taskbar about which you'd like more information.
- Press [ENTER] to display the appropriate dialog box.

4.3.2.2 Customizing the Taskbar

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

- In the *Start Menu*, choose **Settings**>**Taskbar**.

If you're using the keyboard:

- Press [ORANGE] [#] to display the *Start Menu*.
- Highlight the **Settings** option, highlight **Taskbar** in the sub-menu, and press [ENTER].

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

Taskbar General Tab

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

If you're using the keyboard:

*   Highlight the options you want to activate, and press the [SPACE] key to select them. The check mark indicates active items.

Taskbar Advanced Tab

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

Taskbar Security Tab

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

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

4.4   The Start Menu

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

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

To display the menu:
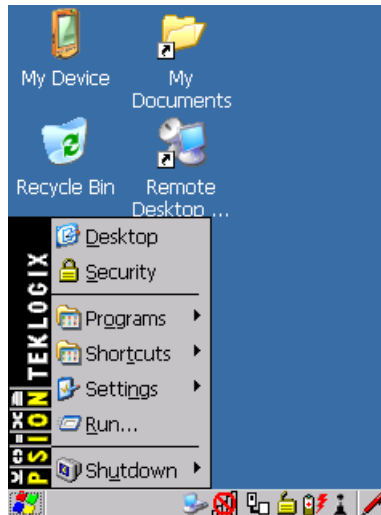
• Press [ORANGE] [#].

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

Figure 4.4 Start Menu

If you're using the keyboard:

• Use the arrow keys to highlight a menu item, and press [ENTER], or

If the menu item has an underlined character:

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

4.4.1   The Desktop

Choosing *Desktop* in the *Start Menu* displays the Ikôn desktop.

Figure 4.5 The Ikôn Desktop
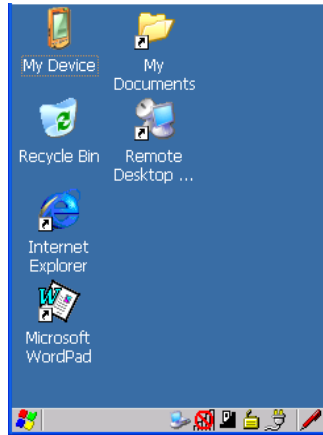
4.4.2   Security settings

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

Figure 4.6 Security Levels
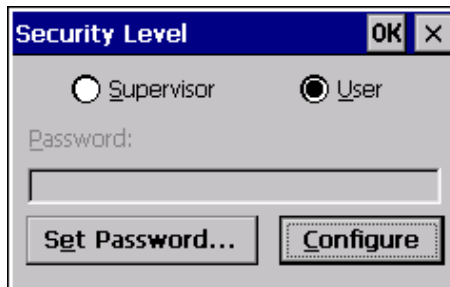
Assigning the Supervisor Security Level

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

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

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

- In the *Password* field, type the Supervisor level password. The default password is **123456**.

- Tap on **OK**. You can now access all menu items in the *Start Menu* along with the icons in the taskbar.

Changing a Password

Note: Keep in mind that this is the same password as that assigned through the Password control panel applet. Refer to "Control Panel Icons" on page 76.

To assign a password:

- Choose a *security level*, and enter the **existing password** in the *Password* field.
- Tap on the **Set Password** button.
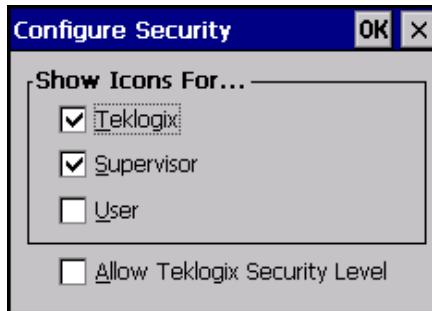
A dialog box labelled *Password Properties* is displayed.

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

Configuring Security

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

Figure 4.7 Configuring Security

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

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

4.4.3 Programs

- Choose **Programs** to display a sub-menu of options.

Figure 4.8 Program Sub-menu
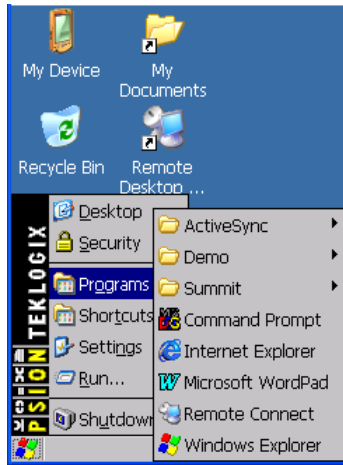
ActiveSync®

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

Demo

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

Summit

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

Command Prompt

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

Internet Explorer

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

Remote Connect

Remote Connect is an Ikôn application used to connect to a Windows Terminal Server so that you can run a "session" on the Server machine using Ikôn (Windows CE 5.0 device). "Remote Desktop Connection" on page 75 provides a website with details about this option.

Windows Explorer

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

4.4.4   Shortcuts

Figure 4.9 Shortcuts Sub-menu

System Tray

If your touchscreen is not enabled, you can use the *System Tray* option to access the icons in the taskbar at the bottom of the screen. The taskbar displays indicators such as a radio signal

icon and the security level. These indicators are attached to dialog boxes that provide additional information.

- Choose **Shortcuts>System Tray**.

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

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

On the keyboard:

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

Cycle Tasks

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

To cycle through your active applications:

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

Press [ALT] [TAB].

Task Manager

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

- Tap on **Shortcuts>Task Manager**, or

Press [ALT] [ESC].
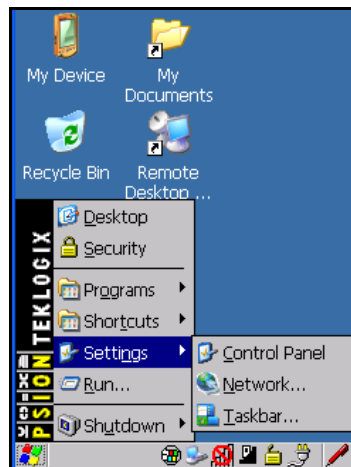
Figure 4.10 Task Manager

Figure 4.11 Settings Sub-menu
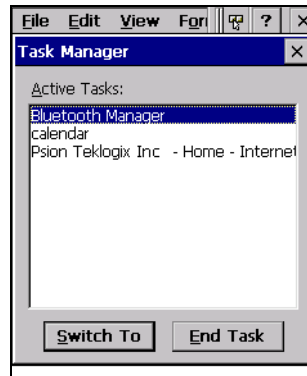
4.4.5 Settings

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

Control Panel

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

Network and Dial-Up Connections

The *Network and Dial-up Connections* window allows you to configure the Ikôn radio or execute an existing configuration. Refer to "Configuring the Summit RA2041 802.11b/g Radio" on page 13 for radio setup details.

Taskbar and Start Menu

The *Taskbar and Start Menu* option displays a dialog box in which you can customize the taskbar, choosing which options will be displayed. Refer to "Customizing the Taskbar" on page 56 for additional details about this option.

4.4.6   Run

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

Figure 4.12 Run Dialog Box
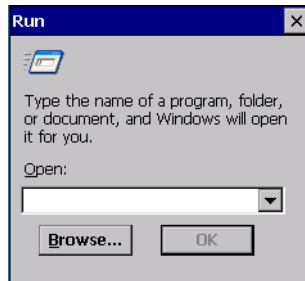
4.4.7   Shutdown

The *Shutdown* menu includes these options in a sub-menu: *Suspend*, *Warm Reset*, and *Cold Reset*. For detailed information on Warm and Cold Reset, see "Resetting Ikôn" on page 26. For other options for turning Ikôn off, see Section 2.3.3 on page 12.

Figure 4.13 Shutdown Sub-menu
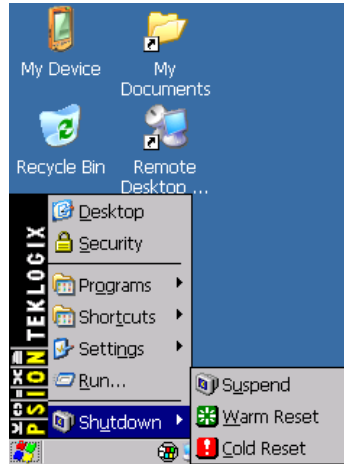
Note: This menu varies slightly depending on the security level chosen. When Ikôn is set to
*User level, the Shutdown option is replaced by **Suspend**. A sub-menu is*
not available.

Suspend

The *Suspend* option suspends Ikôn immediately. This is equivalent to turning Ikôn off. Radios such as the GPRS or UMTS can still operate while the device is suspended. In this case the blue LED radio indicator will continue blinking.

To shutdown with all radios off, please refer to "Switching Ikôn Off" on page 12.

Warm Reset

The *Warm Reset* option resets Ikôn, leaving all saved files and (registry) settings intact. Contents of RAM are preserved.

Cold Reset

The *Cold Reset* option resets Ikôn, leaving all saved files and (registry) settings intact, and resets the hardware. Contents of RAM are lost.

4.5   Using a Dialog Box

A dialog box (like the samples in Figure 4.14 on page 68) appears when you need to make selections and enter further information. You can move between dialog items by tapping on them with your stylus, or by pressing the arrow keys and the [TAB] key ([SHIFT] [TAB] moves the cursor backwards).

Figure 4.14 Dialog Boxes
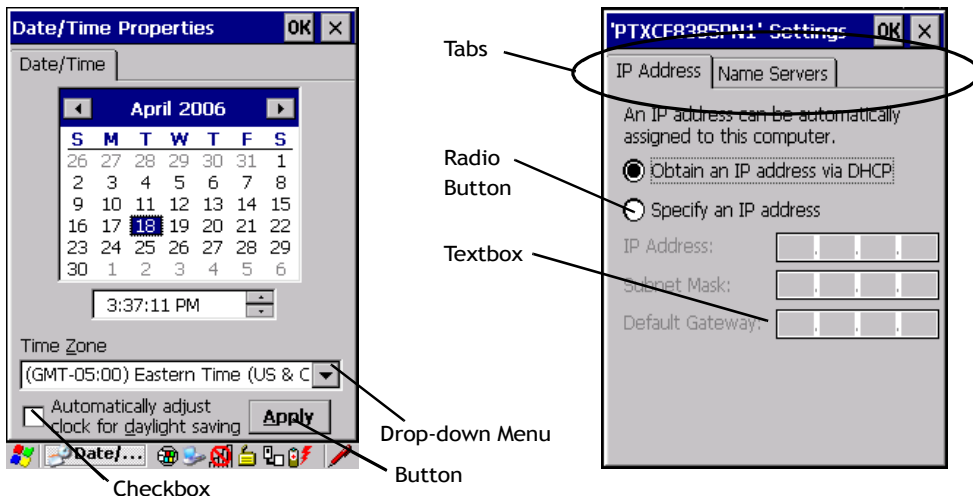
Note: You can use the stylus to tap on an element in a dialog box to select or deselect it, display drop-down menus, save your selections, and so on.

Dialog boxes contain one or more of the following elements:

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

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

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

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

Radio buttons: These buttons allow you to choose from a number of options. For example, in the sample screen in Figure 4.14 on page 68 you can choose to *Obtain an IP address via DHCP* or *Specify an IP address*. Press the [TAB] key to highlight a radio button option, and then select a radio button by pressing the arrow keys to highlight the appropriate option.

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

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

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

CONFIGURATION 5

5.1   Remote Desktop Connection

Remote Desktop Connection is a Windows application that enables you to connect to a computer across the Internet using Ikôn (Windows CE 5.0 device).

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

http://www.microsoft.com/windowsxp/using/mobility/getstarted/remoteintro.mspx

or contact Psion Teklogix support services. (Refer to the *Ikôn Rugged PDA Regulatory & Warranty Guide*, PN 8000148, 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. Ikôn 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 67.

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

To access the *Control Panel*:
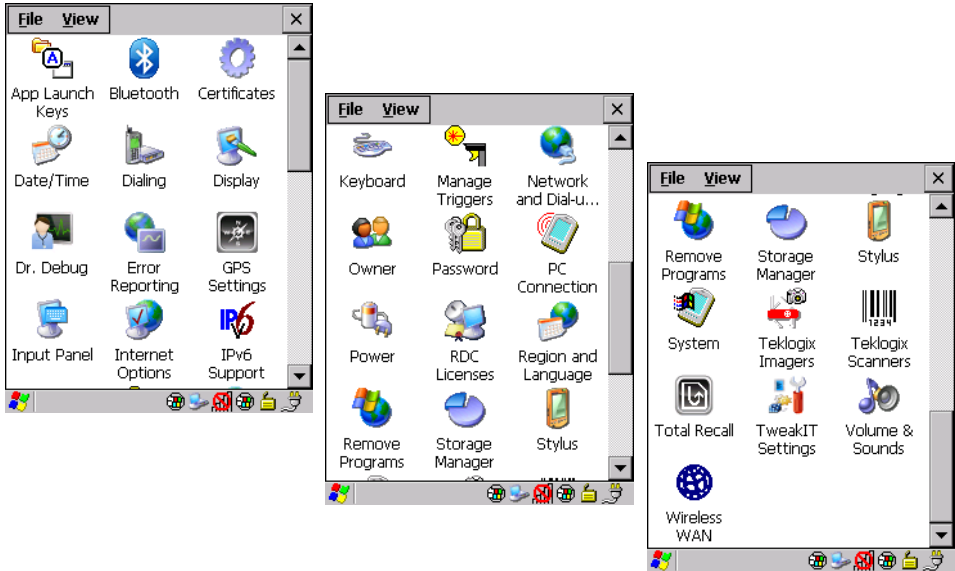
• Tap on **Start>Settings>Control Panel**.

If you're using the keyboard:

• Press [ORANGE] [#] 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 Ikôn.

Figure 5.1 Control Panel

5.3.1 Control Panel Icons

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

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. "Certificates" on page 82 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.

Dr. Debug

Acts as an error diagnostic tool.

Error Reporting

Allows you to enable or disable Microsoft error reporting prompts.

GPS Settings

Allows you to enable a GPS User profile (automotive, pedestrian).

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 Ikôn 802.11g radio can be configured and an existing configuration can be executed. Refer to "Configuring the Summit RA2041 802.11b/g Radio" on page 13 for details.

Owner

Provides fields in which you can specify owner information. A *Notes* menu allows additional information to be entered and displayed when the unit is powered up. *Network ID* menu 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 60 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 105 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 and Language

Allows you to specify the local language that is to be displayed on the Ikôn 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 microSD flash cards. For details, see page 126.

Stylus

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

System

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

Teklogix Imagers

The Teklogix Imagers applet is used to create, modify, delete, and activate imager settings. This icon is only present when the appropriate imager is installed. For detailed information, see Appendix E: "Teklogix Imagers Applet".

Teklogix Scanners

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

Total Recall

Provides access to a backup and restore utility to maintain applications and settings during a cold boot.

TweakIT Settings

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

Volume & Sounds

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

Wireless WAN

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

5.4   Control Panel Applications: Basic Setup

5.4.1   App Launch Keys

The *App Launch Keys* icon allows you to map a key to an application so that you can then launch the application from a single key-press.

•   In the *Control Panel*, choose the **App Launch Keys** icon.

To assign an application key:

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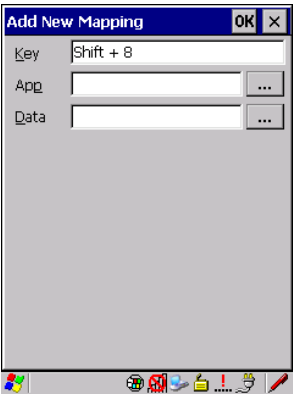
• Press the key you want to use to launch an application. (If an unsupported key is pressed, a message appears on this screen letting you know.)

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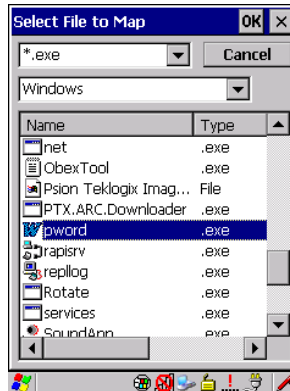
• Once you've selected the file you want to map, tap on **OK**.

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

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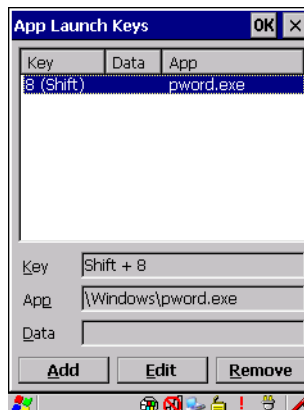
- If you need to Edit, Remove or *Add* another *App Launch Key*, you can do it from this final screen. Otherwise, tap on **OK** to save you *Application Launch Key*.

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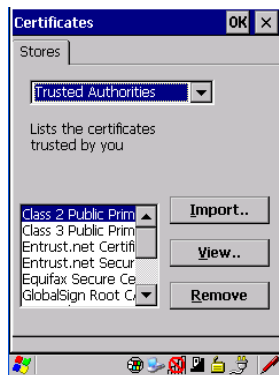
5.4.2 Certificates

A public key is transmitted as part of a certificate. The certificates listed in the *Certificates* tabs ensure that the submitted public key is, in fact, the public key that belongs to the submitter. Ikôn checks that the certificate has been digitally signed by a certification authority that Ikôn explicitly trusts. This option is used in conjunction with 802.1x authentication to enhance Ikôn security.

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

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

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

5.4.3   Display Properties

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

5.4.3.1   Display Backlight

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

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

• In the *Display Properties* dialog box, open the **Backlight** tab.
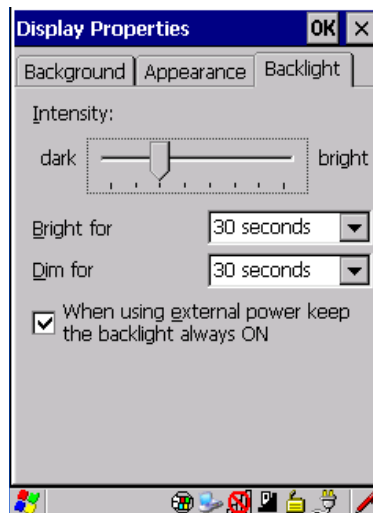
Note: Backlight changes take effect immediately. You do not need to reset the unit.
To maximize battery run time, keep the display backlight brightness and active durations as low as possible.

Intensity

This parameter is used to adjust the light intensity of the Ikôn 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 Ikôn is operating with external power (not battery power). If Ikôn is drawing power from its battery, this option is ignored and the other parameters defined in *Display Properties* dialog box are used.

5.4.3.2   Display Appearance

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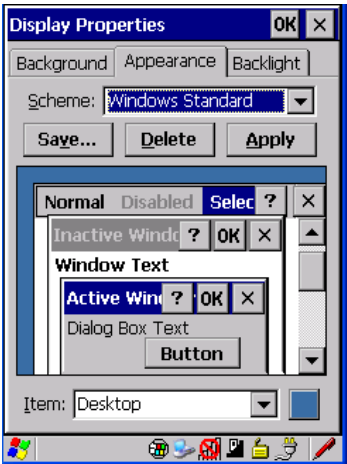
This dialog box allows you to customize the display colour scheme.

5.4.4   Input Panel

Ikôn is equipped with at Soft Input Panel (SIP).
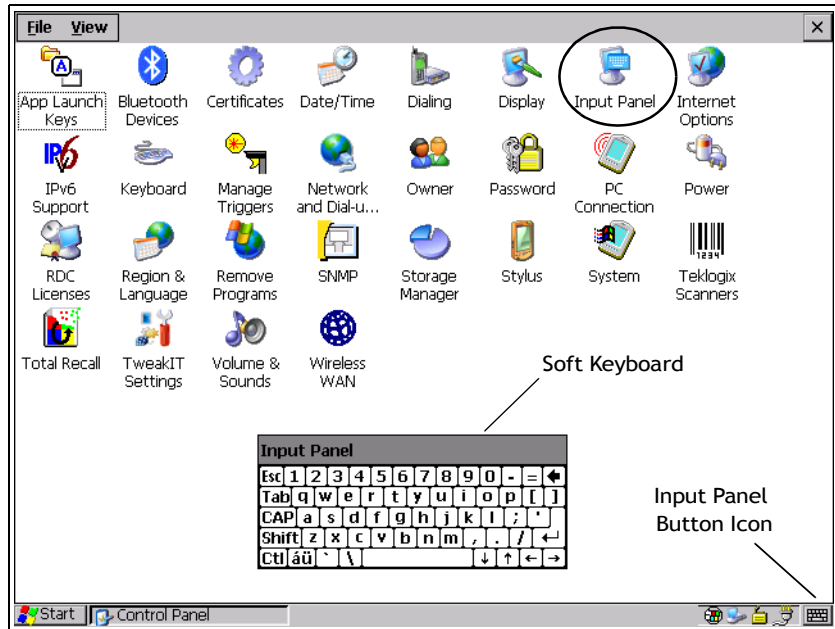
Tapping on the *Input Panel* button displays a soft input panel (soft keyboard) that can be customized using the *Input Panel* dialog box.

⚠️ *Important: If the Input Panel button icon is not visible in the taskbar, from the 'Start' menu, tap on Settings>Taskbar and Start Menu. Tap the checkbox next to 'Show Input Panel Button'. To remove this icon from the taskbar, tap in the checkbox to erase the check mark.*

The soft keyboard operates just like a standard keyboard except that rather than pressing a key, you tap on letters, numbers, modifier keys, etc. on the Ikôn screen.

To customize the appearance and behaviour of the soft keyboard:

• Tap on the **Input Panel** icon in the *Control Panel*.

Figure 5.2 Input Panel Properties
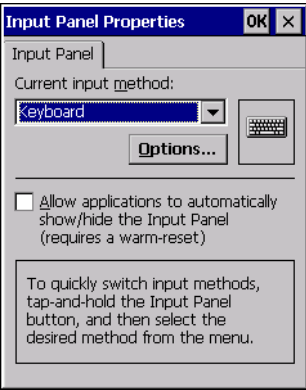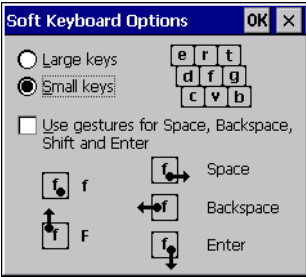
• Tap on the **Options** button to change the appearance of your soft keyboard.

Note: You can also display this dialog box by double-tapping on the Input icon in the far-right corner of the taskbar.

Figure 5.3 Soft Keyboard Options

5.4.5 Keyboard Properties

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

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

5.4.5.1 Key Repeat

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

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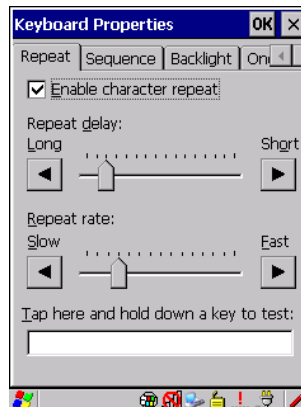
Repeat Delay

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.

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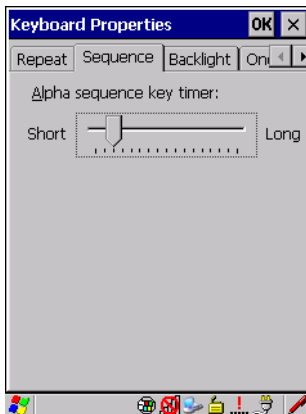
This slider determines the allowable pause between alpha key presses on a numeric keypad. For example, suppose you want to type the letter 'c'—you would need to press the [2] key *three* times. With the [ORANGE] key locked 'on', if you press [2] twice and then pause between key presses for 1 second,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

5.4.5.3   Keyboard Backlight

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

Intensity

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

ON For

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

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

5.4.5.4   Keyboard One Shot Modes

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

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

*Note: Keep in mind that checking the taskbar lets you know whether or not these keys are locked on. For example, if the [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'.

5.4.5.5   Keyboard Macro Keys

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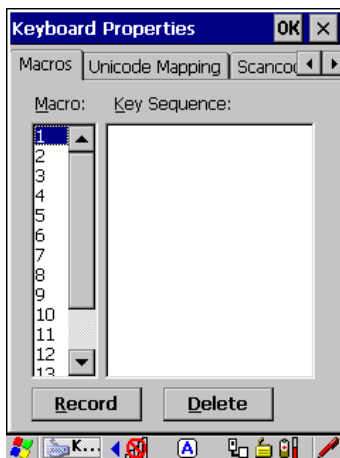
A macro has 200 programmable characters (or "positions"). The macro keys can be programmed to replace frequently used keystrokes, along with the function of executable keys including [ENTER], [BKSP] and [DEL] ([BLUE]-[BKSP]), function keys and arrow keys.

Recording and Saving a Macro

On the *28-key* Ikôn, 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* menu, highlight the **macro number** you want to delete.
- Choose the **Delete** button.

5.4.5.6   Unicode Mapping

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

The *Unicode Mapping* menu is used to map combinations of virtual key values and [CTRL] and [SHIFT] states to Unicode™ values. This menu 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* menu 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.
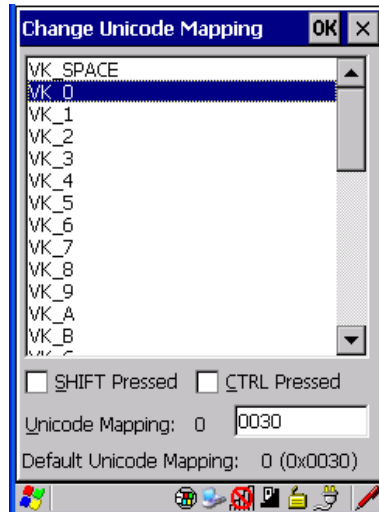
Adding and Changing Unicode Values

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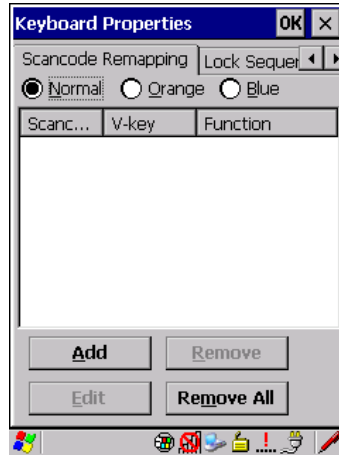
- In the *Unicode Mapping* menu, highlight the item you want to delete, and choose the **Remove** button.

5.4.5.7   Scancode Remapping

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

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

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

The first column in the *Scancode Remapping* menu 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.
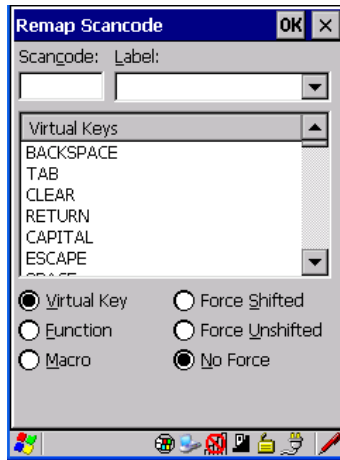
• Type the scan code in hexadecimal in the field labelled *Scancode*

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* menu, 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 menu, highlight the scancode you want to delete, and tap on the **Remove** button.
- Tap on **OK**.

5.4.5.8   Lock Sequence

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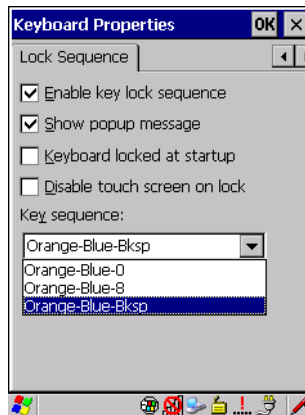
- To lock the keyboard, tap in the checkbox next to *Enable key lock sequence*.
- Tap in the checkbox next to *Keyboard locked at startup*.
- In the *Key sequence* dropdown menu, choose the key sequence you will need to type to unlock the keyboard.

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

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

Locked Keyboard
Icon
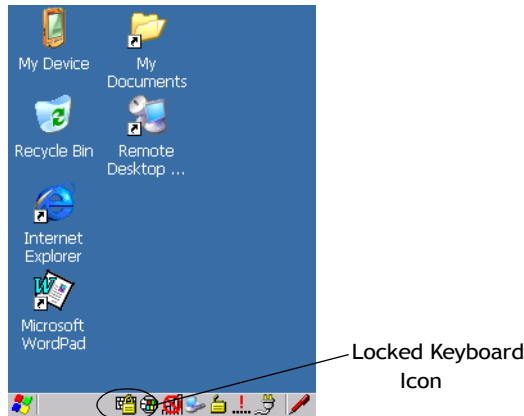
•   Type the key sequence to unlock the keyboard.
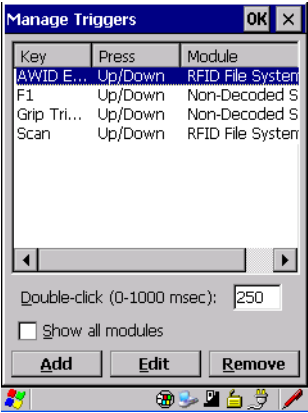
5.4.6   Manage Triggers

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

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

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

5.4.6.1 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, the external trigger (scan button), 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 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 100.

Show All Modules

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

Add

Tapping this button brings up the *Add Mapping* dialog (see "Add and Edit Trigger Mapping" on page 99), so that you can add new trigger mappings.

Edit

Tapping this button brings up the *Edit Mapping* dialog (see "Add and Edit Trigger Mapping" on page 99), 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.

5.4.6.2   Add and Edit Trigger Mapping

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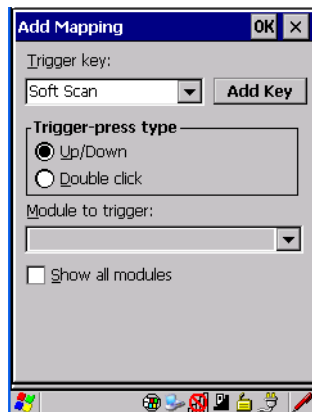
Trigger Key

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

> *Note: It is possible to map the same source to different modules (trigger consumers)—for example, to both the Imager and 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.

5.4.7   Power 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.
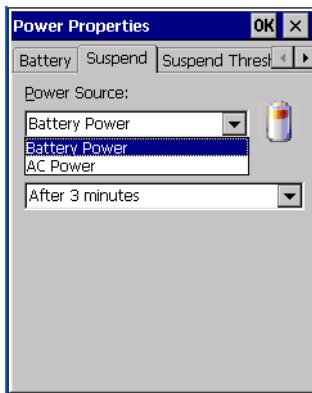
5.4.7.1   Battery

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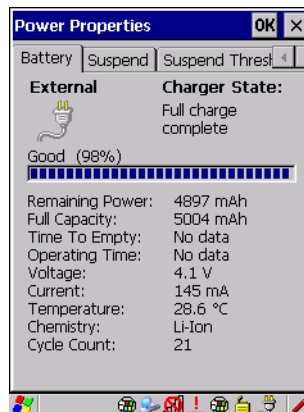
5.4.7.2   Suspend

- 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 minutes. To further reduce power consumption, carefully consider the duration of time that the display backlight is 'on' (see "Display Backlight" on page 83).*

When Ikôn 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)—Ikôn 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 Ikôn 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 Ikôn is in suspend state, the network connection will not be broken immediately. If the connection is dropped, you must re-establish the network connection.

5.4.7.3   Suspend Threshold
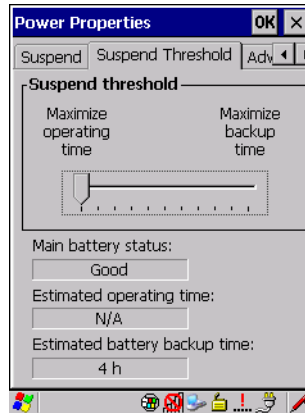
The *Suspend Threshold* adjustment tells the system when to shut down when the battery drains. If left at the default value, *Maximum Operating Time*, Ikôn will run until the battery is completely empty; the RAM is only backed up for a short period of time. If you choose *Maximum Backup Time*, Ikôn shuts 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 boot.*
>
> *In most real-time transaction environments this is not a problem (it only takes a few seconds to 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 Ikôn 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.*

The *Estimated Battery Backup* is the amount of battery power that has been reserved or set aside to protect data until a charged battery can be installed in Ikôn. When the battery capacity is depleted up to the *Estimated Battery Backup* reserve specified in the *Suspend Threshold* menu, Ikôn shuts off automatically and uses the reserve power to preserve the

data stored on Ikôn. Once Ikôn shuts down, it cannot be switched on until a fresh battery is installed, or the unit is inserted in a docking station or cradle.

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

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

Internal super-capacitors will protect the data stored in Ikôn while the battery is swapped for a fully charged one.

⚠️ *Important:* ***Once the battery is removed, the super-capacitors will preserve the data stored on Ikôn for approximately 5 minutes. It is critical that you install a charged battery before this time elapses.***

5.4.7.4 Advanced
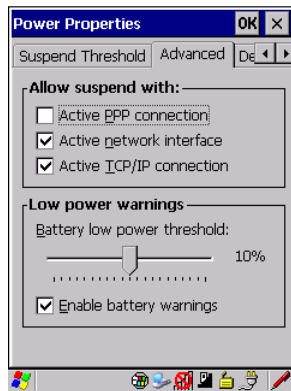
Allow Suspend With:

This menu allows you to specify whether or not your unit will enter Suspend Mode 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 menu allows you to specify the remaining battery capacity at which a warning message is displayed on the Ikôn screen, from 0% to 20%.
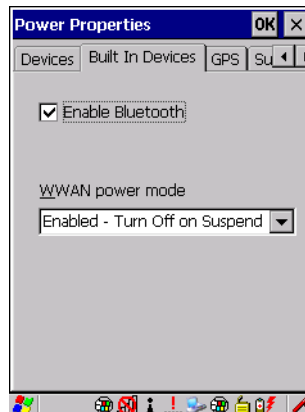
5.4.7.5   Devices

This menu controls power to individual CF and SDIO slots. Enable or disable the check-boxes as needed, then tap on **OK** to save your changes.

5.4.7.6   Built In Devices

This tab controls power to built-in devices such as *Bluetooth*. Enable or disable the check-boxes as needed, then tap on **OK** to save your changes.

5.4.7.7   GPS

Note: For those who have acquired a GPS program: for configuration, the installed GPS radio is on COM 2.

This option allows you to enable power to the GPS radio, decide how long it is powered up, and whether it is on or off during Suspend Mode.
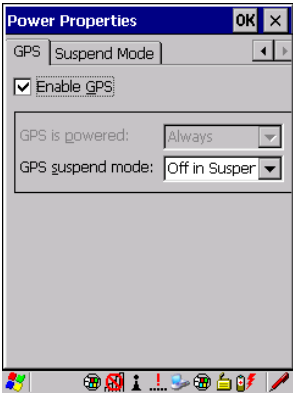
5.4.7.8   Suspend Mode

This option allows you to set Ikôn to go on standby when it enters Suspend Mode.

5.4.8   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.
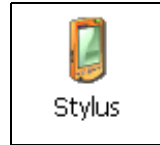
5.4.8.1   Double-Tap

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

5.4.8.2   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.
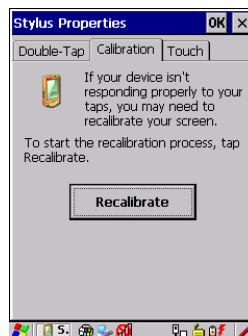
> • Follow the directions in the *Calibration* menu to recalibrate the screen.

5.4.8.3   Touch

This menu allows you to disable the touchscreen.

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

5.4.9   Volume and Sounds Properties

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

5.4.9.1   Volume Adjustments
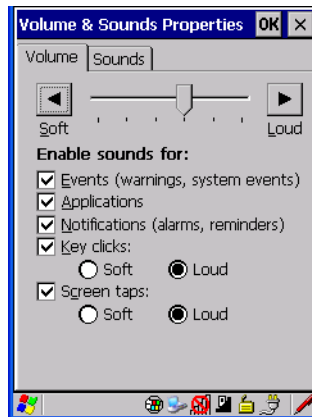
> • Slide the volume button to the left to lower the beeper volume or to the right to increase the beeper volume.
> • Under the heading *Enable sounds for*, enable the conditions under which you want Ikôn to emit a beep.

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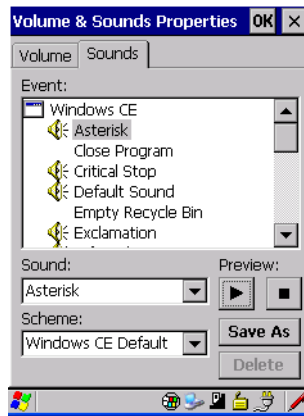
This dialogue box allows you to assign sounds to identify a particular actions. For example, you can choose the sound your Ikôn will emit when you close a program and choose another sound for a failed scan, etc.

5.5   *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 **Built In Devices** tab, and tap in the checkbox next to *Enable **Bluetooth***. Tap on **OK**.

When the radio is enabled, a *Bluetooth* icon appears 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.

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

5.5.1   Devices

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

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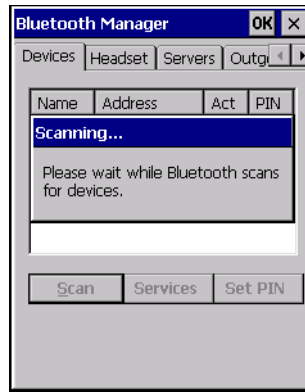
• To select a service, double-click on the service you want, or highlight the service and press the space bar.

• In the drop-down 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 5.5   Available *Bluetooth* Devices

Wait for Ikôn 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* menu 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* menu, 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 Ikôn 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.
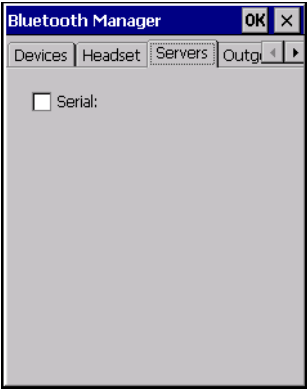
•   Enter the PIN, and tap on **OK** to connect the devices.

5.5.2   Headset
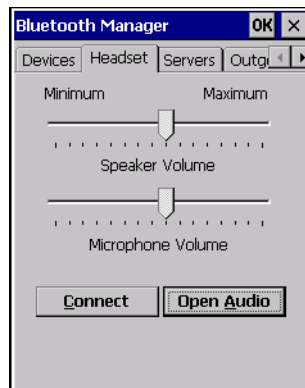
The *Headset* connection is initiated from this menu, and the headset speaker and microphone volumes can be adjusted here.

5.5.3   Servers

When the *Bluetooth* connection is initiated from your Ikôn to the remote device, Ikôn is called the 'client' and the remote is called the 'server'. The *Servers* menu displays the server profiles that can be activated in your Ikôn. 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 Ikôn be rebooted before you try to bond from a server.

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

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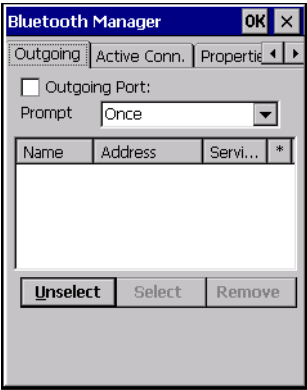
Outgoing Port acts as a serial port that can be used to connect to a list of *Bluetooth* devices (one at a time), but you have the freedom to switch on-the-fly.

The *Outgoing Port* checkbox allows you to create the Outgoing port. When the port is created, the *Outgoing* menu 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).

5.5.5   Active Conn.

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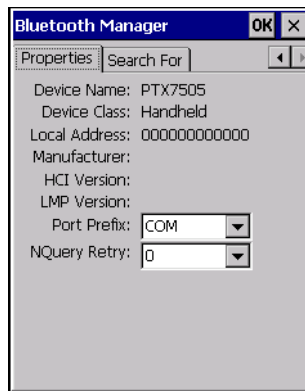
actual list of connections. The *Type* column of the table shows 'ACL' or 'SCO'. The Connection list table shows the connections for scanning as well as the service connections.

> *Note: You can change the device-name and description of your radio by clicking on the* **System** *icon in Control Panel, which will open the System Properties dialog box. Click on the* **Device Name** *tab to access the menu and change your settings. Then click on* **OK***.*
>
> *Although the name will have changed in the Properties menu in* **Bluetooth** *Controls, the radio only reads it on boot-up. For the changes to take effect, you must reset Ikôn (for reset instructions, see "Resetting Ikôn" on page 26).*

5.5.6   Properties

The *Properties* menu displays information about your Ikôn, and provides some port options.

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

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

Local **Bluetooth** *Address* shows the address of your Ikôn radio.

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

NQuery Retry (Name Query Retry) governs the number of times Ikôn will attempt to query the names of other *Bluetooth* devices if the first attempt fails. (When Ikôn scans for other devices, it sometimes fails to scan names.)

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

5.5.7 Search For
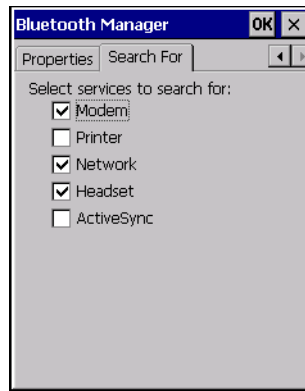
The *Search For* menu allows you to specify the services for which the *Bluetooth* radio will scan.

5.5.8 The *Bluetooth* GPRS WAN Connection

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

1. Enable the Dial-Up Networking service in the cell phone.
2. Make the phone discoverable.
3. Pair the phone service with the Ikôn Dial-Up Networking service using the *Bluetooth* Manager (for instructions on pairing devices, see "Devices" on page 110).

4. In Ikôn, set up the internet parameters by choosing the **Network And Dial-up Connections** icon from the *Control Panel*

5. Choose the **Make New Connection** icon.

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

7. Choose the **Next** button to display the *Modem* dialog box.
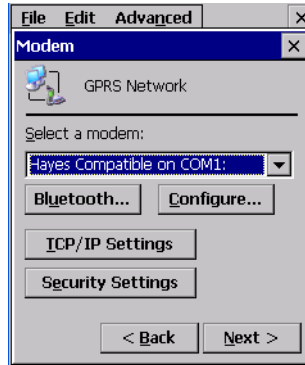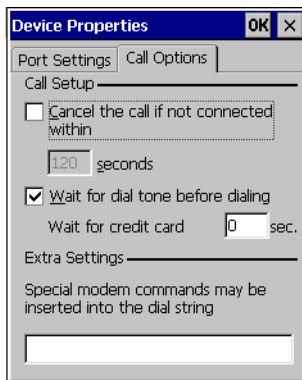
8. In the drop-down menu labelled *Select a modem*, choose the name of the modem with which you want to connect, and then choose the **Configure** button to display the *Device Properties* dialog box.
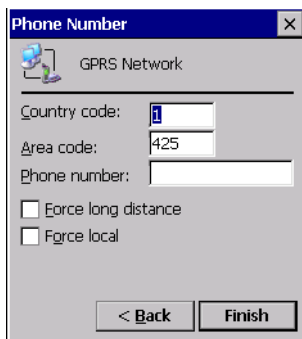
   Ikôn communicates via *Bluetooth* to your *Bluetooth*-equipped cellular telephone and retrieves the parameters for the *Device Properties* dialog box. Ikôn then disconnects.
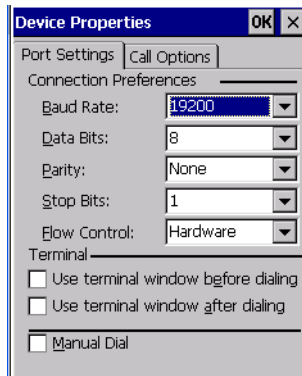
9. Under the *Call Options* tab, turn off **Cancel the call if not connected within,** and press [ENTER] to save your changes.

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

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

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

12. The values in the *Dialing Properties* dialog box need to be edited according to your network carrier specifications.
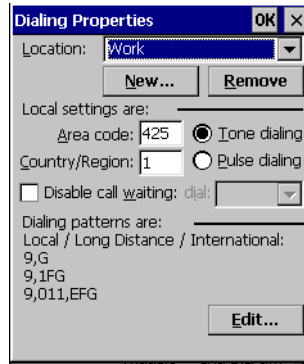
Once you've edited this dialog box to reflect your network carrier requirements, press [ENTER] to save your changes.

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

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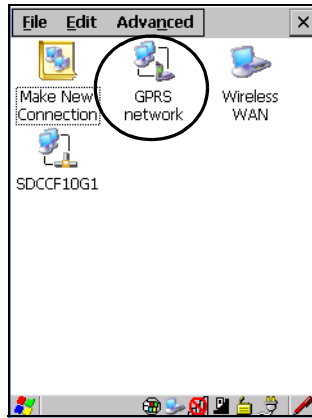
When you tap on your new connection, an onscreen message indicates the status of your connection: connected, disconnected, error messages, and so on.

5.6 Dr. Debug

Dr. Debug is an error diagnostic tool.

- Tap on **Start>Settings**>**Control Panel**. Tap on the **Dr. Debug** icon.
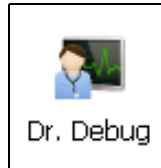
5.6.1 Status
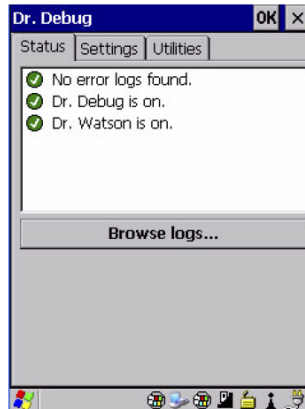
This tab indicates the status (on/off) of the tools. Tapping on **Browse logs** displays error logs for your review.

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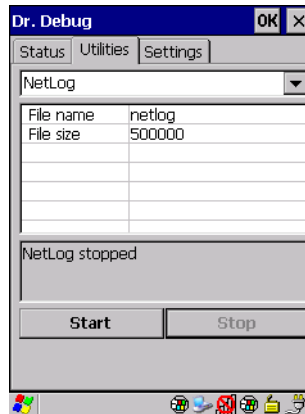
The *Utilities* tab is used to log network traffic. When you tap on the **Start** button, debug data is collected so that, if necessary, it can be forwarded to a Psion Teklogix technician for evaluation.

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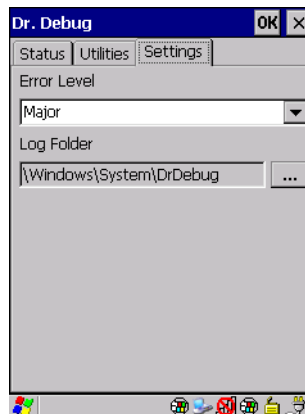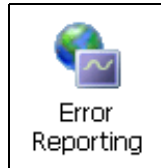
- Choose an **Error Level** from the drop down menu.
- To change the location where debug information will be stored, tap on the button to the right of the *Log Folder* option.

5.7   Error Reporting

Error Reporting allows you to enable or disable Microsoft error reporting prompts.
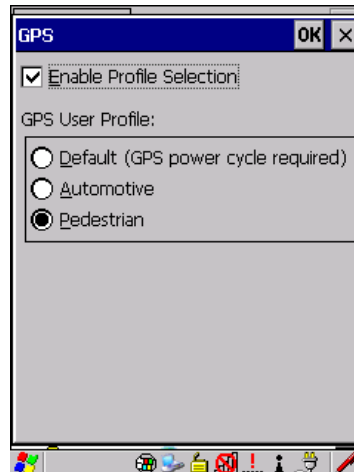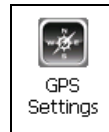
- Tap on **Start>Settings**>**Control Panel**. Tap on the **Error Reporting** icon.

5.8   GPS (Global Positioning System) Settings

This applet allows you to choose from a set of GPS user profiles built into the modem.

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

The GPS menu allows you to choose an appropriate profile: *Default*, *Automotive* or *Pedestrian*.

- *Default* profile is a good general profile suitable for most uses.

- *Automotive* profile is designed for in-vehicle use, providing quick location updates as the vehicle moves. When the GPS module is set to this profile and the vehicle enters an area such as a tunnel where satellite coverage is interrupted, it *will* attempt to predict the vehicle position.
- *Pedestrian* profile is designed for those using the GPS module while walking. It takes into account the slower pace of the pedestrian when mapping the location of the user. When the GPS module is set to this profile and the operator moves into an area where satellite coverage is interrupted, the GPS module *will not* attempt to predict the operator's movement.
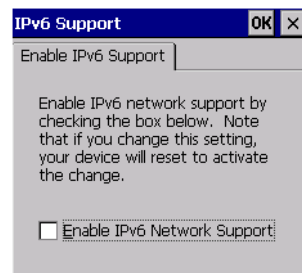
Note: For GPS power settings, see Section 5.4.7.7 on page 105.

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.

- 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   The Storage Manager

The Storage Manager allows you to view information about the storage devices present in Ikôn, such as a microSD flash card.

5.10.1 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:
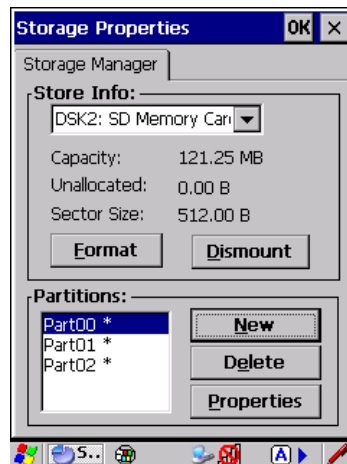
3. Choose the memory card from the drop-down list.

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.

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

5.10.2 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:
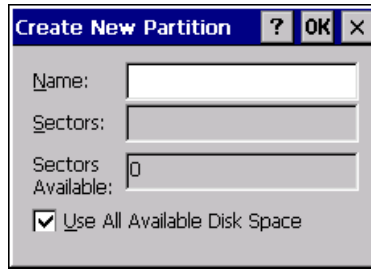
2. Type a name for the partition.
3. If more than one partition is desired, uncheck the *Use All Available Disk Space* checkbox, then specify the desired number of sectors to be used by the partition:

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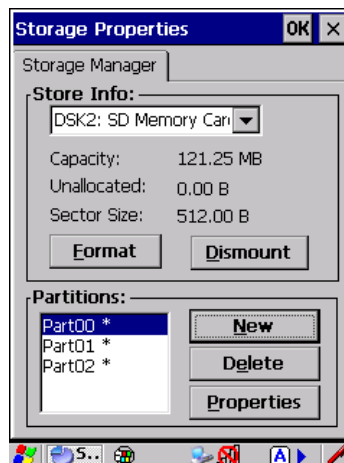
The new partition is automatically mounted. This is indicated by an asterisk (*) next to its name in the partition list. Any unallocated space on the card is indicated at the left, and additional partitions can be created in it.

5.10.3 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:
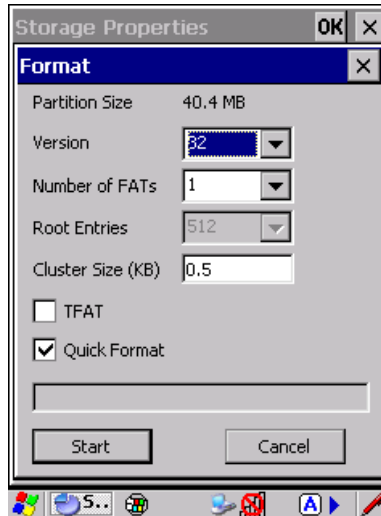
5. Choose your format options. These options include:

   • 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.

5.11 Teklogix Imagers

The Teklogix Imagers applet is used to create, modify, delete, and activate imager settings. The principle uses of the applet are to decode bar codes and to capture images. For details about the Teklogix Imagers application, refer to Appendix E: "Teklogix Imagers Applet".

If an HHP 5000 series Imager is installed in your Ikôn, a PTSI Imager demo applet is also provided to illustrate how the imager works.

Note: The PTSI Imager icon is only available when an HHP 5000 series Imager is installed in your Ikôn.

• To access the demonstration program, tap on **Start>Settings>Control Panel>PTS Imager** icon.

5.12 Teklogix Scanners

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

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

5.12.1 Bar Codes
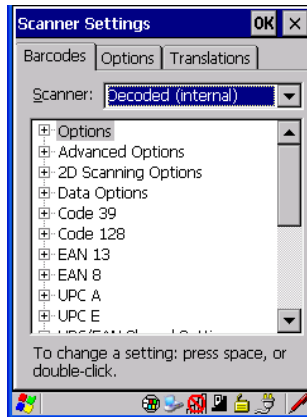
5.12.1.1 Scanner

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

The symbologies listed change to reflect the scanner you choose and the bar codes it supports. Always defer to your bar code scanner's programming manual when in doubt about the availability or settings for any parameter

> ⚠ *Important: To improve the decode speed and performance, enable only those codes that are required by the application.*
>
> *For information on configuring the bar code symbologies, see Appendix C: "Bar Code Settings".*
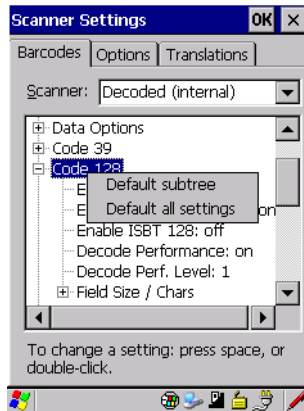
Keep in mind that some bar code types are only available when an internal imaging scanner is installed. All internal scanners can be configured using the *Barcode* dialog boxes.

5.12.1.2 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.

5.12.2 Options

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

5.12.2.1 Double Click Parameters

Click Time (msec)

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

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

Click Data

For both integrated and external scanners, this parameter determines which character is sent to the application installed in your Ikôn following a double-click. A dialog box appears, asking that you press the key you want to insert. The ASCII/Unicode key value of the keypress is displayed.

5.12.2.2   Display Parameters

Scan Result

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

Scan Indicator

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

Scan Result Time (sec)

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

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

Good Scan Beep and Bad Scan Beep

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

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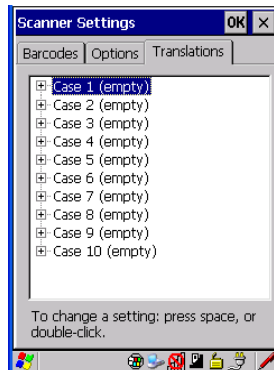
This parameter is used by the SDK "Scan" function (soft-scan: starting a scan session via the SDK function, instead of a physical user trigger press). The value assigned to this parameter determines the soft-scan timeout from *1* to *10 sec* (default is *3 sec*).

Scan Log File

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

5.12.3 Translations

The *Translations* menu allows you to define up to 10 cases, each consisting of up to 10 rules in sequential order. Only one case will be applied to a bar code and a case will only be applied if all rules specified in the case are successful—if a rule within a case fails, the entire case fails.

- In the *Translation* menu, tap on the **Case #** to create rules.
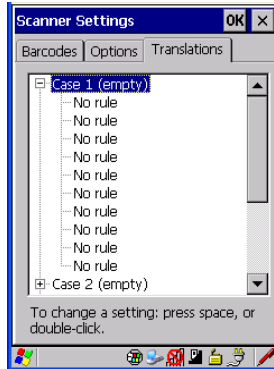
• Tap on the **No rule** drop-down menu to display the rules.
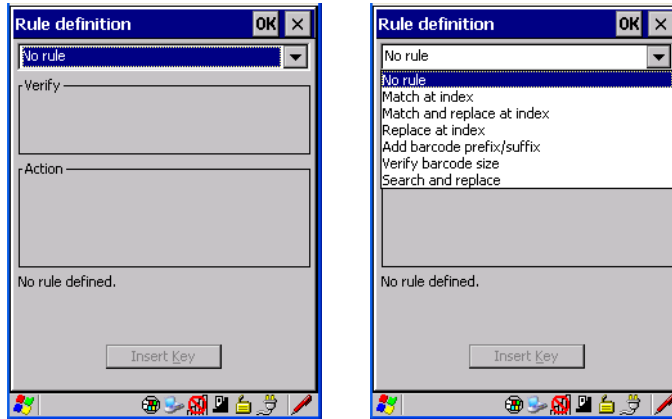
When you choose a rule, an associated screen is displayed in which you can define the rule.
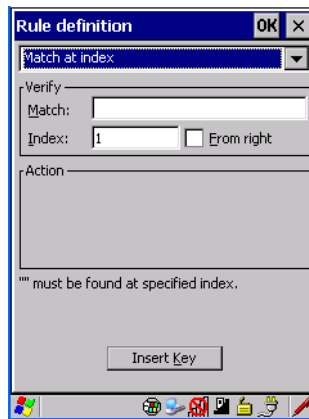
5.12.3.1 Case Rules

The case rules are defined as follows:

• *No rule*—ignored.

• *Search and replace*—replaces all instances of the match string. (Note that this rule cannot fail.)

• *Match at index*—matches the match string at a specified index.

• *Match and replace at index*—matches the match string at a specified index and replaces/changes it.

• *Replace at index*—replaces/changes unspecified data in a given range.

- *Add barcode prefix/suffix*—adds a global prefix or suffix.
- *Verify barcode size*—verifies the bar code size. This rule should generally be assigned first, before creating subsequent rules.

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

Translation information about the status of each case/rule is displayed in the scan log file (see "Scan Log File" on page 134) when enabled. This is useful if a case fails, and you are trying to determine why a rule is failing.

5.12.4 Ports

Figure 5.6 Port Replicator Port Settings
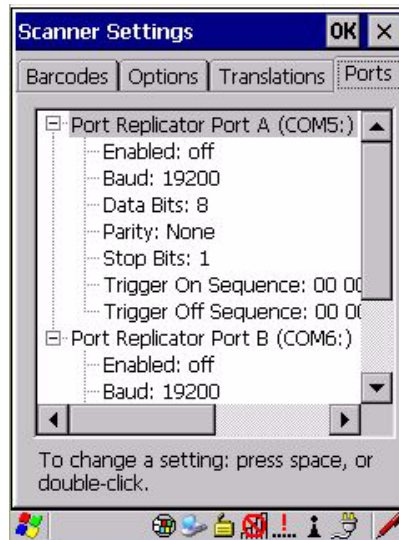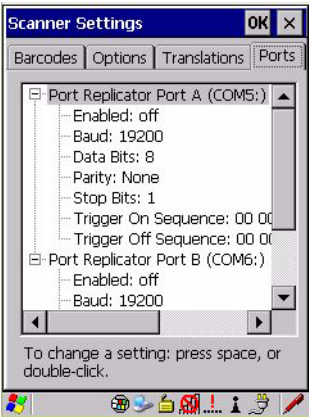
While you cannot configure the scanner, you can configure communications with a serial decoded scanner using the options in this tab.

Use these settings to ensure that the communication ports on Ikôn match the settings of the serial devices to which they are connected. If the settings do not match exactly, the devices may not function. Note that some devices can auto-detect serial port settings (such as baud rate), and in this case Ikôn will dictate the settings. Baud rates often have a direct impact on

performance—they should be set as high as possible while still ensuring reliable communication.

5.12.4.1   Port Replicator Ports A and B (COM5 and COM6)

Port Replicator Ports A and B are the standard RS-232 DE-9 DTE ports on the Ikôn port replicator module, available on certain cradle types.
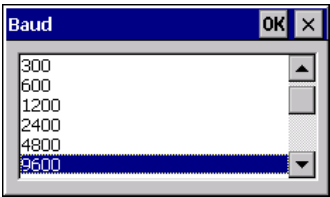
Enabled

This parameter must be set to ON in order for Ikôn to recognize the device connected to the Port Replicator 9-pin (COM5 or COM6).

Baud

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

Figure 5.7 Baud Rates

Data Bits

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

Parity

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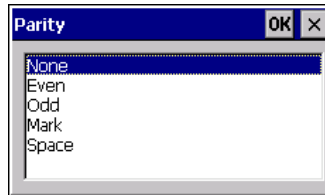
Stop Bits

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

5.13   Total Recall

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

• In the *Control Panel*, choose the **Total Recall** icon.
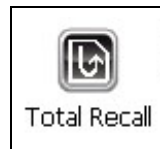
5.13.1   Creating a Backup Profile
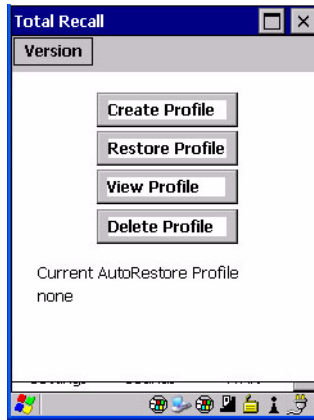
In the start up screen, you can choose from four options: *Create Profile*, *Restore Profile*, *View Profile* and *Delete Profile*.

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

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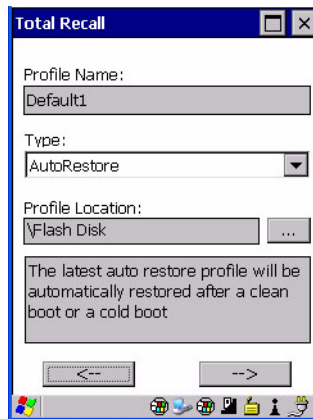
This dialog box displays the default profile name, the type of restore – *AutoRestore* or *ManualRestore*, and the possible storage destination for the profile file.

• To change the *Profile Name* (optional), tap on the **[...]** button to the right of the *Profile Location* field.

• In the *Name* field, type a new name. (You may need to move the onscreen keyboard down to make the *Name* field visible.)

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

Defining the Type of Backup
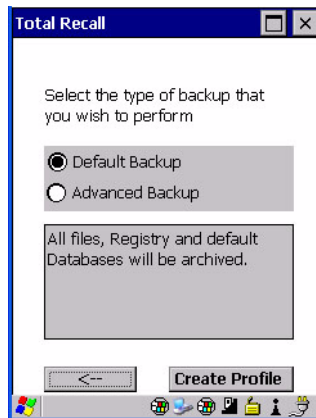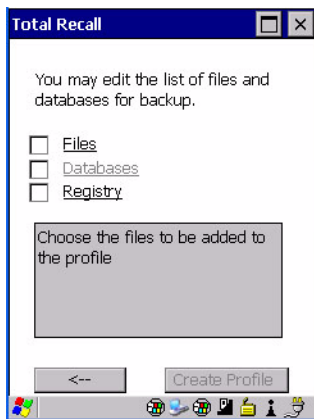
Default Backup

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

Advanced Backup

Choosing *Advanced Backup* allows you to define what you would like to include in your backup profile.
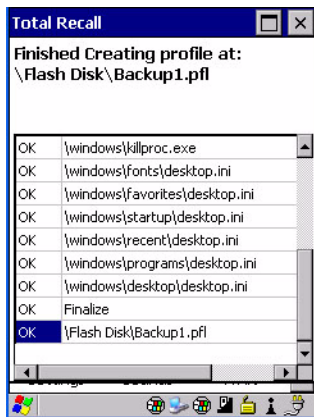
- Tap in the checkbox next to the option(s) listed here to tailor how what you want included in the backup.

Creating a Profile

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

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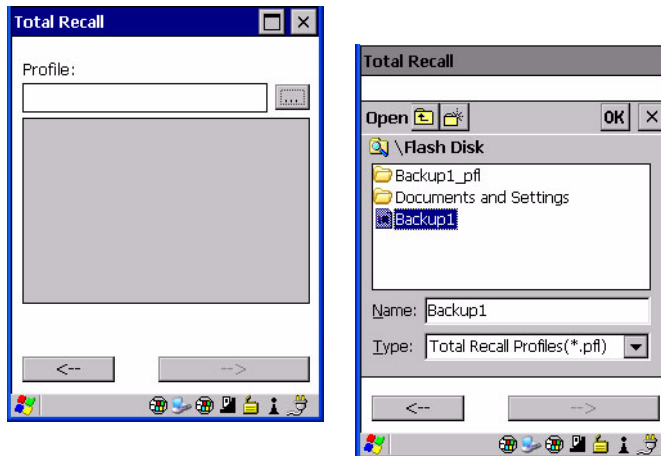
The options you chose to back up appear in your window as the backup progresses. When the backup is complete, the last item in the list indicates the location and name of the backup profile.

5.13.2 Restoring a Profile

To manually restore a profile:

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

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

5.13.3 Viewing a Profile

To view a profile:

- In the *Total Recall* home screen, tap on **View Profile**.

• Tap on the **[...]** button to the right of the *Profile* field, and locate your backup file.
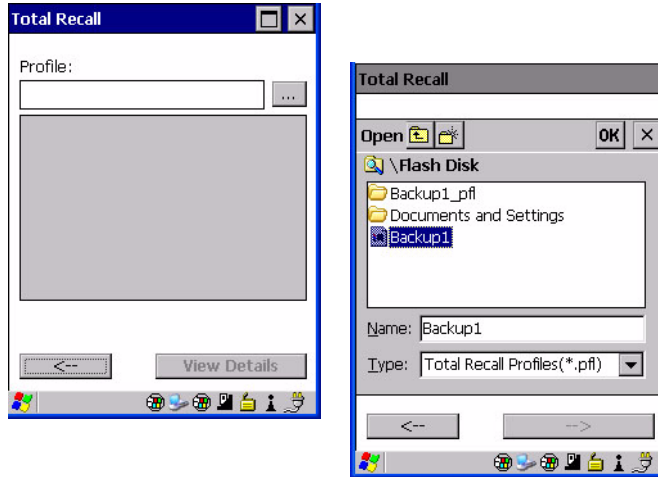
• Tap on **OK**.

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

5.13.4 Deleting a Profile

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

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

• Tap on **Yes** to delete the file.
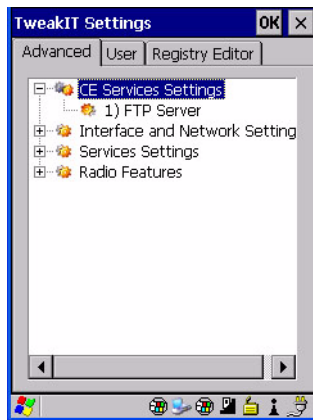
5.14   TweakIT Settings

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

5.14.1   Advanced

5.14.1.1   CE Services Settings

FTP Server

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

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

5.14.1.2   Interface and Network
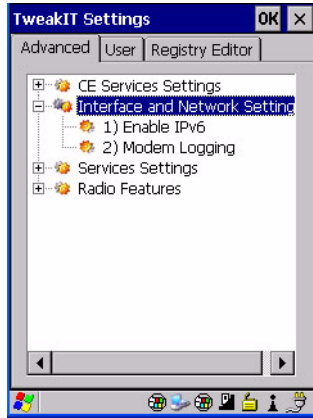
Enable IPv6
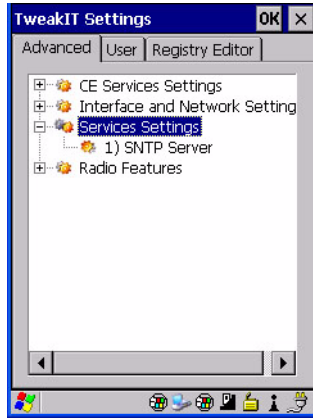
This option allows you to enabled Internet Protocol specification, version 6, that has been published to use 128-bit IP address (replacing version 4).

Modem Logging

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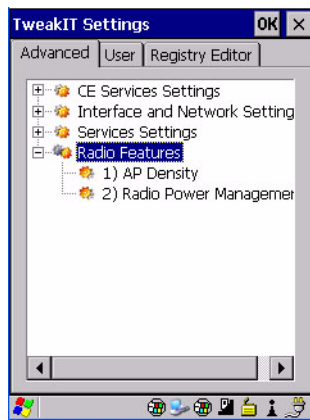
5.14.1.3   Services Settings

SNTP (Simple Network Time Protocol) Server

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

5.14.1.4   Radio Features

AP Density

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

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

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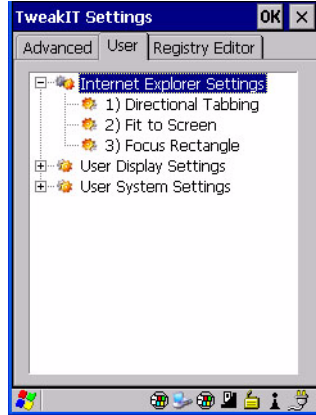
Radio Power Management

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

5.14.2 User

5.14.2.1 Internet Explorer Settings

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

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

Directional Tabbing, Fit-to-Screen and Focus Rectangle

When *Directional Tabbing* is enabled, arrow keys can be used to navigate to various links, text boxes and so on around the page rather than limiting you to the [TAB] key. *Fit-to-Screen* reformats the web page on the Ikôn screen into a single column, eliminating the need

for horizontal scrolling. Enabling *Focus Rectangle* adds a yellow rectangle around the cursor to make it clearly visible on the screen.

5.14.2.2 User Display Settings
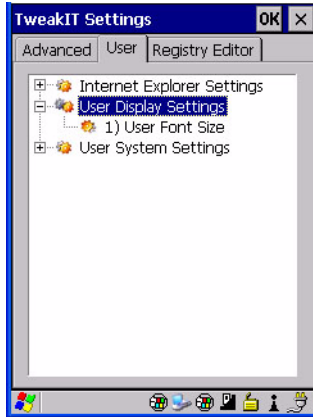
User Font Size

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

5.14.2.3 User System Settings
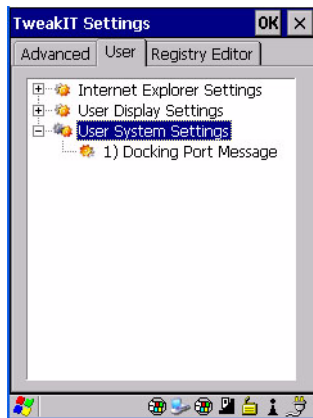
Docking Port Message

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

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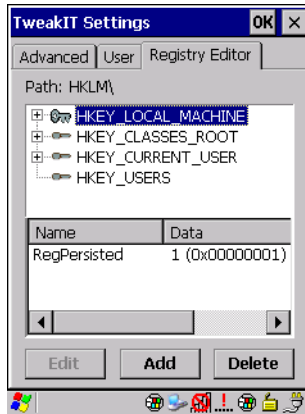
This option is reserved for senior administrators who have a strong understanding of registry keys and values. Careless registry editing can cause irreversible damage to the Ikôn.

PERIPHERAL DEVICES & ACCESSORIES 6

6.1   Carrying Accessories

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

Table 6.1   Carrying Accessories And Model Numbers

Carrying Accessory	Model Number
Handstrap	CH6021 (with stylus and tether)
Protective Carrying Cases	CH6091 case (Koskin material with embossed Ikôn logo, fully functional, access to all Ikôn features, includes locking belt clip) CH6095 case (leather, fully functional, access to all Ikôn features, includes belt clip)
Stylus Tether Kit	CH6020 (stylus, tether and Velcro retainer)

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

6.1.1   Attaching the Handstrap With Tether (Model No. CH6021)

The handstrap with tether can be attached to the back of Ikôn to provide a secure means for operators to carry the PDA.

Attaching the Handstrap

The handstrap is attached by fixing the ends of the strap to the anchors located on the back and bottom of the unit (see Figure 6.1 on page 154).

Figure 6.1 Attaching the Handstrap
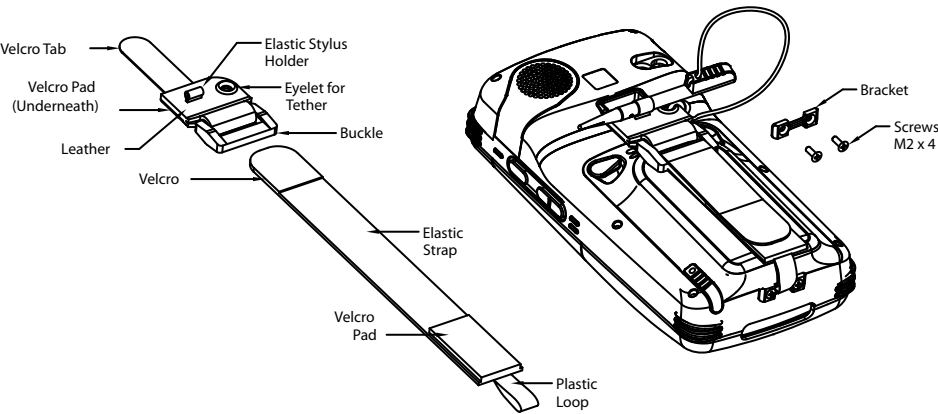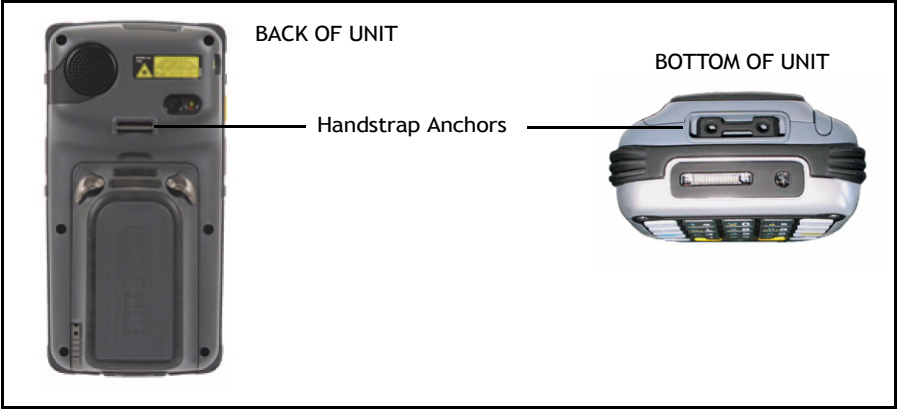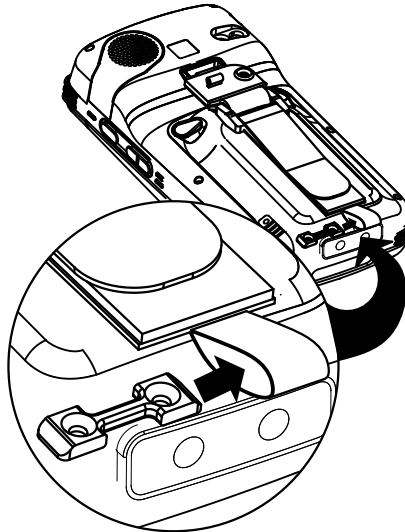
1. Attach the handstrap to Ikôn by looping the Velcro tab around the pin and adhering the tab to the Velcro pad.
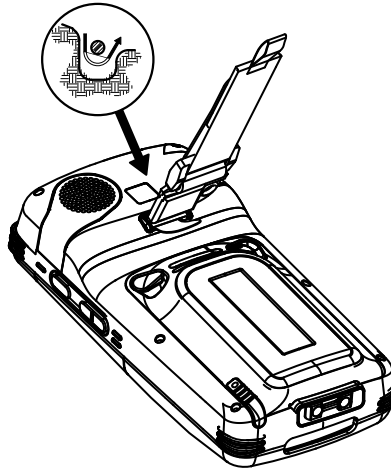
2. Remove the bracket and screws from Ikôn.

3. Slide the bracket through the plastic loop on the handstrap and install the screws.
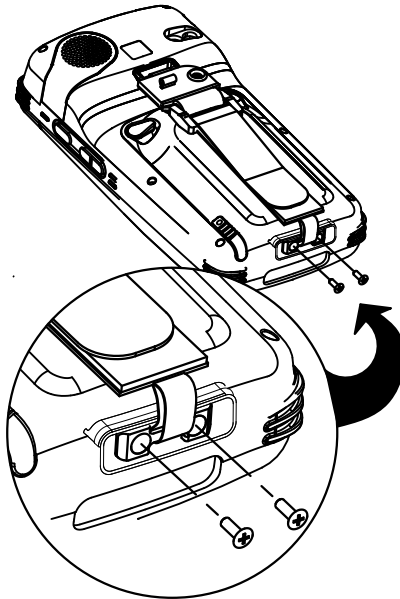
4. Adjust the handstrap by pulling up the Velcro tab and readjusting to your hand as needed.

Attaching the Stylus Tether to the Handstrap

The stylus tether can be attached to the handstrap at the back of Ikôn.

1. If not assembled, thread the tether cord through the stylus as shown, pulling the cord tight.
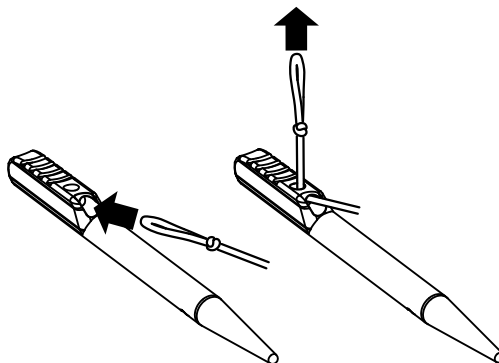
2. Thread the tether through the eyelet on the strap.
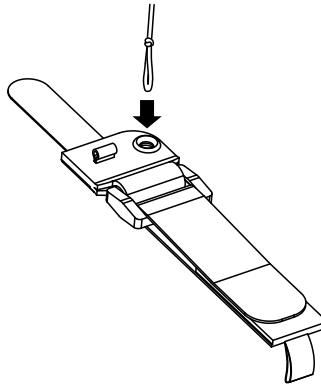
3. Pass the stylus through the tether loop and pull the tether snug.
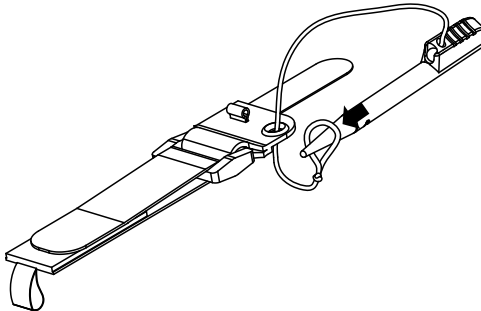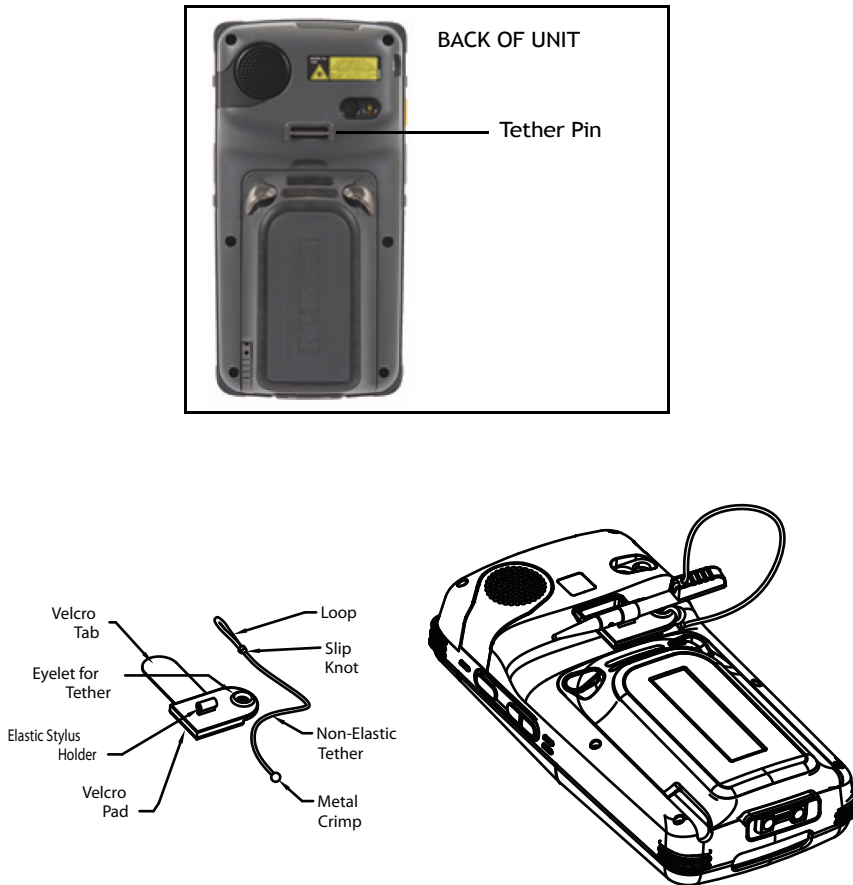
4. Slip the stylus into the elastic holder, and you're finished.
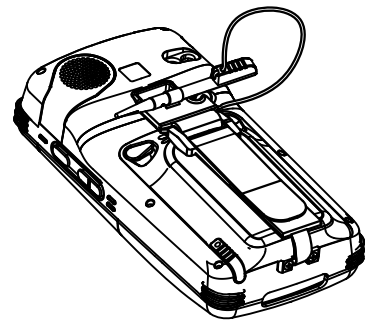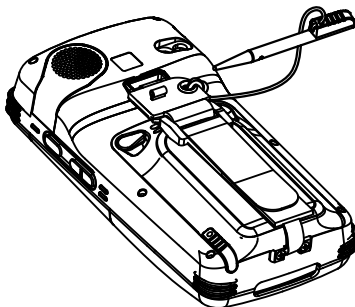
6.1.2   Attaching the Tether (Model No. CH6020)
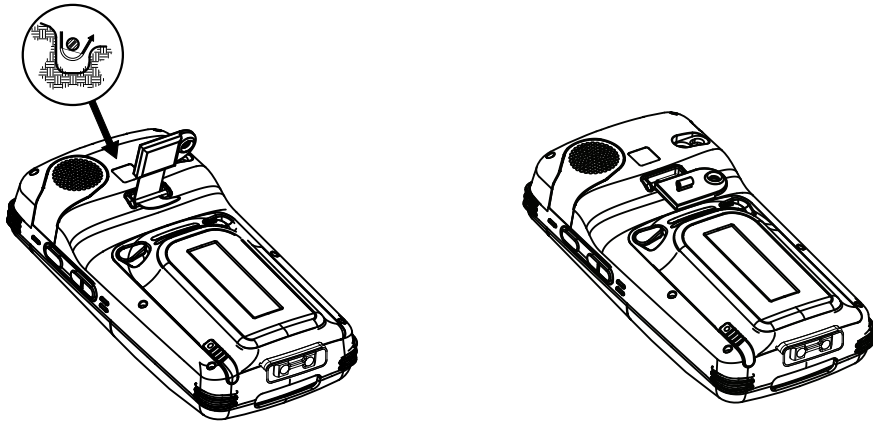
The tether can be installed to the back of Ikôn to provide a secure means for attaching the stylus to the PDA.

Figure 6.2   Attaching the Tether
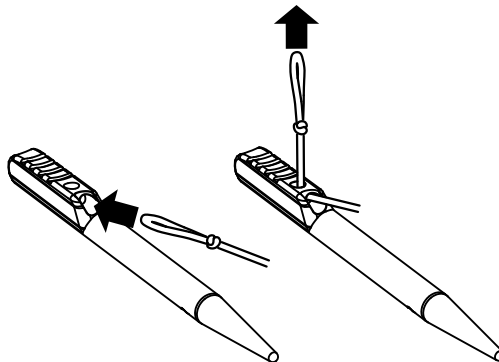
Attaching the Velcro Retainer

Attach the retainer to Ikôn by looping the Velcro tab around the pin and adhering the tab to the Velcro pad.

Attaching the Stylus Tether to the Retainer
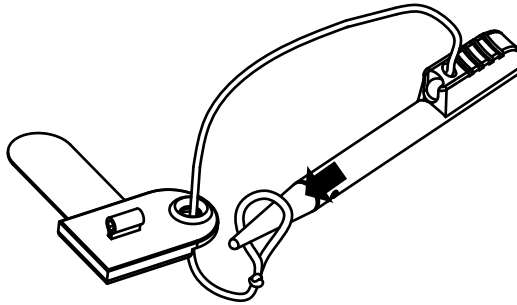
1. If not assembled, thread the tether cord through the stylus as shown, pulling the cord tight.
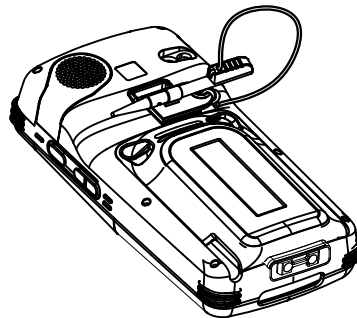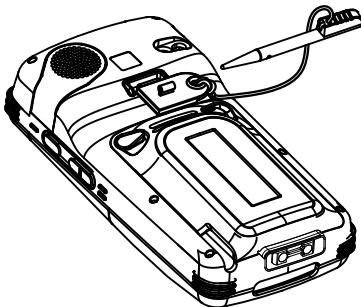
2. Thread the tether through the eyelet on the strap.
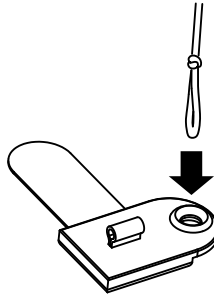
3. Pass the stylus through the tether loop and pull the tether snug.

4. Slip the stylus into the elastic holder, and you're finished.

6.1.3   Protective Carrying Cases

Two leather carrying cases are available for Ikôn to shield it from damage. The Model No. CH6091 and Model No. CH6095 cases fully cover Ikôn and provide full access to the Ikôn screen and keyboard for functionality.

6.2   The Battery

Ikôn operates on a 5000 mAh Lithium-ion Battery pack—Model No. CH3000.

Note: Review Chapter 7: "Specifications" for detailed information. See also "Battery 5000 mAh (CH3000): Contact Pinout" on page A-3.

Important: Before opening the battery cover on your Ikôn, <u>press the Power button to turn off the PDA</u>.

6.3   Adaptor Cable Options

The following are adaptors that can be ordered for your Ikôn:

Table 6.2   Cable Model Numbers And Description

Model Number	Adaptor Cable Description
CA1033	Tether to USB Host.
CA1032	Tether to USB Device. (For ActiveSync)
WA4010 - G1	USB to Ethernet adaptor.
CH1050	Power cable used with quad docking station CH4004.

6.4   Chargers and Docking Stations: General Information

Important: Keep in mind when ordering a charger or docking station, you must also order the appropriate power cord separately.

Psion Teklogix offers a variety of chargers and docking stations for Ikôn. These include:

- •   AC Adaptor – Model No. PS1050 - G1 (page 172).
- •   Automotive Power Adaptor – Model No. CH3050 (see page 172).
- •   Desktop Docking Station – Model No. CH4000 (see page 164).

- Quad Docking Station – Model No. CH4004 (see page 168).

6.4.1 Important Safety Instructions

- Before using the AC adaptor, CH4000 Desktop Docking Station, or CH4004 Quad Docking Station, read all instructions and markings on the housing.

- Use the AC adaptor, batteries, and other attachments recommended or sold by Psion Teklogix.

- The mains power cord (sold separately) shall comply with the national safety regulations of the country where the equipment is to be used.

- These docking stations cannot be used with non-Ikôn PDAs. Although they may share the same battery terminating connector, they are designed with different applications in mind.

- Do not operate the AC adaptor with a damaged cord or plug. Replace immediately.

- Do not disassemble the AC adaptor; it should be repaired by qualified service personnel. Incorrect reassembly may result in electric shock or fire.

- To reduce the risk of damage to the electric plug and cord when unplugging a docking station, pull the plug rather than the cord.

- Make sure the cord is positioned so that it is not stepped on, tripped over, or otherwise subjected to damage or stress.

- Do not operate the AC adaptor, the CH4000, or the CH4004, if it is struck by a sharp blow, dropped, or otherwise damaged in any way; it should be inspected by qualified service personnel.

- To reduce the risk of electric shock, unplug the AC adaptor from the outlet before attempting any maintenance or cleaning.

- An extension cord should not be used unless absolutely necessary. Use of an improper extension cord could result in fire or electric shock. If an extension cord must be used, make sure:
  - The plug pins on the extension cord are the same number, size, and shape as those on the adaptor.
  - The extension cord is properly wired and in good electrical condition, and that the wire size is larger than 18 AWG.

- Do not expose the AC adaptor to rain or snow. However, both the CH4000 and CH4004 are designed to accept a wet Ikôn Rugged PDA without harmful effect.

- Do not place batteries in the docking stations if they are cold—temperatures below 0°C (32°F). Allow them to warm up to room temperature for at least 30 minutes.

- Do not use a docking station if after an overnight charge, the battery feels warmer than the charger housing. The dock should be inspected by qualified service personnel.

- Do not use a docking station if the battery, while charging, becomes more than lukewarm.

6.4.2 Installation: Chargers and Docking Stations

When installing a charger or docking station, consider the following guidelines.

- Keep chargers and docking stations away from excessive dirt, dust and contaminants.

- Chargers will not charge batteries outside an ambient temperature range of 0°C to 40°C (32°F to 104°F). It is recommended that the charger or docking station be operated at room temperature—between 18°C and 25°C (64°F to 77°F) for maximum performance.

After unpacking your unit:

- Visually inspect the charger for possible damage.

- Install the IEC power cord and apply power.

6.4.3 Power Consumption Considerations

Check to ensure the mains circuit supplying chargers and/or docking stations is adequate for the load, especially if several chargers and docking stations are being powered from the same circuit.

- Quad docking station can consume up to 1.9A @ 120VAC or 1.5A @ 240VAC.

Figure 6.3 AC Adaptors

CH4000 AC Adaptor

CH4004 AC Adaptor

6.5   Desktop Docking Station - Model No. CH4000

⚠️   ***Important:*** ***The CH4000 desktop docking station is shipped with its own quick refer-***
ence guide. It is critical that it be reviewed for additional information
and updates.

⚠️   ***Important:*** ***To preserve battery integrity, the desktop docking station will proceed with a***
charge only when the battery temperature falls between 0°C and 40°C
(32°F to 104°F).

The CH4000 desktop docking station is a desktop model designed to:

- Fast charge the internal battery.
- Fast charge the spare battery pack (see Figure 6.4 on page 165).
- Supply Type A and Type B USB connectivity to Ikôn (see Figure 6.5 on page 166).

The desktop docking station provides sufficient power to concurrently support all the
above functions.

The CH4000 storage temperature is -30°C to +60°C (-22°F to 140°F). Operating tempera-
ture and humidity are: 5 - 95% non-condensing and 0°C to 40°C (32°F to 104°F).

The CH4000 uses careful charge algorithms designed to maximize battery life while ensur-
ing the shortest possible charge time. The charger supports proprietary Psion Teklogix Smart
Batteries and handles a range of voltages and charge algorithms. See "The Battery" on
page 31 for more information regarding battery capacity, charge times and battery life. See
"Charging the Spare Battery" on page 166 for spare battery charge information.

Figure 6.4 CH4000 Desktop Docking Station Front View

6.5.1 Operator Controls

The CH4000 has one operator control—the USB door on the rear, which switches from Type A to Type B (see "Operating the USB Dock" on page 166).

6.5.2 Indicators

The front-mounted LED indicates the spare battery charge status.

6.5.3 Operation

6.5.3.1 Charging the Ikôn Battery

The CH4000 supplies DC power to enable the Ikôn internal fast charger. Normally, it takes 2.5 to 3.0 hours to charge the Ikôn 5000 mAh battery.

When installed in the dock, the Ikôn battery charge LED will illuminate to indicate the unit has external power and can charge the internal battery. The Ikôn charge indication follows the same convention as the charger's spare battery indicator (Figure 6.4 on page 165).

Note: Battery charging continues whether Ikôn is switched on or off.

6.5.3.2 Charging the Spare Battery

⚠️ *Important: Do not store spare batteries in a charger for more than 72 hours. Doing so may damage the battery or reduce its charge capacity.*

- Install the battery in the rear slot of the CH4000 with the connector facing to the right. Slide the battery in and down to mate the connector.
- The CH4000 spare battery LED lights up immediately. During charge the LED will be flashing green.
- When the battery capacity reaches 95%, the LED turns solid green.
- The charge stops when the battery is fully charged and the LED remains green.

A full charge will take 2.5 to 3.0 hours for a 5000 mAh battery.

6.5.3.3 Operating the USB Dock

The CH4000 Desktop Docking Station offers a rear-mounted host or device USB connection to Ikôn. Ikôn supports communication with low- and full-speed USB 1.1 compliant devices and hosts through the docking station. The Type B receptacle may be used for ActiveSync® among other applications typical for a Type B device (Figure 6.5 on page 166).

Move the sliding door selector to alternate between the Type A and Type B USB ports.

Figure 6.5 CH4000 Desktop Docking Station Rear View

Sliding Door   Type A USB Port   DC Jack

Type B USB Port   Sliding Door   DC Jack
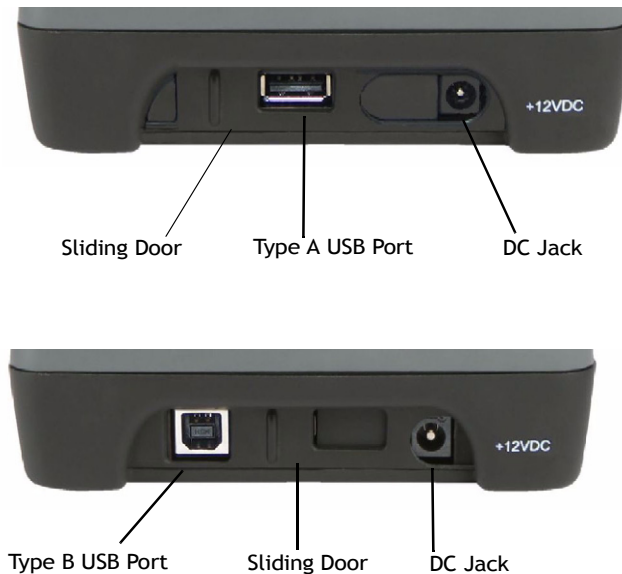
Linking Ikôn to a PC

The desktop docking station can be connected to a PC so that you can exchange files in the same way that you would between PC drives. A USB cable is included with your docking station.

Note: For information about data transfer with the Windows XP operating system and ActiveSync, and with the Vista operating system, refer to "Data Transfer Between the PC and Ikôn" on page 19.

To link Ikôn to a PC:

- Insert Ikôn in the desktop docking station.
- Insert the USB cable into the docking station Type B USB connector. Attach the other end of the cable to a USB port on the PC.

6.5.4 Cleaning the CH4000

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

- Use only mild detergent or soapy water on a slightly damp cloth to clean the CH4000. Avoid abrasive cleaners, solvents or strong chemicals for cleaning. The plastic case is susceptible to harsh chemicals. The plastic is partially soluble in oils, mineral spirits and gasoline. The plastic slowly decomposes in strong alkaline solutions.
- To clean ink marks from the label, use isopropyl alcohol.

6.5.5 Troubleshooting

6.5.5.1 Docking station does not seem to power on.

- When first connected to the DC power supply, the spare charger LED should turn ON and remain on for 3 seconds.
- If not, the charger is defective and requires service.

6.5.5.2 The Ikôn charge indicator LED stays off.

When an Ikôn is docked into a powered CH4000 and its charge indicator LED stays off, there could be a problem with Ikôn or with the docking station. Use an Ikôn with a properly functioning charge indicator to isolate the problem.

6.5.5.3 The Ikôn charge indicator LED is Fast Flashing Green.

If the Ikôn charge indicator fast flashes green when Ikôn is docked:

- Remove Ikôn and disconnect the adaptor DC power cable.
- Wait at least 20 seconds, and then plug the cable in again.
- If the Ikôn indicator still shows a fault, Ikôn requires service.

6.5.5.4 Spare battery LED Fast Flashes Green with a battery installed.

- Try inserting a battery that is known to be working with another charger.
- If the charge slot LED continues to fast flash green with the known working battery, the charger is defective and requires service.
- *Your Psion Teklogix battery and desktop docking station are carefully designed for safety and capacity performance in accordance with IEEE 1725. If the battery or charger are not Psion Teklogix approved products, or the safety mechanism is faulty, the spare charge slot LED or Ikôn LED will rapidly flash green.*

6.5.5.5 Spare battery LED does not turn on when a battery is installed.

- Inspect the charge slot contacts for damage (are they bent, flattened, twisted or broken?).
- Reinstall the battery and check that it is fully seated in the slot.
- Try inserting a battery that you know to be working into the charger slot.
- Disconnect and reconnect the DC adaptor, and check that the spare battery LED indicator flashes at power-up.
- If the charge slot fails to charge the known working battery, it is defective and requires service.

6.6 Quad Docking Station - Model No. CH4004

⚠️ *Important: **The CH4000 desktop docking station is shipped with its own quick reference guide. It is critical that it be reviewed for additional information and updates.***

The CH4004 Quad Docking Station (Figure 6.6 on page 169) is a desktop model designed to accept as many as four Ikôn Rugged PDAs. The docking station powers the Ikôns and their internal battery charger. The docking station also connects from one to four Ikôns to a 10/100 Base-T Ethernet network and allows for Ethernet data transfer.

Figure 6.6 CH4004 Quad Docking Station Front View
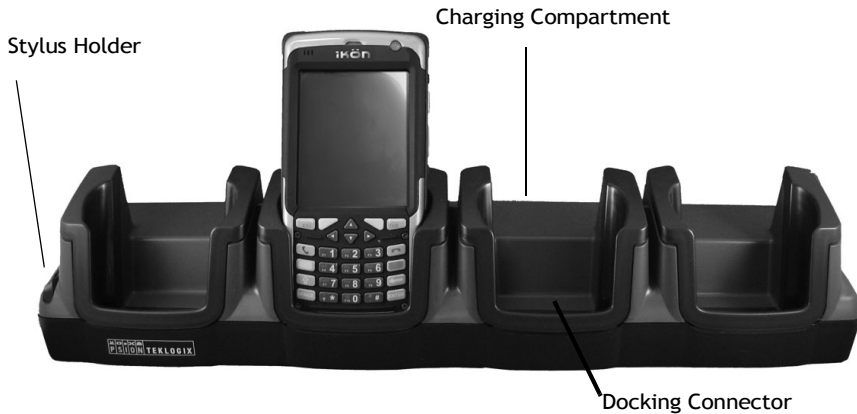
6.6.1   Operator Controls

The CH4004 has no operator controls or power switch.

6.6.2   Indicators

The quad docking station has two rear Ethernet LEDs and no front LEDs.

6.6.3   Operation

6.6.3.1   Charging the Ikôn Battery

Insert the adaptor's DC power MINI FIT JR plug into the CH4004 rear DC input receptacle. The adaptor LED should be ON when powered from the mains.

The CH4004 supplies DC power to enable the Ikôn internal fast charger. Normally, it takes 2.5 to 3.0 hours to charge the Ikôn 5000 mAh battery.

When installed in the docking station, the Ikôn battery charge LED will illuminate to indicate the unit has external power and can charge the internal battery.

• During charge the Ikôn LED will be a slow flashing green.

• When the battery capacity reaches 95%, the LED turns solid green.

Note: Battery charging continues whether Ikôn is switched on or off.

6.6.3.2 Connecting to the Ethernet Network

The rear-mounted RJ45 connector incorporates LEDs that indicate data traffic (see Figure 6.7) when:

*   Ikôn is in the docking station and powered on;
*   The docking station is powered by the AC adaptor;
*   The docking station is connected to the Ethernet network with a Category 5 cable plugged into the RJ45 rear socket.

The green Link LED flashes to indicate the presence of data traffic. The yellow Speed LED is steady ON when the network is 100 Mbps and OFF when the network is 10 Mbps.

Figure 6.7 CH4004 Quad Docking Station Rear View
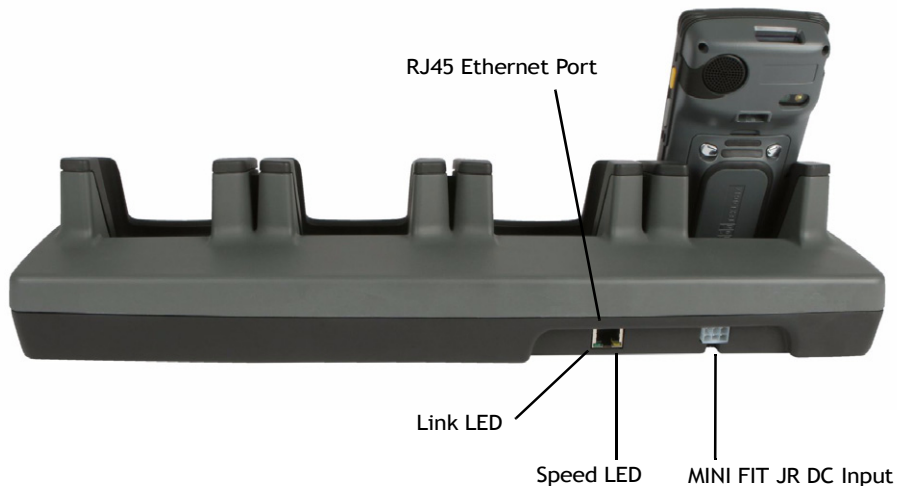
Network Access

Ikôn automatically detects insertion into the docking station and loads the appropriate drivers to communicate with the network.

Network Addressing

The host application uses standard TCP/IP protocol to name, locate, and communicate with a specific Ikôn on the network.

If a link is established between an Ikôn and a host, the application on the host and on Ikôn must have a recovery mechanism in the event that Ikôn is removed from the dock, interrupting the link.

6.6.4   Cleaning the CH4004

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

- Use only mild detergent or soapy water on a slightly damp cloth to clean the CH4004. Avoid abrasive cleaners, solvents or strong chemicals for cleaning. The plastic case is susceptible to harsh chemicals. The plastic is partially soluble in oils, mineral spirits and gasoline. The plastic slowly decomposes in strong alkaline solutions.
- To clean ink marks from the label, use isopropyl alcohol.

6.6.5   Troubleshooting

6.6.5.1   The Ikôn charge indicator LED stays off.

When an Ikôn is docked into a powered CH4004 and its charge indicator LED stays off, there could be a problem with Ikôn or with the docking station. Use an Ikôn with a properly functioning charge indicator to isolate the problem.

6.6.5.2   The Ikôn charge indicator LED is Fast Flashing Green.

If the Ikôn charge indicator fast flashes green when Ikôn is in any of the four sites:

- Remove the Ikôns and disconnect the adaptor DC power cable.
- Wait at least 20 seconds, and then plug the cable in again.
- If the Ikôn indicator still shows a fault, Ikôn requires service.

6.6.5.3   Green LED off when connected to a network.

- Check the Category 5/5e cable. Replace if the cable is suspect.
- Contact your network administrator.

6.6.5.4   Yellow LED off when connected to a 100Base-T network.

- Check the Ethernet cable. Replace if the cable is suspect.
- Contact your network administrator to ensure the network is running at 100 Mbps.

6.6.5.5   Powered adaptor LED stays off.

- Check the AC cable. Replace with the same type if the cable is suspect.
- If the adaptor's LED stays OFF, the adaptor is defective and requires service.

6.7   AC Wall Adaptor - Model No. PS1050 - G1

The AC wall adaptor available for your Ikôn allows you to operate your PDA using AC power while charging the battery inserted in the unit.

Adaptor plugs suitable for use in the following countries are shipped with the AC wall adaptor: United Kingdom, Switzerland, Japan, Israel, Australia, Europe, and North America (see Figure 6.8 on page 172).

Figure 6.8 AC Wall Adaptor Plugs
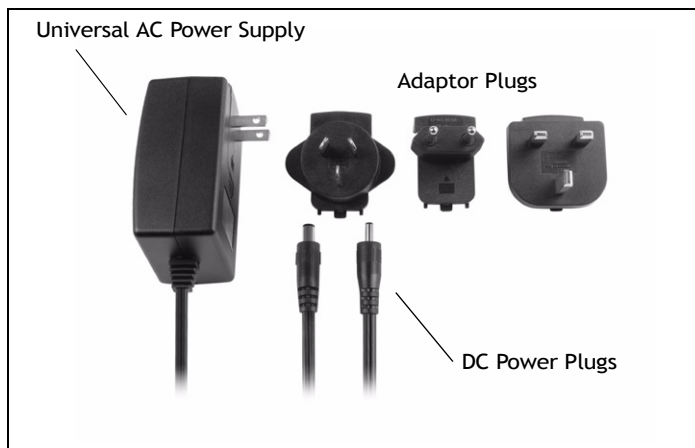
- Choose the adaptor plug that is suitable for use in your country. Slide the adaptor plug into the Universal AC power supply, snapping it into place. These two pieces, coupled together, are referred to as an AC wall adaptor.

- Insert the DC power plug into the DC IN port at the base of Ikôn, located between the tether and LIF ports.

- Plug the pronged end into an AC outlet.

6.8   Automotive Power Adaptor - Model No. CH3050

⚠️   *Important: **It is critical that you review the safety instructions outlined in the quick start guide enclosed with your automotive power adaptor before using the accessory.***

The automotive power adaptor allows you to power your Ikôn and recharge your battery using power drawn from your vehicle's automotive power outlet.

Figure 6.9 CH3050 Automotive Power Adaptor

- Insert the DC power plug into the DC IN port at the base of Ikôn.
- Insert the automotive power adaptor plug into automotive power outlet in your vehicle.

6.9   The Non-Powered Vehicle Cradle - Model No. CH1000

⚠ *Important:* *The CH1000 vehicle cradle is shipped with its own quick start guide (PN 8000163). It is critical that it be reviewed for additional information and updates.*
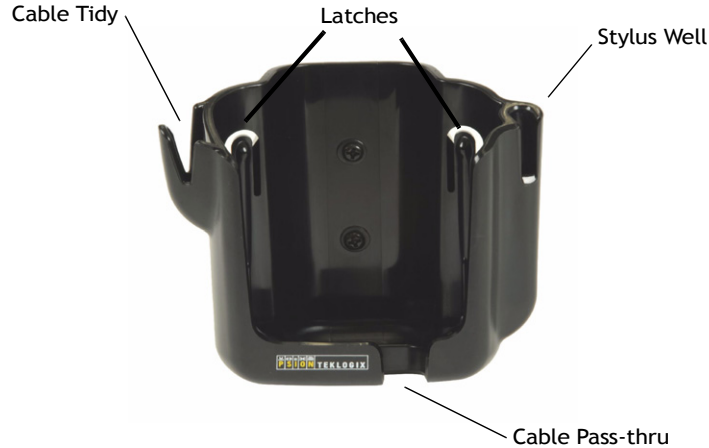
The CH1000 Vehicle Cradle is a passive device, designed to securely grip Ikôn. The cradle design permits access for the DC input cable to connect to Ikôn (see Figure 6.10 on page 174). The cradle is also equipped with:

- A stylus holder.
- A loop for tethering the stylus.
- A tidy for draping the power cables or storing the disconnected DC plug.

⚠ *Important:* *Shock and vibration specifications for Ikôn are verified using Psion Tek-logix-approved RAM® mounts and mounting hardware. Use of non-certified Psion Teklogix mounting hardware is not recommended, and may void warranty coverage.*

Figure 6.10 CH1000 Vehicle Cradle

6.9.1   Important Instructions

The CH1000 storage temperature is -40°C to +70°C (-40°F to 158°F). Operating humidity and temperature is 5 - 95% non-condensing and -30°C to 60°C (-22°F to 140°F).

6.9.2   Vehicle Cradle Operation

6.9.2.1   Operator Controls

The vehicle cradle has no operator controls or power switch.

6.9.2.2   Indicators

The CH1000 has no front indicators. The Ikôn LED serves as the power indicator.

6.9.2.3   Placing Ikôn in the Vehicle Cradle

Connect the vehicle power to Ikôn prior to inserting it in the vehicle cradle.

The vehicle cradle is designed with a front opening through which you can pass the connected cable while inserting Ikôn (see Figure 6.10).

When placing Ikôn into the vehicle cradle, press firmly on the top of the PDA and Ikôn will bottom out on the cradle base. This action will make the final fit to the cradle base to allow the rear restraining mechanism to resist vibration.

6.9.2.4 Removing Ikôn from the Vehicle Cradle

When removing Ikôn, apply slight pressure to the rear and pull upwards. The rear-first motion will assist in disengaging the rear restraining mechanism.

6.9.3 CH1000 Vehicle Cradle Mounting Recommendations

⚠️ *Important: **Before mounting a vehicle cradle in a vehicle, there are a number of opera-
tor safety issues that require careful attention. An improperly mounted
cradle may result in one or more of the following: operator injury, operator
visibility obstruction, operator distraction and/or poor ease of egress for the
operator. Psion Teklogix strongly recommends that you seek professional
mounting advice from the vehicle manufacturer.***

Cable routing within a vehicle cab also requires careful consideration, especially for sepa-
rately tethered scanners and other devices with loose cables. If you are unable to obtain
suitable advice, contact Psion Teklogix for assistance. Note also that for better protection,
the equipment should be mounted inside the vehicle roll cage.

⚠️ *Important: **The Ikôn Vehicle Cradles are designed to be compatible with any RAM®-B
mounting interface. For other mounting options please contact our Techni-
cal Support offices.***

*   ***In addition, for safety reasons, only pedestal mounts with fully locking
joints should be used in vehicles. Always adjust the pedestal for the
optimum viewing angle, and securely tighten the hex and wing screws.***

The most effective way to mount the vehicle cradle RAM mount is to use the four #M4X12
threaded inserts on the rear of the unit. Bolts must not extend more than 5mm into the
vehicle cradle. You may also remove the rear Ram-B mount accessory to custom mount the
vehicle cradle to a surface other than the recommended RAM-B (Figure 6.11 on page 176)

6.9.3.1 Mounting Template

For detailed mounting instructions including a drill template, refer to the *Ikôn CH1000
Vehicle Cradle Quick Start Guide (PN 8000163)*.

In every case, please take the following precautions:

*   When installing the cradle, ensure the driver's view is not obstructed.
*   Install cradles so as not to obstruct vehicle safety features, i.e. air bags, seat belts, etc.
*   Ensure cradle is secured to the vehicle in a safe location. Injury may result otherwise.

- Ensure the mounting has the capacity to hold the cradle and Ikôn. Cradle plus Ikôn weight is approximately 1kg (2.2 lb.).

- Psion Teklogix has recommended and approved mounts—consult Customer Service for information.

Figure 6.11 Removing the RAM Mount Interface

To accommodate the service loop of the power cable, leave a 10.2 cm (4 in.) clearance at the bottom of the vehicle cradle. Leave a 17.8 cm (7 in.) clearance at the top of the vehicle cradle to allow easy removal of Ikôn. When selecting a mounting location, refer to the detailed assembly instructions that are packaged with the pedestal.

*Important: **Before Psion Teklogix releases a product, our engineering team exposes that product to vibration tests to ensure Ikôn will remain secure during normal use. But as a low cost mount, the cradle will not defend against shock if the vehicle undergoes a front or rear impact. Take care to mount the cradle in an upright position in case of accidents.***

If you elect to use a third party company-produced cradle, Psion Teklogix cannot take responsibility for the effects of that third party product when it causes failure to our device.

6.9.4   Cleaning the CH1000 Vehicle Cradle

⚠️   *Important: **Dampen a soft cloth with mild detergent to wipe the unit clean.***

- Use only mild detergent or soapy water on a slightly damp cloth to clean the CH1000. Avoid abrasive cleaners, solvents or strong chemicals for cleaning. The plastic case is susceptible to harsh chemicals. The plastic is partially soluble in oils, mineral spirits and gasoline. The plastic slowly decomposes in strong alkaline solutions.
- To clean ink marks from the label, use isopropyl alcohol.

6.10   The Powered Vehicle Cradle - Model No. CH1005A

The CH1005A Powered Vehicle Cradle (12-24 VDC) is designed to securely grip Ikôn when locked in and provides an easy single-handed release mechanism when Ikôn needs to be quickly removed from the cradle. The cradle design permits access for the DC input cable to connect to Ikôn (see Figure 6.15 on page 183). The cradle is also equipped with:

- One USB A connector.
- LED charge indicator.
- A stylus holder and tether latch.
- Built in speaker, identical to the one on Ikôn, that offers hands-free functionality. The powered cradle detects when Ikôn is docked and can automatically transfer the speaker function from Ikôn to the cradle.
- Depending on the cradle variant, there can be up to two full RS-232 connectors.
  - PN 1081148-500: no RS-232 connectors.
  - PN 1081148-400: one RS-232 connector.
  - PN 1081148-200: two RS-232 connectors.

The cradle comes with four mounting screws and a CH1005A Powered Cradle Quick Start Guide (PN 8000164), with illustrated electrical and mounting instructions.

If a third party vehicle mount is used, the third party should perform the same type of testing in order to ensure that the design will maintain the factory specifications of the product. If the third party company is unwilling to perform the necessary testing and take responsibility for the effects of the design, then we highly recommend using Psion Teklogix designed and supported accessories.

If you elect to use a third party company produced cradle, Psion Teklogix cannot take responsibility for the effects of that third party product if it causes failure of our device.

⚠️ *Important:* **Before using a Vehicle Cradle, read all instructions and markings on the housing.**

Do not operate a Vehicle Cradle if damaged by a sharp blow, dropped, or otherwise damaged in any way; qualified service personnel should inspect for internal damage.

Shock and vibration specifications for Ikôn are verified using Psion Teklogix-approved RAM® mounts and mounting hardware. Use of non-certified Psion Teklogix mounting hardware is not recommended, and may void warranty coverage.

Do not expose to rain or snow! However, the Powered Vehicle Cradle is designed to accept a wet Ikôn handheld without harmful effect.

This Powered Vehicle Cradle cannot be used with non- Ikôn cradle accessories.

Figure 6.12 CH1005A Front View

6.10.1 CH1005A Vehicle Cradle Mounting Recommendations

Important: ***Before mounting a vehicle cradle in a vehicle, there are a number of operator safety issues that require careful attention. An improperly mounted vehicle cradle may result in one or more of the following: operator injury, operator visibility obstruction, operator distraction and/or poor ease of egress for the operator. Psion Teklogix strongly recommends that you seek professional mounting advice from the vehicle manufacturer.***

Cable routing within a vehicle cab also requires careful consideration, especially for separately tethered scanners and other devices with loose cables. If you are unable to obtain suitable advice, contact Psion Teklogix for assistance.

The CH1005A Powered Vehicle Cradle should only be mounted in a vertical position, with the release latches facing up in the same position as the Ikôn unit itself. The CH1005A should never be mounted in a horizontal position, upside down, or on a wall that can be subjected to impacts or collisions exceeding 40 Gs.

In addition, for safety reasons, only pedestal mounts with fully locking joints should be used in vehicles. Always adjust the pedestal for the optimum viewing angle, and securely tighten the hex and wing screws.

Psion Teklogix is not responsible for any loss resulting from the use of the products while driving or when the vehicle is in motion.

The CH1005A Powered Vehicle Cradle is designed to be compatible with any RAM-B mounting interface.

The most effective way to mount the vehicle cradle RAM mount is to use the four #M4X12 threaded inserts on the rear of the unit (see Figure 6.13). Bolts are supplied with the cradle and must not extend more than 7 mm into the vehicle cradle.

Figure 6.13 CH1005A Rear View

If you wish to custom mount the vehicle cradle to a surface other than the recommended RAM-B, please take the following precautions:

- When installing the cradle, ensure the driver's view is not obstructed.
- Install cradles so as not to obstruct vehicle safety features, i.e. airbags, seat belts, etc.
- Ensure cradle is secured to the vehicle in a safe location. Injury may result otherwise.
- Ensure the mounting has capacity to hold the cradle and Ikôn. Cradle plus Ikôn weight is approximately 1.3 kg.
- Psion Teklogix has recommended and approved mounts—consult Customer Service for instructions.

To accommodate the service loop of the connecting cable, leave a 10 cm clearance at the bottom of the vehicle cradle. Leave a 17 cm clearance at the top of the vehicle cradle to allow easy removal of Ikôn. Refer to the detailed assembly instructions that are packaged with the pedestal when selecting a mounting location.

6.10.1.1 Mounting Template

For detailed mounting instructions including a drill template, refer to the *Ikôn CH1005A Powered Vehicle Cradle Quick Reference Guide (PN 8000165)*.

6.10.2 Cable Arrangement

Before installing cables between the cradle and other devices, review the following:

- Ensure that drilling holes will not damage the vehicle or its wiring.
- Protect cable runs from pinching, overheating and physical damage.
- Use grommets to protect cables that pass through metal.
- Use plastic straps and tie-downs to secure cables and connectors in their desired location, away from areas where they may get snagged or pulled.
- Keep cables away from heat sources, grease, battery acid and other potential hazards.
- Keep cables away from control pedals and other moving parts that may damage the cables or interfere with the operation of the vehicle.

6.10.3 Electrical Requirements

The Powered Vehicle Cradle is designed to allow Ikôn to be powered by a vehicle battery. The battery installed in Ikôn is also recharged by the vehicle battery system.

⚠ *Warning: **Applying a voltage above 36VDC or reversing polarity may result in permanent damage to the vehicle cradle power section and will void the product warranty. For safety reasons, disconnect the vehicle cradle power cable when the vehicle battery is being charged by an source other than the vehicle alternator.***

6.10.3.1 Wiring Vehicle Power to the Cradle

The Powered Vehicle Cradle uses the automotive power outlet or the vehicle fuse box to power from the vehicle battery system. The CLA power cable (PN 1081141) is used for the automotive power outlet; the Power Extension cable (PN 1081146) is used for the vehicle fuse box.

Figure 6.14 CLA Power Cable and Power Extension Cable

⚠ *Warning: **A properly trained technician must perform the power connection using Power Extension cable (PN 1081146) and the CH1005A. Improper connection can damage the vehicle or the cradle.***

> ***This cable can be used to provide power to CH1005A from a fused circuit. The vehicle cradle should be added to a fused circuit with a new maximum load capacity of the original load plus the cradle load, which is 4A.***

Power cables are equipped with fuses, and instructions are supplied with each cable. Use only a 4A slow blow Safety-approved fuse in the fuse assembly.

These cables should only supply operating power from the vehicle to the Powered Vehicle Cradle from 12VDC or 24VDC systems.

• The CH1005A Powered Vehicle Cradle draws no more than 1.9A @ 12VDC or 0.95A @ 24VDC. Any additional wiring, connectors or disconnects used should be rated for at least 4A. The Powered Vehicle Cradle and peripherals can be used with both negative ground systems when using the Power Extension cable. Peripheral wiring should be closely examined to avoid ground loops in positive ground systems.

• There is the option of connecting power to the cradle before or after the 'key' switch.

  - It is preferable to wire *after* the key switch. In this configuration, when the key is turned ON, the vehicle will power the cradle and docked Ikôn, charging the internal battery when needed. When the vehicle ignition is OFF, the Ikôn docked in the cradle will run on its internal battery.

  - However, if the operator switches the key off repeatedly for long periods during a shift, it may make more sense to wire the vehicle cradle before the switch. In this case, Ikôn will always operate from vehicle power and that power will charge the battery when needed.

- Keep in mind that Ikôn will continue to operate with or without vehicle power as long as the internal battery has sufficient charge.

6.10.4 USB and Serial Connections

⚠️ *Important:* ***Depending on the configuration, the CH1005A Powered Vehicle Cradle has up to three data connectors and one power connector.***

The CH1005A full configuration (P/N 1081148-200) consists of two serial DE-9M ports and one USB Type A port located at the base of the product. These are COM and USB ports that allow the communication of serial and USB devices with Ikôn. These ports are:

- One powered USB A (Host).
- One full Serial port (standard DE9 type, conforming to RS-232 specifications). This port is shown as Serial Port A (COM 5) in Figure 6.15.
- One Serial port that provides power over pin 9 (non-standard RS-232 port). The Pin 9 Ring Indicator function has been replaced with a 5V, 500 mA power output for powering peripherals. This port is shown as Serial Port B (COM 6) in Figure 6.15.

⚠️ *Important:* ***See Appendix A: "Powered Vehicle Cradle (CH1005A): Serial Ports Pinout" for detailed information on use of Serial Port B Pin 9.***

Figure 6.15 CH1005A Ports

Peripherals such as scanners, printers, GPS, etc., may be used with Ikôn and the cradle. Check with Psion Teklogix if there is any compatibility issue with the device you want to use with Ikôn and the cradle.

6.10.5   Using the Vehicle Cradle

⚠️ ***Important:*** ***Do not use Ikôn while driving—the vehicle should be parked first.***

Always ensure that Ikôn is fully inserted into the CH1005A. Lack of proper insertion may result in personal injury or property damage.

Psion Teklogix is not responsible for any loss resulting from the use of the products while driving or when the vehicle is in motion.

If your Ikôn is equipped with a shoulder strap or protective cover, these accessories need to be removed before installing the unit in a vehicle cradle. There is no need to remove hand-straps or tethered devices from the unit.

• Slide Ikôn into the cradle, and press firmly downward to the point where resistance is met. Press Ikôn down through the resistance until it bottoms in the cradle—the locks on the latches will engage. This can be one smooth motion if you wish. Electrical contact will not be made until Ikôn is fully inserted. On a vehicle, it's a good idea to pull up on Ikôn to be certain that it is secure.

• To remove the unit, push the latches upwards—Ikôn will be released so that it can be removed.

6.10.6   Maintaining the Vehicle Cradle

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

• Use only mild detergent or soapy water on a slightly damp cloth to clean the vehicle cradle.

• Avoid abrasive cleaners, solvents, or strong chemicals for cleaning.

• The vehicle cradle has a plastic case and stamped logo that is susceptible to harsh chemicals. The plastic and stamping is partially soluble in oils, mineral spirits and gasoline. They slowly decompose in strong alkaline solutions.

• To clean ink marks from the label, use isopropyl alcohol.

• The two-lock assembly in the Powered Vehicle Cradle holds Ikôn firmly in place. Although this mechanism is designed for at least 20,000 cycles, it will wear over time and will no longer lock Ikôn securely in the cradle. For replacement parts and instructions contact Psion Teklogix. Partial disassembly is required.

6.11 RS-232 PDM - Model No. CH1070

The RS-232 Portable Docking Module, Model CH1070, is a 'sleeve' that slides easily over the bottom end of Ikôn. The PDM features a 9 pin male connection with standard RS-232 signals, including control lines. The serial PDM is mapped to port COM 5.

The PDM fits tightly around the device, maintaining Ikôn overall profile and ergonomics integrity. Side access to a DC jack for easy charging is provided and the PDM accommodates the standard Ikôn hand-strap accessory.

Initially, a software set-up utility for the PDM is required. This can be accessed through your Teknet account.

Figure 6.16 CH1070 PDM

6.12 Scanners and Imagers

Ikôn supports several scanner/imager options to address a variety of user application requirements. The scanner/imager installed in your unit can be configured using the *Teklogix Scanners* dialog box in the *Control Panel* (see page 130), the *Manage Triggers* application (see page 97), and Teklogix.

Scanner/imagers available for your Ikôn include: 1D Laser SE955, 1D Imager EV15, and the 2D Imager SX5400.

It is critical that you review the safety information in the *Ikôn Rugged PDA Regulatory & Warranty Guide*, PN 8000148, before proceeding.

6.12.1 Scanning Techniques

- Hold the scanner at an angle. Do not hold it perpendicular to the bar code.
- Do not hold the scanner directly over the bar code. In this position, light can reflect back into the scanner's exit window and prevent a successful decode.

- Scan the entire bar code. If you are using a 1D laser scanner, make certain that the scan beam crosses every bar and space on the bar code, including the margins on either end of the symbol.
- If you are using a 2D imaging scanner, make certain the red, oval shaped framing mark is centered within the bar code you want to scan.
- When using imaging scanners, do not move the scanner while decoding the bar code. Movement blurs the image.
- Hold the scanner farther away for larger bar codes.
- Hold the scanner closer for bar codes with bars that are close together.

A bar code icon appears on the screen during a scan. While the scanner beam is active, the onscreen message states: SCANNING. If you want to turn off the onscreen message, disable **Scan Indication** in the *Options* tab of the *Scanner Settings* menu in the *Control Panel*.

When the scan is successful, the bar code data is displayed on the screen until the scan button is released, but only if **Scan Result** is turned on in the *Options* tab of the *Scanner Settings* menu in the *Control Panel*.

6.12.2 Troubleshooting

If the scanner is not working, investigate the following:

- Is the unit on?
- Check that the bar code symbology being scanned is enabled for the Ikôn you are using. Check any other parameters that affect the scanning procedure or the bar code.
- Check the bar code to make sure it is not damaged. Try scanning a different bar code to verify that the problem is not with the bar code.
- Check that the bar code is within the proper range.
- Does the Ikôn display the warning without scanning? This suggests a hardware problem in the PDA.
- Is the laser beam scanning across the bar code?
- Once the scan beam has stopped, check the scanner window for dirt or fogging.

6.12.3 Operating One Dimensional (1D) Laser Scanners

- Turn Ikôn on. Wait until the unit has booted up completely.

> ⚠ *Important:* ***If an aiming dot is available on the installed scanner, the dot will be enabled for a configurable time period (including off), after which normal scanning begins. Refer to "Dot Time (msec)" on page C-8 for details.***
>
> ***Double-clicking the button will override the aiming delay and initiate an immediate scan. Note that the aiming dot is standard on long-range and high visibility internal scanners.***

- Aim at the bar code and press the scan key or the button. A scan beam and a warning indicator appear until a successful decode is achieved or six seconds have elapsed.

6.12.4 Operating Two Dimensional (2D) Imagers

An imager takes a snap shot of a single bar code or multiple bar codes (at one time). It can find a bar code regardless of its orientation—that is, even a bar code printed at a 45 degree angle to Ikôn will be decoded successfully.

> 📖 *Note: When scanning multiple bar codes, ensure that all of the desired bar codes are within the field of view of the scanner. It is possible that even when all bar codes are within the field of view, not all of them will be decoded. Only successfully decoded bar codes are passed to the application program. The application program then issues a warning, asking that you scan the missing bar codes.*
>
> *When scanning a single bar code, ensure that only the desired bar code is within the field of view of the scanner.*

Because imagers generally have a shorter depth of field than laser scanners, some practise may be required to find the optimal distance from the types of bar codes being scanned. Although the imager includes illumination LEDs, ambient light will help the imager decode the bar codes, especially if the bar code is far from the Ikôn.

> ⚠ *Important:* ***Keep in mind that the imager scanner is a camera, and the LED illumination is a flash. Glare can be an issue on reflective media such as plastic coated bar codes, just as glare is an issue for photographers. When pointing at a shiny surface, either shift the bar code to the side or top, or angle the bar code so that the glare reflects away from the imager scanner.***
>
> ***Most imagers take several 'snap shots' of the bar code in order to decode it. It is normal for the LEDs to flash two or three times. Hold the unit steady between flashes to improve decode performance.***

- Turn Ikôn on. Wait until the unit has booted up completely.

- Aim at the bar code and press the scan key or the button. Hold the button until a successful or failed scan result is obtained.

- When the scan button is pressed, a red, oval shaped light (the framing marker) is displayed. Centre the framing marker in the field—either in the centre of the bar code you want to scan or in the centre of the area in which multiple bar codes are to be scanned.

The illumination LEDs will flash (typically several times) and a picture of the bar code(s) is taken.

6.13   HF RFID Reader - Model No. CH1071

The Model CH1071 HF RFID Reader is a snap-on, high-frequency (HF) module in an easy to use 'sleeve' that slides over the bottom end of Ikôn. The HF RFID Module fits tightly, while side access to the DC jack is provided for easy charging and the module accommodates the standard Ikôn hand-strap.

The CH1071 is a 13.56 MHz multi-protocol reader that supports the following HF RFID standards:

- ISO 15693
- ISO 14443A (Mifare™)
- ISO 14443B
- NFC-enabled

Figure 6.17 Front View of Ikôn with CH1071

The read/write device integrates data capture and voice and data communications using wireless capability tools, including Wi-Fi, cellular 3G HSDPA, *Bluetooth* and assisted GPS connectivity.

Figure 6.18 Rear and Side Views

In addition, two Secure Access Modules (SAMs) are now supported for this HF RFID Module. SAMs can be used both for security and storing data encryption algorithms for highly secured transactions.

6.14 *Bluetooth* Peripherals

The Ikôn is equipped with a *Bluetooth* radio, making it is possible to communicate with a variety of *Bluetooth* peripherals, including GSM/GPRS handsets, scanners, printers, and so on.

Psion Teklogix provides built-in support for the *Bluetooth* peripherals listed below.

• GSM/GPRS universal handset.

• *Bluetooth* printer.

• *Bluetooth* headset.

Keep in mind that *Bluetooth* and IEEE 802.11b/g radios both operate in the 2.4GHz band. Although the Ikôn includes features to minimize interference, performance of the system will not be optimal if you use both radios simultaneously. Typically, when both radios operate in the Ikôn at the same time, they cannot transmit simultaneously—this has a negative impact on overall system throughput. To minimize the impact on the backbone 802.11g network, Psion Teklogix recommends using *Bluetooth* peripherals that have low transaction rates (such as printers and scanners).

Refer to "Bluetooth Setup" on page 109 for information about setting up your *Bluetooth* devices for communication. In addition, review the manual shipped with your *Bluetooth* device to determine the method used to pair with the Ikôn host.

SPECIFICATIONS 7

7.1   Ikôn Rugged PDA Specifications (Model No. 7505)

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

7.1.1   Hardware

Physical Dimensions

• 16 cm x 8.1 cm x 4.5 cm (6.3 in. x 3.2 in. x 1.8 in.).

Weight (with Battery Pack)

• 450 g (1.0 lbs.) with battery pack.

User Interface

Color Touchscreen Display:	9.39 cm (3.7 in.) diagonal.
	Full VGA 480x640 resolution.
	Transflective, portrait mode TFT.
	Adjustable Backlight.
	Sunlight readable (for outdoor use).
	High reliability LED backlight.
	Easily replaceable and customizable bezel.
	Passive stylus or finger operation.
	Signature capture.
Keyboards:	Numeric.
	Alphanumeric.
	Numeric with Phone (option only in countries with GPRS availability).
	Ergonomically enhanced for ambidextrous, one-hand operation.
	Backlit, high durability hard-capped keys.
Indicators And Controls:	3 LEDs indicate battery charge, application, and radio on/off status.
Audio:	Hands-free speaker, total output volume: 95dB SPL

Microphone/Receiver.

Wireless headset via *Bluetooth* capability.

Audio jack (mono).

Expansion Slots

- One microSD memory card slot—user accessible.
- 60-PIN expansion interface: supports GSM/GPRS EDGE, and other third-party expansion modules developed using Psion Teklogix Ikôn Rugged PDA Hardware Developer's Kit.
- Flex cable interface with robust connector: supports scanner (serial) and imager (USB) modules.

External Connectors

- One Tether connection with full RS-232 and USB On-the-Go (OTG) functionality.
- One Low-Insertion Force (LIF) docking connector.
- DC Power Jack.

Power Management

- Battery Pack: lithium-ion 5000 mAh capacity with 8-hour life under normal operating conditions (see page 203 for battery specifications).
- Advanced Smart Battery with gas gauge.
- 3 power source options: Runs off battery, AC power, or automotive power supplies.
- Backup power: >10 minutes.

Environmental Specifications

Drop Test:	Withstands 6 drops at 1.5 meters (5 ft.) on all surfaces.
Rain/Dust:	IP65, IEC 60529.
Operating Temperature:	-10°C to +50°C (14°F to 122°F).
Storage Temperature:	-20°C to +60°C (-4°F to 140°F).
Relative Humidity:	5% to 95% RH non-condensing.
Shock and Vibration:	5 to 400 Hz PSD (random) and 30 g (3 axis).
ESD:	+/- 8kVdc air discharge, +/- 4kVdc contacts.

7.1.2   Software

Platform

- XScale PXA270M @ 624 MHz, 32 bit RISC CPU.
- 256 MB Flash, 128 MB RAM.

Operating System

- Microsoft$^®$ Windows$^®$ CE 5.0.

Programming Environment

- Psion Teklogix Mobile Devices SDK.
- Hardware Development Kit (HDK).
- .NET and C++ programming using Microsoft$^®$ Visual Studio$^®$ 2005.
- Java programming supporting JDK 1.2.2 or higher.
- Standard Protocol APIs: Windows sockets (CE .net).

Application Software

- Internet Explorer 6.0 incl.with Windows CE 5.0.
- Unique Psion Teklogix Voice Dialer and Contacts Manager incl.Windows CE 5.0.
- PTX Connect VoIP.
- Optional Open TekTerm terminal emulation software: supports IBM 5250, IBM 3270, HP2392, ANSI, and TESS.
- Mobile Control Center (MCC) device management.

7.1.3   Wireless Communication

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

Optional expansion modules for:

- 802.11b/g (proprietary module) operating in the 2.4GHz band:
  - Supports IEEE 802.11b data rates of 1,2,5.5 and 11Mbps using Direct Sequence Spread Spectrum (DSSS).
  - Supports IEEE 802.11g data rates of 6,9,12,24,36,48 and 54Mbps,using Orthagonal Frequency Division Multiplexing (OFDM) base band modulation.
- GSM/GPRS EDGE (via expansion interface):

- Quad-Band – 850/900/1800/1900 MHz.
- Voice and Data.
- GPRS Class B, Multi-Slot Class 12.
- EGPRS Class B, Multi-Slot Class 12.
- UMTS:
  - UMTS/HSDPA: Triple band, 850/1900/2100 MHz.
  - GSM/GPRS/EDGE: Quad band, 850/900/1800/1900 MHz.
  - Audio: 1 analog interface.
  - USB supports a USB 2.0 Full Speed 12 Mbit/s device interface.
- *Bluetooth* class 2, ver 2.0:
  - Support Enhanced Data Rate (EDR) for up to 3Mbps data rate.
  - Support Advanced Frequency Hopping (AFH) for reduced interference with 802.11b/g radio.

7.1.4 Bar Code Applications (Optional)

Note: All are user-upgradeable.

- Optional 1D EV15 imager (see specifications on page 204).
- Optional 2D SX5400 imager (see specifications on page 206).
- Optional 1D SE955 laser scanner (see specifications on page 203).

7.1.5 Camera (Optional)

- Colour 2 Megapixel fixed focus with flash

7.1.6 Accessories

For details about accessories available with Ikôn, refer to Chapter 6: "Peripheral Devices & Accessories".

- **Carrying accessories:**
  - Hand strap with or without tether and stylus.
  - Carrying case, either functional or non-functional.
  - Soft shell holster.

- **Communications:**
    - Quad docking station with 10/100 BaseT Ethernet and charge functions.
    - Desktop docking station with Type A and Type B USB connectivity and charge functions for an internal battery along with a spare battery.
    - USB cable supports ActiveSync without requiring a docking station.
- **Power supplies:**
    - AC wall adaptor.
    - Automotive power adaptor.
    - Single-slot battery pack chargers.
- **Vehicle peripherals:**
    - Powered and Non-powered cradle.
    - RAM Mount with screws.

7.1.7   Approvals

Safety:	CSA/UL60950-1, IEC 60950-1, EN60950-1
EMC:	FCC Part 15 Class B
	EN 55022
	EN 55024
	EN 301 489
Laser:	IEC 60825-1 Ed. 2.0, Class 2
	FDA 21 CFR 1040.10
	1040.11 Class II
Bluetooth:	Ver 2
RF:	*Bluetooth* and 802.11b/g: EN300 328, Part 15.247
GSM/GPRS:	EN301 511; EN50360/361, NAPRD03; 3GPP51.010; FCC Parts 22 & 24; Industry Canada; RSS-132 & 133
In-Vehicle Cradle:	e Mark

7.2   Radio Specifications

7.2.1   Summit RA2041 802.11b/g WLAN Radio

Form factor	Proprietary module based on 16-bit CF interface
Antenna port	Two Hirose U.FL connectors for both transmit and receive antenna diversity
Antenna	Two PCB slot antennas 2.1 dBi
Transmit Power	802.11b: 70mW (+18.5 dBm)
	802.11g: 30mW (+15 dBm)
Frequency Range	2.400 - 2.4897 GHz
Channels	FCC: 11
	ETSI: 13
	TELEC: 13
RX Sensitivity	-96dBm @ 1Mbps, -90dBm @ 11Mbps,
	-94dBm @ 6Mbps, -75dBm @ 54Mbps
Data Rates	802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
	802.11b: 1, 2, 5.5, 11 Mbps

7.2.2   Siemens MC75 GSM/GPRS/EDGE Radio

Quad-Band GSM 850/900/1800/1900 MHz

EDGE (E-GPRS) multi-slot class 12

GPRS multi-slot class 12

GSM release 99

Output power:	- Class 4 (2 W) for EGSM850
	- Class 4 (2 W) for EGSM900
	- Class 1 (1 W) for GSM1800
	- Class 1 (1 W) for GSM1900

Control via AT commands

(Hayes 3GPP TS 27.007 and 27.005)

Internet Services: TCP, UDP, HTTP, FTP, SMTP, POP3

Supply voltage range: 3.2 to 4.3 V

Specifications for:

EDGE data transmission: EDGE class 12: max 236.8 kbps (downlink)

                                Mobile station class B

                                Modulation and coding scheme MCS 1-9

GPRS data transmission: GPRS class 12

                                Mobile station class B

                                PBCCH support

                                Coding schemes CS 1-4

CSD data transmission: Up to 14.4 kbps

                                V.110

                                Non-transparent mode

SMS: Point-to-point MO and MT

                                Text and PDU mode

Voice: Triple-rate codec for HR, FR, and EFR

                                Adaptive multi-rate AMR

                                Basic hands-free operation

                                Echo cancellation

                                Noise reduction

Interfaces: Hirose U.FL-R-SMT 50 Ohms antenna connector

                                Antenna solder pad

                                Molex 80-pin board-to-board connector

                                - Power supply

                                - Audio: 2x analog, 1x digital

                                - serial interface (ITU-T V.24 protocol)

                                - SIM card interface 3 V, 1.8 V

7.2.3   Siemens HC25 UMTS Modem

Frequency bands:	UMTS/HSDPA: Triple band, 850//1900/2100MHz GSM/GPRS/EDGE: Quad band, 850/900/1800/1900MHz
GSM class:	Small MS
Output power (as per Release 99):	Class 4 (+33dBm ±2dB) for EGSM850
	Class 4 (+33dBm ±2dB) for EGSM900
	Class 1 (+30dBm ±2dB) for GSM1800
	Class 1 (+30dBm ±2dB) for GSM1900
	Class E2 (+27dBm ± 3dB) for GSM 850 8-PSK
	Class E2 (+27dBm ± 3dB) for GSM 900 8-PSK
	Class E2 (+26dBm +3 /-4dB) for GSM 1800 8-PSK
	Class E2 (+26dBm +3 /-4dB) for GSM 1900 8-PSK
	Class 3 (+24dBm +1/-3dB) for UMTS 2100, WCDMA FDD BdI
	Class 3 (+24dBm +1/-3dB) for UMTS 1900, WCDMA FDD BdII
	Class 3 (+24dBm +1/-3dB) for UMTS 850, WCDMA FDD BdV
RoHS:	All hardware components fully compliant with EU RoHS Directive
HSDPA features:	3GPP Release 5, DL 3.6 Mbps, UL 384 kbps UE CAT. [1-6], 11, 12 supported
UMTS features:	3GPP Release 4, PS data rate – 384 kbps DL / 384 kbps UL
	CS data rate – 64 kbps DL / 64 kbps UL
GSM / GPRS / EGPRS features:	Data transfer GPRS
	- Multislot Class 10
	- Full PBCCH support
	- Mobile Station Class B

- Coding Scheme 1 – 4

EGPRS

- Multislot Class 10

- EDGE E2 power class for 8 PSK

- Downlink coding schemes – CS 1-4, MCS 1-9

- Uplink coding schemes – CS 1-4, MCS 1-9

-Uplink coding schemes – CS 1-4, MCS 1-9

- BEP reporting

- SRB loopback and test mode B

- 8-bit, 11-bit RACH

- PBCCH support

- 1 phase / 2 phase access procedures

- Link adaptation and IR

- NACC, extended UL TBF

- Mobile Station Class B

CSD

- V.110, RLP, non-transparent

- 9.6 kbps

SMS:	Point-to-point MT and MO
	Text and PDU mode
Audio:	Audio speech codecs
	GSM: AMR, EFR, FR, HR
	3GPP: AMR
	DTMF supported
	CEPT and ANSI supervisory tones supported
Software:	AT commands AT-Hayes GSM 07.05 and 07.07, Siemens
	AT commands for RIL compatibility (NDIS/RIL)

	Microsoft™ compatibility RIL / NDIS for Windows Mobile™
Interfaces:	USB Supports a USB 2.0 Full Speed (12Mbit/s) device interface
	Audio: 1 analog interface
	UICC interface: Supported chip cards: SIM / UICC 3V, 1.8V
	Antenna 50Ohms. External antenna can be connected via antenna connector or antenna pad (spring contact)
	Module interface 50-pin board-to-board connector

7.2.4 *Bluetooth* Radio

Embedded (920 kbps serial interface)

Bluetooth Version	Ver 2.0 compliant (features Adaptive Frequency Hopping for better co-existence with 802.11 radio and Enhanced Data Rate (EDR) for up to 3Mbps data rate).
Chip Antenna Gain	1dBi peak
Transmit Power	-3dBm (0.5mW) minimum, +4dBm (2.5mW) max
Frequency Range	2.400–2.4835 GHz
RX Sensitivity (BER<0.1%)	-80dBm max
Data Rate	V1.2 = 732.2 kbps and 57.6 kbps asymmetric, 433.9kbps symmetric
	V2.0 = 2 & 3Mbps

7.3   Lithium-ion Battery 5000 mAh Specifications

Description	Specification
Model Number	CH3000
Part Number	1081236 (NA and Canada); 1081506 (World)
Chemistry	lithium-ion (Li-Ion)
Capacity	5000 mAh nominal at 1000mA discharge 20°C to 3.0V (min)
Voltage	3.7V nominal (3.0V min. to 4.2V max.)
Cell Configuration	2P1S (2 parallel connected cells)
Max. charge voltage	4.2V +/- 1%
Recommended charge termination timeout	5.0 hr - charging must stop.
Charge Temperature	0°C to +40°C (32°F to +104°F)
Discharge Temperature	-20°C to +50°C (-4°F to +122°F)
Storage Temperature	-20°C to +50°C (-4°F to +122 °F). Storage at elevated temperatures not recommended. 25°C (77 °F)—recommended storage temperature.
Cycle Life	300 cycles minimum with no degradation below 80% of nominal capacity based on 1C charge / 1C discharge rates (to 3.0V) @ 25°C (77 °F).

7.4   Scanner/Imager Specifications

7.4.1   SE 955HP

Scan Angle	47° ± 3° default / 35° ± 3° reduced
Scan Rate	104 (± 12) scans/sec (bi-directional)
Scan Pattern	Linear
Wavelength	650nm
Input Voltage	3.0-5.5 VDC ± 10%
Input Current	65 mA typical

Standby Current	8 µA max
Operating Temperature	-20° to 60° C -4° to 140°F
Print Contrast	Minimum 25% absolute dark/light reflectance measured at 650 nm
Dimensions	1.21 cm H x 2.16 cm W x 1.55 cm (max) 0.47 in. H x 0.85 in. W x 0.61 in. D (max)
Symbologies	UPC/EAN, Code 128, Code 39, Code 93, I 2 of 5, Discrete 2 of 5, Codabar, MSI Plessey

7.4.1.1 SE 955HP Decode Zone

Decode Zone Typical	
4 mil	1.0 in. – 5.5 in. / 2.54 cm – 13.97 cm
5 mil	1.25 in. – 8 in. / 3.18 cm – 20.32 cm
7.5 mil	1.5 in. – 13.25 in. / 3.81 cm – 33.66 cm
10 mil	1.5 in. – 17.5 in. / 3.81 cm – 44.45 cm
UPC 100%	1.5 in. – 23.5 in. / 3.81 cm – 59.69 cm
15 mil	1.5 in. – 29.5 in. / 3.81 cm – 74.93 cm
20 mil	1.75 in. – 35.5 in. / 4.45 cm – 90.17 cm
40 mil	* - 40 in. / * - 101.6 cm
55 mil	* - 55 in. / * - 139.7 cm
* dependent on width of bar code	

7.4.2 EV15 Imager

Light Source	617nm Highly Visible LED
Scan Angle	40º
Minimum Print Contrast	Minimum 25%
Min x. Dimension	0.1 mm (4 mils)
Reading Distance	Up to 90cm (35 in)

Symbologies	UPC (E&A), EAN, RSS, Code 39, Code 128, UCC/EAN 128, ISBN, ISBT, Interleaved, Matrix, Industrial and Standard 2 of 5, Codabar, Code 93/93i, Code 11, MSI, Plessey, Telepen, PDF417, Micro PDF417
Ambient Light	Works in any lighting conditions, from 0 to 100,000 lux
Shock	2000G, 0.7ms, half sinus, 3 axes
Vibration	50G r.m.s

7.4.2.1 EV15 Imager Decode Zone

0 Lux to 100,000 Lux		
	Minimum Range	Maximum Range
Mil Size	Inches	Inches
5	2.5	7
10	3	14
UPC	2	14.5
20	2.5	22
40	3	35.5
High quality symbols in normal room light.		

7.4.3   SX5400 Imager

Optical Resolution	752H x 480V
Field of view at 160mm	120mm (H) x 78mm (V) 41.1° (H) x 27.4° (V)
Pitch angle	±45°
Skew angle	±45°
Ambient light	0 to 100,000 lux (full sunlight) 300 lux nominal
Minimum contrast	10%
Targeting	Intuitive range finding 626 nm LED
Self Illumination	Red LED (standard)
Supply voltage	5 V ± 10%
Power supply	3.6 Volt DC nominal (2.7 - 5 Volts DC)
Connectivity	USB 1.1 or serial async
Connector to the interface board	Molex 52892-1295 or HiRose FH12-12S-.5SH
Symbologies	Code 39; Code 39 Full ASCII; UPC-A, -A2, -A5; UPC-E, -E2, -E5; EAN-8 -13; JAN; I2of5; Code 128; Codabar/NW7; RSS 14, RSS Limited, RSS Expanded, RSS 14 Truncated, PDF417, microPDF417; Composite, CC-A, CC-B, CC-C; image capture, Data Matrix; QR Code; Maxicode; Aztec Code; Planet; Postnet; Royal Mail 4SCC; 4 State postal codes from Australia, Canada, Japan; Korean Post 3 of 5.

Note: Formerly known as Symagery SX5400.

7.4.3.1 Sx5400 Imager Performance

The table below presents the typical performance of the SX5400 Imager at 300 lux (@ 160mm focus when using Grade A photographic-quality bar codes). Shown are the average near, far, and Depth of Reading (DOR) numbers.

Symbology	Size (mil)	Near Avg. (inches)	Far Avg. (inches)	DOR Avg. (inches)
C39	7.5	4.0	7.0	3.0
C39	10	2.75	9.25	6.5
C39	15	2.25	11.0	8.75
PDF6.6	6.6	4.0	6.5	2.5
PDF10	10	3.25	9.0	5.75
PDF15	15	2.25	10.75	8.5
DM15	15	3.0	8.0	5.0
QR15	15	3.75	7.5	3.75
UPC	12.5	3.0	9.5	6.5

7.4.4 HHP 5000 series Imager

Image Sensor	752H x 480 CMOS sensor
Motion Tolerance	4 in. (10.2 cm) per second
Rotational Sensitivity	360°
Viewing Angle	±40°
Ambient light	Total darkness to 100,000 lux (full sunlight)
Illumination LEDs	626 nm ±30 nm
Aiming	LEDs: 526 nm ±30 nm Laser: 650 nm ±10 nm
Symbologies supported	2D: PDF417, MicroPDF417, MaxiCode, Data Matrix, QR Code, Aztec, Aztec Mesa, Code 49, UCC Composite Linear: Code 39, Code 128, Codabar, UPC, EAN, Interleaved 2 of 5, RSS, Code 93, Codablock Postal: Postnet (US), Planet Code, BPO 4 State, Canadian Post, Japanese Post, KIX (Netherlands) Post

Size	1.78 cm Depth x 2.79 cm Width (without mounting tabs) x 1.21 cm Height 0.7 in. Depth x 1.1 in. Width (without mounting tabs) x 0.475 in. Height
Weight	5.9 grams (.21 ounces)
Operational Input Voltage	Imager: 3.3 VDC ±5% (23°C) Illumination + Aimer 5300: 3.0 VDC to 5.5 VDC (23°C)
Operating Temperature	-30° to +50°C (-34° to 122°F)
Storage Temperature	-40° to +70°C (-40° to 158°F)
Humidity	up to 95% RH, non-condensing at 122° F (50°C)
Shock	18 shocks of 3,500 G for 0.5 msec at 23°C (73° F)

7.4.4.1 HHP 5000 series Decode Zone

Performance Focal Point

SR 7	inches (17.8 cm) from lens plate
SF4.5	inches (11.4 cm) from lens plate

SR Working Range	8.3 mil Linear (.02 cm)	10 mil PDF417 (.025 cm)	13 mil UPC (.033 cm)	15 mil Data Matrix (.038 cm)	15 mil QR (.038 cm)	35 mil Maxi-code (.089 cm)
Near	3.5 in. (8.9 cm)	3.1 in. (7.9 cm)	2.1 in. (5.3cm)	2.3 in. (5.8 cm)	2.1 in. (7.9 cm)	2.0 in. (5.1 cm)
Far	7.6 in. (19.3cm)	9 in. (22.9 cm)	13.2 in. (33.5 cm)	10.2 in. (25.9 cm)	8.8 in. (22.4 cm)	13.0 in. (33 cm)
SF Working Range	6.6 mil PDF417 (.017 cm)	7.5 mil Linear (.019 cm)	8.3 mil Data Matrix (.021 cm)	8.3 mil QR (.021 cm)	10 mil Linear (.025 cm)	13 mil UPC (.033 cm)
Near	2.8 in. (7.1cm)	2.5 in. (6.4cm)	3.4 in. (8.6cm)	3.4 in. (8.6cm)	2.2 in. (5.6cm)	2.0 in. (5.1cm)
Far	6 in. (15.2cm)	6.5 in. (16.5cm)	5.7 in. (14.5cm)	5.4 in. (13.7cm)	7.6 in. (19.3cm)	8.9 in. (22.6cm)

7.5   HF RFID Reader

Model CH1071 HF RFID Module

HID Global Multi-ISO reader inside

USB Serial link

Two Secure Access Modules (SAMs) modules

Frequency	13.56 MHz
Output power	200 mW
Power supply	3.7V
Power consumption	RF on: 230mA; RF off: 90mA
Packaging	Snap on
Antenna	Integrated, Horizontal
Tag Protocol	ISO 15693, ISO14443A, ISO14443B and NFC-enabled
Tag Type	Mifare® Standard, Mifare 4k, Mifare Pro, Mifare Ultra-light, Mifare DESFIRE, Mifare SmartMX, I-CODE SLI (SL2 ICS 20), I-CODE EPC (SL2 ICS 10), I-CODE UID (SL2 ICS 11), I-CODE, NFC (Reader To Tag Mode), SLE 55Rxx, SRF55VxxP+S, SLE 66CL160S, SLE 66CLX320P, SR176, SRIX4K, LRI 64, MRI 512, EM4135, KSW Temp Sens®, Tag-it™ HF-I Standard, Tag-it HF-I Pro, Jewel Tag, Sharp B, ASK GTML, ASK GTML2ISO, TOSMART P032/P064, ISO 15693 Tags, ISO14443A Tags, ISO14443B Tags

APPENDIX **A**

PORT PINOUTS

A.1   Docking Port Pinout

Table A.1

Pin #	Pin Name	Signal	Direction Relative To DPA	Comment
1	GND	DGND	-	
2	VDD_EXT_PWR	VDD_EXT_PWR	Input	These 3 pins are connected together.
3	VDD_EXT_PWR			
4	VDD_EXT_PWR			
5	BATT_OUT	VDD_BATT_OUT	Output	
6	AUDIO_P		Output	Audio positive.
7	AUDIO_N		Output	Audio negative.
8	VDD_USBOTG		Bi-directional	USB Power (+5.5V). As output, supplies external devices when Ikôn is in USB Host mode. As input, charges battery when Ikôn is in USB Client mode.
9	DOCK_ID		Input	Dock ID.
10	USB_OTG_DN		Bi-directional	

Table A.1

Pin #	Pin Name	Signal	Direction Relative To DPA	Comment
11	USB_OTG_DP		Bi-directional	
12	USB_OTG_ID		Input	
13	GND	DGND	-	
14	TXDATA		Output	RS-232 data transmit. Max bit rate 115 kbits/sec.
15	RXDATA		Input	RS-232 data receive. Max bit rate 115 kbits/sec.
16	GND	DGND	-	

A.2 Audio Port Pinout

Table A.2

Pin #	Pin Name	Direction Relative To DPA	Comment
1	HPR	Output	Headphone output.
2	HP_DETECT	Input	
3	N/C	-	Not connected.
4	MIC	Input	Microphone.
5	N/C	-	Not connected.
6	DGND	-	Ground.

A.3　DC IN Port Pinout

Table A.3

Pin #	Signal	Comment
1	DGND	Side contact.
2	DGND	Side contact.
3	VDD_ACDC	Center contact pin.

A.4　Battery 5000 mAh (CH3000): Contact Pinout

Table A.4

PIN #	Signal Name	DESCRIPTION
1	BATT-RAW	Positive lead of battery.
-		Plastic Rip - provides mechanical polarity.
2	BATT-RAW	Positive lead of battery.
3	BATT-CLK	SMBus data clock.
4	BATT-THERM	Thermistor 10K NTC.
5	BATT-DATA	SMBus bi-directional data line.
6	GND	Negative lead of battery.
7	GND	Negative lead of battery.

A.5　Powered Vehicle Cradle (CH1005A): Serial Ports Pinout

Table A.5

PIN #	SERIAL PORT A DESCRIPTION	SERIAL PORT B DESCRIPTION
1	DCD (Data Carrier Detect)	DCD (Data Carrier Detect)
2	RXD (Data Receive)	RXD (Data Receive)
3	TXD (Data Transmit)	TXD (Data Transmit)
4	DTR (Data Terminal Ready)	DTR (Data Terminal Ready)

Table A.5

PIN #	SERIAL PORT A DESCRIPTION	SERIAL PORT B DESCRIPTION
5	Common Ground	Common Ground
6	DSR (Data Set Ready)	DSR (Data Set Ready)
7	RTS (Request to Send)	RTS (Request to Send)
8	CTS (Clear to Send)	CTS (Clear to Send)
9*	RI (Ring Indicator)	5V, 500mA MAX PTC limited

* Serial Port B details for Pin 9:

- 5V +/- 5% with max 150 mV ripple. This output current is limited to 500 mA by a self-resetting PTC device (remove the offending load and the PTC will reset once cooled).

- Power to this pin is ALWAYS ON with no reverse current protection.

  - If a standard RS-232 device connects to the CH1005A Port B, Pin 9 should be protected (left open) in the cable or on the device.

  - Please ensure that the device you are connecting to Port B can handle 5V on Pin 9 and ensure Pin 9 is not grounded or otherwise overloaded.

  - Please ensure that there is no power output on Pin 9 of the device you are connecting to the CH1005A, as it could potentially damage the CH1005A.

- The RI is no longer functional on Port B.

APPENDIX **B**

WIRELESS WIDE AREA NETWORK (WWAN)

B.1 Wireless WAN

Psion Teklogix offers a quad band, GPRS radio—Model No. RA3030-G2; an Ikôn Rugged PDA equipped with a GSM/GPRS radio has wide area networking capabilities. With this radio and a SIM card, you can wirelessly transfer data, and you use the Ikôn voice option to place phone calls.

B.1.1 Taskbar Icons

Wireless WAN icons in the taskbar indicate the status of your wide area network connection. Note that these icons are only visible when a GSM/GPRS radio is installed in the computer, and the interface is enabled.

The letter in the signal strength icon (G for GSM/GPRS) indicates that a packet data service is available and initialized. Keep in mind that the signal strength icon is displayed without a letter if packet data service is not available or if it is available but not yet initialized.

User interaction is required (e.g. the user is required to enter a PIN).

A non-recoverable (fatal) error has occurred.

The modem status is unknown or the modem is not connected to any network (the signal strength is 0%).

The modem has found a network, and the signal strength is between 1% and 20%.

The modem has found a network, and the signal strength is between 21% and 40%.

The modem has found a network, and the signal strength is between 41% and 60%.

The modem has found a network, and the signal strength is between 61% and 80%.

The modem has found a network, and the signal strength is between 81% and 100%.

A GPRS packet data connection is active, the signal strength is between 41% and 60% and GSM/GPRS packet service is available.

The signal strength icon is replaced by a connection indicator icon when a packet data connection is started.

A GPRS packet data connection is active.

In addition to the signal strength or connection indicator a second icon may be shown.

A new SMS (Short Message Service) message has arrived.

The dialer icon is displayed when the Voice option is available (SIM card and GPRS radio are installed). When you have an active call, this icon flashes yellow and then green.

B.1.2   Establishing a Connection

To display the main *Wireless WAN dialog* box:

• Double-tap on the **Wireless WAN** icon in the taskbar.

If the icon is not visible in the taskbar, the radio interface has been shut down or the modem has been removed:
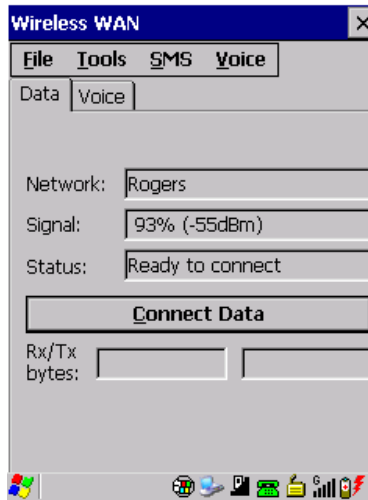
• In the *Control Panel*, choose the **Wireless WAN** icon.

The main *Wireless WAN* dialog box is displayed.

Figure B.1 Establishing a Connection

> *Note: If you are prompted to enter a PIN, refer to "Entering a PIN Number" on page B-6 for details.*

When "*Ready to connect*" is displayed in the *Status* field, the *Connect Data* button is enabled.

• Tap on the **Connect Data** button.

The progress of the connection is tracked in the *Status* field.

• PPP link to modem active.
• Authenticating user.
• User authenticated.
• Connected.

> *Note: Keep in mind that these states may be displayed fairly quickly if the progress of the connection is rapid.*

When the connection state reaches *PPP link to modem active*, the taskbar icon changes to indicate an active connection. The *Connect Data* button changes to *Disconnect*.

B.1.2.1 Disconnecting From a Network

To disconnect from the network:

• Tap the stylus on the **Disconnect** button, and then on **OK**.

When the computer's network connection is severed, the *Status* field displays "*Ready to connect*".

The signal strength is displayed in the main Wireless WAN screen, even while a connection is active. The *Rx bytes* and *Tx bytes* fields estimate the amount of data transmitted and received, respectively.

B.1.2.2 Shutting Down the Wireless WAN User Interface

While it is not usual to shut down the GSM/GPRS user interface, you can accomplish this by tapping on the **File** menu and choosing the **Exit** command at the bottom of the main *Wireless WAN* dialog box.

Note: Once you've shut down the user interface, you can only enable the radio by opening the Control Panel and tapping on the Wireless WAN icon to display the Wireless WAN dialog box.

B.1.3 Advanced Information

In most cases, when a GSM/GPRS radio and SIM are installed in your computer, setup is automatic. Follow the steps outlined under the heading "Establishing a Connection" on page B-4 to make a connection. The information in this section is for advanced setup purposes.

B.1.3.1 Entering a PIN Number

If a PIN is required, a PIN entry dialog box is displayed.

• Type your PIN, and press [ENTER].

Note: If you exceed the number of allowable attempts, a PUK entry window is brought to the foreground. You'll need to enter a new PIN number.

Once the correct PIN or PUK is entered or if none was required, the modem is instructed to perform a GSM network registration followed by a GPRS attach. The main *Wireless WAN* dialog box reflects the progress of the initialization.

• Searching for modem.

• Initializing modem.

• SIM is ready.

• Searching for network.

• Registered on network.

• Searching for GPRS.

• Ready to connect.

If the modem loses the connection to the GSM network, the following states are repeated: *Searching for network*, *Registered on network*, *Searching for packet data*, and *Ready to connect*.

B.1.3.2 Error States

The following temporary error states (i.e., these states may disappear without interaction) may be displayed:
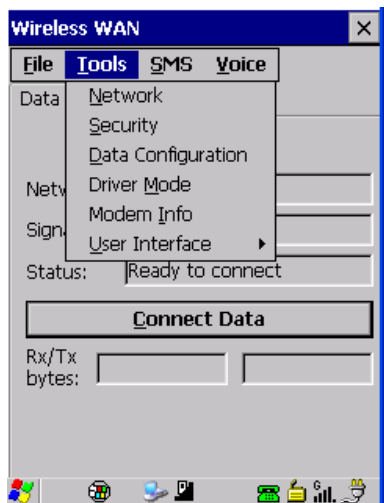
• Emergency calls only.

  The modem has found a network but is not allowed to register (e.g. no roaming agreement between networks). The modem keeps searching for another network.

• No network found.

  A network is not currently available. The modem continues searching for a network.

• Packet data not available.

  The current network does not support a packet data service.

• Packet data not allowed.

  The modem is not allowed to use the packet data service on the current network (e.g. no GPRS roaming agreement between network; a roaming agreement for voice may still be in place). It is also possible that you do not have a subscription for GPRS at all.

The remaining error states are permanent:
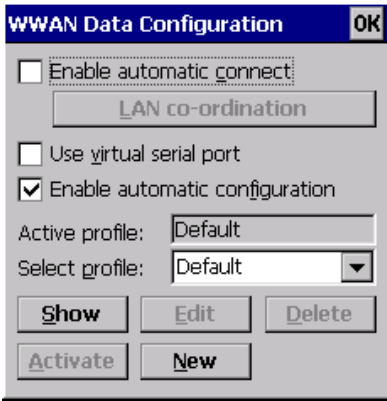
• SIM is missing.

  The SIM card is missing. After the SIM has been inserted a warm boot may be required.

• SIM failure.

  The SIM card is permanently disabled (e.g. because the wrong PUK has been entered too many times). A new SIM is needed.

• Modem failure.

  The modem did not respond to commands as expected. If a warm boot does not clear this condition, the modem may need to be replaced.

• NDIS error.

  An internal software error has occurred. If a warm boot does not clear this condition, Psion Teklogix technical support may need to investigate further.

B.1.4 Tools Menu

The Tools menu in the main *Wireless WAN* dialog box offers some additional, advanced setup features.

B.1.4.1 Data Configuration

Enable Automatic Connect

If the *Enable automatic connect* checkbox is checked (unchecked by default), the Wireless WAN user interface will attempt to establish a GPRS connection whenever GPRS is available (e.g. after resume from suspend without further user interaction).

To activate the automatic connection mode:

• Tap on the **OK** button.

While automatic connection mode is enabled, the *Connect Data* button in the main *Wireless LAN* dialog box changes to *Disable Auto*. To close the currently active connection (if any) and disable the automatic connection mode:

• Tap on **Disable Auto.**

⚠️ *Important:* ***Automatic connection mode should not be used if applications other than the Wireless WAN user interface (e.g. Connection Manager) are expected to open and close connections.***

If the automatic connection mode is enabled and another application closes the GPRS connection, the WWAN user interface will immediately try to re-establish the connection.

Use Virtual Serial Port

If *Use virtual serial port* is enabled, packet data connections are established through the virtual serial port of the WWAN driver rather than through the WWAN driver directly. This checkbox should *only* be checked if certain third-party VPN (Virtual Private Network) clients are used that do not work correctly otherwise. The default setting is **disabled** (unchecked).

📖 *Note: The connection setup takes longer through the virtual serial port.*

Enable Automatic Configuration

In most cases, *the data connection is configured automatically and no user interaction is required*. This is true even if multiple SIM cards from different operators are used with the same device. The connection parameters are adjusted automatically when a new SIM card is detected (this may require a warm boot). The connection parameters are retrieved from a database.

Manual configuration should be necessary only if:

• One or more parameters in the database are incorrect or a new operator is not yet in the database. (The database should be corrected for subsequent software releases.)

• An operator has assigned individual GPRS user names and passwords.

• A very large site has their own APN. Such connections always have to be configured manually.

- A customer has subscribed for a static IP address. By definition this must be configured manually.

Profiles

In the following section, all the parameters that need to be configured for a connection (such as APN, user name, password, DNS server addresses etc.) are referred to as a 'profile'. Every profile is identified by an arbitrary, unique name. The profile named *Default* is special in that it is always present and can neither be edited nor deleted. The *Default* profile uses parameters from a built-in database. The home network (the network that issued the SIM) is used for the database look-up. While there can be many configured profiles, only one profile can be active at any time.

If connection profiles are configured manually, the *Enable automatic configuration* checkbox should normally be unchecked.

In one particular use case, manually configured profiles may be combined with automatic configuration. If multiple SIM cards are used with the same device, each SIM card being from a different operator and some or all of them requiring a manually set up profile, automatic configuration may be used to automatically pick the correct manually configured profile for each SIM card. For this to work, each profile must be configured while the corresponding SIM card is inserted in the device and initialized (i.e. the status is at least *SIM is ready*).

The *Select profile:* drop-down list in the data configuration profile selects to which profile a subsequent action applies. A profile named *Default* is always present and contains the current parameters from the database. The following actions are available:

Show

The parameters for the selected profile are displayed when you tap the stylus on this button. For the *Default* profile, the publicly known password is shown—otherwise, the password is hidden.

Edit

The parameters of the selected profile can be edited when you choose the *Edit* button. Keep in mind that you cannot edit the Default profile.

Delete

The selected profile is deleted. You cannot delete the *Default* profile.
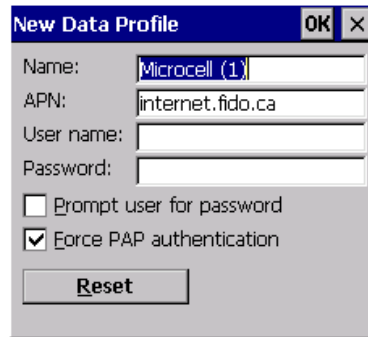
Activate

When this button is chosen, the selected profile becomes the active profile. Activation is possible only if the *Enable automatic configuration:* checkbox is unchecked.

New

Tapping on the *New* button allows you to create a new profile.

Figure B.2 Creating a New Profile

The name of the newly created profile must be different from all existing profiles. Also, the name cannot be *Default*. When the *New Data Profile* dialog box is opened, a proposal for a unique name is filled in the corresponding entry field. If a manually configured profile has a secret password and unauthorized access to the device is a concern even after the SIM PIN has been entered, the password should not be entered in the *New Data Profile* dialog box and the *Prompt user for password* checkbox should be checked instead. In this case, you will be prompted for the password each time a connection is initiated (the *Connect Data* button in the main *Wireless WAN* dialog box is selected). If *Force PAP authentication* (Password Authentication Protocol) is enabled, a simple authentication protocol is used to authenticate a user to a remote access server or Internet Service Provider.

Reset

The *Reset* button in the *New Profile* and *Edit Profile* dialog boxes resets all entry fields to the values they had when the dialog box was opened.
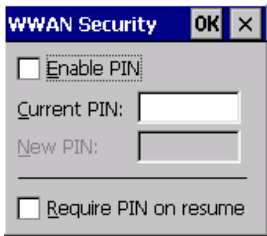
Advanced IP

Figure B.3 Assigning IP Information
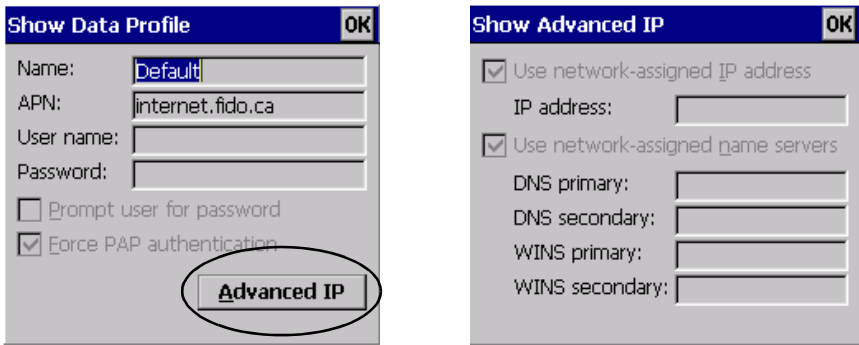
The *Advanced IP* button in the *Show Profile* and *Edit Profile* dialog boxes opens another dialog box that allows you to configure a static IP address as well providing DNS and WINS fields so that you can specify DNS and WINS resolvers.

B.1.4.2 Security Configuration

The *Security Configuration* dialog box is accessed through the *Tools* menu. The *Security Configuration* dialog box allows you to enable, disable and change the PIN. You will need the current PIN to make any of these changes. The PIN must be enabled in order to be changed. (If the PIN is disabled, the *New PIN* entry field is greyed out.)

Note: Keep in mind that some network operators do not allow the SIM PIN to be disabled. A new PIN must consist of 4 to 8 numeric digits.

The *Require PIN on resume* checkbox is independent of the aforementioned settings. By default, this checkbox is unchecked. While this option remains unchecked, any PIN entered on startup or through the *Security Configuration* dialog box and submitted successfully to the modem is stored in memory for as long as the device is not rebooted. This stored PIN is then used without further user interaction whenever the modem requires a PIN (such as resume
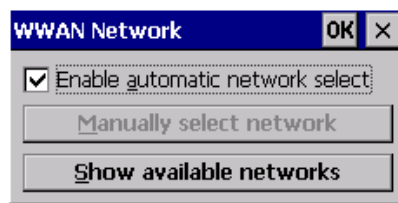
after suspend or modem removal). The stored PIN is also automatically entered in the *Current PIN* text box whenever the *Security Configuration* dialog box is called up.

If unauthorized access to the device is a concern, the *Require PIN on resume* checkbox should be checked. In this case, the PIN is not stored; whenever a PIN is required, you will be prompted to enter an appropriate value.

B.1.4.3 Network Configuration

In the main Wireless WAN window:

• Tap on the **Tools** menu, and choose **Network**.

By default the GSM radio modem automatically chooses from the available and allowed networks (allowed networks are the home network and all other networks with which the home network has a roaming agreement). You may find there are some situations in which you want to override this default behaviour. For example, you may want to disable roaming if you find yourself in a border area where the home network is not available but a foreign roaming partner is available. Abroad, you may find that an available network does not have GPRS roaming agreements. In this case, you'll need to manually select the network which you know to support GPRS roaming.

Automatic network selection is enabled or disabled by checking or unchecking *Enable automatic network select* in the *Network* dialog box. When automatic network selection is disabled, you must select a network manually.

Available networks can also be viewed without changing any settings. Scanning for available networks is a lengthy operation—a progress bar is shown while the scan is active. For every network that is found, the network name, country, status and numeric network identifier (MCC/MNC, Mobile Country Code followed by the Mobile Network Code) is displayed.

> *Note: Your home network operator will need to let you know which other networks have roaming agreements. Even when a network is listed with an 'Available' status, it does not necessarily follow that it can be used or that the roaming agreement covers GPRS.*
>
> *A status of 'Forbidden' indicates that the network cannot be used. If you choose a network that is not covered by a roaming agreement, the status in the main WWAN dialog box changes to 'Emergency calls only', 'No network found', 'GPRS not available' or 'GPRS not allowed'.*

B.1.4.4 Driver Mode Configuration
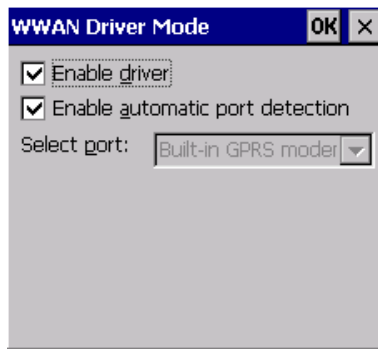
By default, the Wireless WAN driver is enabled (the *Enable driver* checkbox is checked). The driver must be disabled in order to use the modem for anything other than GPRS (e.g. dial-up data, fax, or in order to manually submit AT commands to the modem for development, testing, approvals, etc.). If the *Enable driver* checkbox is not checked, the driver is shut down as soon as the *OK* button in the *Driver Mode* dialog box is chosen.

If, on the other hand, the Wireless WAN driver is not running and the *Enable driver* checkbox is checked, the Wireless WAN driver is started as soon the *Driver Mode* dialog box is closed using the *OK* button.
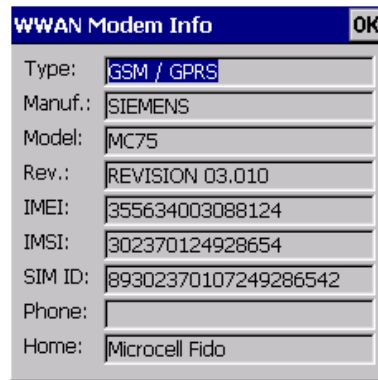
> *Note: When the driver is not running, no network status or signal strength can be displayed.*

Since all currently supported GSM modems are automatically detected, the *Enable automatic port detection* checkbox should always be checked. If this checkbox is not checked, a serial port can be selected manually. This experimental feature allows the driver to be used with an internal GSM modem that was not recognized by the automatic detection or an external GSM modem connected to a serial port of the computer through USB or through

Bluetooth. An external modem connected to a serial port must support 115.2kbit/s, 8bit, no parity and hardware flow control.

B.1.4.5 Modem Information
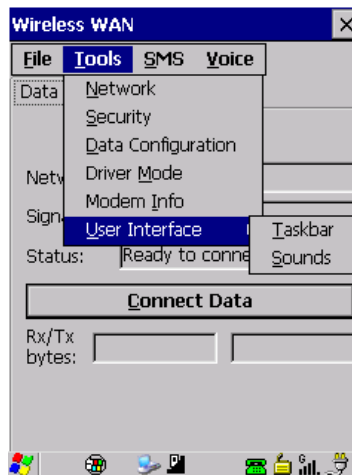
The fields in this dialog box cannot be edited, they only display information about the computer's modem. If the network operator has not programmed a user's phone number into his SIM, the *Phone:* field remains empty. If the main menu shows an error status, at least partial modem information may be available.

B.1.4.6 User Interface
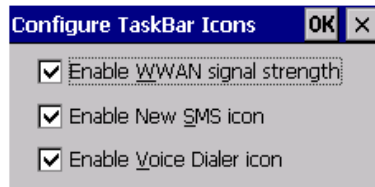
Taskbar

Choosing *Taskbar* displays a dialog box in which you can determine which Wireless WAN icons will be displayed in the taskbar.

Sounds

Tapping on the *Sounds* option displays a dialog box in which you can customize which sounds your Ikôn will emit and when these sounds will be played.
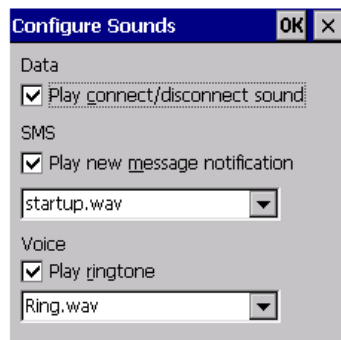
B.1.5   SMS Menu

SMS (Short Message Service) functions are accessed through the SMS menu. For modems that support a SIM card, the SIM initialization typically takes longer than the network initialization, resulting in a noticeable delay before the SMS functions become available.
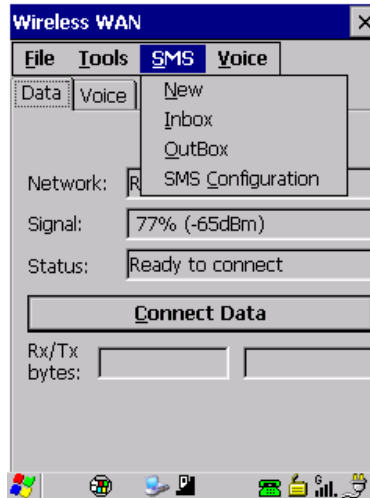
B.1.5.1   New

Tapping on the *New* button opens a dialog for sending a new SMS message. The recipient's phone number (to be entered in the *To:* field) can consist of the digits 0 through 9, as well as the * and # characters, optionally preceded by one + character, indicating an international number (i.e. the country code follows immediately after the + character).

By checking the *Store message in Outbox* field a new message can be stored in the Outbox before being sent. If no storage space is available, or the modem does not support the storage of outgoing messages, then this checkbox is disabled.

B.1.5.2   Inbox

Tapping on the *Inbox* button opens the list of received messages. Reading 50 messages, for example, from the SIM can take about 30 seconds. By default the list of messages is sorted with the most recently received message first. The list can be sorted by any other column by clicking on the corresponding column heading. Clicking the same column heading twice reverses the sort order. Pressing any letter or digit moves the highlight to the next message whose address begins with that letter or number.

> *Note: The date and time formats can be changed through the Region and Language menu in Control Panel. For a new date or time format to take effect the Inbox has to be closed and re-opened.*

The *Open* button opens the selected message in a new window such that the entire message can be read including the original formatting (line breaks are replaced by spaces in the Inbox message list). Pressing the **Reply** button opens the new message dialog as described above, except the destination phone number is filled in already.

B.1.5.3 Outbox

Tapping on the *Outbox* button opens the list of sent messages. Otherwise the *Outbox* behaves exactly as the Inbox described above. The date and time when a message was sent is not available for GSM modems.

B.1.5.4 SMS Configuration

Tapping on the *SMS Configuration* button opens the SMS configuration dialog. The SMS Centre address follows the same rules as the recipient's phone number in the New message dialog. The message validity period parameter is sent to the SMS Centre with each message sent subsequently and instructs the SMS Centre on how long it should attempt to deliver the message to the recipient (the SMS Centre may impose an upper limit on the validity period regardless of the setting).

> *Note: Only certain discrete validity period values can be sent and thus the validity period is rounded to the nearest allowed value. The next time the SMS configuration dialog is opened the rounded value is shown.*

The user interface tries to keep the SMS storage location available for a new incoming message if the Delete oldest message when full checkbox is checked. In this case, when a new message arrives and the SMS storage becomes full, the oldest received message is deleted. If any string is entered as the Message Suppression Prefix, then messages beginning with that string will not be shown in either the Inbox or Outbox. In this way messages intended for another application running on the same device can be hidden from the user, as long as those messages begin with the string configured here.

B.1.6 Voice

The *Voice* tab is described in detail under "Voice – Using the Phone Dialer" on page 20.

B.2   Power Mode

The power mode of the modem is controlled through the *Power* menu in the *Control Panel* (not through the Wireless WAN user interface).

For CF Card modems, the settings are found under the *Devices* tab. If the checkbox for a modem is unchecked then no power is applied to the modem and no driver is loaded (neither the serial port driver nor the Wireless WAN driver). If the checkbox is checked then power is applied to the modem and the drivers are loaded when the computer is turned on. You can choose how long power is applied for WWAN and whether it turns off on Suspend (see "Devices" on page 105.)

APPENDIX C

BAR CODE SETTINGS

C.1   Bar Code Settings

The *Teklogix Scanners* icon in the *Control Panel* provides dialog boxes in which you can tailor bar code options and choose the bar codes your scanner will recognize. The parameters are preset with the default settings of the decoded scanner installed in the unit.
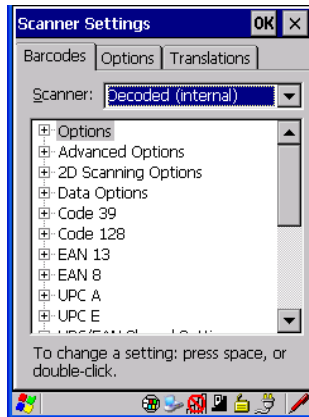
For a listing of available scanners and their specifications, please refer to Chapter 7: "Specifications".

Figure C.1 Teklogix Scanners Icon

C.1.1   Scanner Options

The drop-down menu to the right of the *Scanner* option allows you to choose configurations for one of the following scanner types, depending on what is installed in/on your hand-held: *Decoded* (internal), *Decoded* (Intermec ISCP), and *Imager*.

The symbologies listed change to reflect the scanner you choose and the bar codes it supports. Always defer to your bar code scanner's programming manual when in doubt about the availability or settings for any parameter.

*Note: Your Ikôn comes preconfigured from the factory for internal scanner types. The type of scanner installed can be determined from the **System** icon in the Control Panel, under the Properties tab.*

⚠️ *Important: To improve the decode speed and performance, enable (set to 'on') 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 these dialog boxes.

However, external decoded scanners must be configured by scanning special configuration bar codes. In these cases, the scanner manufacturer provides programming manuals for configuration purposes.

- For the Symbol LS3408 decoded scanner, refer to the programming guide supplied with your scanner.
- For PowerScan® (PSC) decoded scanners, refer to the *PowerScan Programming Guide*

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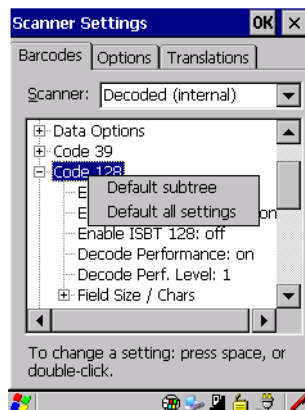
- Choose **Default subtree** to reset only the parameters in the symbology you selected, or choose **Default all settings** to reset all scanner parameters to default settings.

To reset a single parameter to its default setting:

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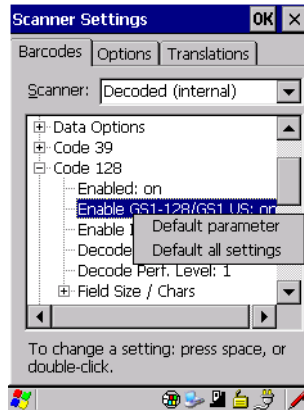
- Choose **Default parameter** to reset the parameter to the default setting.

C.2   Decoded (Internal) Scanners
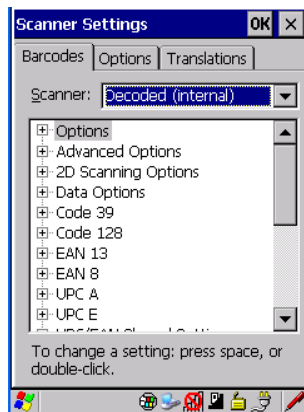
- Tap on the **Scanner** drop-down menu, and choose **Decoded (internal)**.

C.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.

C.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.

Power Mode

This parameter is a power-saving option. Tapping on it displays a screen listing two power mode options: *Continuous Power* and *Low Power*.

In *Continuous Power* mode, the scanner is always on, waiting for a trigger pull or a serial communication.

In *Low Power* mode, the scanner is in a standby state, drawing minimal power until a trigger pull or serial communication wakes it. Keep in mind that while this option is more suitable

for battery powered applications, there will be a slight delay while the scanner powers up to scan a bar code.

Low Power Timeout

To extend laser life, you can select the 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*.

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

Parameter Scanning

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

Linear Security Level

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

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

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

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

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

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

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

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

Bi-Direction Redundancy

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

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

Scan Angle

This option allows you to choose from two scan angles: *Normal Angle* or *Alternate Angle*. Choosing *Normal Angle* allows the normal operation for scanning long range and short range. Choosing *Alternate Angle* widens the beam to allow scanning of long bar codes at short range but at the cost of long range scanning.

C.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 parameters 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 these parameters displays dialog boxes in which you can enter a value from **1** to **15**.

C.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, dialog boxes are 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 Interpre-tations (ECIs) supported by the scanner. This parameter has no effect on symbols that were not encoded using ECIs.

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

C.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 these parameters displays dialog boxes labelled *Set Code Lengths* where you can define the code length that will be decoded by your scanner.
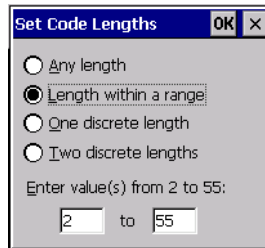
Choosing *One discrete length* allows you to decode only those codes containing a selected length. Choosing *Two discrete lengths* allows you to decode only those codes containing two selected lengths. *Length within a range* allows you to decode a code type within a specified range from **2** to **55**.

Check Digit Verification

When this parameter is enabled, 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 be enabled.

Full ASCII

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

Decode Performance

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

Decode Perf. Level

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

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

Length Restriction

The parameters in this sub-menu allow you to define the length of the bar codes that will be decoded using either the *Field Size* parameter or the *Minimum Size* and *Maximum Size* parameters (see below). The order of operation to either match the *Field Size* or determine if the length falls between the *Minimum Size* and *Maximum Size* is as follows:

- Strip the leading and trailing characters.
- Add the prefix and suffix characters.
- Count the number of characters remaining to either match the field size or determine if the length falls between the minimum and maximum size.

Field Size

When a value is assigned for this parameter, only bar codes that match the field size exactly can be transmitted. If a value is assigned to this parameter, a *Minimum Size* and *Maximum Size* value is not required.

Minimum Size and Maximum Size

When a value is assigned to these parameters, only bar code lengths that fall between the minimum and maximum value can be decoded. If values are assigned to these parameters, a *Field Size* value is not required.

Add/Remove Data

Prefix Char

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

Suffix Char

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

Strip Leading

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

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

Strip Trailing

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

C.2.6   Code 128

Enabled

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

Enable GS1-128/GS1 US

Previously UPC/EAN and UCC, the GS1-128/GS1 US types of bar code include group separators and start codes.

Enable ISBT 128

To successfully scan this type of bar code, this option 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, allowing you to scan at an angle horizontal to the bar code. This is useful when scanning very long and/or truncated bar codes. Keep in mind that increased levels reduce decode security. There is a limitation that it can only be used with one fixed length.

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.2.7   EAN 13

Enabled

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

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.2.8   EAN 8

Enabled

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

EAN-8 Zero Extend

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

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.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.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.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).

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.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 (Model SE2223)

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 (Model SE2223)

Setting this parameter to **on** enables "UPC Half Block Stitching" for the SE2223 omnidirectional engine only.

C.2.12 Code 93

Enabled

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

Set Length L1 and Set Length L2

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

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

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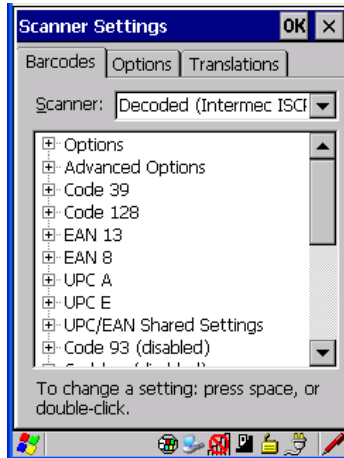
Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.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.

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.2.14 MSI Plessey

Enabled

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

Set Length L1 and Set Length L2

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

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

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

Check Digits

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

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

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

Transmit Check Digit

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

Check Digit Algorithm

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.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, an I 2 of 5 bar code is converted to EAN 13.

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.2.16 Discrete 2 of 5

Enabled

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

Set Length L1 and Set Length L2

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

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

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.2.17 RSS Code (Reduced Space Symbology)

Enable

Setting any of these parameters 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.

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.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 (see page C-42).***

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 the parameters to **on**.

Enable TLC-39

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

C.2.19 PDF-417

Enabled

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.2.20 Micro PDF-417

Enabled

Setting this parameter to **on** enables "2D Micro PDF-417" bar code scanning. Micro PDF-417 is a multi-row symbology that is useful for applications requiring greater area efficiency but lower data capacity than PDF-417.

Code 128 Emulation

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

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

]C1 if the first codeword is 903-907, 912, 914, 915

]C2 if the first codeword is 908 or 909

]C0 if the first codeword is 910 or 911

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

]L3 if the first codeword is 903-907, 912, 914, 915

]L4 if the first codeword is 908 or 909

]L5 if the first codeword is 910 or 911

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.3   Decoded (Intermec ISCP)

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

C.3.1   Decoded (ISCP) Options

Laser On Time

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

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

C.3.2   Decoded (ISCP) Advanced Options

Continuous Scan Mode

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

Minimum Cancel Time

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

Low Power Timeout

To extend laser life, you can select the time the scanner remains active following a success-ful 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 unit is mounted in a fixed position; otherwise, 'Low Power Timeout' is not used.*

Parameter Scanning

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

Same Read Validate

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

Same Read Timeout

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

Diff Read Timeout

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

Add AIM ID Prefix

The *AIM ID* (Association for Automatic Identification and Mobility) is an international bar code identifier. When this parameter is enabled, the *AIM ID* is inserted at the beginning of the decoded bar code.

C.3.3 Code 39

Enable

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

Full ASCII

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

Reading Range

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

Start/Stop Transmit

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

Accepted Start Char

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

Check Digit Verification

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

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

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

Transmit Check Digit

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

Minimum Length

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.3.4 Code 128

Enabled

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

GS1-128

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

GS1-128 Identifier

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

GTIN Compliant

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

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

FNC1 Conversion

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

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

Enable ISBT 128

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

ISBT Concat Transmit

The codes are not concatenated by default. You need to choose one of the options provided for this parameter to send concatenated code. Choosing *Only Concatenated Codes* transmits only concatenated codes—single codes will not be transmitted. Choosing *Concatenated or Single* transmits single codes or concatenated codes. If only one code of a pair is read, that code will be transmitted as a single code. If both codes in a pair are detected, they will be concatenated provided that "ISBT Concat Any Pair" (see below) is enabled.

ISBT Concat Any Pair

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

Reading Range

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

Check Digit Verification

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

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

Minimum Length

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.3.5   EAN 13

Enabled

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

ISBN Conversion

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

Transmit Check Digit

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

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.3.6   EAN 8

Enabled

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

Transmit Check Digit

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

Convert To EAN 13

If this parameter is enabled, an EAN 8 bar code is converted to EAN 13.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.3.7   UPC A

Enabled

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

Transmit Check Digit

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

Transmit Number System

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

Convert To EAN 13

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

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.3.8   UPC E Settings

Enabled

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

Enable UPC-E1

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

Transmit Check Digit

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

Transmit Number System

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

Convert To UPC-A

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

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.3.9   UPC/EAN Shared Settings

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

Addendum

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

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

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

Addendum Add-on 2 and Addendum Add-on 5

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

Addendum Security

If you tap on "Addendum Security", a dialog box is displayed in which you can define the security level of add-on 2 or add-on 5 with a value from *0* to *100*. As security levels increase, the scanner decode speed decreases.

GTIN Compliant

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

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

Reading Range

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

C.3.10 Code 93

Enabled

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

Minimum Length

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.3.11 Codabar

Enabled

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

Start/Stop Transmit

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

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

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

CLSI Library System

When enabled, spaces are inserted after characters 1, 5, 10 in the 14-character label (used in the USA by libraries using the CLSI system).

Check Digit Verification

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

Transmit Check Digit

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

Set Length L1, Set Length L2, and Set Length L3

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

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

Length Mode

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.3.12 MSI Plessey

Enabled

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

Enable Plessy

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

Check Digit Verification

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

Transmit Check Digit

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

Plessy Transmit Check Digit

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

Minimum Length

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

Plessy Minimum Length

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.3.13   Code 11

Enabled

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

Check Digit Verification

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

Transmit Check Digit

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

Minimum Length

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.3.14   Interleaved 2 of 5

Enabled

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

Reading Range

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

Check Digit Verification

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

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

Transmit Check Digit

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

Set Length L1, Set Length L2, and Set Length L3

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

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

Length Mode

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.3.15 Matrix 2 of 5

Enabled

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

Minimum Length

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.3.16 Discrete 2 of 5

Enabled

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

Standard 2 of 5 Format

This parameter allows you to choose a standard format – either *Identicon* (6 start/stop bars) or *Computer Identics* (4 start/stop bars).

Check Digit Verification

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

Transmit Check Digit

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

Set Length L1, Set Length L2, and Set Length L3

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

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

Length Mode

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.3.17 Telepen

Enabled

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

Format

This parameter allows you to set the bar code character format to either *ASCII* or *Numeric*.

Minimum Length

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.3.18 RSS Code (Reduced Space Symbology)

Enable

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

Enable RSS-14

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

Enable RSS Limited

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

Enable RSS Expanded

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.3.19　Composite

> ⚠ *Important:　**To successfully read this type of bar code, the two types of symbologies included in a composite bar code must be enabled. In addition, "Center Bar Code Only" must be disabled (see page C-42).***

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

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

Enable CC-C and Enable CC-AB

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

Linear Transmission Only

When *Linear Transmission Only* is enabled, only the linear code portion of the composite bar code is transmitted when scanned.

UPC-EAN Composite Message

This option allows you to choose how UPC-EAN shared bar codes are transmitted: *Always Linked*, *Never Linked* or *Auto-discriminate*.

C.3.20　TLC-39

Enabled

This composite component integrates MicroPDF417 with the linear Code 39 symbol. Setting this parameter to **on** enables this parameter.

Linear Transmission Only

When *Linear Transmission Only* is enabled, only the linear portion of the composite bar code is transmitted when scanned.

Security Level

This parameter is used to differentiate between TLC-39 and standard Code 39. Tapping on *Security Level* displays a dialog box in which you can assign a value from *0* to *100*. The higher the value assigned, the lower the decode rate.

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.3.21 PDF-417

Enabled

Set this parameter to **on** to enable "2D PDF-417".

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.3.22 Micro PDF-417

Enabled

Set this parameter to **on** to enable "2D Micro PDF-417".

Code 128 Emulation

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

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

>]C1 if the first codeword is 903-907, 912, 914, 915

>]C2 if the first codeword is 908 or 909

>]C0 if the first codeword is 910 or 911

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

>]L3 if the first codeword is 903-907, 912, 914, 915

>]L4 if the first codeword is 908 or 909

>]L5 if the first codeword is 910 or 911

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.3.23 Codablock

Enable Codablock A

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

Enable Codablock F

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.4 Imager
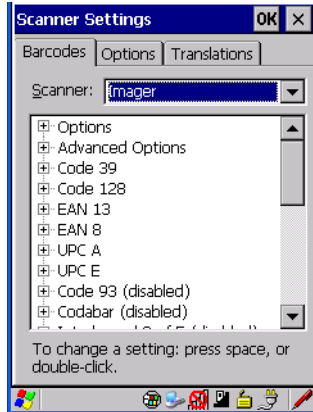
• Tap on the **Scanner** drop-down menu, and choose **Imager**.

C.4.1 Imager Options

TekImager Enabled

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

Continuous Scan Mode

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

Center Barcode Only

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

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

Max Number Barcodes

Specifies the maximum number of bar codes the imager attempts to decode in an image. A maximum of 6 bar codes can be decoded at one time.

Barcodes Must Decode

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

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

Window Width

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

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

Window Height

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

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

Dot Time (msec)

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

C.4.2 Imager Advanced Options

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

Factory Defaults On Reboot

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

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

Min Scan Duration

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

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

Captures Per HW Trigger

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

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

Auto Exposure

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

Setting this parameter to **on** allows the imager to make automatic gain, integration and illumination adjustments based on ambient light before capturing the bar code. If the adjustment is insufficient, further adjustments are made automatically before another image is captured.

Fast Converge

*Note: "Auto Exposure" must be set to **on** in order for this parameter to function.*

Keep in mind that while this parameter can improve imager performance, "Fast Converge" increases battery power consumption.

Setting this parameter to **on** speeds the "Auto Exposure" process. It allows the imager to rapidly snap a number of bar code capture attempts while finding ideal values for gain, integration and illumination.

Max Gain, Max Integration and Max Illumination

Important: These parameter values should only be changed by qualified Psion Teklogix personnel.

These parameters represent internal values used by the 2D imager. The "Auto Exposure" parameter automatically adjusts the *Max Gain, Max Integration* and *Max Illumination* parameters to produce the best bar code read. Keep in mind that "Auto Exposure" must be set to **on** in order for these parameter values to be automatically adjusted.

Double-tapping on any of these parameters displays an associated dialog box in which an allowable range is displayed: *Max Gain – 357* to *7920, Max Integration – 0* to *65535, Max Illumination – 0* to *7*.

Decoder Timeout

The decoder is a set of algorithms that examine the image and attempt to find the bar codes, and then turn the pixels into data that the computer can use—this process takes time. "Decoder Timeout" limits the amount of time the decoder will spend attempting to decode an image, and forces it to stop and grab a new image, which will probably be easier to decode.

Note: When decoding multiple bar codes in one image, the value assigned to 'Decoder Timeout' should be increased to 200ms/extra bar code after the first.

Adaptive Windowing

"Adaptive Windowing" is an advanced technique used to speed up bar code recognition in certain applications. This parameter automatically reduces the size of the window to the

user-programmed window size when it successfully decodes (which reduces decode time the next time it is used), but increases it to the full size window on a failed decode.

Note: This feature assumes that you have reached an understanding about how the device operates in your application, and that, after a learning period, operators will get used to using the imager in one particular way. It also assumes that a trained operator will usually only have near miss scenarios.

Constant Illumination

"Constant Illumination" is used to reduce the intrusiveness of the device's illumination on the observer. Instead of the illumination turning on and off every time the device attempts a decode (2-4 times per second), the illumination stays on from the time the trigger is pulled until a decode is successful. This feature is useful in low light environments, since it will also reduce the distraction that the illumination can have on nearby co-workers.

C.4.3 Code 39

Enabled

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

Check Digit Verification

When this parameter is enabled, 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.

Include Check

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.4.4   Code 128

Enabled

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.4.5   EAN 13

Enabled

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

Addendum

An addendum is a separate bar code, supplementary to the main bar code. This parameter provides three options: *Disabled, Optional* and *Required*. Depending on the value chosen for this parameter, an addendum is recognized or ignored.

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

When "Addendum" is set to *Disabled*, the scanner does not recognize an addendum. If this parameter is set to *Optional*, the scanner searches for an addendum and if one exists, appends it to the main bar code. When the parameter is set to *Required*, the scanner does not accept the main bar code without an addendum.

Note: Setting "Addendum" to 'Optional' reduces performance. It should only be chosen if at least some of the bar codes being read have addendums.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.4.6   EAN 8

Enabled

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

Addendum

Refer to "Addendum" on page 46.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.4.7   UPC A

Enabled

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

Addendum

Refer to "Addendum" on page 46.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.4.8   UPC E

Enabled

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

Addendum

Refer to "Addendum" on page 46.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.4.9   Code 93

Enabled

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.4.10 Codabar

Enabled

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.4.11   Interleaved 2 of 5

Enabled

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

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).

Include Check

If this parameter is enabled, the check digit is transmitted along with the I 2 of 5 symbol.

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.4.12   RSS Code (Reduced Space Symbology)

Enable

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.4.13 Composite

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

Enabled

Set this parameter to **on** to enable "Composite" bar code scanner.

Important: To successfully read this type of bar code, the two types of symbologies included in the composite must be enabled. In addition, "Center Barcode Only" must be disabled (see page C-42).

C.4.14 PDF-417

Enabled

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.4.15 Micro PDF-417

Enabled

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.

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.4.16   2D Data Matrix

Enabled

Set this parameter to **on** to enable "2D Data Matrix".

Inverse Video Mode

Enabling this parameter allows the imager to read inverse bar codes—white symbols presented on a black background.

Rectangular

Enabling this parameter allows the imager to recognize rectangular (as opposed to square) symbols.

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.4.17   2D QR Code

Enabled

Set this parameter to **on** to enable "2D QR Code".

Inverse Video Mode

Enabling this parameter allows the imager to read inverse bar codes—white symbols presented on a black background.

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.4.18   2D Maxicode

Enabled

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.4.19 2D Aztec

Enabled

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.4.20 Postal: PlaNET

Enabled

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.4.21 Postal: PostNET

Enabled

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.4.22 Postal: Australian

Enabled

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.4.23 Postal: Japanese

Enabled

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.4.24 Postal: Korean

Enabled

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.4.25 Postal: Royal

Enabled

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.4.26 Postal: Kix

Enabled

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

C.4.27 Postal: Canadian

Enabled

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

Length Restriction

Refer to "Length Restriction" on page C-14 for details.

Add/Remove Data

Refer to "Add/Remove Data" on page C-14 for details.

APPENDIX D

SCU FOR 802.11B/G RADIO

D.1   SCU Tabs

This appendix provides details about each tab in the Summit Client Utility (SCU). For quick, step-by-step setup instructions, refer to "Configuring the Summit RA2041 802.11b/g Radio" on page 13.

The following sections provide a detailed description of each of the tabs available in the SCU—*Main* (below), *Profile* (page D-4), *Status* (page D-9), *Diags* (page D-9), and *Global* (page D-10).

D.1.1   Main Tab

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

- **Enable/Disable Radio**: Enables or disables the radio. This is a toggle button; when the radio is enabled, this button reads *Disable Radio*, and when the radio is disabled, the button reads *Enable Radio*.
- **Active Profile**: Lists the name(s) of the active configuration profile(s). When a *profile* is chosen from the *Active Profile* drop-down menu, the settings for that profile become active.

  If *ThirdPartyConfig* is selected, after Ikôn goes through a power cycle, WZC is used for configuration of the radio. See "ThirdPartyConfig" on page D-8 for details.
- **Radio Type**: Indicates the type of radio installed in the device, e.g. "BG" when an 802.11b/g radio is installed.
- **Reg. Domain**: Indicates the regulatory domain (e.g. ETSI, FCC or TELEC) for which the radio is configured. "Worldwide" means that the radio can be used in any domain.
- **Status**: Indicates if the radio is associated to an access point. If this is not the case, *Status* indicates the radio status.

- **Driver** and **SCU**: These fields display the version of the device driver and the SCU that are running on Ikôn.

- **About SCU**: This box provides details about the SCU software.

D.1.2 Profile Tab

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

The profile you create and save is listed in the *Active Profile* drop-down menu in the *Main* tab. You can define up to 20 profiles.
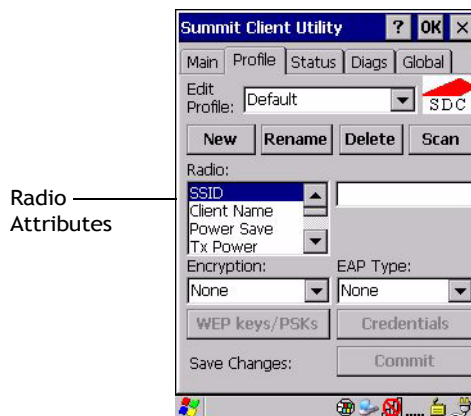
- **Edit Profile**: Used to choose the profile to be viewed or edited. If *ThirdPartyConfig* is chosen, after Ikôn goes through a power cycle, WZC is used for configuration of the radio.

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

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

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

- **Scan**: Opens a new window which displays a list of available access points with their respective SSIDs, Signal Strength (RSSI value) and Security Status. Selecting an AP returns you to the profile page and populates a new profile with the information available from the scan to simplify setting up a new profile.

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

- **Commit**: Saves all changes.

The following table describes the options in the *Radio* attributes, *Encryption*, and *EAP Type* drop-down menus:

Table D.1   Radio, Encryption, And EAP Menus

Radio Attribute	Description	Value	Default
SSID	Service set identifier (SSID) for WLAN to which the radio connects.	Maximum of 32 characters.	None
Client Name	Name assigned to radio & Ikôn into which it is installed.	Maximum of 16 characters.	None
Power Save	Power save mode for radio.	CAM: Constantly awake. Maximum: Maximum power savings. Fast: Fast power save mode.	Fast
Tx Power	Maximum transmit power.	Max: Maximum defined for current regulatory domain. Measured in mW: 50,30,10, 1.	Max
Bit Rate	Used by radio when interacting with WLAN access point.	Auto: Rate automatically negotiated with access point. Rates in Mbps: 1, 2, 5.5, 6.9 11, 12, 18, 24, 36, 48, 54.	Auto
Radio Mode	Used by 802.11g when interacting with access point.	B rates only: 1, 2, 5.5, & 11 Mbps. G rates only: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps. BG rates full: All B and G rates. BG rates optimized: 1, 2, 5.5, 6, 11, 24, 36 & 54 Mbps.	BG rates optimized
Auth Type	802.11 authentication type used when associating with access point.	Open, shared-key, or LEAP (Network-EAP).	Open
EAP Type	Extensible Authentication Protocol type used for 802.1X authentication to access point.	None, LEAP, EAP-FAST, PEAP-MSCHAP – To use EAP-TLS, you must use WZC.	None

Table D.1   Radio, Encryption, And EAP Menus

Radio Attribute	Description	Value	Default
Credentials	Authentication credentials for the selected EAP type. Refer to "EAP Credentials" on page D-8.	User: Username or Domain/User-name (up to 64 characters). Password: up to 64 characters. For PEAP: CA Cert–CA server certificate filename.	None
Encryption	Type of encryption used to protect transmitted data.	None, Manual WEP, Auto WEP (generated during EAP authentication), WPA PSK, WPA TKIP, WPA2 PSK, WPA2 TKIP, WPA2 AES, CCKM TKIP. For Manual WEP: Up to four static WEP keys. For PSK: ASCII passphrase or hex PSK.	None

- **EAP-Type & Encryption**: Security settings. These settings allow you to enhance the security of data across the wireless LAN. Refer to "EAP Credentials" on page D-8 and 'SCU Security Capabilities' below, for details about these settings.

D.1.2.1 SCU Security Capabilities

The SCU provides integrated security to protect transmitted data as well as Ikôn and wireless WAN infrastructure that transmit and receive data.

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

- 802.1X authentication using pre-shared keys or an EAP type, required for WPA2 and WPA.

- Data encryption and decryption using WPA2 AES, WPA TKIP or WEP.

Common EAP types include:

- **EAP-TLS**: Uses the same technology as a follow-on to Secure Socket Layer (SSL). It provides strong security, but relies on client certificates for user authentication.

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

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

D.1.2.2 SCU EAP Types

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

Consider the following when configuring one of the EAP types:

- **LEAP**: Strong passwords are recommended.
- **EAP-FAST**: SCU supports automatic, not manual, PAC provisioning.
- **PEAP-MSCHAP**: Provides secure user authentication by using a TLS tunnel to encrypt EAP traffic. MSCHAP is used as the inner authentication method. This is appropriate for use against Windows Active Directory and domains.
- **PEAP-GTC**: SCU supports static (login) passwords only.
- **EAP-TLS**: Provides strong security via the use of client certificates for user authentication.

EAP-TLS will work with an 802.11b/g radio module when *Windows Zero Config* (WZC) rather than the SCU is used to configure the type. With WZC, the native *Windows supplicant* instead of the *SCU integrated supplicant* is used.

D.1.2.3 EAP Credentials

Keep the following in mind when defining security settings:

- If the credentials specified in the profile are incorrect and that profile is used, the authentication fails without an error message; you will not be prompted to enter correct credentials.

- If the credentials are not specified in the profile, when the radio tries to associate using that profile, you will be prompted to enter the credentials.

- When prompted, you can enter valid credentials, enter invalid credentials, or cancel the operation.

  - If you enter valid credentials and tap **OK**, the radio will associate and authenticate.
  - If you enter invalid credentials and tap on **OK**, the radio will associate but will not authenticate; you will be prompted again to enter credentials.
  - If you tap on **Cancel** or clear the credentials fields and tap on **OK**, the radio will not attempt to associate with that profile until you perform one of the following actions (while the profile is the active profile):
  - Cause Ikôn to go through a power cycle or suspend/resume.
  - Disable and enable the radio, or tap the **Reconnect** button on the *Diags* windows.
  - Modify the *Profile*, and tap on **Commit**.

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

D.1.2.4 ThirdPartyConfig

If you choose to configure *ThirdPartyConfig*, the SCU will work with the operating system's *Windows Zero Config* (WZC) to configure radio and security settings for the CF radio installed in the unit.
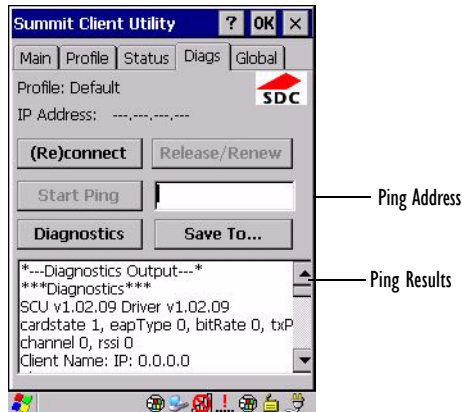
Choosing this profile means that *WZC* must be used to define the following radio and security options: *SSID*, *Auth Type*, *EAP Type*, and *Encryption*. The SCU settings for *ThirdPartyConfig* include: *Client Name*, *Power Save*, *Tx Power*, *Bit Rate*, and *Radio Mode*. These SCU settings along with SCU global settings and the WZC settings will be applied to the radio module.

D.1.3 Status Tab

The *Status* tab provides status information including IP address and MAC address for the client radio, IP address and MAC address for the AP, signal strength, channel, transmit power and data rate.
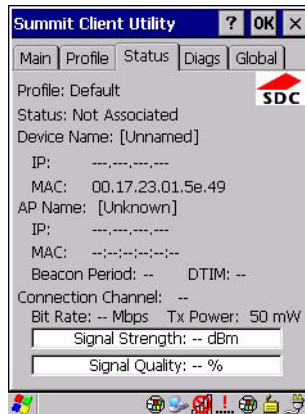
D.1.4 Diags Tab
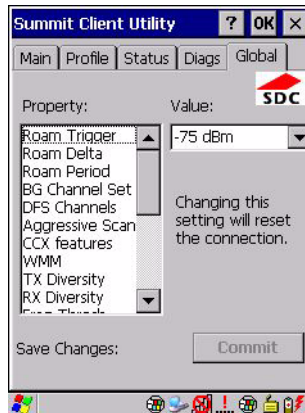
Use the *Diags* tab as a troubleshooting tool. The functions are as follows:

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

- **Release/Renew**: Obtains a new IP address through DHCP and logs all activity in the output area.
- **Start Ping**: Starts a continuous ping to the address in the text box next to this button. This is a toggle button so when you tap on it, it changes to *Stop Ping*. Closing this window or tapping on another button also stops the ping.
- **Diagnostics**: Attempts to connect or reconnect to an AP, and provides a more detailed dump of data than if you used *(Re)connect*. The dump includes the radio state, profile settings, global settings and BSSID list of APs. The SCU is saved to a file called *_sdc_diag.txt* in the Windows directory.

D.1.5 Global Tab

The *Global* settings tab allows you to define radio and security settings that apply to all pro-files, along with settings that apply specifically to the SCU. The *Global* settings in the table below can be edited in SCU:

Table D.2   Global Tab

Global Setting	Description	Value	Default
Roam Trigger	If RSSI from AP is less than roam trigger value, radio performs roam scan or probes for an AP with stronger signal.	dBm: -50, -55, -60, -65, -70, -75, Custom	-75
Roam Delta	Amount by which second AP's RSSI must exceed the moving average RSSI for the current AP before the radio will attempt to roam to a second AP.	dBm: 5, 10, 15, 20, 25, 30, 35, Custom	10
Roam Period	Following an association or roam scan (with no roam), the number of seconds the radio collects RSSI scan data before considering roaming.	Seconds: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, Custom	10
BG Channel Set	Defines the 2.4 GHz channels to be scanned when the radio is set to roam and needs to determine what APs are available.	Full (all channels) 1, 6, 11 1, 7, 13 Custom	Full
DFS Channels	Reserved	Off, On	Off
Aggressive Scan	When this setting is On and the current connection to an AP becomes unrelia-ble, the radio scans for available APs more aggressively. Aggressive scan-ning complements and works in con-junction with the standard scanning that is configured through the Roam Trigger, Roam Delta, and Roam Period settings. It is recommended that Aggressive Scan is left On unless there is significant co-channel interference because of overlapping coverage from APs on the same channel.	Off, On	On

Table D.2   Global Tab

Global Setting	Description	Value	Default
CCX features	Activates three CCX features: AP-assisted roaming, AP-specified maximum transmit power and radio management.	Optimized, Full, Off	Optimized
WMM	Use Wi-Fi Multimedia Extensions, also know as WMM.	On, Off	Off
Auth Server	Type of authentication server being used for EAP authentication.	**Type 1**: Cisco Secure ACS or another server that uses PEAPv1 for PEAP with EAPMSCHAPV2 (PEAPMSCHAP). **Type 2**: A different authentication server, such as Juniper Networks Steel Belted RADIUS, that uses PEAPv0 for PEAPMSCHAP.	Type 1
TX Diversity	Defines how to handle antenna diversity when transmitting data to AP.	-Main only: Use main antenna only. -Aux only: Use auxiliary antenna only. -On: Use diversity.	Main only
RX Diversity	Defines how to handle antenna diversity when receiving data from AP.	-On-Start on Main: On startup, use main antenna. -On-Start on Aux: On startup, use auxiliary antenna. -Main only: Use main antenna only. -Aux only: Use auxiliary antenna only.	On-Start on Main
Frag Thresh	Packet is fragmented when packet size (in bytes) exceeds threshold.	Integer from 256 to 2346.	2346

Table D.2   Global Tab

Global Setting	Description	Value	Default
RTS Thresh	Packet size above which RTS/CTS is required on link.	An integer from 0 to 2347.	2347
LED	Available only with MCF10G.	On, Off	Off
Tray Icon	Enables the System Tray icon.	Off, On	Off
Hide Passwords	On - SCU as well as EAP authentication dialog boxes hide passwords, WEP keys and other sensitive information.	On, Off	Off
Admin Password	Password that must be specified when Admin Login button is pressed.	A string of up to 64 characters.	SUMMIT
Auth Timeout	Specifies the number of seconds that the software will wait for an EAP authentication request to succeed or fail. If authentication credentials are specified in the active profile and the authentication times out, then association will fail. If authentication credentials are not specified in the active profile and the authentication times out, then the user will be re-prompted to enter authentication credentials.	An integer from 3 to 60.	8
Certs Path	Directory where certificates for EAP authentication are stored.	Valid directory path up to 64 characters.	Dependent on device.
Ping Payload	Amount of data to be transmitted on a ping.	Bytes: 32, 64, 128, 256, 512, 1024	32
Ping Timeout ms	Amount of time in milliseconds that passes without a response before ping request is considered a failure.	Integer from 0 to 30000.	5000
Ping Delay ms	Amount of time in milliseconds between successive ping requests.	Integer from 0 to 7200000.	1000

APPENDIX E

TEKLOGIX IMAGERS APPLET

The Teklogix Imagers program is used to read bar codes and capture images. The program manages preset groups of settings. It does not manage imager settings individually. Custom presets—groups of imager settings—are created, modified, deleted, and selected for use, through Teklogix Imagers. For detailed information on these presets, please refer to the *Psion Teklogix Imaging Services SDK Developers Guide* (PN 8100153).

E.1 Required Applets

In order to configure imaging, the *Manage Triggers* and *Teklogix Scanners* applets must be present in the Control Panel, along with the *Teklogix Imagers* applet.

E.2 Presets

There are two methods that can be used to configure an imager using the *Teklogix Imagers* applet:

- Use a predefined preset.
- Create a custom preset based on a predefined preset.

> *Important:* ***It is strongly recommended that a predefined preset is used whenever possible. Each predefined preset contains a coherent group of settings that are known to work together in the intended environment. In almost all situations, at least one of the predefined presets results in a satisfactory outcome.***

A *preset* is a group of exposure and image correction settings. Each preset configures the imager for a specific purpose such as bar code decoding or image capture.

Presets also allow easier and faster configuration of the imager after power-on or resume from suspend.

The predefined presets are generic and satisfy most user requirements. A custom preset can be created for a specific user application, such as: include only specified bar codes, read only a specified number of bar codes or for reading unusual media.

Every preset belongs to a preset type. The following preset types are available:

- Imaging for photo capture.
- Imaging for bar code decoding.
- Symbology selection.

At any time, only one preset of each type can be designated as the user-selected *active* preset.

E.2.1   Predefined Presets

Predefined presets are built into the imaging software and cannot be changed. The predefined presets allow you to use the imager to perform specified tasks without having to understand and set numerous variables. In almost all cases these predefined presets are sufficient.

E.2.2   Bar Code Predefined Presets

These presets encompass the majority of the most popular bar codes and their subtypes. The *bar code decoding symbology* predefined presets define which bar codes can be decoded. The *bar code decoding camera* predefined presets determine how the bar code images are captured

E.2.2.1   Bar Code Decoding Symbology Predefined Presets

The following presets select groups of similar bar codes for decoding.

Note: It is recommended that the default preset be used whenever possible.

Factory Default

This preset enables the decoding of frequently used bar codes.

My Default

This preset is synchronized with the *Teklogix Scanners* applet and contains all the symbologies selected using the *Teklogix Scanner* applet. For details on this synchronization see, "Configuring Symbologies in the Teklogix Imagers Applet" on page E-17.

All

This preset enables the decoding of all bar codes that the imager can decode.

Linear

This preset enables the decoding of all the 1D symbologies that the imager can decode.

Linear and PDF417

This preset enables the decoding of all the 1D and PDF symbologies that the imager can decode.

Matrix

This preset enables the decoding of all 2 D symbologies that the imager can decode.

Postal

This preset enables the decoding of all the postal symbologies that the imager can decode.

E.2.3 Bar Code Decoding Camera Predefined Presets

The following presets enable successful bar code image capture in almost all conditions.

Note: It is recommended that the default preset be used whenever possible.

Default

This preset works in a wide range of conditions. It is optimized for a normal office lighting (about 300 Lux).

Low Light

This preset is designed for very dark conditions such as inside a warehouse where the lights are kept low, or inside an unlit truck. This preset increases either the exposure time or the gain.

Low Power

This preset minimizes the use of the flash so as to conserve the battery power on the hand-held.

Glossy Surface

This preset minimizes the use of the flash so as to reduce reflection. This preset is used to read bar codes that are behind glass, or inside the plastic window of an envelope.

E.2.4 Image Capture Predefined Presets

The following presets enable successful image capture in almost all conditions.

Note: It is recommended that the default preset be used whenever possible.

Default

This preset works in a wide range of conditions. It is optimized for a normal office lighting (about 300 Lux).

Motion

This preset uses a shorter exposure time so as to freeze motion.

Low Light Near

This preset is designed for dark conditions, it uses a longer exposure time and includes the flash.

E.3   Using the Teklogix Imagers Applet
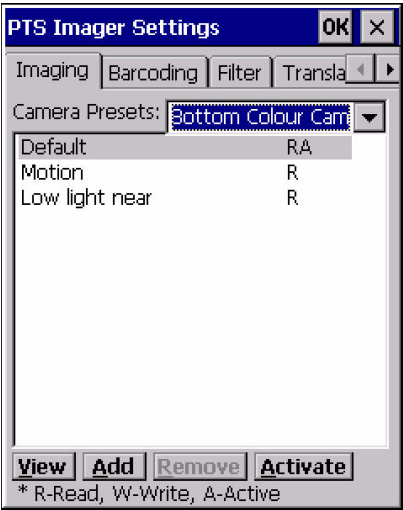
E.3.1   Configuring the Image Capture Presets

To configure the image capture presets, open the dialog box as follows:

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

• Tap on the **Teklogix Imagers** icon, and if it's not already selected, tap on the **Imaging** tab.

The following screen is displayed:

This window lists all the presets, both predefined and custom. Presets are identified as follows:

- Predefined presets are marked as 'R' *read-only*.
- Custom presets are marked as 'RW' *read and write*.
- One preset – either predefined or custom – is marked as 'A' *active*.

E.3.2 Selecting a Camera

If your Ikôn has more than one built-in camera, one camera must be selected for configuration. To select a camera:

- Tap on the **Camera Presets** drop-down menu to view the camera options.
- Choose a **camera** – specifically, *Front Imager* which is located at the top of the unit.

E.3.3 Setting the Active Preset

An active preset has an *A* to the right. To set an active preset:
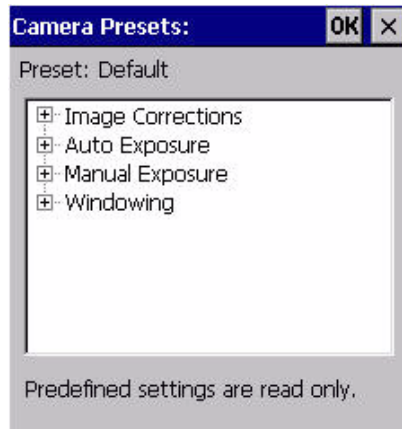
- Highlight the preset, and tap on the **Activate** button.

E.3.4 Viewing a Preset

To view the parameter settings in a preset:

- Highlight a preset, and tap on the **View** button.

The associated preset window is displayed.
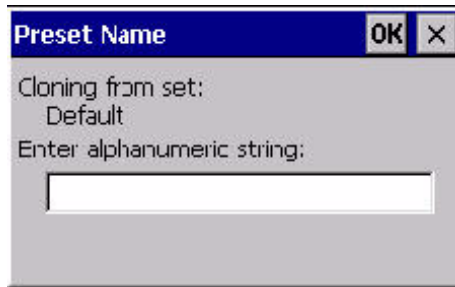
- Tap on the + sign to expand the lists so that you can view the parameter settings.

E.3.5   Creating a Custom Preset

A new custom preset is created by modifying a preset—either a predefined preset or an existing custom preset. To create a custom preset:

•   Highlight a preset, and tap on the **Add** button.

A screen like the sample below is displayed.

•   Type the **name** of the new preset in the dialog box.

•   Tap on **OK** to save your changes.

The preset list is displayed; the new custom preset appears at the end of the list. It is marked as read and write.

E.3.6   Modifying a Custom Preset

The parameter values in a custom preset can be modified. It is recommended that very few changes be made to a custom preset. To ensure that it will work reliably, it should be as close as possible to the original predefined preset. To change a parameter value:

• Highlight the custom preset, and tap on the **Edit** button.

• Tap on the + symbols to expand the lists so that you can view the parameter settings.
• Scroll through the parameter list until you reach the parameter that you want to change.
• For a parameter that can take a *range* of values:
  - Highlight the parameter, and then press the [SPACE] key or double-click on the parameter.
  - An associated dialog box containing the valid range of values for the parameter and the current setting like the sample screen following is displayed.

  - Type a value in the field provided.
• For a parameter that toggles between two values such as *on* or *off* and *enabled* or *disabled*:
  - Highlight the parameter and then press the [SPACE] key, or double-click on the parameter. Either method toggles between the two available values.
• When you've completed your edits, tap on **OK**.

The parameter list is displayed; the new value for the changed parameter is shown.

- Tap on **OK** to exit to the preset list and save the changes.

E.3.7   Removing a Custom Preset

- Highlight the custom preset you want to delete, and tap on the **Remove** button.

A window is displayed warning you that you are about to remove a preset.

- Tap on **Yes** to remove the preset or **No** to cancel the operation.

E.4   Configuring the Bar Code Decoding Camera Presets

To configure the bar code decoding camera presets:

- Tap on **Start>Settings>Control Panel>Teklogix Imagers**.
- Tap on the **Barcoding** tab.
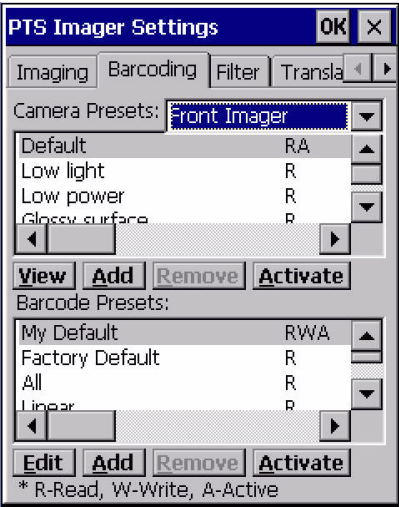
This window lists all the presets, both predefined and the custom. Presets are identified as follows:

- Predefined presets are marked as read-only. For a description, review "Predefined Presets" on page E-4.
- Custom presets are marked as read and write.
- One preset – either predefined or custom – is marked as active.

Note: The top portion of the window displays the bar code decoding camera presets.

The top port of the window displays the bar code decoding camera presets.

E.4.1   Selecting a Camera

If your Ikôn has more than one built-in camera, one camera must be selected for configuration. To select a camera:

• Tap on the **Camera Presets** drop-down menu to view the camera options.

• Choose a **camera** – specifically, *Front Imager* which is located at the top of the unit.

E.4.2   Setting the Active Preset

An active preset has an *A* to the right; in Figure E.1 on page E-14, the active preset is *Default*. To set an active preset:
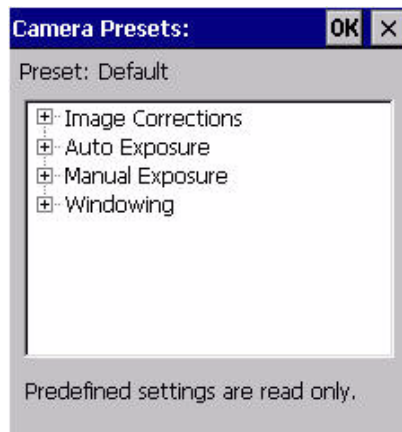
• Highlight the preset, and tap on the **Activate** button.

E.4.3   Viewing a Preset

To view the parameter settings in a preset:

• Highlight a preset, and tap on the **View** button.

The associated preset window is displayed.

Camera Presets:	OK	×

Preset: Default

⊞ Image Corrections
⊞ Auto Exposure
⊞ Manual Exposure
⊞ Windowing

Predefined settings are read only.
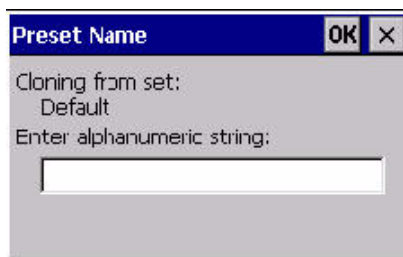
• Tap on the + sign to expand one of the lists so that you can view the parameter settings.

E.4.4   Creating a Custom Preset

A new custom preset is created by modifying a preset – either a predefined preset or an existing custom preset. To create a custom preset:

- Highlight a preset, and tap on the **Add** button.

A screen like the sample following is displayed.

- Type the **name** of the new preset in the dialog box.
- Tap on **OK** to save your changes.

The preset list is displayed; the new custom preset appears at the end of the list. It is marked as read and write.

E.4.5   Modifying a Custom Preset

The parameter values in a custom preset can be modified. It is recommended that very few changes be made to a custom preset. To ensure that it will work reliably, it should be as close as possible to the original predefined preset. To change a parameter value:

- Highlight the custom preset, and tap on the Edit button.

- Tap on the + symbols to expand the lists and view the parameter settings.
- Scroll through the parameter list until you reach the parameter that you want to change.
- For a parameter that can take a *range* of values:
  - Highlight the parameter, and then press the [SPACE] key or double-click the parameter.
  - An associated dialog box containing the valid range of values for the parameter and the current setting like the sample screen following is displayed.

  - Type a value in the field provided.
- For a parameter that toggles between two values such as *on* or *off* and *enabled* or *disabled*:
  - Highlight the parameter and then press the [SPACE] key, or double-click on the parameter. Either method toggles between the two available values.
- When you've completed your edits, tap on **OK**.

The parameter list is displayed; the new value for the changed parameter is shown.

     •   Tap on **OK** to exit to the preset list and save the changes.

E.4.6   Removing a Custom Preset

     •   Highlight the custom preset you want to delete, and tap on the **Remove** button.

A window is displayed warning you that you are about to remove a preset.

     •   Tap on **Yes** to remove the preset or **No** to cancel the operation.

E.4.7   Configuring the Bar Code Decoding Symbologies

To configure the bar code decoding camera presets:

     •   Tap on **Start>Settings>Control Panel>Teklogix Imagers**.

     •   Tap on the **Barcoding** tab.

Figure E.1 Viewing Bar Code Decoding Symbologies
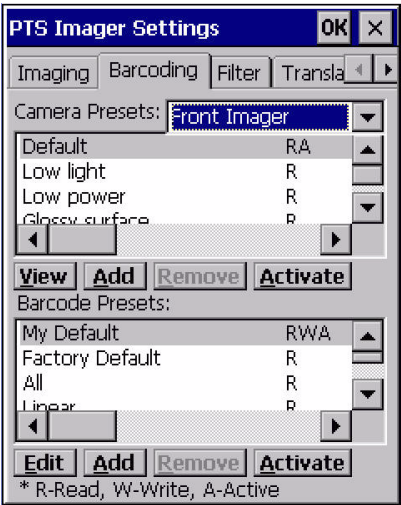
E.4.8   Setting the Active Preset

An active preset has an *A* to the right; in Figure E.1 on page E-14, the active preset is *Default*. To set an active preset:

• Highlight the preset, and tap on the **Activate** button.

E.4.9   Viewing a Preset

To view the parameter settings in a preset:

• Highlight a preset, and tap on the **View** button.

The associated preset window is displayed.
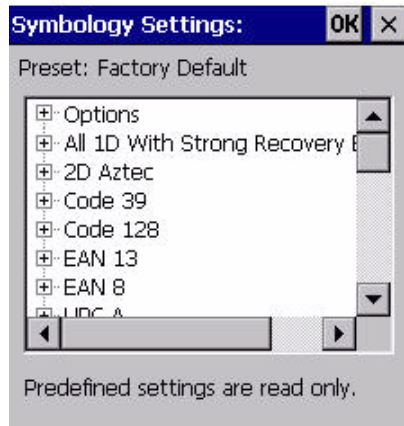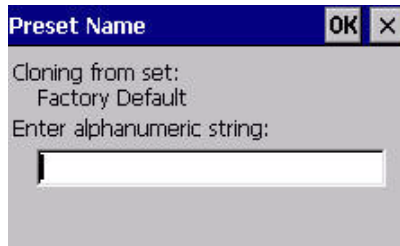
• Tap on the + sign to expand one of the lists so that you can view the parameter settings.

E.4.10   Creating a Custom Preset

A new custom preset is created by modifying a preset – either a predefined preset or an existing custom preset. To create a custom preset:

• Highlight a preset, and tap on the **Add** button.

A screen like the sample following is displayed.

Preset Name   OK ✕

Cloning from set:
　Factory Default
Enter alphanumeric string:
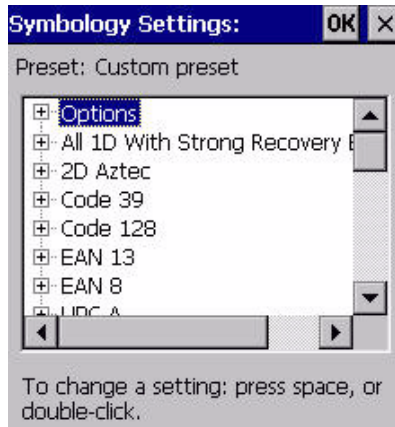
- Type the **name** of the new preset in the dialog box.
- Tap on **OK** to save your changes.

The preset list is displayed; the new custom preset appears at the end of the list. It is marked as read and write.

E.4.11   Modifying a Custom Preset

The parameter values in a custom preset can be modified. It is recommended that very few changes be made to a custom preset. To ensure that it will work reliably, it should be as close as possible to the original predefined preset. To change a parameter value:

- Highlight the custom preset, and tap on the **Edit** button.

Symbology Settings: OK ✕

Preset: Custom preset

⊞ Options
⊞ All 1D With Strong Recovery E
⊞ 2D Aztec
⊞ Code 39
⊞ Code 128
⊞ EAN 13
⊞ EAN 8
⊞ UPC A

To change a setting: press space, or double-click.

- Tap on the + symbols to expand the lists and view the parameter settings.
- Scroll through the parameter list until you reach the parameter that you want to change.
- For a parameter that can take a *range* of values:

- Highlight the parameter, and then press the [SPACE] key or double-click the parameter.
- An associated dialog box containing the valid range of values for the parameter and the current setting like the sample screen following is displayed.

| msec | OK | ✕ |

Enter value from 0 to 157:

40   msec

- Type a value in the field provided.
- For a parameter that toggles between two values such as *on* or *off* and *enabled* or *disabled*:
  - Highlight the parameter and then press the [SPACE] key, or double-click on the parameter. Either method toggles between the two available values.
- When you've completed your edits, tap on **OK**.

The parameter list is displayed; the new value for the changed parameter is shown.

- Tap on **OK** to exit to the preset list and save the changes.

E.4.12 Removing a Custom Preset

- Highlight the custom preset you want to delete, and tap on the **Remove** button.

A window is displayed warning you that you are about to remove a preset.

- Tap on **Yes** to remove the preset or **No** to cancel the operation.

E.4.13 Configuring Symbologies in the Teklogix Imagers Applet

All changes made in the *Symbologies Presets* in the *Imagers Applet* are also made in the *Scanners Applet*. The Scanner Applet will reflect the settings of whichever Symbologies Preset is made active in the Imager Applet.

Configuring Symbologies in the Teklogix Scanners Applet

When a symbology is enabled or configured using the Teklogix Scanners applet, the changes are also made in the **My Default** preset. **My Default** automatically becomes the active bar code symbology preset.

None of the other bar code decoding predefined presets is changed.

Configuring Symbologies in the My Default Preset

When My Default Is the Active Preset

In this case, the changes to the symbology configuration are also made in the Teklogix Scanners applet.
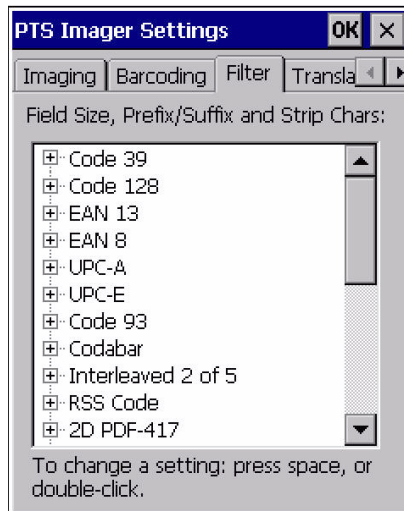
When My Default Is Not the Active Preset

In this case, the changes to the symbology configuration are not made in the Teklogix Scanners applet.

E.5 Filter Tab – Manipulating Bar Code Data

To configure rules for manipulating bar code data:

- Tap on **Start>Settings>Control Panel**.
- Tap on the **Teklogix Imagers** icon, and then tap on the **Filter** tab.
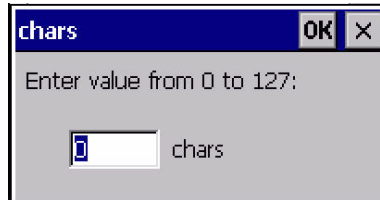
E.5.1 Modifying a Bar Code Setting

The rules for manipulating data from selected bar code symbologies can be modified. To change the settings for a symbology:

- Tap on the + symbols to expand the lists and view the parameter settings.
- Scroll through the parameter list until you reach the parameter that you want to change.
- For a parameter that can take a *range* of values:

- Highlight the parameter, and then press the [SPACE] key or double-click the parameter.
- An associated dialog box containing the valid range of values for the parameter and the current setting like the sample screen following is displayed.

- Type a value in the field provided.
- For a parameter that takes a single character:
    - Highlight the parameter and then press the [SPACE] key, or double-click on the parameter. The following screen is displayed:
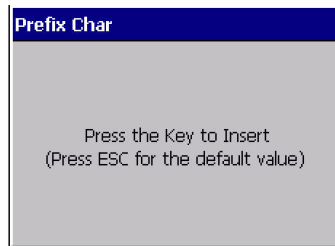
- When you've completed your edits, tap on **OK**.

E.6   Translation Tab – Configuring Rules
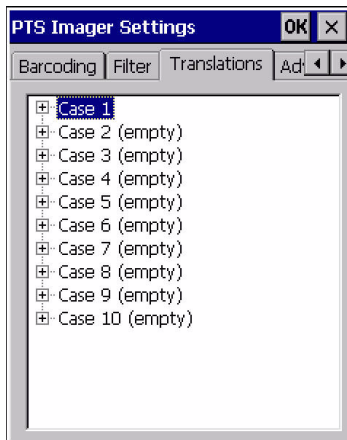
Translation rules enable the automatic processing of bar code data. Up to 10 cases can be defined, each consisting of up to 10 sequential rules.

Note: Changes made to the translations configuration using the Teklogix Scanner Control Panel program are synchronized with changes made here. Changes made in either place affect both translation tables.

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

• Tap on the **Teklogix Imagers** icon, and then tap on the **Translations** tab.

For instructions on adding, editing, and removing translation rules, refer to "Translations" on page 135.

E.7   Advanced Tab

E.7.1   File Locations for Captured Images

To configure the location for saved images, open the dialog box as follows:

• Tap on **Start>Settings>Control Panel**.
• Tap on the **Teklogix Imagers** icon, and then tap on the **Advanced** tab.
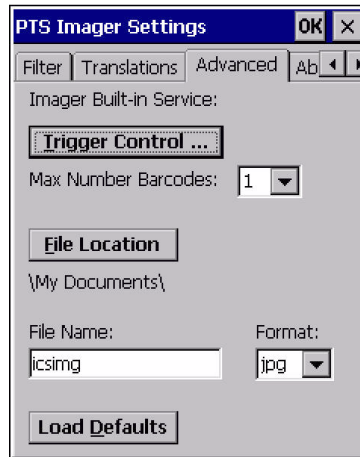
To define the location where imager files will be stored:

• Tap on the **File Location** button.
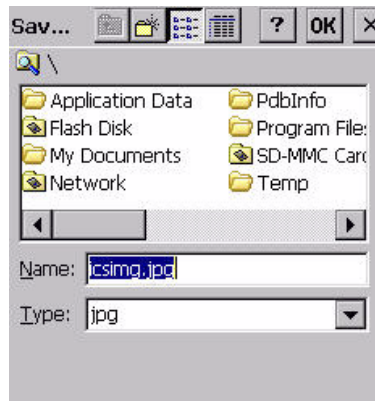
• Select the folder name and file **Type**. Then enter the file **Name**.
• When you have completed all the changes, tap on the **OK** button.
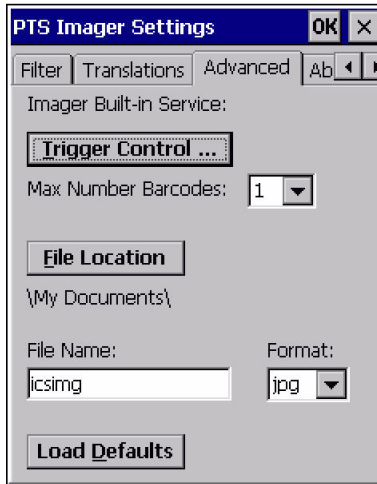
E.7.2 Configuring Triggers

Viewing the Trigger Configuration

The trigger on Ikôn is configured using the *Manage Triggers* applet. The *Teklogix Imagers* applet provides a shortcut to the *Manage Triggers* applet.

• In the *Advanced* tab, tap on the **Trigger Control** button.

- To view all the triggers and the hardware devices that are configured to use them, tap in the checkbox next to **Show all modules**.

Adding, Editing and Removing Triggers

For instruction about adding, editing and removing triggers, refer to "Manage Triggers" on page 97.

E.8   Teklogix Scanners Applet

The bar code symbologies that are to be read by the imager can be enabled using the *Teklogix Scanners* applet. Tapping on **Start>Settings>Control Panel** followed by the **Teklogix Scanners** icon displays this applet. For a list of bar code symbologies, see Appendix C: "Bar Code Settings".

⚠️ *Warning: Changes made to the symbology configuration using the Teklogix Scanner applet are synchronized only with the My Defaults bar code symbology preset. For details, refer to "Configuring Symbologies in the Teklogix Imagers Applet" on page E-17.*

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