

NEO Hand-Held Computer (Model No. PX750)

May 16, 2010

Part No. 8100157.B



ISO 9001 Certified
Quality Management System



This user manual supports Model Numbers:

- PX750BT
- PX750BT8
- FCC ID: GM3PX750BT and GM3PX750BT8

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INTRODUCTION

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1.1 About This Manual

This manual describes how to configure, operate and maintain NEO, a light-weight, versatile hand-held computer.

Chapter 1: Introduction

provides a basic overview of NEO.

Chapter 2: Basic Checkout

describes the steps required to get NEO ready for operation, including setting up the 802.11b/g radio.

Chapter 3: Getting To Know NEO

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

Chapter 4: Working With Windows CE 5.0

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

Chapter 5: Configuration

describes the Windows CE 5.0 Control Panel and how to use it to configure NEO.

Chapter 6: Peripheral Devices & Accessories

describes the peripherals and accessories available for NEO.

Chapter 7: Specifications

lists hand-held, radio, scanner and battery specifications.

Appendix A: Pinouts

describes NEO pinouts.

Appendix B: Wireless Zero Config

outlines the steps used to configure your radio using *Windows Zero Config*.

Appendix C: Bar Code Settings

describes symbologies available with the *Teklogix Scanners* applet.

Appendix D: Teklogix Imagers Applet

explains how to use the *Teklogix Imagers* applet.

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 NEO Hand-Held Computer Features



Important: For all safety, regulatory and warranty information, refer to the “NEO Hand-Held Computer Regulatory & Warranty Guide”, PN 8000175.

NEO is a compact, ruggedized hand-held computer running the Microsoft Windows CE 5.0 operating system. It is intended for use in commercial and light industrial applications. NEO can be ordered with or without a radio. Without a Wi-Fi radio, it operates as a batch or *unconnected* computer. With a Wi-Fi radio installed, NEO operates as a *connected* computer, delivering real time wireless data transactions. A number of 1D bar code input methodologies are supported by the scanner and imager available with this hand-held computer. Optimization for specific operational environments is supported with a wide range of peripheral options and carrying accessories.

The unique tilted screen design on this hand-held computer makes the display content readily visible. This means that the operator can scan a bar code and view the results on the display in one movement – no need to manually tilt the unit to view the results after each scan. In addition, the tilted screen in conjunction with the protective rib at the base of the keyboard allows the unit to be placed facedown safely with no danger of an accidental key press.



Note: For complete NEO hand-held computer specifications, refer to “Specifications” on page 167.

Figure 1.1 NEO Hand-Held Computer - Numeric & Alpha-Numeric



Model Variants

Connected NEO Standard Features:

- 2.7 inch Colour Touchscreen
- Windows® CE 5.0 Professional
- microSD slot
- 3300 mAh Battery
- Discrete VoIP (Push-To-Talk)
- WiFi and *Bluetooth* Radios

Additional Connected Options:

- 1D Imager
- 1D Laser Scanner
- 2D Imager
- Keyboard Variants: 48-Key Alpha-Numeric or 26-Key Numeric

Batch NEO Standard Features:

- 2.7 inch Colour Touchscreen
- Windows® CE 5.0 Core
- microSD Slot
- 3300 mAh Battery

Additional Batch Options:

- *Bluetooth* Radio
- *Bluetooth* Radio and 1D Imager
- *Bluetooth* Radio and 1D Laser Scanner
- *Bluetooth* Radio and 2D Imager
- Keyboard Variants: 48-Key Alpha-Numeric or 26-Key Numeric

Platform

- **Processor:** PXA270 Processor @ 624 or 312 MHz
- **Memory:**
 - On-board RAM: 128 MB
 - On-board ROM: 128 MB Flash

Operating System

- Microsoft® Windows® CE 5.0 Core
- Microsoft® Windows® CE 5.0 Professional

Programming Environment

- HTML, XML
- Mobile Devices SDK
 - HTML, XML
 - CE.NET SDK:
 - Java™

- Visual Studio® 2008
- Standard protocol APIs – Windows® sockets (WinCE)

Wireless Communications

- On-board IEEE 802.11b/g (CCX Certified)
- On-board *Bluetooth* radio (10 metre range)

Application Software

- Internet Explorer® 6 for CE
- Wordpad
- ActiveSync
- Open TekTerm
- ANSI
- TESS terminal emulations
- IBM 3270, IBM 5250, HP 2392
- MCC
- Naurtech
- Stay-Linked
- PTX Connect
- MCL

Bar Code Applications

- 1D Standard Laser Scanner Option – SE955
- 1D Standard Imager Option – EV15
- 2D Imager Option – HHP 5000

Internal Expansion Slots

- One microSD slot

Expansion Port

- Battery Output Power
- USB Signalling
- Scanner Trigger Input

Docking Port

- RS-232
- USB
- DC Input

Power Management

- 3.7 V @ 3300 mAh lithium-ion rechargeable battery
- 10 hour battery operation at 5 scans, transmit and receive per minute
- Built-in gas gauge and performance monitor
- System backup (up to 10 minutes) during battery swap
- 3 day real time clock backup
- Adjustable battery allocation between system backup and runtime

Accessories

- Desktop charger
- Quad charger
- Pistol grip
- Holster
- Hand Strap
- Shoulder Strap
- Additional miscellaneous adaptors and cables (a complete list of accessories is available at www.pSIONteklogix.com)

BASIC CHECKOUT

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2.1 Preparing NEO for Operation

2.1.1 The Battery

NEO is powered with a 3300 mAh lithium-ion battery, Model No. WA3006.



Warning: *Before charging the battery, it is critical that you review the safety guidelines in the ‘NEO Hand-Held Computer (Model No. PX750) Regulatory & Warranty Guide’, PN 8000175.*

2.1.1.1 Charging the Main Battery

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 docking stations along with a NEO internal charger. When using the internal charger, a suitable power source is required. All docking stations are described in Chapter 6: “Peripheral Devices & Accessories” beginning on page 155.



Note: *In order to maintain the NEO real time clock for three days, a battery must be charged for at least two hours while installed in the hand-held; however, if you are charging a **spare** battery (not installed in the hand-held), the real time clock three day backup cannot be maintained until a charged battery is installed in the hand-held computer for at least two hours.*

2.1.2 Backup Battery Power

A super capacitor provides a minimum of 10 minutes of *suspend mode* backup power to NEO to protect data while you swap in a new battery; all unnecessary draws on power such as the display and CPU are shut down to preserve power.



Important: *When you initially power up the hand-held, leave the battery in the unit for a minimum of 2 minutes to allow the super capacitor to reach full capacity.*

2.2 Switching NEO On and Off

2.2.1 Installing the Battery and Switching the Unit On

- Push the release latch at the base of the battery cover to unlatch it. Remove the battery cover.
- Insert a *charged* battery into the unit, making certain that the connectors on the battery are aligned with those in the NEO’s battery compartment.

- Replace the battery cover, and snap it into place.



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

To switch NEO on:

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

The desktop screen is displayed.



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

2.2.2 Switching the Unit Off (Suspend)

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

2.3 Calibrating the Touchscreen



Note: Keep in mind that the touchscreen function can be turned off (see “Touch” on page 97).

The touchscreen is factory-calibrated and ready-to-go; however, over time the touchscreen operating parameters may change, and may need to be recalibrated for correct operation. Refer to “Calibrating the Touchscreen” on page 36 for details.

2.4 Wireless Networking

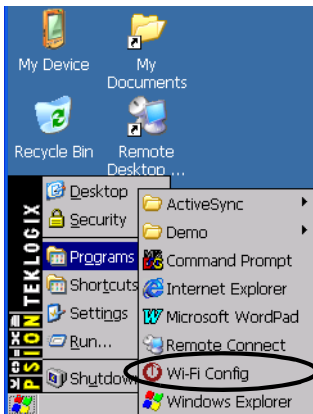
NEO contains an integrated 802.11b/g radio module. The *Wi-Fi Config* application is used to configure NEO for one or more wireless network profiles. A network profile contains settings for SSID (Service Set Identifier) and security options.



Note: In most situations, the configuration of your 802.11 radio will require parameter setting and access keys from a network administrator.

To launch the *Wi-Fi Config* application:

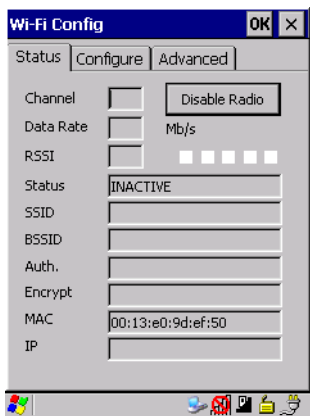
- Tap on **Start>Programs>Wi-Fi Config**.



The *Wi-Fi Config* screen is displayed.

2.4.1 Status Tab

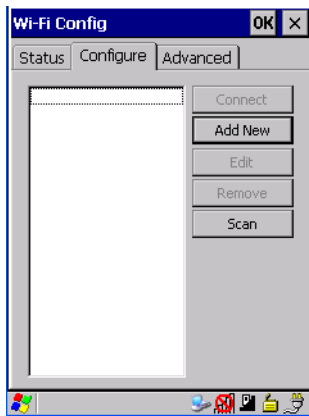
The *Status* tab displays information about the wireless network to which NEO is configured to connect. When there are no network profiles configured, this tab is not populated.



Disable/Enable Radio: This button toggles between *Disable Radio* and *Enable Radio* depending on whether the radio is turned off or on.

2.4.2 Wi-Fi Config Tab

- To configure the radio for a wireless network, tap on the **Configure** tab.



Connect: Used to connect to an already existing wireless network configuration.

Add New: Used to create a new wireless network configuration.

Edit: Used to change values in an already existing wireless network configuration.

Remove: Used to delete a wireless network configuration.

Scan: Used to detect and list available wireless networks. You can highlight a network in the list, and tap on *Add New* to activate the network.

There are two methods available when configuring a radio network – you can either scan for an existing network or manually create a network. If you tap on the **Scan** button, a list of networks detected by the radio is displayed. Highlighting one of the listed networks and tapping on the *Add New* button creates a new profile that is completed based on the security capabilities detected by the radio. You may need to add additional information, depending on your network requirements.

If you tap on the **Add New** button rather than the *Scan* button, you can create a network manually.



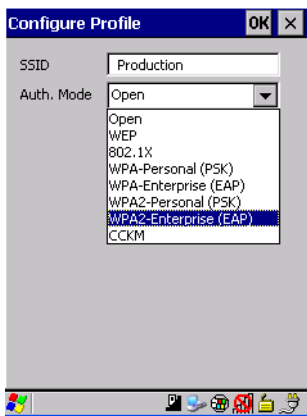
Important: *The steps below describe how to manually create a network. Keep in mind that this is intended only as an example and may vary from your own network requirements. If, for example, you are using a different type of security for your network, the fields you complete may not match those described here.*

- Enter the **SSID** (Service Set Identifier) for your network.



2.4.2.1 Authentication Modes

NEO supports four classes of authentication – *Open*, *WEP*, *WPA PSK* and *802.1x with EAP*. Tapping on the *Auth. Mode* menu displays your authentication options.



*Note: Each Auth. Mode has a unique **Configure Profile** screen attached to it with fields appropriate to the authorization mode you've chosen.*

Open Authentication

Open authentication does not provide security. When this option is chosen, NEO will connect to wireless networks which do not use authentication or encryption.

WEP (Wired Equivalent Privacy)

WEP provides static security to prevent others from accidentally accessing your network. If you choose this option, you can specify the type of WEP authentication – *Open* or *Shared*, the WEP security key length – *64 bit* or *128 bit* and the key type – *ASCII* or *Hex*. WEP Key fields are also provided where you can specify a 5 or 13 ASCII character sequence or an equivalent 10 or 26 Hexadecimal digit sequence that matches the active WEP key on the access point.

WPA & WPA2 Personal PSK (Pre-Shared Key)

When PSK is selected, either *WPA Personal PSK* or *WPA2 Personal PSK* – a shared key must be configured on both the access point and the hand-held computer. One of the following can be chosen from the *Encryption* dropdown menu: *TKIP*, *AES* or *TKIP+AES*.

802.1X, WPA & WPA2 Enterprise and CCKM

These authentication modes use *802.1X* and with *EAP* authentication. When *802.1X* is selected, NEO uses *WEP* encryption with automatic (as opposed to static) keying. For the others, the user may choose *TKIP*, *AES* or *TKIP+AES* encryption.

2.4.2.2 EAP

This menu allows you to choose the *EAP* (Extensible Authentication Protocol) type used for 802.1x authentication to an access point.



The following EAP types are supported by *Wi-Fi Config*:

- **TLS:** Provides strong security via the use of client certificates for user authentication.

- **PEAPv0-MSCHAPv2:** Provides secure user authentication by using a TLS tunnel to encrypt EAP traffic. *MSCHAPv2* is used as the inner authentication method. This is appropriate for use against Windows Active Directory and domains.
- **PEAP-GTC:** PEAP authentication using GTC as the inner method which utilizes one time passwords (OTPs) for authentication against OTP data bases 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 off-line dictionary attacks.
- **FAST-MSCHAPv2:** Is a successor to LEAP and does not require strong passwords to protect against off-line dictionary attacks. Like LEAP, EAP-FAST does not require the use of server or client certificates and supports Windows Active Directory and domains.

Server Certificate Verification

When the *Verify Server Certificate* box is checked, NEO will verify the certificate provided by the authentication server during the authentication process. This requires that an appropriate certificate be manually installed on NEO for the verification.

2.4.2.3 Encryption

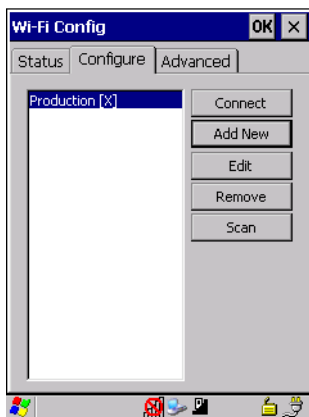
The *Encryption* menu allows you to choose the type of encryption that will be used to protect transmitted data. Choose an *Encryption* method valid for your network from the drop-down menu. Only the *Encryption* options that are compatible with the type of *Auth. Mode* you've chosen will be listed. In fact, in some cases, this menu will not be available at all.



- Complete the fields in the **Configure Profile** screen. If you're uncertain about some of the options, your system administrator will be able to provide the correct information for your wireless network.
- Once you've completed the necessary fields, tap on **OK**.

2.4.2.4 Connecting the Wireless Network

Your configured network is listed in the *Configure* tab. An *[X]* next to a network indicates that this is the network to which NEO will connect.



- Tap on the **Connect** button to activate your network.

The *Status* tab is displayed. The *Status* field displays *ASSOCIATING* while the 802.11b/g radio attempts to connect to the network. Once the association is complete, the *Status* tab is populated with the appropriate information about your network.



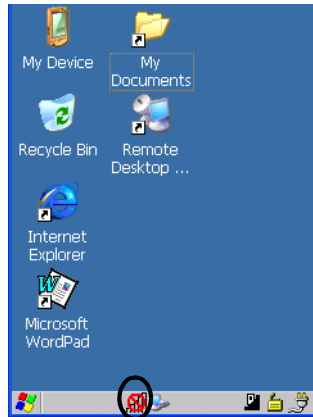
2.4.3 Configuring TCP/IP

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

2.4.3.1 IP Address

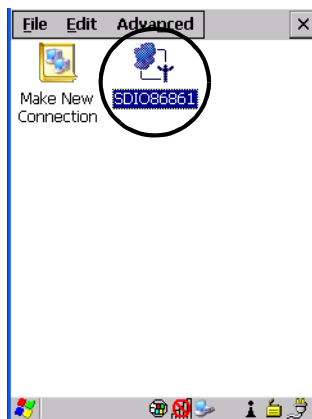
To assign an *IP address* for NEO:

- Tap on the **radio icon** in the taskbar,



or

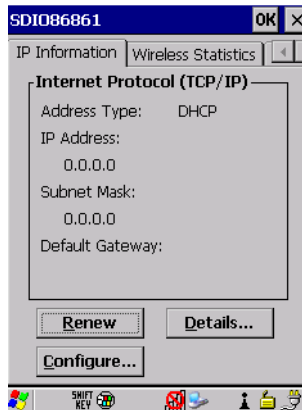
Tap on **Start>Settings>Network and Dial-up Connections**. Tap on the **radio icon** for which you want to assign an IP address – in the sample screen below, the icon is labelled *SDIO86861*.



The *Wireless Statistics* screen is displayed.

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

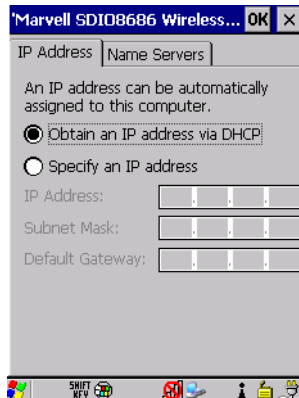
Figure 2.1 SDIO86861 IP Information Tab



Note: When DHCP is enabled, tapping the 'Renew' button forces NEO to renew or find a new IP address. This is useful if, for example, you are out of communication range for a longer period of time and your hand-held is dropped from the network.

To define a static IP address:

- Tap on the **Configure** button.



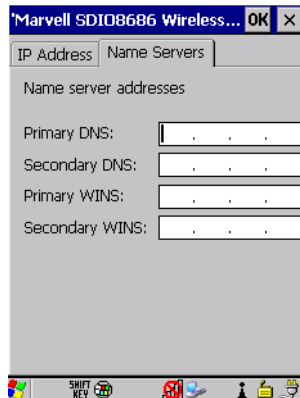
- Tap the stylus on the *radio* button next to **Specify an IP address** to select it.
- Type an **IP**, **Subnet Mask** and **Default Gateway** address in the appropriate fields. Press **[ENTER]** to save your information.

2.4.3.2 Name Server



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

- In the *SDIO86861 IP Information* tab (see *Figure 2.1* on page 20), tap on the **Configure** button.
- Tap on the **Name Servers** tab.

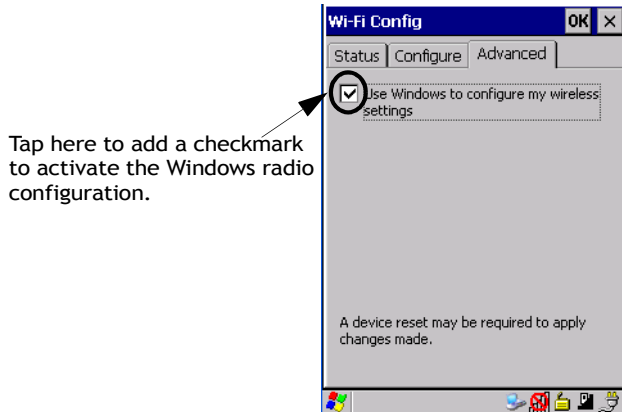


The DNS and WINS fields in the *Name Servers* tab allow you to specify additional WINS and DNS resolvers. The format for these fields is ###.###.###.###.

2.4.4 Advanced Tab

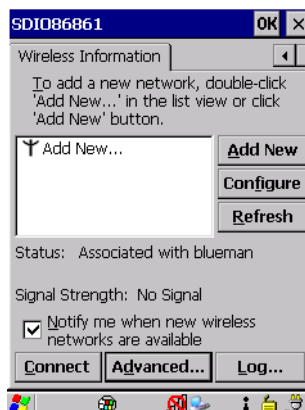
If you prefer to use *Wireless Zero Config*, the Windows native supplicant, to configure the radio:

- Tap on the **Advanced** tab, and tap on the checkbox to the left of **Use Windows to configure my wireless settings** to add a check mark and activate this option.



- You'll need to reset NEO. Choose **Start>Shutdown>Warm Reset**.
- A dialog box is displayed letting you know that you will lose all unsaved data. Tap on **OK**.

Once the reset is complete, the *Wireless Zero Config* screen is displayed on NEO. Refer to Appendix B: “Wireless Zero Config” for details.



2.5 Checking the Scanner

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

Performance is improved if you disable all unneeded bar codes in the *Bar Codes* screen. Review “Teklogix Scanner Settings” on page 135 or details about bar codes.

2.6 Data Transfer Between the PC and the Hand-Held

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

If the Microsoft Vista or Windows 7 operating system is installed in your PC, ActiveSync is not required to transfer data between NEO and your PC.

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

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

2.6.1 Using Microsoft ActiveSync®

If you are using *Windows XP* or earlier, your data transfers require Active Sync. 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.msp>

2.6.2 Using Windows Mobile Device Center

If you are running *Windows Vista* or *Windows 7*, your data transfers do not require Active-Sync. Instead, you will need to download *Windows Mobile Device Center*. Refer to the instructions at the following website

<http://www.microsoft.com/windowsmobile/en-us/downloads/microsoft/device-center-download.mspix>

To transfer data between your PC and your hand-held:

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

2.7 Resetting NEO

2.7.1 Performing A Warm Reset

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

To execute a warm reset:

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



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

2.7.2 Performing A Cold Reset



*Note: Cold reset is only listed in the Shutdown menu if the security level of the hand-held is set to **Supervisor** or **Teklogix**.*

A *cold* reset clears the object store memory and restarts the operating system. Registry settings are maintained, but any data and applications that are *not* stored in the Flash file system – called *Flash Disk* on NEO – or on a microSD card are lost. This should be used as a last resort if NEO cannot be reset using any other method.

To execute a cold reset and launch the Windows CE 5.0 operating system (bypassing the boot menu):

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

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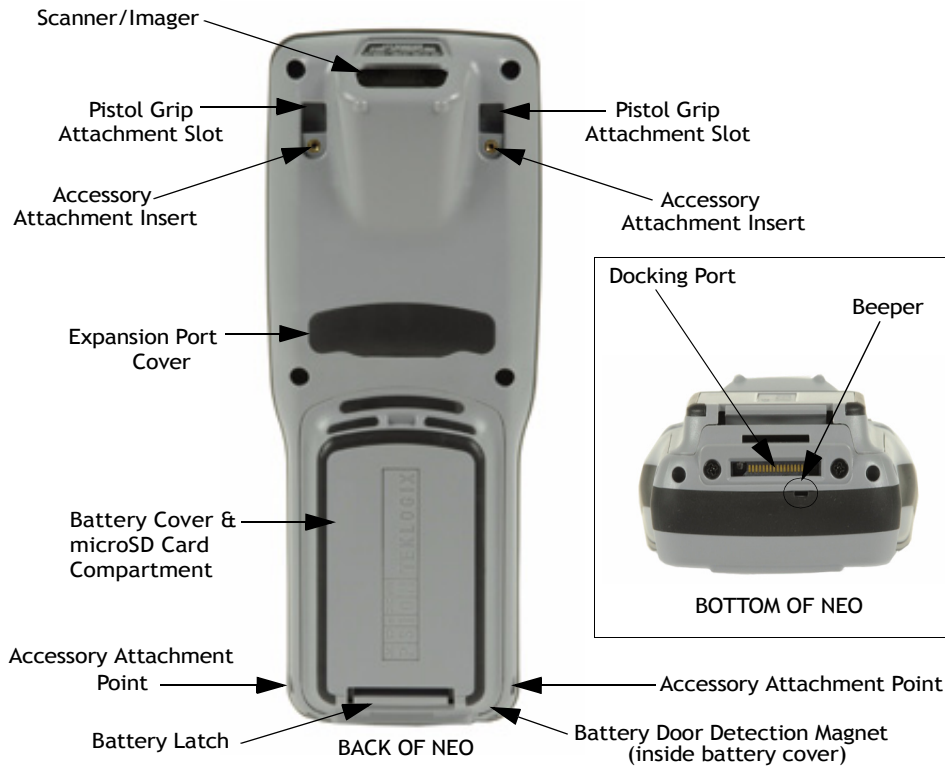
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3.1 Features of NEO

Figure 3.1 Front View



Figure 3.2 Back View



3.2 The Battery

The hand-held operates with a lithium-ion battery, Model No. WA3006. Preparing the unit for operation requires that a battery pack be charged and installed in NEO.

3.2.1 Battery Safety



Important: Before attempting to install, use or charge the battery pack, it is critical that you review and follow the important safety guidelines in NEO Hand-Held Computer Regulatory & Warranty Guide, PN 8000175.

3.2.2 Removing the Battery Pack



Important: *To protect against data loss, NEO is equipped with a sensor; this sensor detects when the battery door is opened and automatically places the hand-held computer into suspend mode so that you can safely remove the battery.*

For details about unlatching the battery cover, review “Installing the Battery and Switching the Unit On” on page 11.

3.2.2.1 Battery Swap Time

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

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

Refer to “Suspend Threshold” on page 94 for details about reserving battery power for data backup purposes.

3.2.3 Charging the Battery

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

3.2.3.1 Charging Options



Important: *FOR DETAILED INFORMATION about charging options, refer to Chapter 6: “Peripheral Devices & Accessories”.*

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

- AC Wall Adaptor (Model No. PX3012) – operates as an AC power source and when used in conjunction with PX3001 or PX3054, also charges the battery installed in the unit.

- Cigarette Lighter Adaptor (Model No. PX3056) when used with a USB/DC Power Adaptor (Model No. PX3054).
- Desktop Docking Station (Model # PX3001) – operates as both a charger and a docking station. Operating as a charger, both the battery installed in the hand-held and a spare battery can be charged simultaneously.
- Desktop Docking Station with Integrated V.92 Analog Modem (Model No. PX3008) – integrates docking and analog modem functionality. Operating as a charger, both the battery installed in the hand-held and a spare battery can be charged simultaneously. Operating as a modem, this dock provides USB connectivity and data connections over a PSTN line.
- Quad Docking Station – (Model # PX3004) can charge the battery of up to four NEOs inserted in the docking station.

The charge time required to make NEO ready for use varies depending on the type of docking station used. A hand-held inserted in a docking station requires 3 hours to charge the battery to 75% capacity. NEO is equipped with an intelligent charging system that protects the battery from over-charging by terminating the charge process when the battery is at maximum capacity.



Note: The specified battery charge times are based on the hand-held in suspend mode. Additional peripherals and other power consumption features will alter the specified charge time.



Note: Refer to “Monitoring the Battery and Maximizing Run Time” on page 41 for additional information about the battery.



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

3.3 Switching the Hand-Held On and Off

- To switch the unit on, press and hold down the [ENTER] key for at least one second.
- When the LED flashes green, release the [ENTER] key.

The startup screen is displayed.



Note: If NEO is in suspend state, pressing [ENTER] ‘wakes’ the unit from this state. The screen in which you were working before the computer entered suspend state is displayed.

Switching Off NEO (Suspend)



Important: *Keep in mind that turning off NEO does not 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 the unit off, press [FN/BLUE] [ENTER].

3.4 The Keyboard

Two keyboard options are available:

- 48-key alpha-numeric keyboard
- 26-key numeric keyboard

These keyboard options are available for both variants of NEO – *connected* hand-helds equipped with 802.11b/g radios and *batch (unconnected)* hand-helds *not* equipped with 802.11b/g radios.

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

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

3.4.1 Modifier Keys

The [SHIFT], [CTRL], [ALT], [FN/BLUE] and [FN/ORANGE] keys are *modifier* keys. Pressing a modifier key changes the function of the next key pressed.

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

3.4.1.1 Activating Modifier Keys

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

Keep in mind, however, that the ‘One Shot’ function allows you to determine how many key presses will lock a modifier key ‘on’ – one press or two. Refer to “Keyboard One Shot Modes” on page 83 for details.

3.4.1.2 Locking Modifier Keys

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

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

3.4.2 The Keys

The [SHIFT] Key

The [SHIFT] key provides access to uppercase alpha characters, and on *numeric* hand-helds, it also provides access to the symbols displayed in *white* print on the keys.

To lock the keyboard into uppercase, *CAPS-lock*, press [FN/BLUE] followed by [SHIFT]. A *CAPS-lock* icon – a blue capital letter *A* within a white box – appears in the taskbar. To unlock or turn off CAPS-lock, press [FN/BLUE] [SHIFT] again. Refer to “Keyboard One Shot Modes” on page 83 if you need to adjust the behaviour of this key.

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 [←/DEL] Key

This key allows access to both the backspace and the delete function. The backspace function represented by an arrow [←] (sometimes referred to as destructive backspace) moves the cursor one character to the left, erasing the incorrectly entered key stroke.

The delete function ([FN/BLUE] [←/DEL]) erases the character at the cursor position.

The [CTRL] And [ALT] Key

The [CTRL] and [ALT] keys modify the function of the next key pressed and are application-dependent.

The [TAB] Key

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

The [ESC] Key

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



The Windows [START] Key

This key displays the *Start* menu.

The [SCAN] Key

All units are equipped with a yellow [SCAN] key. For units that *do not have* internal scanners, this key can be re-mapped to another function.



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

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

Press the [FN/BLUE] key followed by the [UP ARROW] and/or [DOWN ARROW] keys to adjust the volume.

Backlight Keys - [LEFT ARROW] and [RIGHT ARROW]

The backlight keys are located on the [LEFT ARROW] and [RIGHT ARROW] keys.

The [LEFT ARROW] key – the decrease backlight key – is labelled with a minus symbol . The [RIGHT ARROW] key – the increase backlight key – is labelled with a plus symbol .

Press the [FN/BLUE] key followed by the [LEFT ARROW] and [RIGHT ARROW] keys to adjust the backlight.

3.4.3 Function Keys and Macro Keys

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

3.4.3.1 Function Keys

The hand-held keyboard is equipped with a total of 10 function keys colour coded in *blue* print on the numeric keys; these keys are accessed by executing a key combination, [FN/BLUE] followed by the appropriate numeric key.



Note: The [TAB], [ALT], [CTRL] and [ESC] keys have [F1] through [F4] printed on them; these are only labels and are provided so that the operator can create direct-press function keys using the keyboard remapping feature. Refer to “Scancode Remapping” on page 84 for details about mapping keys.

For example, to access function key [F7]:

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

3.4.3.2 The Macro Keys

While macro keys are not physically stamped on the keyboard, up to 15 macro functions can be added using the *Scancode Remapping* function. Refer to “Scancode Remapping” on page 87 for details about mapping keys. Refer to “Keyboard Macro Keys” on page 84 for details about programming characters in a Macro key.

3.4.4 48-Key Alpha-Numeric Keyboard: Accessing Keys

The alpha and numeric keys on an alpha-numeric keyboard are directly accessible from the keyboard – no key combination is required.

3.4.5 26-Key Keyboard: Accessing Alpha Keys

On numeric 26-key keyboards, numeric keys are directly accessible, and all alpha characters are printed on the keys in orange characters. An indicator in the left corner of the taskbar displays the currently selected character. To access an alpha character, first press the [FN/ORANGE] key and then press the numeric key above which the alpha character you want to type is printed.

Choosing a Single Alpha Character

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



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

To choose the letter **a**:

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



Note: To choose the second, third or fourth alpha character assigned to a numeric key, you may want to lock the [FN/ORANGE] key 'on'. By default, the [FN/ORANGE] key is locked 'on' when pressed once. However, depending on how your unit is set up in the 'One Shots' tab, you may find that you need to press the [FN/ORANGE] key twice to lock it 'on'. Refer to "Keyboard One Shot Modes" on page 83 for details.

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

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

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

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



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

Creating Uppercase Letters

To display a capital letter:

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



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

Choosing Multiple Alpha Characters

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

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



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

3.4.6 The Keyboard Backlight

The intensity of the keyboard 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 keyboard backlight is tailored in the *Keyboard Properties* dialog box. Refer to “Keyboard Backlight” on page 82 for details about this option.



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

3.5 The Display

NEO hand-helds are equipped with display backlighting. The backlight switches on when a key is pressed or the screen is tapped.

3.5.1 Adjusting the Display Backlight

The *Display Properties* dialog box in the *Control Panel* allows you to determine the behaviour of the display backlight and its intensity. Refer to “Display Backlight” on page 78 for details about the *Display Properties* dialog box.

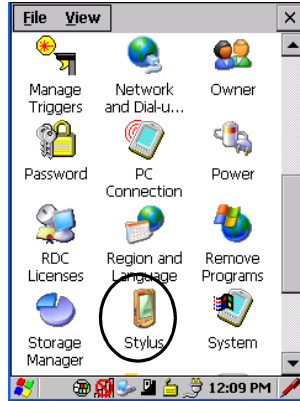
Note that you can also adjust the backlight directly from the keyboard by pressing the [FN/BLUE] key followed and the [LEFT ARROW] and [RIGHT ARROW] arrow keys to increase or decrease the backlight intensity.

3.5.2 Calibrating the Touchscreen

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

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

Figure 3.3 Stylus Icon



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

Figure 3.4 Calibration Screen



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

3.6 NEO Hand-Held Indicators

NEO uses an LED (Light Emitting Diode), onscreen messages and audio tones to indicate the various conditions of the hand-held, the batteries, the scans and so on.

3.6.1 LED Indicator

A tri-coloured LED – yellow, green or red – is located on the upper-left side of the unit, above the screen.

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

The scanner also overrides LED behaviour. The table below describes what the various LED colours indicator when a scan is activated – a scanner button is pressed or the scanner trigger is pulled.

Table 3.1 NEO Scanner LED Behaviour

LED Behaviour	Scan Status
Solid Red	Indicates the scanner is firing.
Blinking Red	Unsuccessful decode.
Solid Green	Successful decode.



Note: During the first two minutes of a battery charge, the LED remains solid yellow while the hand-held computer status is assessed.



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

Table 3.2 NEO Charge LED Behaviour

LED Behaviour	Charge Status
Solid Yellow	Battery charged to less than 75% capacity.
Flashing Green	Battery charged to between 75% and 95% of capacity.
Solid Green	Fully charged.
Flashing Yellow	Temperature outside charge range (0°C to 45°C).
Solid Red	Battery is not charging. Battery fault warning.

3.6.2 Audio Indicators

The audio receiver 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 NEO to respond under various conditions, refer to “Volume and Sound Properties” on page 91.

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

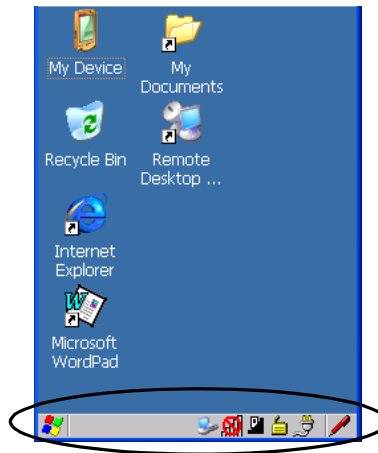
3.6.2.1 Adjusting the Receiver Volume

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

3.6.3 Onscreen Indicators

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

Figure 3.5 Taskbar



Note: This sample screen is present on units running 'Windows CE 5.0 Professional'; the desktop screen for a 'Batch' NEO running 'Windows CE 5.0 Core' differs slightly from the sample screen above; in the 'Core' version, the icons for Internet Explorer, Wordpad and Remote Desktop are not visible.

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



Windows® Start Button

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



Modifier Key Indicators

[SHIFT], [CTRL], [ALT], [FN/BUE] and [FN/ORANGE] are modifier keys that when pressed, are displayed in the taskbar to indicate that they are active. If a modifier key is locked ‘on’, it is displayed in **uppercase** characters. For example, if the [FN/BUE] 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 **low-ercase** 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 83 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 NEO will be powered down.

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



Full



75%



50%



25%



Empty



AC Connection



Battery Charge

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



802.11 Radio Signal Quality

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



Good
Reception



Weak
Reception



No Radio
Link



Docking Device

When a hand-held is inserted in a docking station, 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.

3.7 Monitoring the Battery and Maximizing Run Time



*Note: The battery status is displayed in the **Power** applet in the Control Panel. A 'very low power' warning message is displayed automatically if the battery capacity falls to 1%. You can also set the percentage at which a 'low power' message is displayed using the **Advanced** tab in the **Power Properties** dialog box; it is set to 10% by default. Refer to "Power Properties" on page 92 for details.*

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 NEO battery system does not require user interaction to maintain peak performance.

To determine the remaining charge in the battery, you can tap on the *Power* icon in the *Control Panel* to display a dialog box that provides detailed information about the battery status of the main battery installed in your unit. You can also tap on the *Power* icon in the taskbar to display the battery status.

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

- The hand-held is ‘event’ driven – that is, when the unit is not in use, it reverts to sleep mode (even when it appears to be running), saving battery power. Events include a key press, touchscreen taps and scan triggers. Power consumption is reduced if you avoid unnecessary events, and allow the unit to sleep as much as possible.
- To view the status of the main battery installed in your unit, tap on the *Power* icon in the *Control Panel* to a dialog box that provides information about the battery status of the main battery installed in your unit.
- When the hand-held is switched off, it goes into a low-power, suspend state but continues to draw a small amount of power from the battery. This should not be an issue unless the unit is left in suspend state for more than a week – for long-term storage, the battery should be removed from the unit.
- Reduce display brightness.
- Turn off the keyboard backlight if not required.

3.7.1 Storing Batteries

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

- Always try to use a ‘first-in first-out’ approach to minimize storage time.
- Lithium-ion batteries age much faster at elevated temperatures. Store batteries at temperatures between 0 °C and 20 °C (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’ lithium-ion battery that has been stored for 3 years may have limited or no useful life remaining once put into service. Think of batteries as perishable goods.

3.8 Uploading Data in a Docking Station



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

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



Note: Refer to “Desktop Docking Station – PX3001” on page 156 for more details.

The desktop docking station can complete batch uploads to a Client USB connected PC or server. An optional 10/100 Base-T Ethernet connection can be used via the USB to Ethernet cable (Model No. PX3052).

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

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

3.9 Bluetooth Radio



*Note: Integrated **Bluetooth** Class 2 radios are standard on ‘connected’ NEOs – that is, units equipped with 802.11 radios. On ‘batch’ (unconnected) units, **Bluetooth** is an optional feature.*

The *Bluetooth* radio enables short range data communication between devices. In addition, it provides the capability to use a *Bluetooth*-enabled cellular phone as a data modem, exchanging information with other *Bluetooth* devices and providing network access. You can also pair your hand-set with a *Bluetooth* headset. Refer to “Bluetooth Setup” on page 102 for setup details.

3.9.1 Pairing a Bluetooth Headset or Other Bluetooth Device



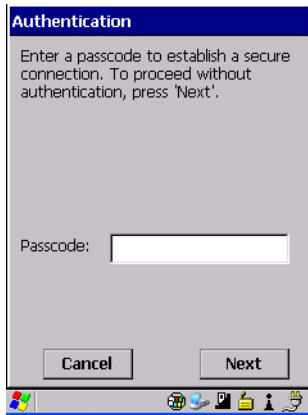
*Note: If the **Bluetooth** radio is not already enabled, tap on the **Start>Settings>Control Panel**. Tap on the **Power** icon and then, the **Built-in Devices** tab. Add a checkmark next to **Enable Bluetooth**.*

To pair a device:

- Follow the manufacturer’s instructions to place the remote device in pairing mode.

- Choose the **Devices** tab and **Scan** for devices in your area.
- When the scan is complete, tap on the **device** to which you want to pair.
- In the pop-up *Device* menu, tap on **Pair**.

An *Authentication* dialog box is displayed.



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



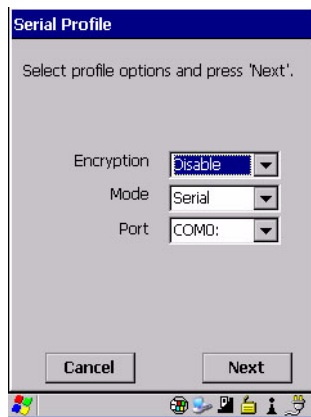
*Note: If a remote device has authentication enabled and you've skipped the authentication process, a pop-up screen will ask if you want to allow the remote device to connect to NEO. Tap on **Yes** and type the PIN. When authentication is complete, tap on **Done**.*

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



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

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



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

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

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

Once you've completed the information:

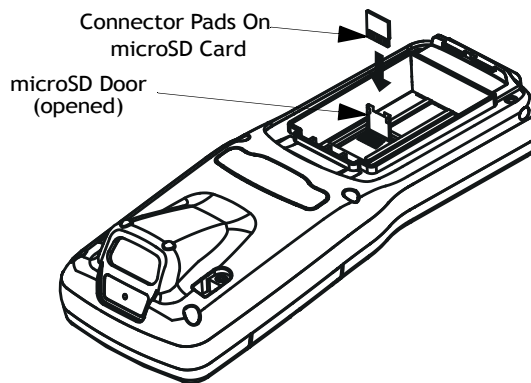
- Tap on **Next** and then in the *Services* screen, click on **Done**.

3.10 The microSD Card

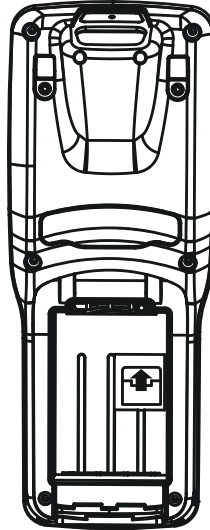
A microSD card slot is available in the battery compartment. microSD cards provide additional, non-volatile memory to your hand-held.

3.10.1 Inserting the Card

- Switch off NEO.
- Remove the battery cover and the battery.
- Gently slide the SD door down and then flip it forward.
- Slide the microSD card onto the guides on the SD door – position the card with the connector pads at the bottom so that when the door is closed, they make contact with the connectors in the unit.



- Carefully flip the SD door down, and slide it upward to lock it in place. Do **not** force it.



3.11 General Maintenance

3.11.1 Caring For The Touchscreen

The top of the touchscreen is a thin, flexible polyester plastic sheet with a conductive coating on the inside. The polyester can be permanently damaged by harsh chemicals and is susceptible to abrasions and scratches. NEO is equipped with a stylus that is designed to safely select items on the touchscreen. Use *only* the stylus on the touchscreen; 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.



Note: An optional protective cover (PN 1081366) is available to help protect the touchscreen. Follow the installation instructions shipped with the cover.

3.11.2 Cleaning NEO



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

- Use *only* mild detergent or soapy water to clean the hand-held unit.
- Avoid abrasive cleaners, solvents or strong chemicals. The plastic case is susceptible to harsh chemicals; it is partially soluble in oils, mineral spirits and gasoline. The plastic slowly decomposes in strong alkaline solutions.
- To clean ink marks from the keyboard and touchscreen, use isopropyl alcohol.
- When using a dampened cloth to clean NEO, make certain that the battery cover is in place to protect the battery compartment from moisture.

WORKING WITH WINDOWS CE 5.0

4

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4.1 Navigating in Windows CE 5.0



Note: In order to access many of the menus discussed in this chapter, the security level must be set to 'Supervisor' (see "Security Settings" on page 59).

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 36.

NEO is equipped with a stylus – a pointing tool that looks like a pen. 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 NEO.

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 the 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]

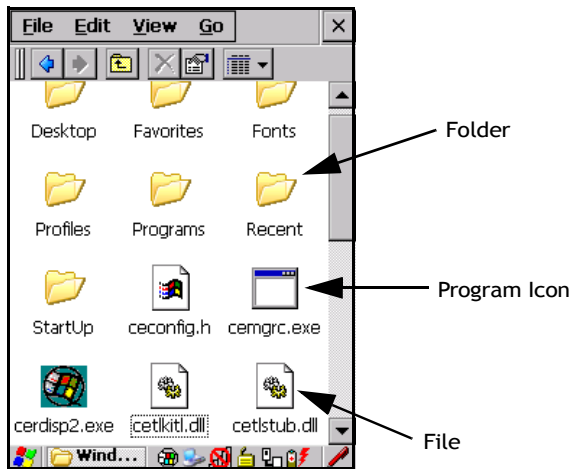
Table 4.1 Keyboard Navigation

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/Deselect Radio Button & Press Button	[SPACE]
Go to Start Menu	[FN/BLUE][.] or [CTRL][ESC]

Keep in mind that unlike a desktop computer, NEO 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].

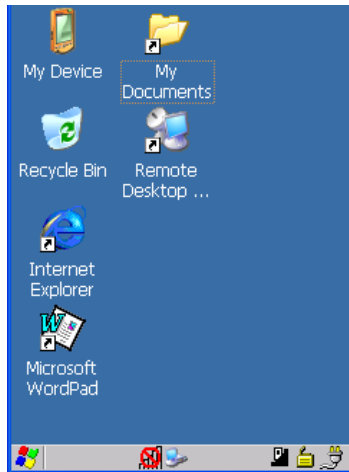
4.3 The Startup Desktop

When NEO 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 NEO Startup Desktop



To access desktop icons:

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

On the keyboard:

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



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

4.3.1 The Desktop Icons



Note: NEOs equipped with the Windows CE 5.0 Core OS do not include Internet Explorer, Wordpad or Remote Desktop.

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 NEO 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 52.

Recycle Bin

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

Internet Explorer

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

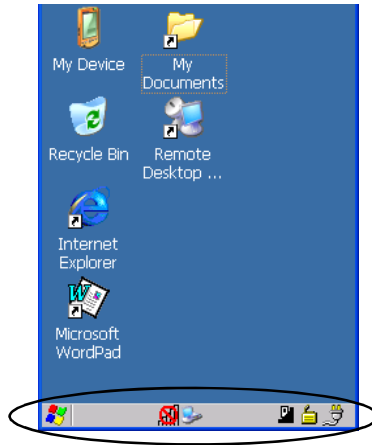
Microsoft WordPad

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

Remote Desktop Connection

This option allows NEO to communicate with a remote desktop PC. “Remote Connect” on page 73 provides a website with step-by-step instructions.

4.3.2 The Taskbar



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

The taskbar also displays active modifier keys: [SHIFT], [ALT], [CTRL], [FN/BLUE] and [FN/ORANGE]. Keys that have been locked “on” are displayed in uppercase letters. For example, if you have set the [CTRL] key Lock to “on” in the Keyboard menu and you press the key, it is displayed as CTRL KEY in the taskbar. (For detailed information on modifier keys and keyboard options, see “The Keyboard” on page 31).

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 associated tooltip. Double-tap the icon to open the *Control Panel* dialog box associated with the icon. For example, double-tap the battery icon to display a dialog box listing the current battery capacity information.

On the keyboard:

- Press [FN/BLUE] [.] (period) to display the *Start Menu*.
- Press the [DOWN] arrow key to highlight **Shortcuts** in the *Start Menu*, and then press the [RIGHT] arrow key to display the sub-menu.

The Taskbar

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

4.3.2.2 Customizing the Taskbar

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

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

If you're using the keyboard:

- Press [FN/BLUE] [.] 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: [FN/BLOCK] [0].

If you have disabled hot keys, hidden the *Start Menu* and have no application configured, the *Menu* hot key brings up the *Security* dialog box to allow authorized users to access the hand-held 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 NEO security settings.

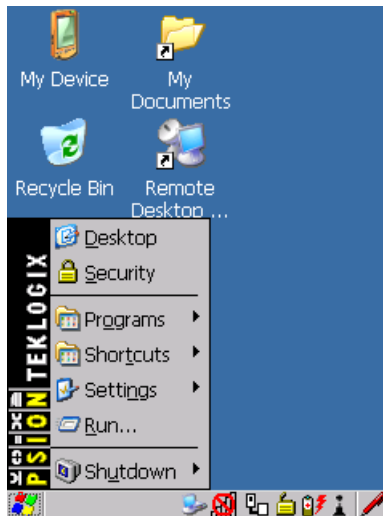
The *Start Menu* lists the operations you can access and work with. It is available from the startup desktop or from within any application.

To display the menu:

- Tap on the **Start Menu icon** in the lower-left corner of the taskbar. Tap on the item with which you want to work.

If you're using the keyboard:

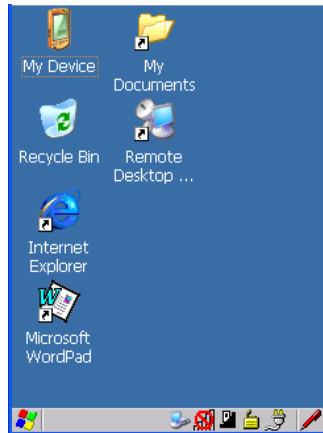
- Press [FN/BLUE] [.] (period).
- Use the arrow keys to highlight a menu item, and press [ENTER].



Note: If a 'Start Menu' item has an underlined character, you can type the underlined alpha character to display the associated dialog box—for example, displaying the 'Start Menu' and then typing the letter 's' displays the 'Security' dialog box.

4.4.1 The Desktop

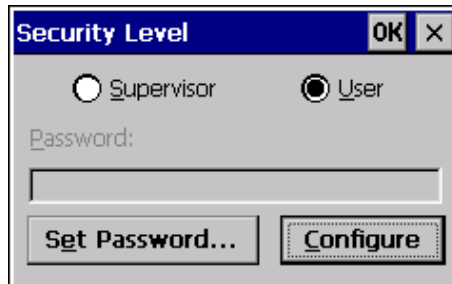
Choosing *Desktop* in the *Start Menu* displays NEO desktop.



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 NEO: *Supervisor* or *User*.

Figure 4.3 Security Levels



Assigning the Supervisor Security Level

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

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

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

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

Changing a Password



Note: Keep in mind that this is the same password as that assigned through the Password control panel applet. Refer to “Control Panel Icons” on page 74.

To assign a password:

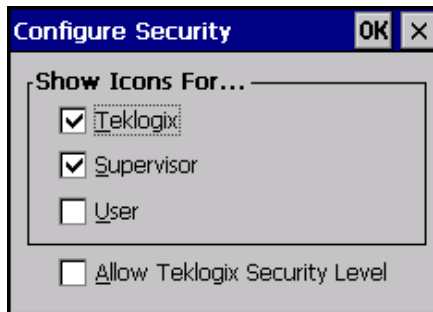
- Choose a *security level*, and enter the **existing password** in the *Password* field.
- Tap on the **Set Password** button.

A dialog box labelled *Password Properties* is displayed.

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

Configuring Security

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



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



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

4.4.3 Programs

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

Figure 4.4 Programs Sub-Menu



Note: The sample Program menu above is for NEOs equipped with the Windows CE 5.0 Professional OS. NEOs equipped with the Windows CE 5.0 Core OS have a more limited Program menu that includes only ActiveSync, Demo, Command Prompt and Windows Explorer.

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 the hand-held reads and writes bar codes. *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 sound but will require more file storage space. Lower sample rates and/or bits per sample produces a smaller file, but the sound quality suffers. The record and play buttons operate in the same as on any recording device. The *X* icon deletes the sound and the *diskette* icon allows you to save your sound.

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

NEO 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.

Microsoft WordPad

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

Remote Connect

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

“Remote Connect” on page 73 provides a website with details about this option.

Windows Explorer

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

4.4.4 Shortcuts



System Tray

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 **Start>Shortcuts>System Tray**.

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

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

On the keyboard:

- Press [FN/BLUE] [.] 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].

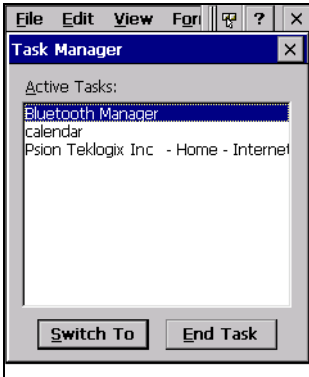
Task Manager

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].

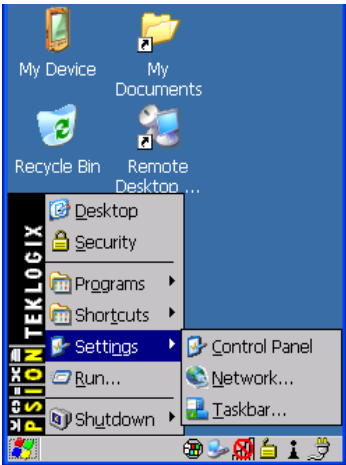
Figure 4.5 Task Manager



4.4.5 Settings

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

Figure 4.6 Settings Sub-Menu



Control Panel

The *Control Panel* contains applets used to configure hardware, the operating system and the shell. If NEO 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 NEO radio or execute an existing configuration. Refer to “Configuring The 802.11b/g Radio” on page 12 for radio setup details.

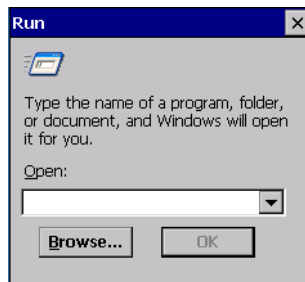
Taskbar and Start Menu

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.

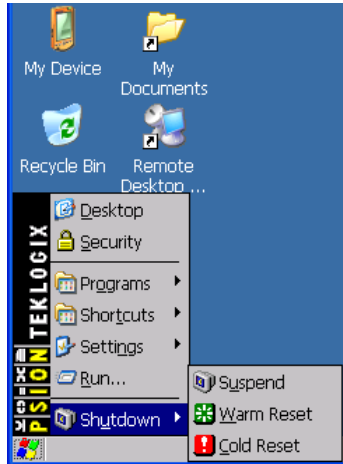
Figure 4.7 Run Dialog Box



4.4.7 Shutdown

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

Figure 4.8 Shutdown Sub-Menu



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

Suspend

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

Warm Reset

A *Warm Reset* preserves installed drivers and applications along with data that are saved in the object store (Windows CE default file system).

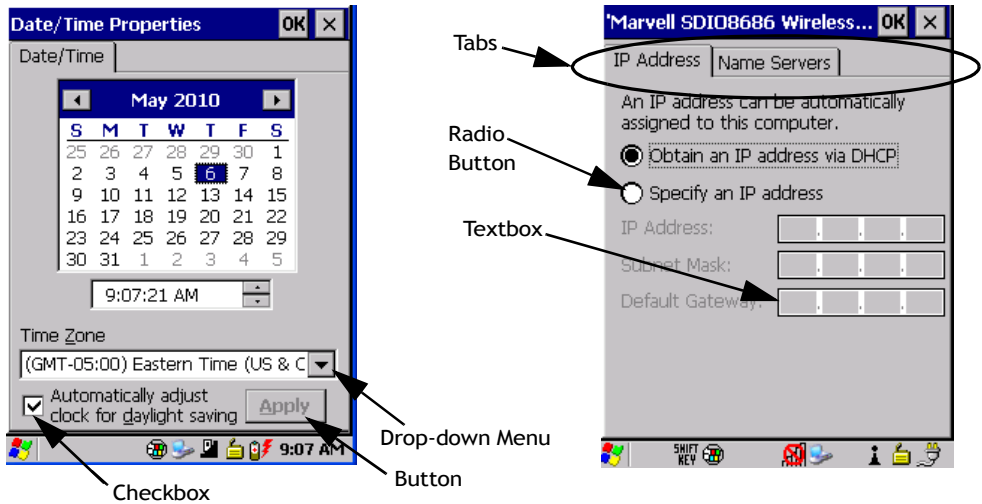
Cold Reset

A *Cold Reset* preserves data and applications that are saved in the Flash file system, called *Flash Disk* on NEO or on a microSD card. This should be used as a last resort if NEO cannot be reset using any other method.

4.5 Using a Dialog Box

A dialog box (like the samples in Figure 4.9 on page 67) 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 4.9 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 4.9 on page 67 you can choose to *Obtain an IP address via DHCP* or *Specify an IP address*. Press the [TAB] key to highlight a radio button option, and then select a radio button by pressing the arrow keys to highlight the appropriate option.

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

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



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

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5.1 Remote Connect

Remote Desktop Connection is a Windows application that allows you to connect to a computer across the Internet using NEO (Windows CE device). Refer to the following website for step-by-step information about setting up this connection:

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

or contact Psion Teklogix support services. (Refer to the *NEO Regulatory & Warranty Guide*, PN 8000175, 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. NEO 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 66.

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

To access the *Control Panel*:

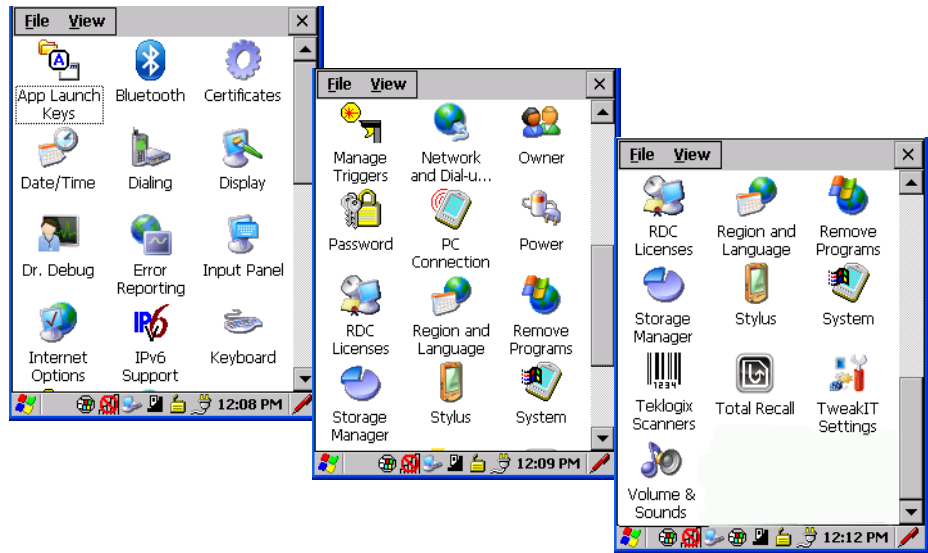
- Tap on **Start>Settings>Control Panel**.

If you’re using the keyboard:

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

The *Control Panel* folder contains icons used in the setup of NEO.

Figure 5.1 Control Panel



5.4 Control Panel Icons

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



App Launch Keys

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



Bluetooth Devices

Provides the tools to manage device pairing and configuration.



Certificates

A public key is transmitted as part of a certificate. The certificate assigned through this icon is used to ensure that the submitted public key is, in fact, the public key that belongs to the submitter. The client checks that the certificate has been digitally signed by a certification authority that the client explicitly trusts. “Certificate Assignment” on page 102 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

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

Display

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



Dr. Debug

Dr. Debug

Provides error diagnostic tools.



Error Reporting

Error Reporting

Enables or disables Microsoft error reporting prompts.



Input Panel

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

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

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

Keyboard

Toggles character repeat on and off and specifies delay and rate for repeated characters. This applet also allows you to adjust the keyboard backlight threshold and intensity, define *One-Shot Mode*, remap keys using *Scancode Remap* and program *Macro Keys*.



Manage Triggers

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 NEO 802.11g radio can be configured and an existing configuration can be executed. Refer to “Configuring The 802.11b/g Radio” on page 12 for details.



Owner

Owner

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



Password

Password

Allows you to assign a password to restrict access to elements of the unit. Once assigned, password access cannot be circumvented so it is important that you write down your password and keep it in a safe place. Refer to “Security Settings” on page 59 for details.



PC
Connection

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

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 96 for details.)



RDC
Licenses

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. Note that this option is not available for units equipped with Windows CE 5.0 Core.



Region &
Language

Region & Language

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



Remove Programs

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



Storage Manager

Allows the user to view information about the storage devices that are present, such as SD-MMC flash cards. For details, see page 121.



Stylus

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



System

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



Teklogix Imagers

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



Teklogix Scanners

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



Total Recall

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



TweakIT Settings

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



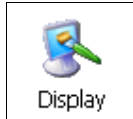
Volume & Sounds

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

5.5 Basic Setup

5.5.1 Display Properties

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



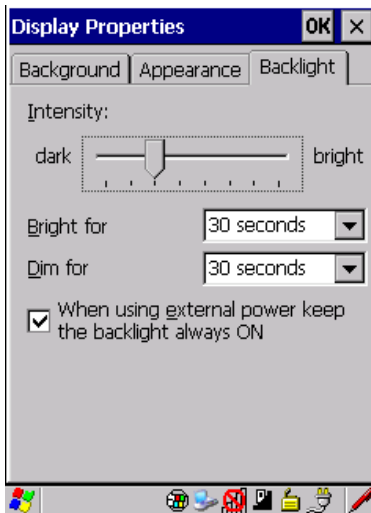
5.5.1.1 Display Backlight

The backlight is activated for a configurable amount of time when NEO 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 backlight. Sliding the bar to the left lowers the light intensity, and sliding it to the right raises the intensity. You can also adjust the backlight directly from the keyboard by pressing [FN/BLUE] followed by the [LEFT] or [RIGHT] arrow keys to increase or decrease the backlight 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

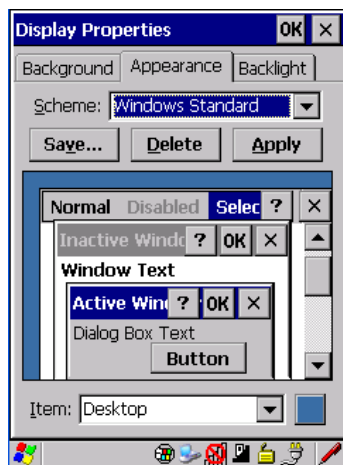
The value chosen from this drop-down menu determines the duration of time that the backlight stays on at half the configured intensity (dimmed backlight) after expiration of the *Bright For* delay and as long as no user action takes place (such as a keypress or scan trigger). At the expiration of the *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 NEO is operating with external power (not battery power). If NEO is drawing power from its battery, this option is ignored and the other parameters defined in *Display Properties* dialog box are used.

5.5.1.2 Display Appearance

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



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

5.5.2 Keyboard Properties

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

- In the *Start Menu*, choose **Settings>Control Panel>Keyboard icon**.

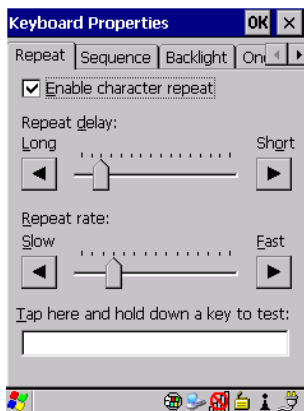


5.5.2.1 Key Repeat



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

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



Repeat Delay

The value assigned for this parameter determines the delay 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.

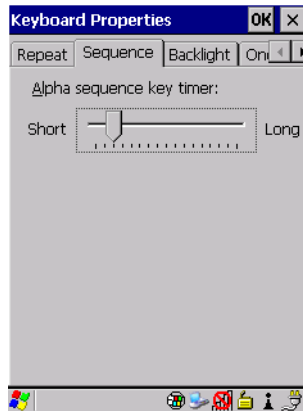
Repeat Rate

The value assigned for the *Repeat Rate* parameter determines how quickly the key you press repeats. Sliding the bar to the left slows the repeat rate, and sliding the bar to the right increases the repeat rate.



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

5.5.2.2 Sequence



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

5.5.2.3 Keyboard Backlight

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



Intensity

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



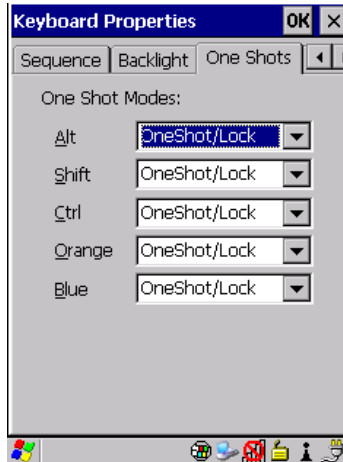
*Note: Tapping in the checkbox next to ‘**When using external power, keep the backlight always ON**’ forces the keyboard backlight to remain on when the unit is operating with external power.*



Note: To maximize battery run time, keep the backlight intensity at the lowest possible setting.

5.5.2.4 Keyboard One Shot Modes

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



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



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



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

Lock

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

OneShot

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

OneShot/Lock

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

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

5.5.2.5 Keyboard Macro Keys

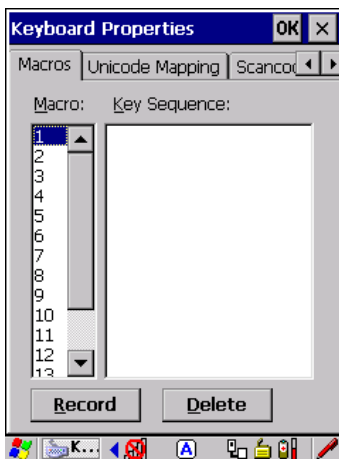
The *Macro* tab is used to define up to 15 macros. Macros can be created to replace frequently used keystrokes, along with the function of executable keys including [ENTER], [BKSP] and [DEL] ([FN/BLUE]-[BKSP]), function keys and arrow keys. Each macro can have up to 200 programmable characters (or “positions”).



Important: *Macro keys are not physically stamped on this hand-held; ‘Scancode Remapping’ must be used to remap keyboard keys into macro keys so that you can execute the macros created here. Refer to “Scancode Remapping” on page 87 for details about mapping keys.*

To create a macro:

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



Recording And Saving A Macro

- In the *Macro:* menu highlight a macro key number, for example macro 1. Tap on the **Record** button.

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



- Type the macro sequence you want to create. 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, tap on the **Stop Recording** button, or press the key sequence: [CTRL] [ALT] [ENTER].

A new screen called *Verify Macro* displays the macro sequence you created.

- Tap on the **Save** button to save your macro, *or* **Cancel** to discard it.
- Tap on **OK** to save your macro key assignment.

Executing A Macro

To execute a macro:

- Remember that you need to remap a keyboard key to act as a macro key using *Scancode Mapping*. Press the **mapped macro key(s)** to execute the macro.

Deleting A Macro

To delete a macro:

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

5.5.2.6 Unicode Mapping

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



The *Unicode Mapping* tab is used to map combinations of virtual key values and [CTRL] and [SHIFT] states to Unicode™ values. This tab shows the configured Unicode character along with the Unicode value. For example, the sample screen above shows “a (U+0061)” indicating that the character “a” is represented by the Unicode value “0061”, and so on. Keep in mind that Unicode configurations are represented as hexadecimal rather than decimal values.

All user-defined Unicode mappings are listed in the *Unicode Mapping* tab in order of virtual key value, and then by order of the shift state. If a Unicode mapping is not listed, the Unicode mapping is mapped to the default Unicode value.

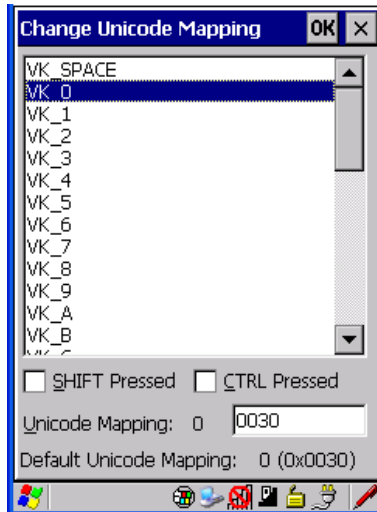
Adding and Changing Unicode Values



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

- Choose the **Add/Change** button

Figure 5.2 Adding And 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

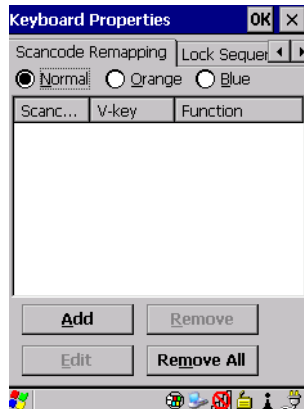
- In the *Unicode Mapping* tab, highlight the item you want to delete, and choose the **Remove** button.

5.5.2.7 Scancode Remapping

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

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

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



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

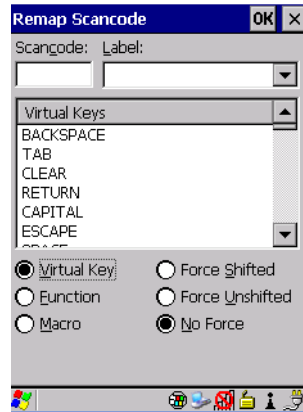
If the scancode is remapped to a function or a macro, the first and second columns remain blank while the third column contains the function name or macro key number (e.g., Macro 2).

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 scan code you are remapping.

Virtual Key, Function and Macro

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

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

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

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

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

Editing a Scancode Remap

To edit a scancode:

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

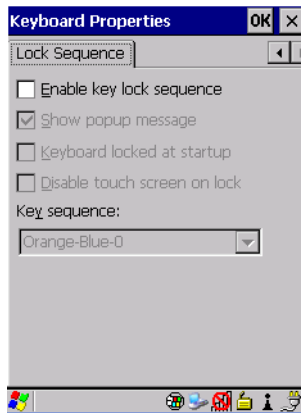
Removing a Remap

To delete a remap:

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

5.5.2.8 Lock Sequence

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

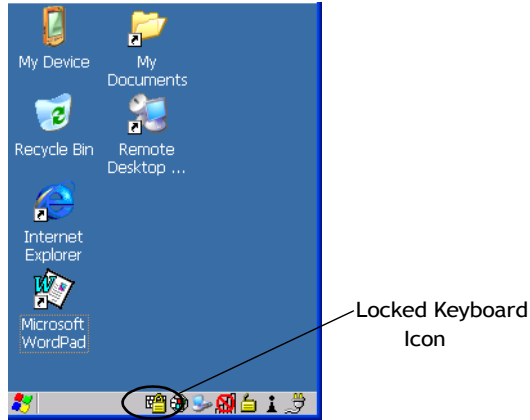


- To lock the keyboard, tap in the checkbox next to *Enable key lock sequence*.
- Tap in the checkbox next to *Keyboard locked at startup*.
- In the *Key sequence* dropdown menu, choose the key sequence you will need to type to unlock the keyboard.



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

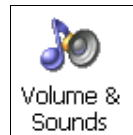
A *locked keyboard* icon is displayed in the softkey bar when the keyboard is locked.



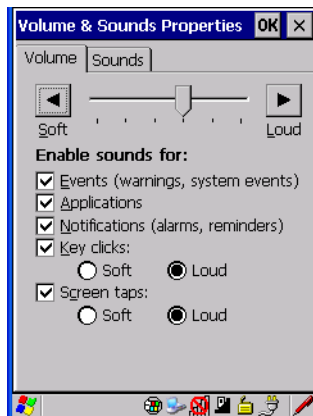
- Type the key sequence to unlock the keyboard.

5.5.3 Volume and Sound Properties

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



5.5.3.1 Volume Adjustments



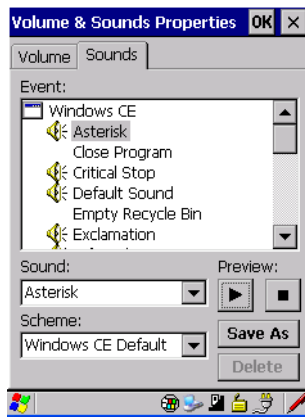
- Slide the volume button to the left to lower the receiver and beeper volume or to the right to increase the receiver and beeper volume.
- Under the heading *Enable sounds for*, enable the conditions under which you want NEO to play a sound.

Keep in mind that adjusting this slider modifies the beeper *and* the receiver volume.



Note: You can also adjust volume directly from the keyboard. Refer to “Audio Indicators” on page 38 for details.

5.5.3.2 Sound Adjustments



This dialogue box allows you to assign sounds to identify a particular actions. For example, you can choose the sound your hand-held will emit when you close a program.

5.5.4 Power Properties

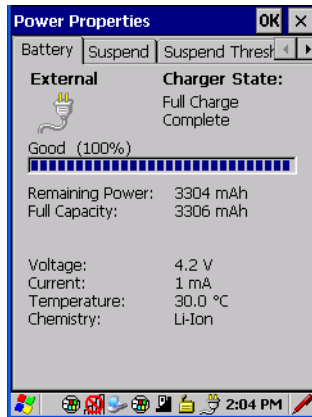
This icon displays a *Power Properties* dialog box that indicates the battery capacity and allows you to manage battery use.

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



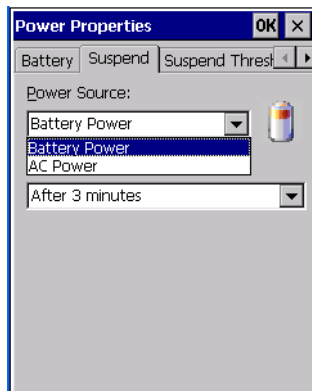
5.5.4.1 Battery Capacity

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



5.5.4.2 Power Saving Suspend

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



Power Source

This dialog box allows you to specify the suspend time for either *AC Power* or *Battery Power*.

Suspend Timeout

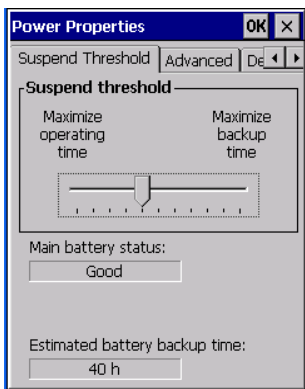


Important: *Psion Teklogix recommends setting the Suspend value to 10 minutes. To further reduce power consumption, carefully consider the duration of time that the display and the keyboard backlight are ‘on’ (see “Display Backlight” on page 78 and “Keyboard Backlight” on page 82).*

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

When the time in the *Suspend Timeout* field elapses without any activity, the unit enters *suspend* state. In suspend state, the hand-held 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 NEO is in suspend state, the network connection will not be broken immediately. If the connection is dropped, you must re-establish the network connection.

5.5.4.3 Suspend Threshold



The *Suspend Threshold* lets you determine when NEO will shut down. If the slider is left at the default value, *Maximum Operating Time*, the hand-held will run until the battery is completely empty; the RAM is only backed up for a short period of time. If you choose *Maximum Backup Time*, the hand-held will shut off with more energy left in the battery so RAM can be backed up for a longer period of time.



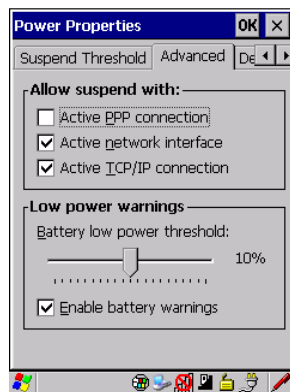
Important: *Selecting ‘Maximum backup time’ reserves approximately 20% of the battery capacity for memory backup. Once the battery is drained, the system RAM memory is lost and the unit must reboot.*

In most real-time transaction environments, this is not a problem (it only takes a few seconds to boot). However, batch transaction environments, where data is not saved to non-volatile memory (a microSD 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.

NEO’s Windows CE 5.0 environment does not store any critical data in RAM (such as the registry or file system).

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

5.5.4.4 Advanced



Allow Suspend With:

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

Low Power Warnings

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

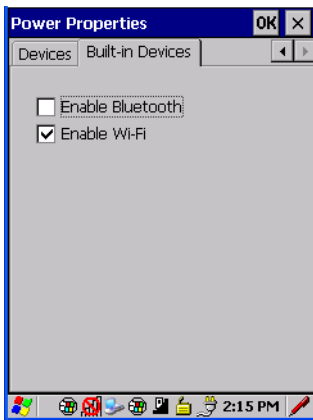
5.5.4.5 Devices

This tab controls power to the SDIO slot. A checkmark in the checkbox next to SDIO indicates this option is enabled. If you make a change, tap on **Apply** to save your change.



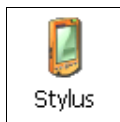
5.5.4.6 Built-in Devices

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



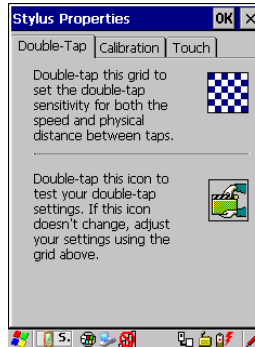
5.5.5 Stylus Properties

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



5.5.5.1 Double-Tap

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



5.5.5.2 Calibration

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

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



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

5.5.5.3 Touch

This tab allows you to disable the touchscreen.

- Choose the **Touch** tab. Tap the checkbox next to *Disable the touch panel*.
To enable a disabled touchscreen:
- Press the following keys – [TAB] [SPACE] [ENTER].

- The *Touch* tab is displayed. Press the [SPACE] key to uncheck the box and enable touchscreen operations.



Note: Refer to “Navigating Using the Keyboard” on page 51 for details about navigating without a touchscreen.

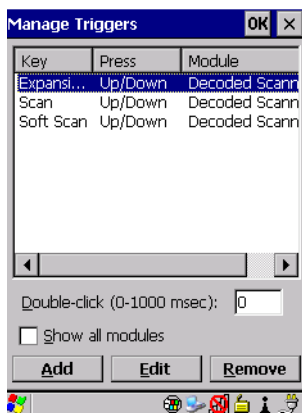
5.5.6 Manage Triggers

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.



5.5.6.1 Trigger Mappings

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



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

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

Double-Click

When a key is pressed and released, then pressed again within the configured time (between 0 to 1000 milliseconds), a double-click occurs. See also “Trigger-Press Type” on page 101.

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 100), 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 100), so that you can edit existing trigger mappings.

Remove

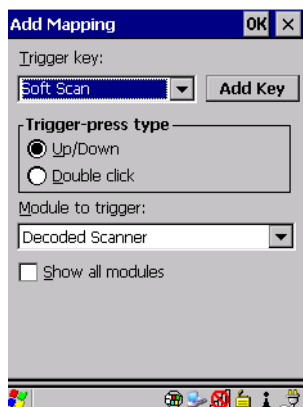
Tapping this button removes an existing mapping.

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 will be discarded.

5.5.6.2 Add and Edit Trigger Mapping

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



Trigger Key

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



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

It is also possible to map different sources to the same module (trigger consumer).

Add Key

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



Trigger-Press Type

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

Module Trigger

This identifies the driver or application receiving the trigger presses.

Show All Modules

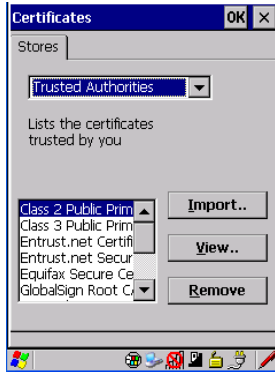
By default, inactive owners are not shown. By checking this checkbox, all owners, both active and inactive, are displayed.

5.5.7 Certificate Assignment

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



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



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

<http://www.microsoft.com/windowsserver2003/techinfo/overview/security.msp>



Note: When importing certificates, NEO only recognizes .cer files.

5.6 Bluetooth Setup

Bluetooth is a global standard for wireless connectivity for digital devices and is intended for Personal Area Networks (PAN). The technology is based on a short-range radio link that operates in the ISM band at 2.4 GHz. When two *Bluetooth*-equipped devices come within a 10 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:

- Under *Settings>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.

- Tap on **Settings>Control Panel>Bluetooth** icon.



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

5.6.1 Paired Tab

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

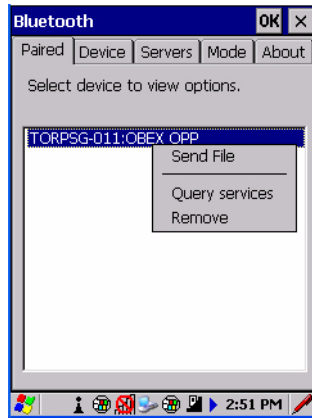


To learn how to scan for devices that will appear in this tab, review “Device Tab” on page 105.



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

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



This is a service-dependent menu – that is, it varies slightly depending on the service chosen in the *Servers* tab. Refer to “Servers Tab” on page 109 for more details.

Query Services and Remove Commands



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

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

OBEX OPP (Object Exchange-Object Push Profile) Commands

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

OBEX OPP contains the following unique menu option:

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

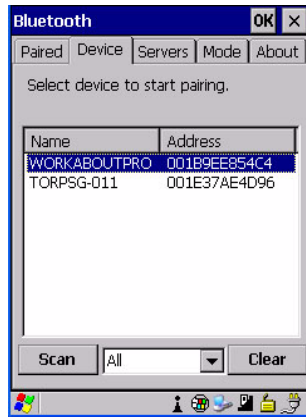
HSP/HFP (Headset Profile/Hands-Free Profile) Service Commands

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

HSP/HFP services provide the following unique menu options:

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

5.6.2 Device Tab



This tab discovers and displays *Bluetooth* devices.

5.6.2.1 Discovering and Removing Devices

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

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



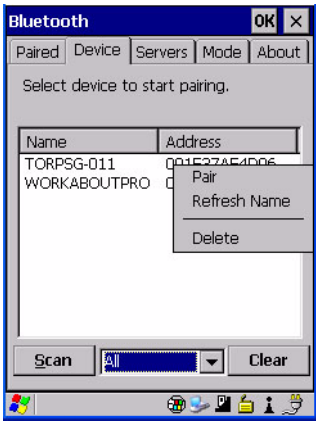
Note: To limit the scope of the scan to a particular type of device, refer to “Filtering By Class of Device (COD)” on page 106.

5.6.2.2 Filtering By Class of Device (COD)



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

5.6.2.3 Device Pop-up Menu



The *Device* pop-up menu allows you to pair a device, update a device name or delete a device from the list. *Pair* begins the pairing process by inquiring the services and profiles of the discovered device. An *authentication* dialog box is displayed the first time a *Bluetooth* device is paired.

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

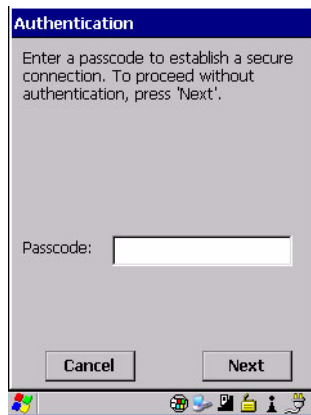
Delete removes this device from the list.

5.6.2.4 Pairing a Device

To pair devices:

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

An *Authentication* dialog box is displayed.



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



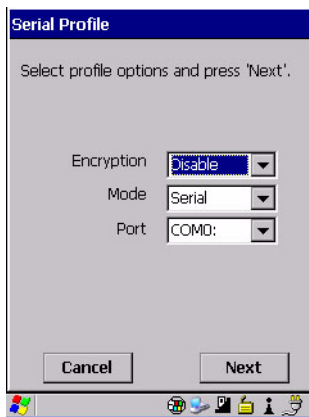
*Note: If a remote device has authentication enabled and you've skipped the authentication process, a pop-up screen will ask if you want to allow the remote device to connect to NEO. Tap on **Yes** and type the PIN. When authentication is complete, tap on **Done**.*

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



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

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



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

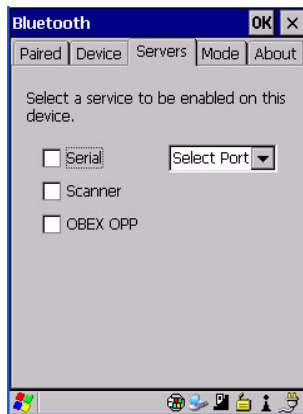
- *Serial* is used for simple serial port communication.
- *ActiveSync* is for ActiveSync-over-Bluetooth.

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

Once you've completed the information:

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

5.6.3 Servers Tab



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

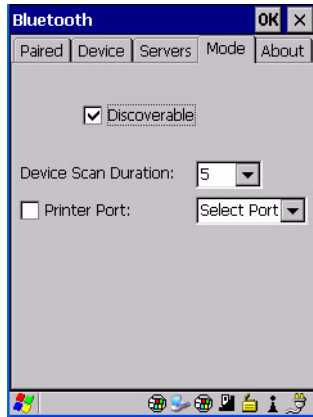
Serial server enables the Serial Port Profile server; a Serial Port can be selected from the drop-down menu. Keep in mind that when a port is chosen, an application must be open (connected) to the chosen port for a remote device to be able to connect.

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

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

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

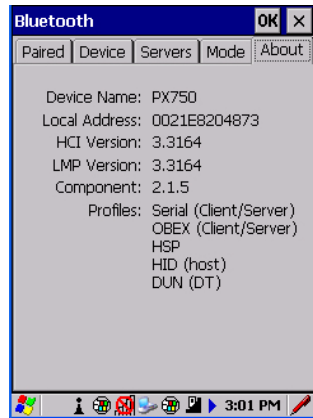
5.6.4 Mode Tab



The *Discoverable* option determines whether NEO is visible to other devices.

Device Scan Duration can controls the duration in which NEO scans for other devices. The higher the value assigned, the greater the scan duration.

5.6.5 About Tab



Device Name displays the NEO name that is broadcast. The name can be changed in the *System Properties* applet – *Start>Settings>Control Panel>System icon>Device Name tab*.

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

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

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

Profiles lists the supported profiles on this specific NEO.

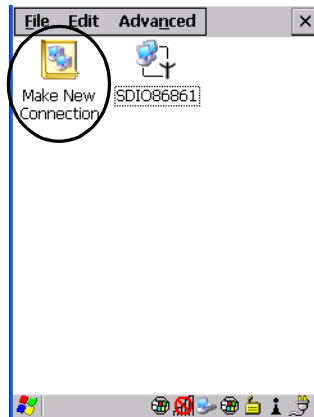
5.6.6 Bluetooth GPRS WAN Connection

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

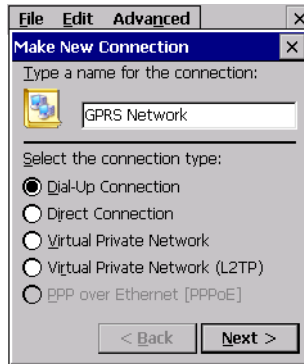
1. Enable the *Dial-Up Networking service* in the cell phone.
2. Make the phone *discoverable*.
3. Pair the phone service with the NEO Dial-Up Networking service using the *Bluetooth Manager* (for instructions on pairing devices, see “Pairing a Device” on page 107).
4. To set up the internet parameters on the NEO, choose the **Network And Dial-up Connections** icon from the *Control Panel*.



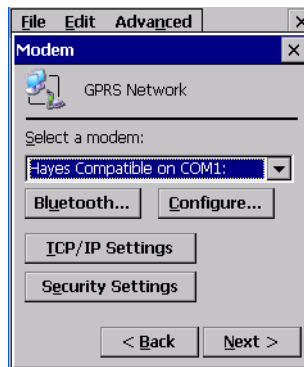
5. Choose the **Make New Connection** icon.



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

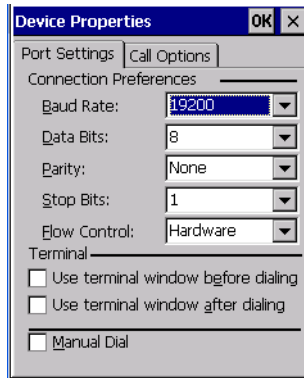


7. Choose the **Next** button to display the *Modem* dialog box.

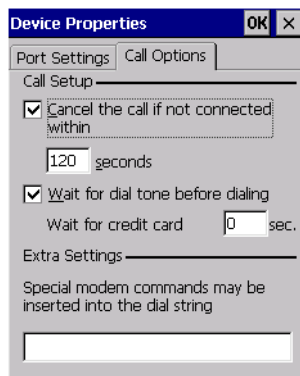


8. In the drop-down menu labelled *Select a modem*, choose the name of the modem with which you want to connect, and then choose the **Configure** button to display the *Device Properties* dialog box.

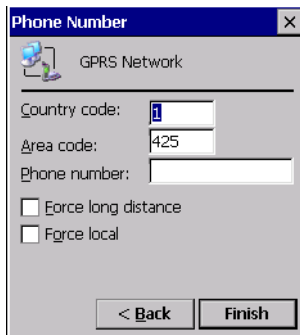
NEO communicates via *Bluetooth* to your *Bluetooth*-equipped cellular telephone and retrieves the parameters for the *Device Properties* dialog box. NEO then disconnects.



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.



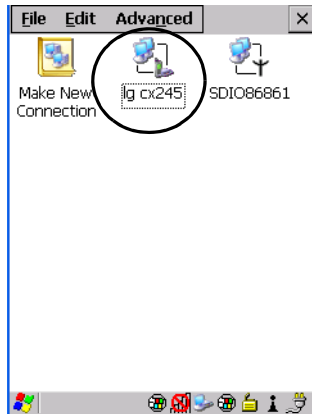
12. The values in the *Dialing Properties* dialog box need to be edited according to your network carrier specifications.



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 *lg cx245* is displayed. Tap on the **new** icon.

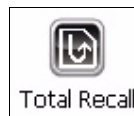


When you tap on your new connection, an onscreen message indicates the status of your connection: connected, disconnected, error messages, and so on.

5.7 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.



5.7.1 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

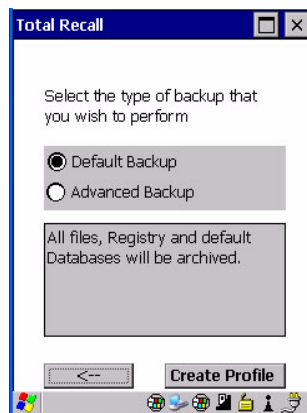


This dialog box displays the default profile name, the type of restore – *AutoRestore* or *ManualRestore*, and the possible storage destination for the profile file.

- 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

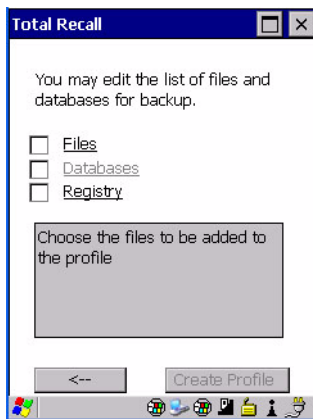


Default Backup

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.



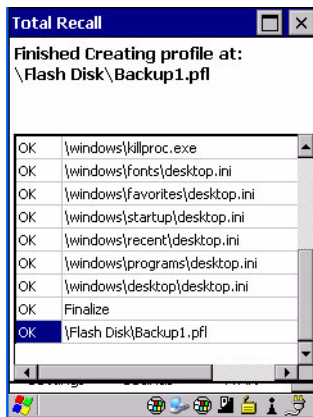
- Tap in the checkbox next to the option(s) listed here to tailor what you want included in the backup.

Creating a Profile

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

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

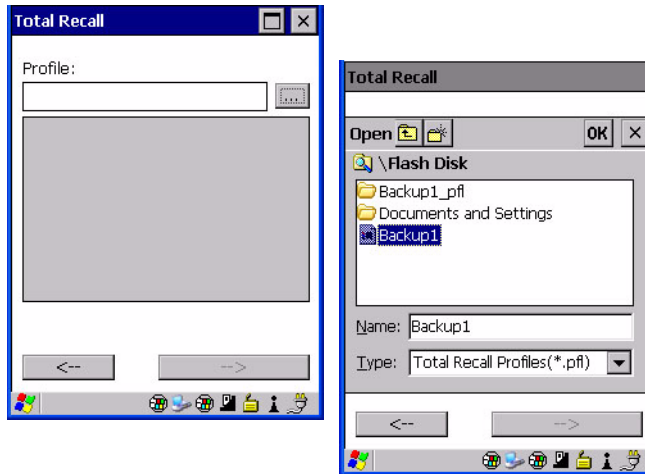
The options you chose to back up appear in your window as the backup progresses. When the backup is complete, the last item in the list indicates the location and name of the backup profile.



5.7.2 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.



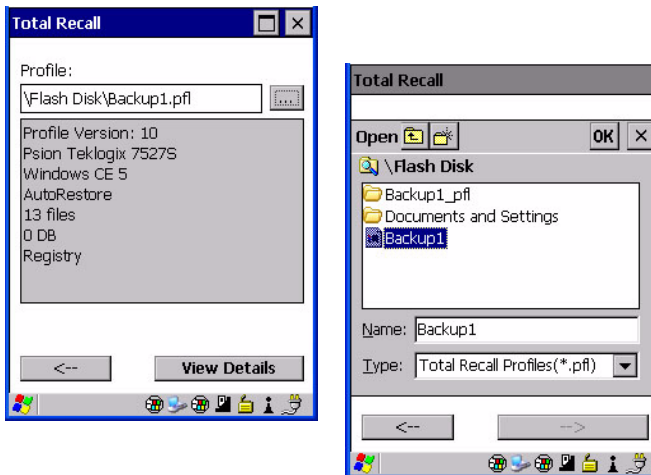
- Tap on **OK**.
- In the *Profile* restore screen, click on the [-->] (Next) button.
- Click on **Restore Profile** to restore the files to your hand-held.

5.7.3 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.

5.7.4 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.

5.8 The Storage Manager

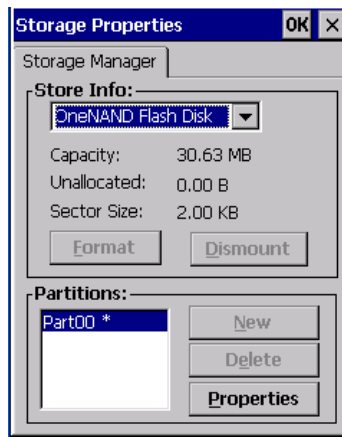
The *Storage Manager* allows the user to view information about the microSD card present in NEO.

5.8.1 Formatting a Memory Card

Formatting a memory card bulk-erases it. Once a card is erased, partitions may be created in it, much like 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:



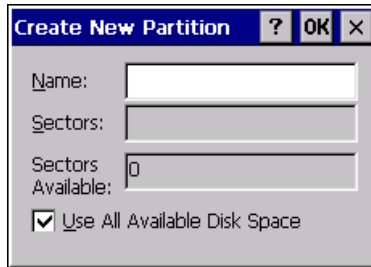
3. Choose the memory card from the drop-down list.
 4. Press the **Dismount** button to dismount the memory card. All partitions on the card will be dismounted.
 5. Press the **Format** button to format the memory card.
- All partitions and information on the card will be erased during the formatting process.

5.8.2 Creating Partitions

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

To create new partitions:

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



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



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

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

5.8.3 Partition Management

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



To dismount a partition:

- Choose the desired partition.
- Tap the **Properties** button. The *Partition Properties* dialog appears.
- Tap the **Dismount** button. The partition is dismounted. The asterisk disappears next to its name in the partitions list.

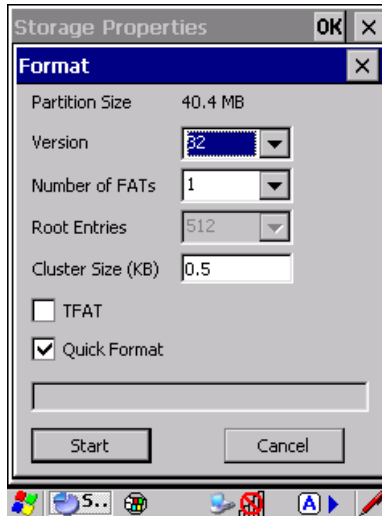
To delete a partition:

- Select the desired partition.
- Tap the **Delete** button. A warning dialog appears.
- 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:

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

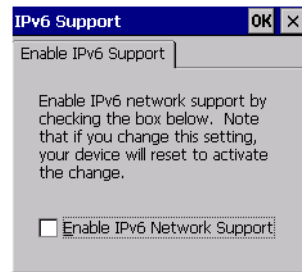
The Partition Properties dialog has buttons for additional functions. Partitions can be defragmented, and their file structure can be scanned.

5.9 IPv6 Support

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



- 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.

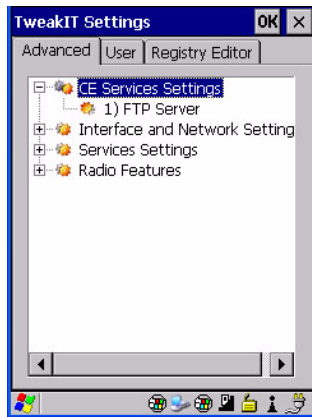
5.10 TweakIT



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

5.10.1 Advanced

5.10.1.1 CE Services Settings

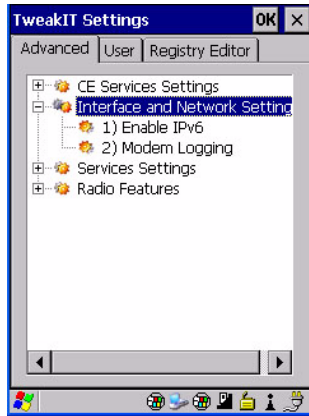


FTP Server

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.

5.10.1.2 Interface and Network Settings



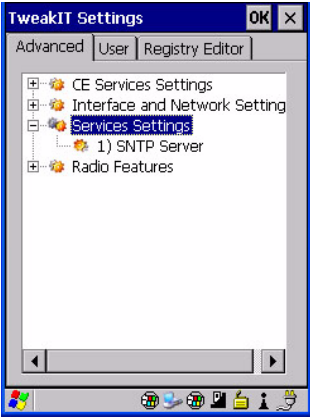
Enable IPv6

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

Modem Logging

When this option is enabled, NEO 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.

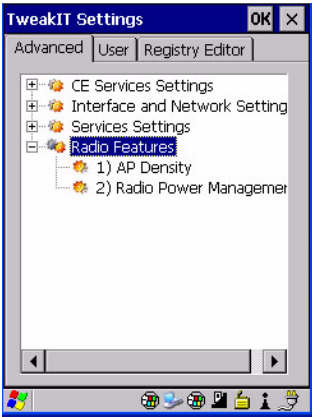
5.10.1.3 Services Settings



SNTP (Simple Network Time Protocol) Server

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

5.10.1.4 Radio Features



AP Density

This option allows you to determine the signal strength at which the NEO’s 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.

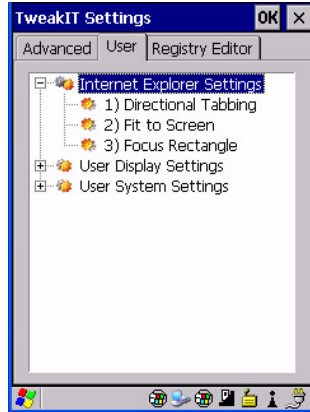
Radio Power Management

When this option is enabled, access points that support it will use *Radio Power Management* guidelines to control the client (NEO) radio. Access points determine how often the NEO 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 NEO (client).

5.10.2 User

5.10.2.1 Internet Explorer Settings

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



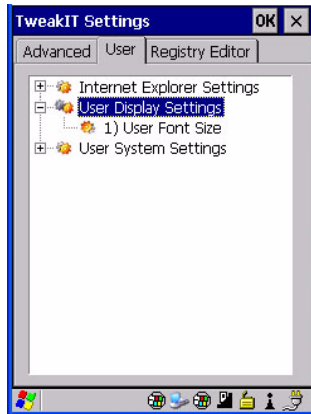
These *Internet Explorer* options are designed to make it easier to view and navigate web pages displayed on NEO.

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 NEO 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.

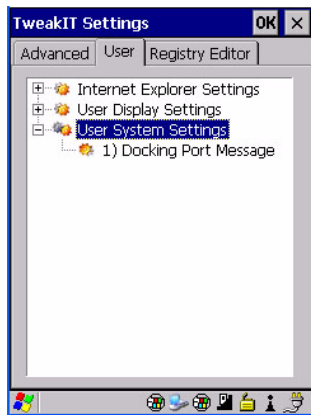
5.10.2.2 User Display Settings



User Font Size

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

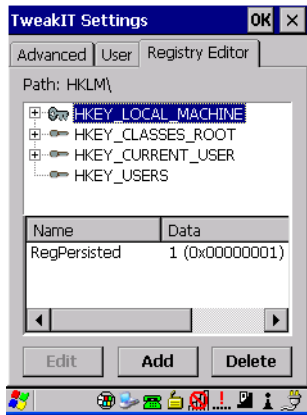
5.10.2.3 User System Settings



Docking Port Message

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

5.10.3 Registry Editor

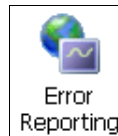


This option is reserved for senior administrators who have a strong understanding of registry keys and values. Careless registry editing can cause irreversible damage to NEO.

5.11 Error Reporting

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

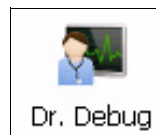
- Tap on **Start>Settings>Control Panel**. Tap on the **Error Reporting** icon.



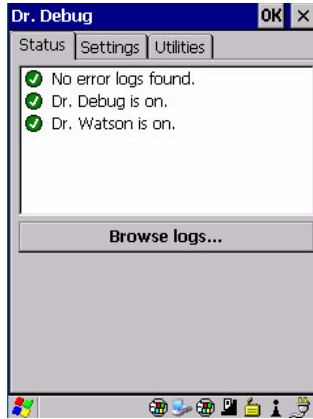
5.12 Dr. Debug

Dr. Debug is an error diagnostic tool.

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

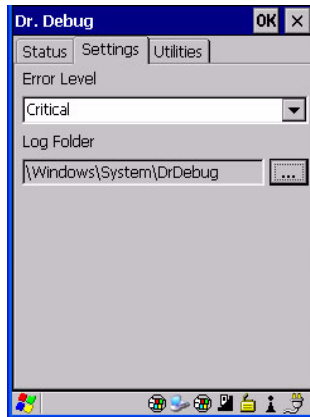


5.12.1 Status



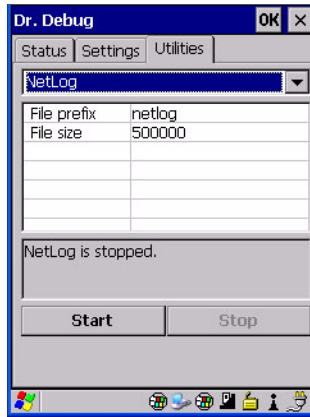
This tab indicates the status (on/off) of the tools. Tapping on *Browse logs* displays error logs for your review.

5.12.2 Settings



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

5.12.3 Utilities



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

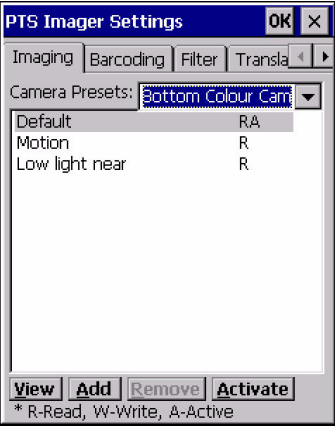
5.13 Teklogix Imagers Settings

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



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

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

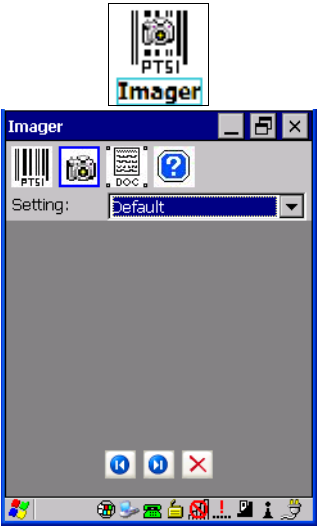


Important: Refer to Appendix E: “Teklogix Imagers Applet” for details about this applet.

5.13.1 Imager Demo Applet

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

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



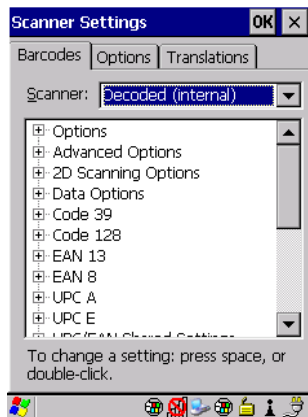
5.14 Teklogix Scanner Settings

The *Teklogix Scanners* icon in the *Control Panel* provides dialog boxes in which you can tailor bar code options and choose the bar codes your scanner will recognize. The parameters are preset with the default settings of the decoded scanner installed in the unit. **Not all options apply to all scanners.**

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



5.14.1 Bar Codes Tab



Note: Refer to Appendix C: “Bar Code Settings” for details about the symbols for each scanner type.

5.14.1.1 Scanner Menu

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 hand-held: *Decoded* (internal) and *Decoded* (ISCP). If an HHP 5000 imager is installed in your unit, refer to Appendix D: “Teklogix Imagers Applet” for details about setting up your imager.

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



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

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

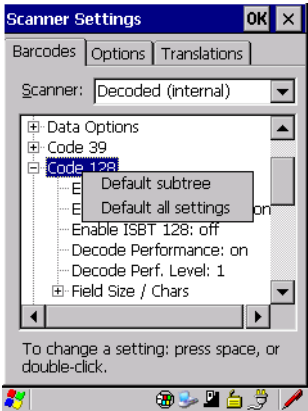
5.14.1.2 Restoring Default Settings



Note: The pop-up menu function described in this section is only available on units with the Windows CE Professional operating system.

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. To display a pop-up menu, you need to press and hold the stylus on a menu item. (This equivalent to a right-click on a PC.)

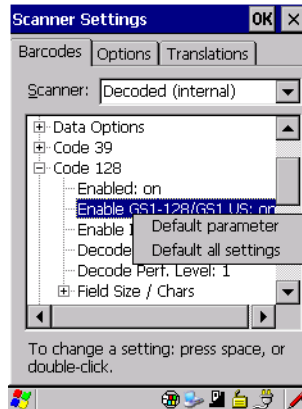
- Press and hold the stylus on a symbology (e.g., Code 128) to display a pop-up menu.



- 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:

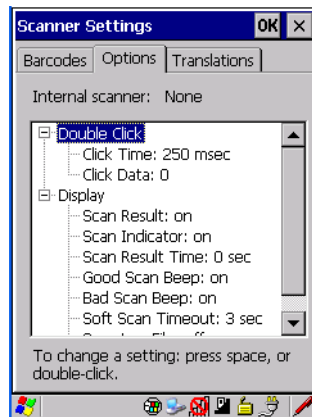
- Press and hold the stylus on the parameter you want to reset.



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

5.14.2 Options Tab

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



5.14.2.1 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 con-

sidered 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

This parameter determines which character is sent to the application installed in NEO 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.

5.14.2.2 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 the NEO 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

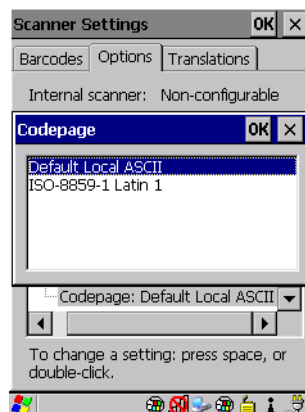
If this parameter is enabled, the input bar code and the modified/translated output bar code are logged in the file \Flash Disk\ScanLog.txt. Keep in mind that if the “Scan Log File” is enabled, there is a slight performance effect when performing multiple scans since the log file is written to persistent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

5.14.2.3 Data Handling

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

Codepage:

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

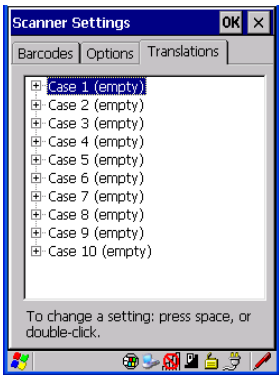


If you choose *Default Local ASCII*, the code page of the local OS is used. For example, if the local OS uses double-byte Chinese characters, choosing this option will filter data through the local ASCII of *that* OS and display it accurately, in this example, using double-byte characters.

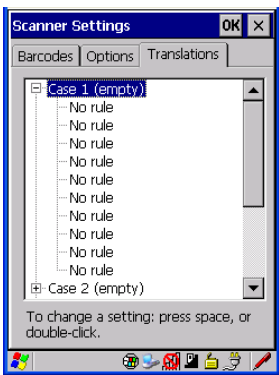
If you choose *ISO-8859-1 Latin 1*, data will be displayed according to the character mapping of this Latin 1 code page, ignoring the local OS code page.

5.14.3 Translations Tab

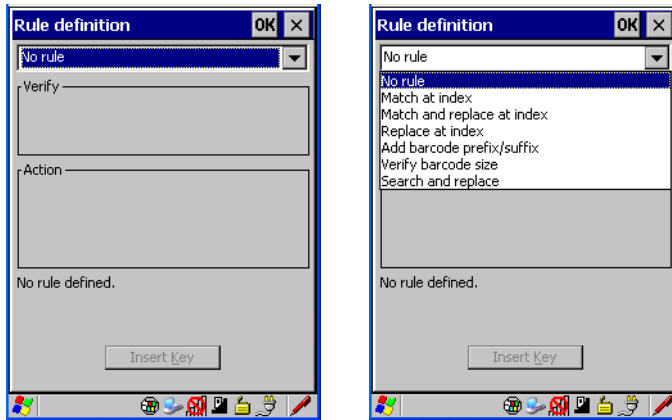
The *Translations* tab allows you to define up to 10 cases, each consisting of up to 10 rules in sequential order. Only one case will be applied to a bar code and a case will only be applied if all rules specified in the case are successful – if a rule within a case fails, the entire case fails.



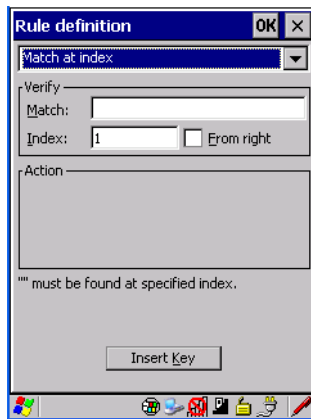
- In the *Translation* tab, tap on the **Case #** to create rules.



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



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



5.14.3.1 Case Rules

The case rules are defined as follows:

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

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



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

Translation information about the status of each case/rule is displayed in the scan log file (see “Scan Log File” on page 139) when enabled. This is useful if a case fails, and you are trying to determine why a rule is failing.

PERIPHERAL DEVICES & ACCESSORIES

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6.1 Carrying Accessories

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

Table 6.1 Carrying Accessories

Carrying Accessory	Model Number
Hand Strap	PX3024
Wrist Strap (with stitched stylus holder)	PX3028
Carrying Holster (compatible with pistol grip)	PX3020
Carrying Case (leather with protective key cover and clip)	PX3029
Shoulder Strap	PX3022
Belt Kit including Belt Clip, Adaptor Plate and screws	PX3025
Pistol Grip	PX3030

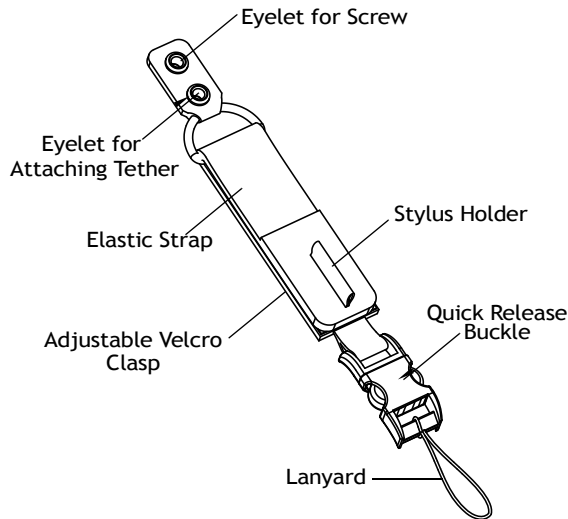


Important: Carrying accessory screws have adhesive pre-applied to them. Do not add adhesives to secure screws on carrying accessories; these chemicals may damage the plastic casing.

6.1.1 Attaching The Hand Strap

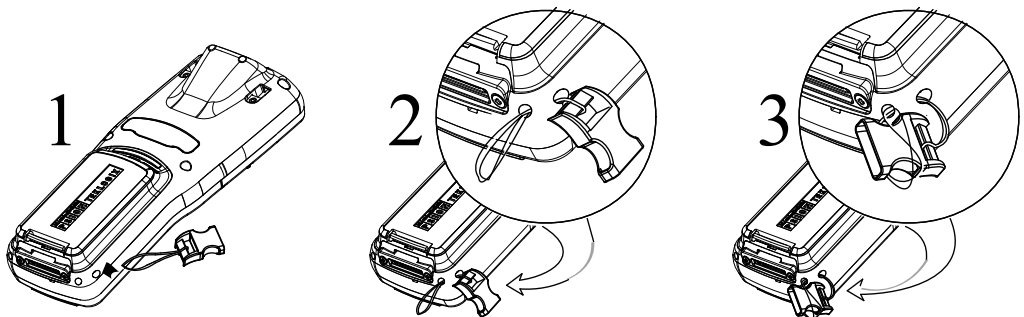
The hand strap provides a secure means for operators to carry NEO.

Figure 6.1 The Hand Strap



- Thread the lanyard attached to the quick release buckle through one of the accessory attachment points – the eyelets on the either side of the base of the unit. You may find Figure 6.2 useful as a reference.

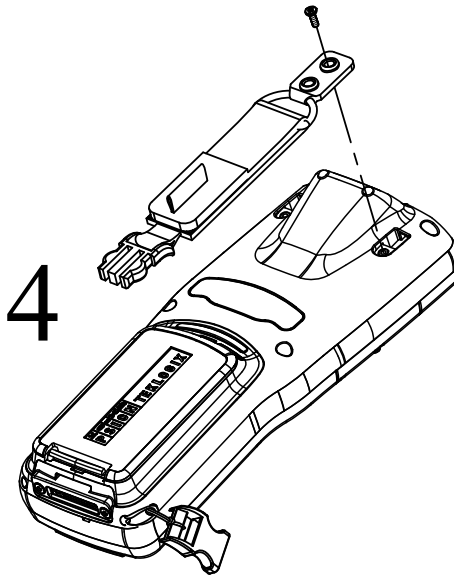
Figure 6.2 Attaching the Quick Release Buckle



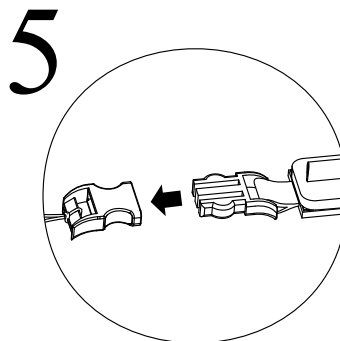
- Guide the quick release buckle through the lanyard loop to secure it to the unit.

- To attach the hand strap, align the eyelet at the top of the hand strap with the threaded insert near the corner of the hand-held, and secure it in place using the M2x6 screw included with the hand strap.

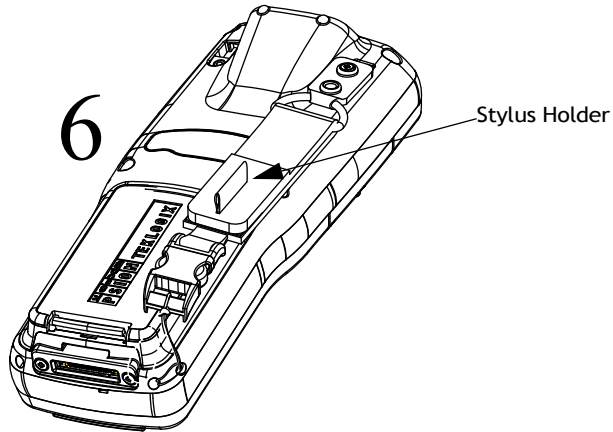
Figure 6.3 Attaching the Hand Strap



- Snap the hand-strap buckle into the lanyard quick release buckle.



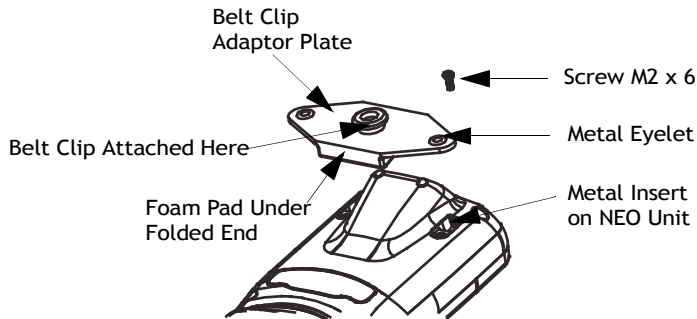
- Pull up the velcro clasp to adjust the hand strap to fit your hand as required.



Note: In addition to the hand strap, the lanyard with quick release buckle is also used to attach the wrist strap (shipped with the hand-held) and the optional shoulder strap to NEO.

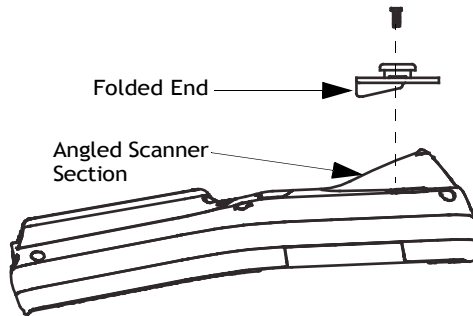
6.1.2 Belt Clip Installation

Figure 6.4 Belt Clip Installation Kit



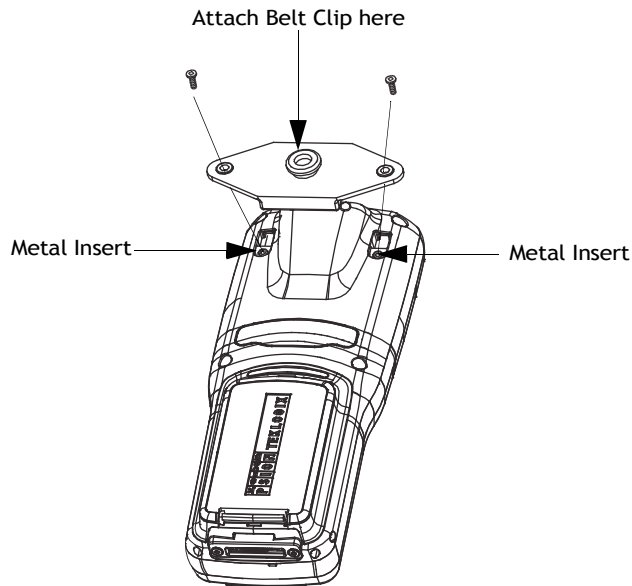
- Position the **belt clip adaptor plate** so that the thicker, folded end aligns with the angled scanner section on the back of NEO as illustrated in Figure 6.5.

Figure 6.5 Aligning the Belt Clip Adaptor Plate for Installation



- To attach the belt clip adaptor plate to NEO, thread the screws through the eyelets into the metal inserts on NEO.

Figure 6.6 Attaching The Adaptor Plate



- With the adaptor plate attached to NEO, join the plastic belt clip (included in your kit) to the adaptor plate.

6.1.3 The Expansion Port

NEO is equipped with an expansion port so that customised modules (e.g., RFID) can be easily added to your hand-held computer as they are required.



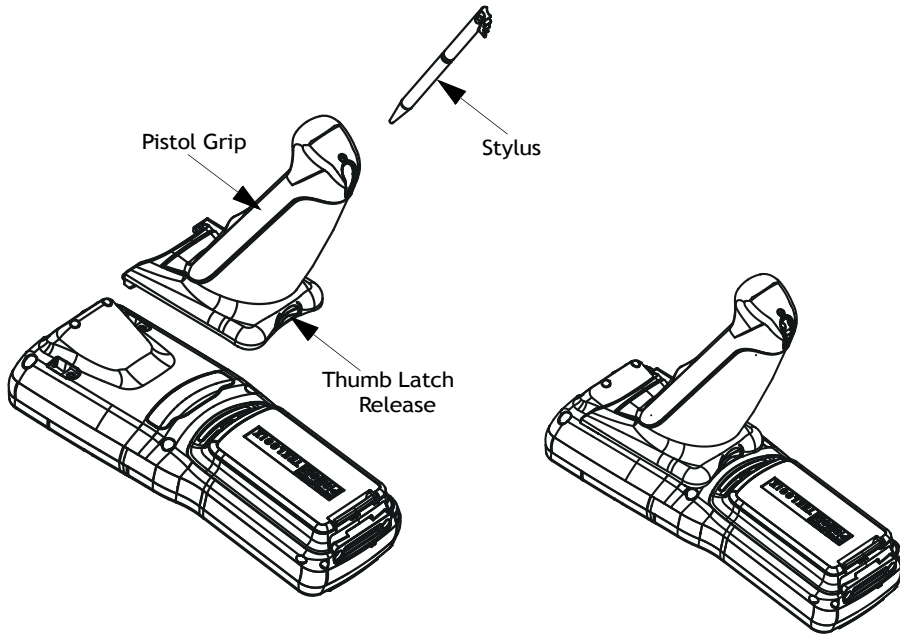
Important: *Do not remove the expansion port cover unless an expansion module is being installed.*

6.1.4 The Pistol Grip With Stylus

The pistol grip has been designed to easily attach to NEO without tools or screws. For added convenience, the pistol grip is equipped with a stylus inserted in the handle.

- Remove the expansion port cover on the back of NEO. Store the cover in the underside of the pistol grip – you'll see an indent in the shape of the port cover in the pistol plastic.
- Position the pistol grip over the slots moulded into the back of NEO, and snap it into place – no screws required.

Figure 6.7 Attaching the Pistol Grip



To release the pistol grip:

- Press the thumb latch release, and lift the pistol grip out.



Note: To maintain proper operation, ensure that the expansion port and the pistol grip contacts are dry and free of debris. If necessary, use a soft cloth moistened with alcohol to clean the contacts.

6.2 The Battery



Important: Carefully review the “NEO Hand-Held Computer Regulatory & Warranty Guide”, PN 8000175, before handling a battery.

NEO operates on a 3300 mAh lithium-ion battery pack, Model No. WA3006.



Note: Review Chapter 7: “Specifications” for detailed information.

6.3 Adaptor/Cable Options

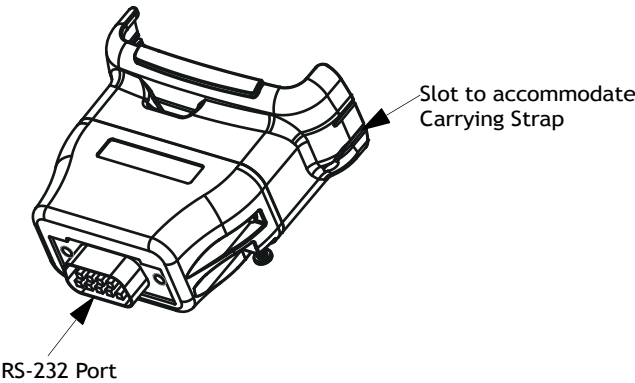
The following are adaptors that can be ordered for NEO:

Table 6.2 Adaptor/Cable Model Numbers And Descriptions

Model Number	Adaptor/Cable Description
PX3052	Cable/Dongle – Micro-USB to Ethernet
PX3053	Cable – Micro-USB to USB ‘A’ Receptacle
PX3058	Cable – Micro-USB to USB ‘A’
PX3050	Adaptor – Hand-Held to RS-232 Connector
PX3054	Adaptor – Hand-held to Micro-USB with DC Jack
PX3056	Adaptor – Cigarette Lighter

6.3.1 RS-232 Adaptor - Model No. PX3050

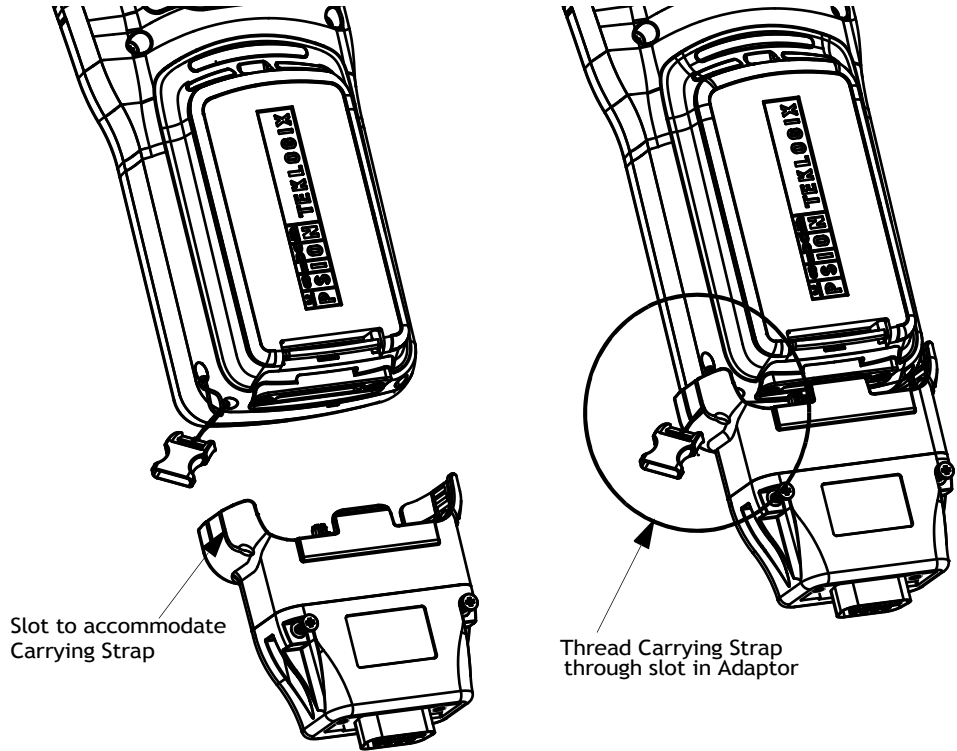
This adaptor is equipped with an RS-232 port via a standard non-powered DB9 connector. Carrying devices such as the wrist strap can still be used when the adaptor is attached to the hand-held.



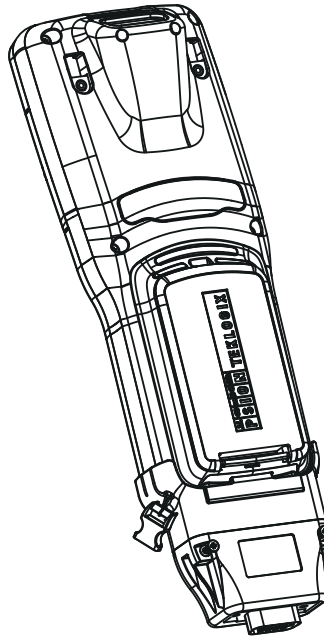
To attach the adaptor to NEO:

- Make certain that the adaptor connector and NEO docking port are free of dust or any other debris before connecting them.
- A slot on the side of the adaptor is provided to accommodate the carrying strap. Thread the carrying strap through the slot on the adaptor. (Refer to Figure 6.8 on page 153.)

Figure 6.8 Threading Wrist Strap Through Adaptor



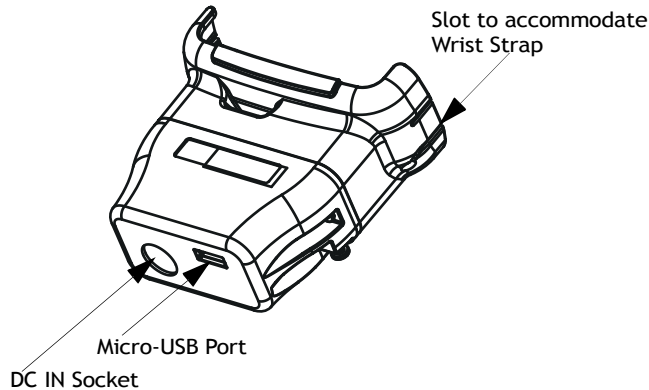
- Align the docking port on the base of NEO with the adaptor, and gently snap the adaptor into place.



6.3.2 Micro-USB Adaptor - Model No. PX3054

This adaptor is equipped with a micro-USB port along with a DC IN socket. When attached to NEO, the adaptor allows you to connect an AC wall adaptor (Model No. PX3012) or an automotive power adaptor (Model No. PX3056) to the hand-held. The micro-USB port allows you to utilize the micro-USB to Ethernet cable (Model No. PX3052) and the micro-

USB to USB 'A' (Model No. PX3058 & PX3053). Carrying devices such as the wrist strap can still be used when the adaptor is attached to the hand-held.



To attach this adaptor:

- Make certain that the adaptor connector and NEO docking port are free of dust or any other debris before connecting them.
- A slot on the side of the adaptor is provided to accommodate the wrist strap. Thread the wrist strap through the slot on the adaptor. (See Figure 6.8 on page 153 for details.)
- Align the docking port on the base of NEO with the adaptor, and gently snap the adaptor into place.

6.4 Charging Options

Psion Teklogix offers a variety of charging options for NEO. These include:

- AC Adaptor – Model No. PX3012 with PX3054
- Cigarette Lighter Adaptor – Model No. PX3056 with PX3054
- Desktop Docking Station – Model No. PX3001
- Desktop Docking Station with Integrated V.92 Analog Modem – Model No. PX3008
- Quad Docking Station – Model No. PX3004 PC and PX3004 NPC
- Battery Chargers for charging batteries only:
 - Quad Battery Charger – Model No. WA3004
 - Single Battery Charger – Model No. WA3001

6.4.1 Installation - Docking Stations

When installing a docking station, consider the following guidelines.

- Keep docking stations away from excessive dirt, dust and contaminants.
- Docking stations will not charge batteries outside an ambient temperature range of 0 °C to 45 °C (32 °F to 113 °F). It is recommended that the 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 docking station for possible damage.
- Install the IEC power cord and apply power.

6.4.2 Power Consumption Considerations

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

- Quad docking station—can consume up to 3A @ 120VAC or 1.5A @ 240VAC.

6.4.3 Operator Controls

NEO docking stations have no operator controls or power switches.

6.5 Desktop Docking Station - PX3001

Figure 6.9 Desktop Docking Station





Note: The desktop docking station is shipped with its own user manual. It is critical that it be reviewed for additional information and updates.

The desktop docking station is designed to charge the battery installed in NEO along with a spare battery pack. It is equipped with a micro-USB port.

Figure 6.10 Back of Desktop Docking Station



Important: *This docking station can only be used to charge Psion Teklogix approved lithium-ion batteries.*

6.5.1 Desktop Docking Station Setup


Refer to instruction sheet *PN 1081333* for a checklist of startup steps. You can find this instruction sheet on Teknet. Go to www.psionteklogix.com. Tap on **Teknet** and enter your **user name** and **password**. If you're not already a member, you will be asked to register free of charge.

6.5.2 Charging A Battery Installed In NEO



Important: *Before charging a battery, it is critical that you review the “NEO Hand-Held Computer Regulatory & Warranty Guide, PN 8000175.”*

Charging a Spare Battery

- Insert the DC power cable to the DC IN port on the desktop docking station. Plug the pronged end of the cable into an AC outlet.
- Slide NEO into the docking station, making certain that the connector on the base of the hand-held is securely seated on the docking station connector pins. An icon is displayed in the task bar at the bottom of the hand-held screen indicating that the unit is properly installed in the station: 

The LED on NEO lights up indicating that the unit has external power and battery charging will begin. It is safe to leave the unit in the desktop docking station while it is not in use – the battery will not be overcharged.



Note: To maintain the NEO real time clock for three days, the battery must be charged for a minimum of two hours (while installed in the hand-held).

6.5.3 Charging a Spare Battery

To charge a spare battery:

- Insert the battery in the spare battery charge well at the back of the docking station, aligning the contacts on the battery with the contacts in the spare battery charge well.



*Note: To maintain the NEO real time clock for three days, a battery must be charged for at least two hours while installed in the hand-held; however, if you are charging a **spare** battery (not installed in the hand-held), the real time clock three day backup cannot be maintained until a charged battery is installed in the hand-held computer for at least two hours.*

6.5.4 Battery Charge Duration

When NEO is inserted in the desktop docking station, 3 hours is required to charge the battery to 75% capacity.



Note: The specified battery charge times are based on NEO default settings – i.e., display brightness 50%, keyboard backlight off, 802.11b/g radio on and 23° C temperature. Additional peripherals and other power consumption features will also alter the specified charge time.

The desktop docking station stops applying power to the battery when it is fully charged—there is no risk of overcharge if the battery remains in the charge well.

6.5.5 Docking Station Charger LED Indicators

The desktop docking station is equipped with a single tri-coloured LED indicator in the lower-right corner of the front panel that indicates various charge states of the spare battery installed in the docking station.



Note: During the first two minutes of a battery charge, the LED remains solid yellow while the hand-held computer status is assessed and the super capacitor is charged.

Table 6.3 Desktop Docking Station Charger LED Behaviour

LED Behaviour	Charge Status
Off	No battery detected in the slot.
Solid Yellow	Battery charged to less than 75% of capacity.
Flashing Green	Battery charged to between 75% and 95% of capacity.
Solid Green	Charge complete.
Flashing Yellow	Battery is not charging. The battery temperature is outside of the charge range of 0° C to 45° C.
Solid Red	Battery is not charging. Battery fault.



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

6.5.6 Troubleshooting the Charging Operation of The Dock

6.5.6.1 Indicator Solid Red

If the indicator is solid red:

- Remove the battery and disconnect the mains power cable.
- Wait at least 20 seconds, and then plug the cable in again.

If the charge well LED remains solid red, the battery may be defective or there is a power supply problem.

6.5.6.2 NEO Power LED Does Not Light Up

- Ensure NEO is fully seated in the dock.
- Verify that there is power from the mains outlet.
- Remove the power cable from the docking station, and check it for damage.

- Reconnect the power cable to the outlet.

6.5.6.3 Indicator Does Not Light When Battery Installed

- Reinstall the battery, and check that it is fully seated in the charge well.
- Remove the battery, and clean the contacts on the battery and the charge well.
- Inspect the charge well contacts for damage (are they bent, flattened, twisted or broken).
- Try inserting a battery that you know to be working in the charge well.
- Reconnect the power cable, and check that the charge well indicator flashes at powerup.

6.5.7 Linking NEO to a PC

The desktop docking station can be connected to a PC so that you can exchange files or install applications. A USB cable is included with your docking station.



Note: For information about data transfer with the Windows XP operating system and ActiveSync or with the Vista operating system, refer to “Data Transfer Between The PC And The Hand-Held” on page 19.

To link NEO to a PC:

- Insert the hand-held in the desktop docking station.
- Insert the micro-USB connector into the docking station connector. Attach the other end of the cable into a USB port on the PC.

6.5.8 Linking NEO to an Ethernet Network

A micro-USB Ethernet adaptor cable – model number PX3052 – is used to connect NEO to an Ethernet network through a desktop docking station.

- Insert the micro-USB connector on the adaptor cable into the micro-USB port on the back of the desktop docking station.
- Connect your network Ethernet cable to the Ethernet port on the adaptor cable.

6.5.8.1 Network Access

The hand-held unit automatically detects insertion into the desktop dock and loads the appropriate drivers to communicate with the micro-USB Ethernet converters.

Network Addressing

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

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

6.5.9 Troubleshooting USB Operations

- Ensure that the unit is fully seated in the dock. A dock icon should be visible in the task bar.
- Ensure the USB cabling is connected properly.
- Ensure NEO and docking station contacts are not contaminated.

6.6 AC Wall Adaptor- Model No. PX3012

The AC wall adaptor available for your docking station allows you to operate your hand-held using AC power while charging the battery inserted in the unit.

Adaptor plugs suitable for use in various countries are shipped with the AC wall adaptor.

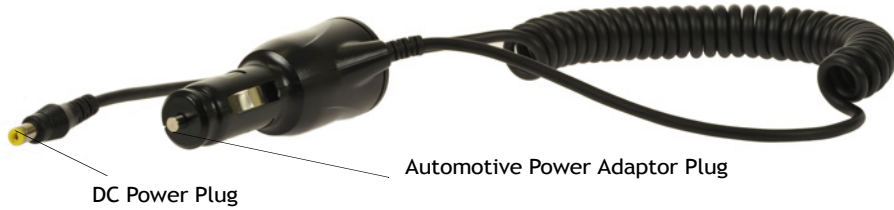


- Choose the adaptor plug that is suitable for use in your country. Slide the adaptor plug into the Universal AC power supply, snapping it into place. These two pieces, coupled together, are referred to as an AC wall adaptor.
- Insert the DC power plug into the DC IN socket at the back of the charger.
- Plug the pronged end into an AC outlet.

6.7 Cigarette Lighter Adaptor – Model PX3056

The cigarette lighter adaptor allows you to power your hand-held and recharge your battery using power drawn from your vehicle's automotive power outlet when used in conjunction with the DC/USB Adaptor, Model No. PX3054.

Figure 6.11 Automotive Power Adaptor



- Attach the micro-USB adaptor, model number PX3054, to the base of NEO. Refer to “Micro-USB Adaptor – Model No. PX3054” on page 154 if you require further details. The desktop docking station is also equipped with a DC IN socket to which you can connect the automotive adaptor.
- Insert the DC power plug on the automotive adaptor into the DC IN socket on the Micro-USB adaptor or desktop docking station.
- Insert the automotive power adaptor plug into automotive power outlet in your vehicle.



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

6.8 Quad Docking Station - PX3004 PC & PX3004 NPC



Note: The quad docking station is shipped with a user manual. It is critical that this manual be reviewed for additional information and updates.

The quad docking station permits each of four docked NEOs to communicate with a 10/100 BaseT Ethernet network. It also provides sufficient power to operate the hand-helds and charge their batteries.



Important: *The Ethernet connection on the quad docking station is designed for indoor use only!*

6.8.1 Quad Docking Station Setup

Refer to instruction sheet *PN 1081342* for a checklist of startup steps. You can find this instruction sheet on Teknet. Go to www.psionteklogix.com. Tap on **Teknet** and enter your **user name** and **password**. If you're not already a member, you will be asked to register free of charge.

6.8.2 Quad Docking Station Indicators

The quad dock is equipped with a power indicator LED and RJ45 link and traffic indicator LEDs. When a valid link is established, a green LED is illuminated next to the RJ45 connector.

6.8.3 Inserting NEO in the Quad Docking Station

- Slide NEO into the cradle portion of the quad dock until lightly latched.

The LED on the hand-held unit lights up to show it has external power and may start charging the battery.

Interaction with NEO while in the quad dock is a function of the user application software used to communicate with the host network.

6.8.4 Network Access

The quad docking station has one 10/100 Ethernet port. You can insert up to four hand-held units. The hand-helds are connected to an internal USB hub. The hand-held unit automatically detects insertion into a quad docking station and loads the appropriate drivers to communicate with the USB/Ethernet converters.

6.8.4.1 Network Addressing

Although the USB converters have fixed Ethernet MAC addresses, there is generally no correlation between these addresses and a specific hand-held. The host application uses standard TCP/IP protocol to name, locate and communicate with a specific NEO on the network.

If a link is established between NEO and a host, the application on the host and on the hand-held must have a recovery mechanism in the event that NEO is removed from the dock and the link is interrupted.

6.8.5 Battery Charging - LED Behaviour

Charge status is displayed on the hand-held LED. Refer to Table 6.3 on page 159 for detailed LED charge behaviour. When inserted in the quad dock, NEO requires 3 hours to charge to charge the battery to 75% capacity. Charge durations are independent of the number of NEOs docked.



Note: The specified battery charge times are based on NEO being powered off. Additional peripherals and other power consumption features will also alter the specified charge time.

6.8.6 Troubleshooting

The indicators, applications and drivers required to use and monitor the docking station are installed on NEO – no indicators or applications are present on the docking station itself.

6.8.6.1 Network Link Unsuccessful

If a network link fails, the application must take appropriate action.

6.8.6.2 NEO LED Does Not Light When Docked

- Check that the quad docking station has power: Is the Power LED on the docking station illuminated?
- Try inserting NEO in another well in the quad dock.
- Check for dirt or contamination on the docking contacts at the bottom of NEO. Wipe the contacts with a damp cloth if necessary.
- Check the connector pins inside the dock cradle for dirt. Gently wipe with a soft cloth if they appear to be dirty or discoloured.
- Check that the contacts are not bent or damaged.
- Remove and reinsert NEO in the cradle.
- Make certain that the battery installed in NEO is not defective.

6.9 Scanners and Imagers

NEO supports 1D laser scanner (SE955), 2D imager (HHP 5000) and 1D imager (EV15) options to address a variety of user application requirements. The scanner installed in your

unit can be configured using the *Scanner Settings* dialog box in the *Control Panel* (see “Teklogix Scanner Settings” on page 135 and Appendix C, “Bar Code Settings,”) and the *Manage Triggers* application (see page 98).

If a 2D imager is installed in your unit, the imager can be configured using the *Teklogix Imager* applet. For details, refer to “Imager Demo Applet” on page 134 and Appendix D: “Teklogix Imagers Applet”.



Important: *It is critical that you review the “NEO Hand-Held Computer Regulatory & Warranty Guide, PN 8000175, before proceeding.*

6.9.1 Basic Scanner Operations

- Turn the hand-held on. Wait until the unit has booted up completely.
- Aim at the bar code and press the scan key or the trigger. A scan beam and a warning indicator appear until a successful decode is achieved or six seconds have elapsed.

6.9.2 Scanning Techniques

- NEO’s unique ergonomic design allows you to hold the hand-held at a comfortable angle while scanning.
- Ensure that the scanner beam is not perpendicular to the bar code. Light reflected directly back into the scanner’s exit window may 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.
- When using imaging scanners, do not move the scanner while decoding the bar code. Movement blurs the image.
- Hold the scanner farther away for larger bar codes.
- Hold the scanner closer for bar codes with bars that are close together.

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

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

6.9.3 Troubleshooting

If the scanner is not working, investigate the following:

- Check that the bar code symbology being scanned is enabled for the hand-held you are using. Check any other parameters that affect the scanning procedure or the bar code.
- Check the bar code to make sure it is not damaged. Try scanning a different bar code to verify that the problem is not with the bar code.
- Check that the bar code is within the specified decode zone. Refer to “Scanner/Imager Specifications” on page 173 for details.
- Does the hand-held display the warning without scanning? This suggests a hardware problem in the hand-held.
- Is the laser beam scanning across the bar code?
- Once the scan beam has stopped, check the scanner window for dirt, fogging or damage.

6.10 Bluetooth Peripherals

NEOs equipped with *Bluetooth* radios make it possible to communicate with a variety of *Bluetooth* peripherals, including GSM/GPRS handsets, scanners, printers, and so on.

The range of the *Bluetooth* radio is limited to approximately 10 meters.

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

- GSM/GPRS universal handset.
- *Bluetooth* printer.
- *Bluetooth* headset.

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

Refer to “Bluetooth Setup” on page 102 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 NEO host.

SPECIFICATIONS

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7.1 NEO Hand-Held Specifications



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

7.1.1 Hardware

Physical Dimensions

- 168 mm x 64 mm x 34 mm (6.6 in. x 2.5 in. x 1.3 in.)

Weight (with battery pack)

- 275 g (0.6 lbs.)

User Interface

Colour Touchscreen Display:

- 6.86 cm (2.7 in.) diagonal in QVGA portrait mode
- Sunlight readable transmissive with touchscreen
- Colour 240 x 320 graphic TFT
- Passive stylus or finger operation
- LED backlit keyboard

Keyboard:

- 48-key Alpha Numeric
- 26-key Numeric
- Ergonomically enhanced for ambidextrous, one-hand operation

Indicators & Controls:

- Tri-coloured LED indicates battery charge and scan status

Audio:

- Built-in microphone and receiver on all Connected hand-helds
- 85db internal beeper
- *Bluetooth* (on equipped models)

Internal Expansion Slot

- One microSD memory card slot – user accessible.

Expansion Port

- Battery Power

- USB signalling

Docking Port

- RS-232
- USB
- DC Input

Environmental Specifications

- Drop Test: 1.2 m (4 ft.) - 26 drops to polished concrete
- Rain/Dust: IP54, IEC 529
- 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
- Storage Temperature: -20 °C to +60 °C (13 °F to 140 °F)
- Shock and Vibration: Random vibration 1 m2/s3 @ 5 to 200 Hz, 0.5 m2/s3 @ 200-500 with duration of 100 min/axis, 3 axes and shock of 150 m/s2 @ 11ms and 300 m/s2 @ 6ms.
- ESD: ± 8kVdc air discharge, ± 4kVdc contacts

7.1.2 Software

Platform

- PXA270 Processor @ 624 or 312 MHz
- Memory:
 - On-board RAM: 128 MB SDRAM
 - On-board ROM: 128 MB Flash

Operating System

- Microsoft® Windows® CE 5.0 Professional (connected variant)
- Microsoft® Windows® CE 5.0 Core (batch variant)

Programming Environment

- HTML, XML.
- Mobile Devices SDK:
 - CE .NET SDK

- Java Visual C++
- Standard protocols APIs – Windows[®] sockets (WinCE)

Application Software

- Internet Explorer 6.0 included with Windows CE 5.0 Professional only
- WordPad included with Windows CE 5.0 Professional only
- ActiveSync
- Open Tekterm
- ANSI
- TESS terminal emulations
- IBM 3270, IBM 5250, HP 2392
- Naurtech
- MCL
- MCC
- PTX Connect
- Stay-Linked

7.1.3 Wireless Communication

- On-board IEEE 802.11b/g (CCX Certified)
- On-board *Bluetooth* radio

7.1.4 Bar Code Applications

- Optional 1D EV15 imager module.
- Optional 1D SE955 laser scanner module
- Optional 2D HHP 5000 imager module

7.2 NEO Radio Specifications

7.2.1 802.11b/g Radio

Direct Sequence Spread Spectrum (DSSS) and Orthogonal Frequency Division Multiplexing (OFDM)

- Form factor: Embedded surface mount module, 8.2 x 8.4 mm
- Antenna port: U.FL jack

Bluetooth Radio

- Antenna Type: PCB slot antenna
- Antenna Gain: 2dBi peak
- Transmit Power: 802.11b/g: 50 mW typical (+17 dBm)
- Frequency Range: 2.400 - 2.4835 GHz
- Channels: This radio supports 802.11d. The radio will associate with any 802.11d compliant AP, regardless of what channel is in use.
- RX Sensitivity:
 - 86 dBm typ @ 11 Mbps
 - 82dBm @ 6 Mbps, -69 dBm @ 54 Mbps
- Data Rates:
 - 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
 - 802.11b: 1, 2, 5.5, 11 Mbps
- EVM
 - 802.11b: -28 dB typ (16%)
 - 802.11g: -29 dB typ (13%)
- *Bluetooth* Co-existence: 2-line hardware handshake with *Bluetooth* radio

7.2.2 **Bluetooth Radio**

- Form Factor: Embedded (920 kbps serial interface)
- *Bluetooth* Version: Version 2.0 compliant – features Adaptive Frequency Hopping (AFH) for better co-existence with 802.11 radio and Enhanced Data Rate (EDR) for up to 3 Mbps data rate
- Antenna Type: Ceramic chip PIFA
- Antenna Gain: 1 dBi peak
- Transmit Power: -3 dBm (0.5mW) minimum, +4 dBm (2.5 mW) max
- Frequency Range: 2.400-2.4835 GHz
- RX Sensitivity (BER<0.1%): -80 dBm max
- Data Rate:
 - V1.2 = 732.2 kbps and 57.6 kbps asymmetric, 433.9 kbps symmetric
 - V2.0 = 2 & 3Mbps
- 802.11 Co-existence: 2-line hardware handshake with 802.11 radio

7.3 Scanner/Imager Specifications

7.3.1 SE 955HP Specifications

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

7.3.1.1 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	

7.3.2 EV15 Imager Specifications

Parameter	Specification
Light Source	617nm Highly Visible LED
Scan Angle	40°
Minimum Print Contrast	Minimum 25%
Min x. Dimension	0.1 mm (4 mils)
Reading Distance	Up to 90cm (35 in)
Symbologies	UPC (E&A), EAN, RSS, Code 39, Code 128, UCC/EAN 128, ISBN, ISBT, Interleaved, Matrix, Industrial and Standard 2 of 5, Codabar, Code 93/93i, Code 11, MSI, Plessey, Telepen, PDF417, Micro PDF417
Ambient Light	Works in any lighting conditions, from 0 to 100,000 lux
Shock	2000G, 0.7ms, half sinus, 3 axes
Vibration	50G r.m.s

7.3.2.1 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.		

7.3.3 HHP 5000 Imager Performance

Specification	HHP 5000
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)

7.3.3.1 HHP 5000 Decode Zone

Performance Focal Point

SR	7 inches (17.8 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)

APPENDIX A

PINOUTS

A.1 Docking Connector Pinout

PIN #	Signal Name	Function
1	DGND	Ground
2, 3, 4	VDD_EXT_POWER	Power Input (6 VDC, 2.8 A)
5	BATT_OUT	Not Connected
6	AUDIO_N	Not Connected
7	AUDIO_P	Not Connected
8	VBUS_5V	USB Vbus (5 V @ 500 mA)
9	DOCK_ID	Dock Identifier
10	USB_DOCK_D-	USB Data Negative
11	USB_DOCK_D+	USB Data Positive
12	USB_DOCK_ID	USB Identifier
13	DGND	Ground
14	TXD	RS-232 Transmit Console Data
15	RXD	RS-232 Receive Console Data
16	DGND	Ground

A.2 Battery Connector

PIN #	Signal Name	DESCRIPTION
1	B-	Battery Negative
2	DQ	Bi-directional data (DS2762)
3	TH (GND)	Ground
4	B+	Battery Positive
5	PS	Power Switch Sensor
-	POLARITY TAB	
6	B-	Battery Negative

A.3 Expansion Port Pinout

PIN #	Signal Name	Function
1, 2, 5, 13, 14, 15, 16	DGND	Power Ground
3	USB-	USB Device port negative data
4	USB+	USB Device port positive data
6	EXP~TRIG	Pistol Grip Trigger signal
7	EXP_~DETECT	Detection of installed device
8, 9, 10, 11, 12	SW_VSYS_PWR	Power Output (2.7-4.2VDC, 1A peak, 500mAh nominal) switched

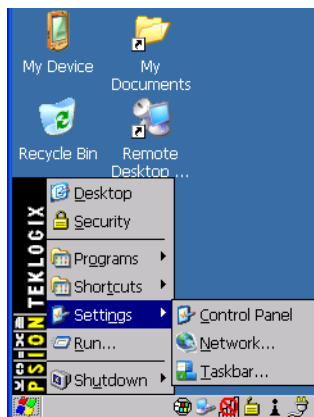
APPENDIX B

WIRELESS ZERO CONFIG

B.1 Wireless Information

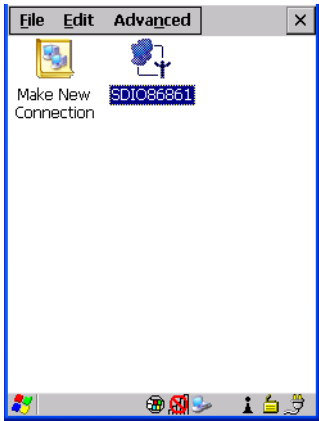
Wireless Zero Config is the native Windows supplicant. To activate *Wireless Zero Config*, refer to “Advanced Tab” on page 22.

- Tap on **Start>Settings>Network and Dial-up Connections**.



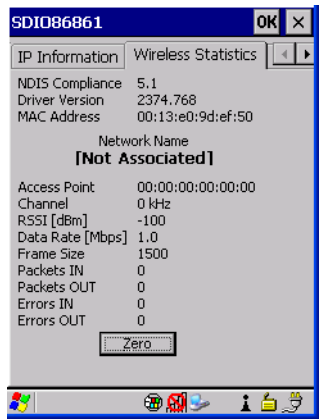
- Choose the **radio icon** representing the radio you want to set up – in the sample screen in Figure B.1, this is labelled as *SDIO86861*

Figure B.1 802.11 Wireless LAN Settings Window



- **Wireless Statistics Tab:** When you choose the **Wireless LAN** icon, an **802.11 Wireless LAN Settings** window is displayed. This tab lists your radio statistics. Choosing the **Zero** button resets the statistics of the last four items – Packets IN, Packets OUT, IN errors and OUT errors.

Figure B.2 Wireless Statistics



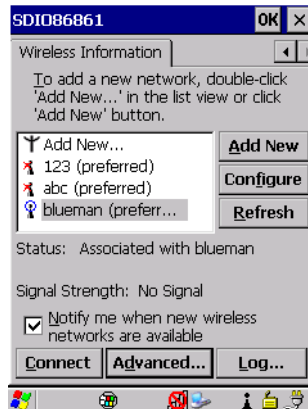
- **Wireless Information Tab:** This tab displays existing networks to which you can connect, and it allows you to add a new network or modify the settings for an existing network.



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

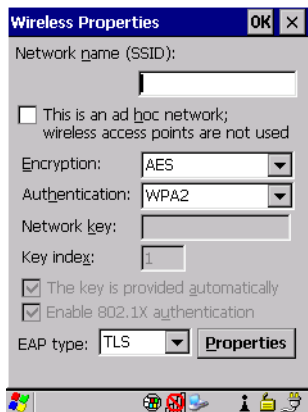
Connect button – To force connection to a specific, existing network, highlight the network to which you want NEO to connect, and tap on the **Connect** button

Figure B.3 Wireless Information Tab



This tab lists available networks – any access points that are broadcasting an SSID, and it lists preferred networks – networks that you have configured. Since access points are generally secure, they will most likely not be listed here. By default, NEO attempts to connect to preferred networks. This behaviour can be changed by enabling *Automatically connect to non-preferred networks* in the *Advanced* dialog box (see Figure B.5).

- To add a new configuration, tap on the **Add New** button. A blank *Wireless Properties* dialog box is displayed.
- **Wireless Properties Tab:** Type the appropriate SSID (Service Set Identifier) in the **Network name (SSID):** dialog box. The *Network name* field can contain a maximum of 32 characters. The name assigned here is listed as a preferred network.



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

- **Ad Hoc And Infrastructure:** If you are using an *Infrastructure* network – one in which NEOs must pass data through an access point – leave the checkbox next to *This is an ad hoc network* blank.

If you are using an *Ad Hoc* network – a network in which NEOs pass data directly to other Ad Hoc devices without an access point – add a checkmark in the checkbox next to *This is an ad hoc network to enable Ad Hoc*.

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

AES (Advanced Encryption Standard) is a standard for protecting data through encryption. AES supports key sizes of 128 bits, 192 bits and 256 bits and will serve as a replacement for the Data Encryption Standard (DES), which has a key size of 56 bits. In addition to the increased security that comes with larger key sizes, the AES algorithm is a symmetric block cipher that can encrypt (encipher) and decrypt (decipher) information.

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

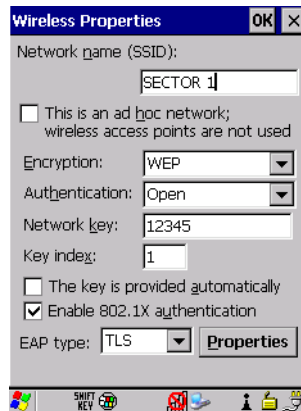
Under *Shared* authentication, each wireless station is assumed to have received a secret shared key over a secure channel that is independent from the 802.11 wireless network communications channel.

Under *WPA* and *WPA-PSK* authentication, the use of 802.1x authentication is required. For wireless networks *without* a Remote Authentication Dial-In User Service (RADIUS) infrastructure, WPA supports the use of a preshared key. For wireless networks *with* a RADIUS infrastructure, Extensible Authentication Protocol (EAP) and RADIUS is supported.

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

To assign a *Network key*, highlight **The key is provided automatically**, and *uncheck* the checkbox to disable this option.

Figure B.4 Network Key and Key Index



- **Key Index:** This field is used to identify the WEP key. Enter a value from 1 to 4.
- **Enable 802.1x authentication:** 802.1X is the IEEE standard that offers additional security for local area networks. It provides authentication for user devices attached to an Ethernet network, whether wired or wireless. A security protocol packet such as TLS or MD5 encapsulated in an *EAP* is used in conjunction with the 802.1X standard to authenticate users at the MAC layer. Available EAPs are listed in the dropdown menu next to the *EAP* option. To activate 802.1X, highlight **802.1x authentication**, and check the checkbox.

- **EAP Type (Extensible Authentication Protocol):** This drop-down menu lists the EAP types available on your system. The items in this drop-down menu will vary depending on your network setup. Keep in mind also that some authentication protocols require that you select a Certificate. By selecting the *Properties* button, you will be able to select a *Certificate*. “Certificate Assignment” on page 102 provides a website that outlines how to create certificates for your network.
- **Saving and exiting the radio setup:** Once you’ve completed the configuration, press [ENTER], or tap on OK.

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

B.2 Assigning an IP Address

If your network is not using a DHCP server, you will need to assign an IP address. Refer to “IP Address” on page 19 for details about assigning an IP address.

B.2.1 Name Server

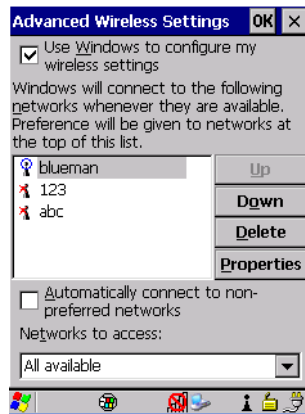
Refer to “Name Server” on page 21 for details about this option.

B.2.2 Advanced Features

To display the *Advanced Wireless Settings* dialog box:

- Tap on the **Advanced** button in the *Wireless Information* tab. (Refer to Figure B.3.)
- This window lists the available preferred networks.

Figure B.5 Advanced Settings



B.2.2.1 Rearranging Preferred Networks

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

- Tap in the *Networks List*, and highlight the **network** that you want to move up or down in the list.
- To move the highlighted item in the list upward or downward, tap on the **Down** or **Up** button.

B.2.2.2 Deleting a Preferred Network

To delete a network from this list:

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

B.2.2.3 Changing Network Properties

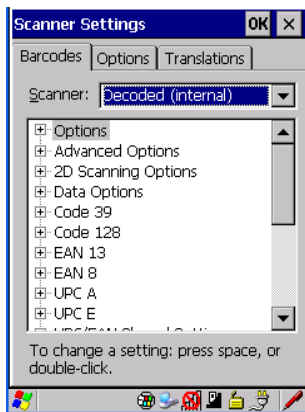
To change the properties of an existing preferred network:

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

APPENDIX C

BAR CODE SETTINGS

C.1 Decoded (Internal) Scanners



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

C.1.1 Options

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.

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, measured in tenths of seconds.

C.1.2 Decoded (Internal) - Advanced Options

Scan Mode

When you double-tap on this parameter, a dialog box is displayed in which you can choose a scanning mode: **Scan beam only**, **Aim with Scan: 1 trigger pull**, **Aim with Scan: 2 trigger pulls**, **Aim with Scan on trigger release**, and **Continuous Scan Mode**.

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.

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* and the unit is in a fixed mount; otherwise, this parameter is not used.

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

Parameter Scanning

Setting this parameter to **on** allows the scanner to respond to programming bar codes that can be found in the scanner manual. Scanning these is an alternative way to reprogram some of the scanner features.



Important: *Psion Teklogix strongly recommends that this parameter only be enabled by personnel with a very strong understanding the scanner and how it operates. Scanning the wrong parameter code can result in an inoperable unit; if this occurs, the unit will need to be shipped to a depot for repair.*

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.

C.1.3 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 this parameter displays a dialog box in which you can enter a value from 1 to 15.

C.1.4 Decoded (Internal) Data Options

Transmit Code ID Char

A code ID character identifies the scanned bar code type. In addition to any single character prefix already selected, the code ID character is inserted between the prefix and the decoded symbol.

When you double-tap on this parameter, a dialog box is displayed in which you can choose a transmit code: **None**, **AIM**, or **Symbol**.

Scan Data Format

This parameter allows you to change the scan data transmission format. Double-tapping on *Scan Data Format* displays the following options from which you can choose a data format: **data (as-is)**, **data [S1]**, **data [S2]**, **data [S1][S2]**, **[P] data**, **[P] data [S1]**, **[P] data [S2]**, and **[P] data [S1][S2]**.

Prefix [P], Suffix [S1] And Suffix [S2]

A prefix and/or one or two suffixes may be appended to scan data for use in data editing.

When you double-tap on these parameters, a dialog box is displayed in which you can enter a value from **0** to **255**.

Delete Char Set ECIs

Setting this parameter to **on** enables the scanner to delete any escape sequences representing Character Set ECIs – Extended Channel Interpretations (also known as GLIs) – from its buffer before transmission.

When this parameter is enabled, the scanner transmits data from PDF417 and MicroPDF417 bar codes containing Character Set ECIs, even when the ECI Protocol is disabled.

ECI Decoder

Setting this parameter to **on** enables the scanner to interpret any Extended Channel Interpretations (ECIs) supported by the scanner. This parameter has no effect on symbols that were not encoded using ECIs.

If this parameter is set to **off** and a symbol that was encoded using an ECI escape is scanned, the scanner transmits the ECI escape followed by the data that was not interpreted.

C.1.5 Code 39

Enabled

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

Enable Trioptic Code 39



Note: “Trioptic Code 39” and “Full ASCII” should not be enabled simultaneously. The scanner does not automatically discriminate between these two symbologies.

Trioptic Code 39 symbols always contain six characters. Setting this parameter to **on** allows this type of symbology to be recognized.

Convert To Code 32



Note: “Code 39” must be enabled in order for this parameter to function.

Setting this parameter to **on** allows the scanner to convert the bar code from *Code 39* to *Code 32*.

Code 32 Prefix



Note: “Convert to Code 32” must be enabled in order for this parameter to function.

When this parameter is enabled, the prefix character *A* is added to all *Code 32* bar codes.

Set Length L1 And Set Length L2

Lengths for *Code 39* can be set for **Any length**, **Length within a range**, **One discrete length** or **Two discrete lengths**. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

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

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

Check Digit Verification

When this parameter is enabled, 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.1.6 Code 128

Enabled

Set this parameter to **on** to enable *Code 128*.

Enable GS1-128/GS1 US

Previously named UPC/EAN and UCC, these types of bar codes include group separators and start codes.

Enable ISBT 128

To successfully scan this variation, *Enable ISBT 128* must be set to **on**.

Decode Performance

If this parameter is set to **on**, one of three decode levels assigned to the *Decode Performance Level* parameter can be selected.

Decode Perf. Level

This parameter provides three levels of decode performance or “aggressiveness” for Code 128 symbols. Increasing the performance level reduces the amount of required bar code orientation – this is useful when scanning very long and/or truncated bar codes. Keep in mind that increased levels reduce decode security.

When you double-tap on this parameter, a dialog box is displayed in which you can enter a decode performance level of between **1** and **3**.

Length Restriction

Refer to “Length Restriction” on page C-7 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

C.1.7 EAN 13

Enabled

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

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

C.1.8 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-8 for details.

C.1.9 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 8 for details.

C.1.10 UPC E

Enable UPC-E

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

Enable UPC-E1

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

UPC-E and UPC-E1 Check Digit

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

UPC-E and UPC-E1 Preamble

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

System Char – system character transmitted with the data,

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

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

Conv. UPC-E to UPC-A

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

Conv. UPC-E1 to UPC-A

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

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

C.1.11 UPC/EAN Shared Settings

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

Enable Bookland EAN

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

Supplementals

Supplementals are additionally appended characters (2 or 5).

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

Supp. Redundancy

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

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

Security Level

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

Linear Decode

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

2D UPC Half Block Stitching

Setting this parameter to **on** enables *UPC Half Block Stitching* for the omnidirectional scanner engine only.

C.1.12 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 bar codes of a specified length. Choosing **Two discrete lengths** allows you to specify two lengths of bar codes that may be decoded. **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-7 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

C.1.13 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 bar codes of a specified length. Choosing **Two discrete lengths** allows you to specify two lengths of bar codes that may be decoded. **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-7 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

C.1.14 MSI Plessey

Enabled

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

Set Length L1 and Set Length L2

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 bar codes of a specified length. Choosing **Two discrete lengths** allows you to specify two lengths of bar codes that may be decoded. **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-7 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

C.1.15 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 bar codes of a specified length. Choosing **Two discrete lengths** allows you to specify two lengths of bar codes that may be decoded. **Length within a range** allows you to decode a code type within a specified range from **4** to **14**.

Check Digit Verification

When enabled, this parameter checks the integrity of an I 2 of 5 symbol to ensure it complies with a specified algorithm – either USS (Uniform Symbology Specification) or OPCC (Optical Product Code Council).

Transmit Check Digit

If this parameter is enabled, the check digit is included with the bar code data.

Convert to EAN 13

If this parameter is enabled, the *I 2 of 5* bar code is converted to *EAN 13*.

Length Restriction

Refer to “Length Restriction” on page C-7 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

C.1.16 GS1 DataBar

All *GS1 DataBar* bar codes encode a GTIN-12 or GTIN-13 in a 14-digit data structure. In order to make the GTIN-12 or GTIN-13 a 14-digit data structure, a leading zero or zeros is filled to the left of the GTIN.

Enable GS1 DataBar Omni, Expanded & Limited

GS1 DataBar Omni and **GS1 DataBar Expanded** have omnidirectional scanning capability. **GS1 DataBar Limited** can only be scanned by a linear hand-held scanning device. They cannot be scanned by omnidirectional scanners. Each of these options can be turned **on** or **off** depending on the scanner installed in your hand-held.

Length Restriction

Refer to “Length Restriction” on page C-7 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

C.1.17 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 bar codes of a specified length. Choosing **Two discrete lengths** allows you to specify two lengths of bar codes that may be decoded. **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-7 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

C.1.18 Composite



Important: *To successfully read this type of bar code, the two types of symbologies included in a composite bar code must be enabled. In addition, “Center Bar Code Only” must be disabled.*

A composite symbol includes multi-row 2D components making it compatible with linear and area CCD scanners along with linear and rastering laser scanners.

The options available for this parameter represent multi-level components of a composite symbol.

Enable CC-C and Enable CC-AB

To activate these components, set these parameters to **on**.

Enable TLC-39

This composite component integrates MicroPDF417 with the linear code. Setting this parameter to **on** enables this parameter.

C.1.19 PDF-417

Enable

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

Length Restriction

Refer to “Length Restriction” on page C-7 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

C.1.20 Micro PDF-417

Enable

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

Code 128 Emulation

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

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

]C1 - if the first codeword is 903-907, 912, 914, 915

]C2 - if the first codeword is 908 or 909

]C0 - if the first codeword is 910 or 911

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

]L3 - if the first codeword is 903-907, 912, 914, 915

]L4 - if the first codeword is 908 or 909

]L5 - if the first codeword is 910 or 911

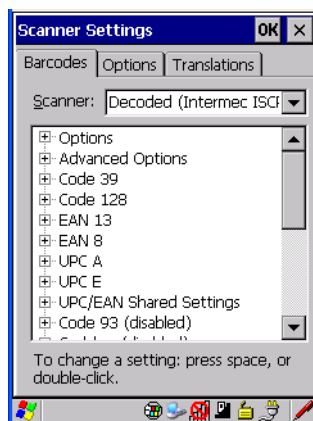
Length Restriction

Refer to “Length Restriction” on page C-7 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

C.2 Decoded (ISCP)



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

C.2.1 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.2.2 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 length of time the scanner remains active following a successful decode. The scanner wakes from low power mode when a bar code is scanned – a successful decode restores normal blinking.

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



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

Parameter Scanning

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

Same Read Validate

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

Same Read Timeout

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

Diff Read Timeout

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

Add AIM ID Prefix

The *AIM ID* (Association for Automatic Identification and Mobility) is an international bar code identifier. When this parameter is enabled, the *AIM ID* is inserted at the beginning of the decoded bar code.

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 **2550** milliseconds. A value of *0* (zero) disables the aiming dot.

C.2.3 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-7 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

C.2.4 Code 128

Enable

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

GS1-128

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

GS1-128 Identifier

GS1-128 Identifier allows the AIM ID " " 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-7 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

C.2.5 EAN 13 Settings

Enabled

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

ISBN Conversion

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

Transmit Check Digit

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

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

C.2.6 EAN 8

Enabled

Set this parameter to **on** to enable *EAN 8*.

UPC A

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-8 for details.

C.2.7 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-8 for details.

C.2.8 UPC E

Enabled

Set this parameter to **on** to enable “UPC E”.

Enable UPC-E1

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

Transmit Check Digit

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

Transmit Number System

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

Convert to UPC-A

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

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

C.2.9 UPC/EAN Shared Settings

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

Addendum

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

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

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

Addendum Add-on 2 and Addendum Add-on 5

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

GTIN Compliant

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



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

Reading Range

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

C.2.10 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-7 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

C.2.11 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-7 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

C.2.12 MSI Plessey

Enabled

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

Enable Plessey

Set this parameter to **on** to enable **Plessey**.

Check Digit Verification

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

Transmit Check Digit

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

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-7 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

C.2.13 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-7 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

C.2.14 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-7 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

C.2.15 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-7 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

C.2.16 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-7 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

C.2.17 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-7 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

C.2.18 GS1 DataBar

All *GS1 DataBar* bar codes encode a GTIN-12 or GTIN-13 in a 14-digit data structure. In order to make the GTIN-12 or GTIN-13 a 14-digit data structure, a leading zero or zeros is filled to the left of the GTIN.

Enable GS1 DataBar Omni, Expanded & Limited

GS1 DataBar Omni and *GS1 DataBar Expanded* have omnidirectional scanning capability. *GS1 DataBar Limited* can only be scanned by a linear hand-held scanning device. They

cannot be scanned by omnidirectional scanners. Each of these options can be turned **on** or **off** depending on the scanner installed in your hand-held.

Length Restriction

Refer to “Length Restriction” on page C-7 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

C.2.19 Composite



Important: To successfully read this type of bar code, the two types of symbologies included in a composite bar code must be enabled. In addition, “Center Bar Code Only” must be disabled.

A composite symbol includes multi-row 2D components making it compatible with linear and area CCD scanners along with linear and rastering laser scanners.

The options available for this parameter represent multi-level components of a composite symbol.

Enable CC-C and Enable CC-AB

To activate these components, set these parameters to **on**.

Linear Transmission Only

When *Linear Transmission Only* is enabled, only the linear code portion of the composite bar code is transmitted when scanned.

UPC-EAN Composite Message

This option allows you to choose how UPC-EAN shared bar codes are transmitted: **Always Linked**, **Never Linked** or **Auto-discriminate**.

C.2.20 TLC-39

Enable

Setting this parameter to **on** enables *TLC-39* scanning capability.

Linear Transmission Only

When *Linear Transmission Only* is enabled, only the linear code 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-7 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

C.2.21 PDF-417

Enabled

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

Length Restriction

Refer to “Length Restriction” on page C-7 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

C.2.22 Micro PDF-417

Enabled

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

Code 128 Emulation

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

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

JCI if the first codeword is 903-907, 912, 914, 915

JC2 if the first codeword is 908 or 909

Codablock

JC0 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:

JL3 if the first codeword is 903-907, 912, 914, 915

JL4 if the first codeword is 908 or 909

JL5 if the first codeword is 910 or 911

Length Restriction

Refer to “Length Restriction” on page C-7 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

C.2.23 Codablock

Codablock is a stacked variant to the standard bar codes Code 39 and Code 128.

Enable Codablock A

Codablock A is based on the structure of the Code 39. In 2 to 22 lines, 2 to 61 characters (max 1340 characters) are encoded. Set this parameter to **on** to enable this option.

Enable Codablock F

Codablock F is a stacked bar code symbology based on Code 128. In 2 to 44 lines each, 4 to 62 characters (max 2725) are encoded. Set this parameter to **on** enable this option.

Length Restriction

Refer to “Length Restriction” on page C-7 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-8 for details.

APPENDIX D

TEKLOGIX IMAGERS APPLET

The *Teklogix Imagers* applet is used to create, modify, delete, and activate imager settings. The principal uses of the application are to decode bar codes and to capture images. A *Demonstration Application* is provided to demonstrate how the imager works. Refer to “Imager Demo Applet” on page 134 for details.

D.1 Required Applets

In order to configure imaging, the *Manage Triggers* applet must be present in the *Control Panel*, along with the *Teklogix Imagers* applet.

D.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.

D.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.

D.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.

D.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 uses the *Symbology Settings* menu to define the preset. For details about the *Symbology Settings* menu, refer to “Bar Coding Tab – Configuring Symbologies” on page D-15.

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 2D symbologies that the imager can decode.

Postal

This preset enables the decoding of all the postal symbologies that the imager can decode.

D.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.

D.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.

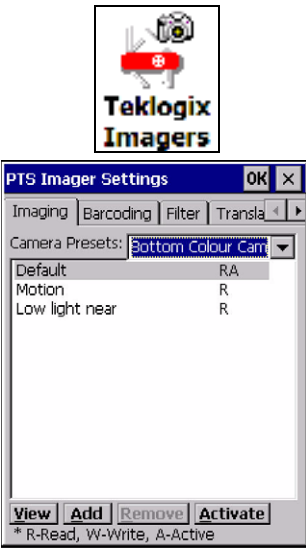
D.3 Using the Teklogix Imagers Applet

D.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.

Figure D.1 Imaging Tab



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*.

D.3.2 Selecting a Camera

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.

D.3.3 Setting the Active Preset

An active preset has an *A* to the right. To set an active preset:

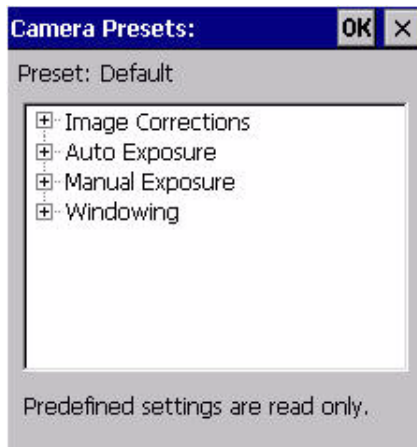
- Highlight the preset, and tap on the **Activate** button.

D.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.



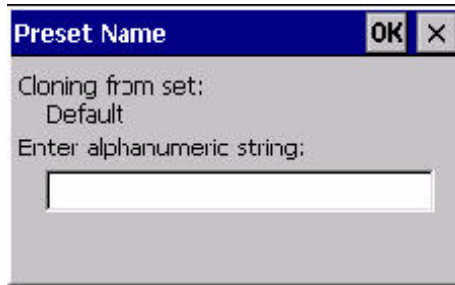
- Tap on the + sign to expand the lists so that you can view the parameter settings.

D.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 (*RW*).

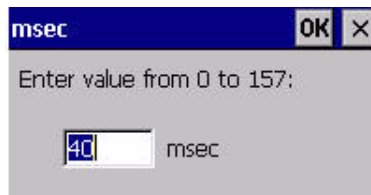
D.3.6 Modifying a Custom Preset

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.

D.3.7 Removing a Custom Preset

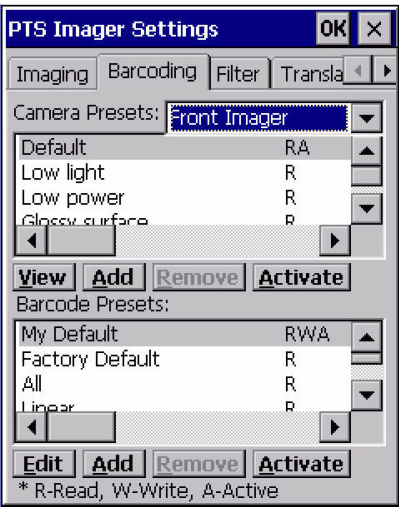
- Highlight the custom preset you want to delete, and tap on the **Remove** button. A window is displayed warning you that you are about to remove a preset.
- Tap on **Yes** to remove the preset or **No** to cancel the operation.

D.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.

Figure D.2 Bar Code Presets



This window lists all the presets, both predefined and the custom. Presets are identified as follows:

- Predefined presets are marked as read-only. For a description, review “Predefined Presets” on page D-2.
- 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*.



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.

D.4.1 Selecting a Camera

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.

D.4.2 Setting the Active Preset

An active preset has an *A* to the right; in Figure D.3 on page 12, the active preset is *Default*.
To set an active preset:

- Highlight the preset, and tap on the **Activate** button.

D.4.3 Viewing a Preset

To view the parameter settings in a preset:

- Highlight a preset, and tap on the **View** button.

The associated preset window is displayed.



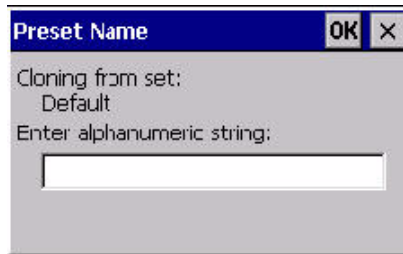
- Tap on the + sign to expand one of the lists so that you can view the parameter settings.

D.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.



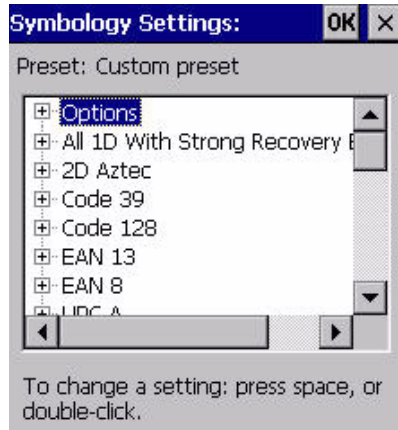
- Type the **name** of the new preset in the dialog box.
- Tap on **OK** to save your changes.

The preset list is displayed; the new custom preset appears at the end of the list. It is marked as read and write.

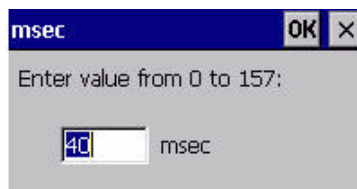
D.4.5 Modifying a Custom Preset

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.

D.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.

D.4.7 Configuring the Bar Code Decoding Symbolologies

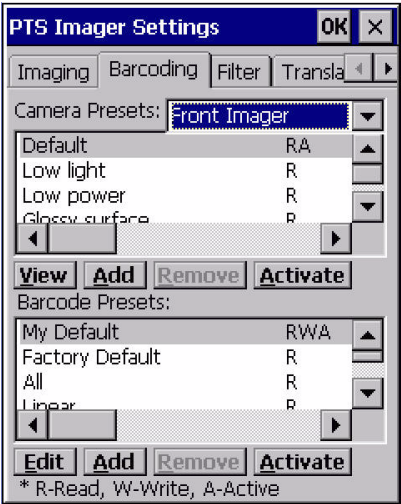
To configure the bar code decoding camera presets:

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



- Tap on the **Barcoding** tab.

Figure D.3 Viewing Bar Code Decoding Symbolologies



D.4.8 Setting the Active Preset

An active preset has an *A* to the right; in Figure D.3 on page 12, the active preset is *Default*. To set an active preset:

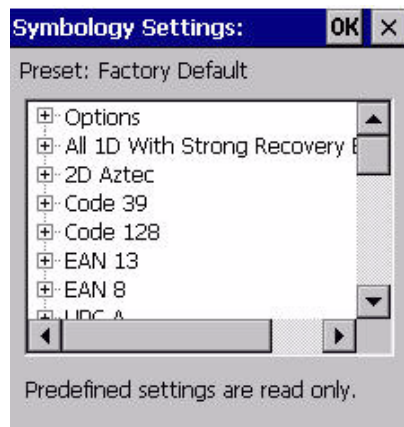
- Highlight the preset, and tap on the **Activate** button.

D.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.



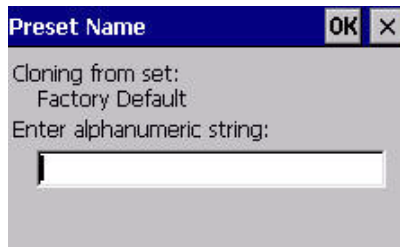
- Tap on the + sign to expand one of the lists so that you can view the parameter settings.

D.4.10 Creating a Custom Preset

A new custom preset is created by modifying a preset – either a predefined preset or an existing custom preset. To create a custom preset:

- Highlight a preset, and tap on the **Add** button.

A screen like the sample following is displayed.



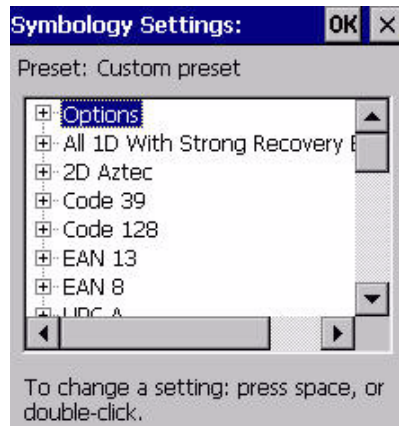
- Type the **name** of the new preset in the dialog box.
- Tap on **OK** to save your changes.

The preset list is displayed; the new custom preset appears at the end of the list. It is marked as read and write.

D.4.11 Modifying a Custom Preset

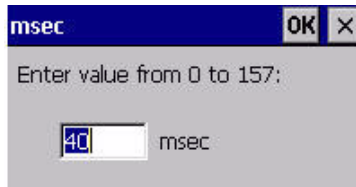
The parameter values in a custom preset can be modified. It is recommended that very few changes be made to a custom preset. To ensure that it will work reliably, it should be as close as possible to the original predefined preset. To change a parameter value:

- Highlight the custom preset, and tap on the **Edit** button.



- Tap on the + symbols to expand the lists and view the parameter settings.
- Scroll through the parameter list until you reach the parameter that you want to change.
- For a parameter that can take a *range* of values:

- Highlight the parameter, and then press the [SPACE] key or double-click the parameter.
- An associated dialog box containing the valid range of values for the parameter and the current setting like the sample screen following is displayed.



- Type a value in the field provided.
 - For a parameter that toggles between two values such as *on* or *off* and *enabled* or *disabled*:
 - Highlight the parameter and then press the [SPACE] key, or double-click on the parameter. Either method toggles between the two available values.
 - When you've completed your edits, tap on **OK**.
- The parameter list is displayed; the new value for the changed parameter is shown.
- Tap on **OK** to exit to the preset list and save the changes.

D.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.

D.4.13 Bar Coding Tab - Configuring Symbolologies

To *view* the *Symbology Settings* options:

- Tap on the **Barcoding** tab, tap on **All** and then double-tap the **View** button.

To *edit* a default preset, you must first *activate* it:

- Tap on **My Default**, and tap on the **Activate** button – an *A* appears to the right of *My Default*.

Once the preset is activated, you can enable or disable the bar codes the imager will read.

- Highlight **My Default** in the *Barcoding* tab.
- Double-tap on the **Edit** button.

None of the other bar code decoding predefined presets are changed.

D.4.13.1 Symbology Settings

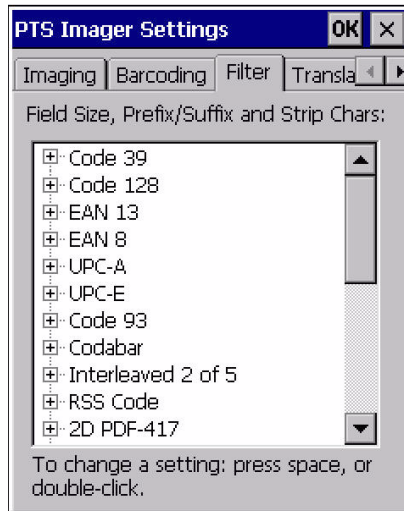


Note: For descriptions of the bar code symbologies, review “Bar Code Symbologies – Descriptions” on page D-20.

D.4.14 Filter Tab - Manipulating Bar Code Data

To configure rules for manipulating bar code data:

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

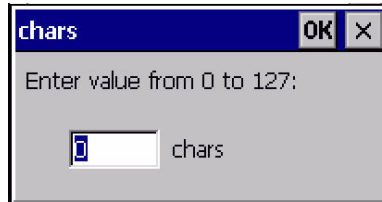


D.4.14.1 Modifying a Bar Code Setting

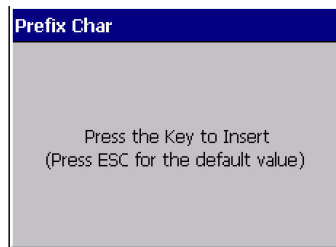
The rules for manipulating data from selected bar code symbologies can be modified. To change the settings for a symbology:

- Tap on the + symbols to expand the lists and view the parameter settings.
- Scroll through the parameter list until you reach the parameter that you want to change.
- For a parameter that can take a *range* of values:
 - Highlight the parameter, and then press the **[SPACE]** key or double-click the parameter.

- An associated dialog box containing the valid range of values for the parameter and the current setting like the sample screen following is displayed.



- Type a value in the field provided.
- For a parameter that takes a single character:
 - Highlight the parameter and then press the [SPACE] key, or double-click the parameter. The following screen is displayed:



- When you've completed your edits, tap on **OK**.

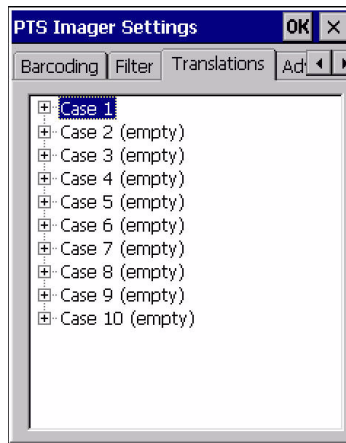
D.4.15 Translation Tab - Configuring Rules

Translation rules enable the automatic processing of bar code data. Up to 10 cases can be defined, each consisting of up to 10 sequential rules.



Note: Changes made to the translations configuration using the Teklogix Scanner Control Panel program are synchronized with changes made here. Changes made in either place affect both translation tables.

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



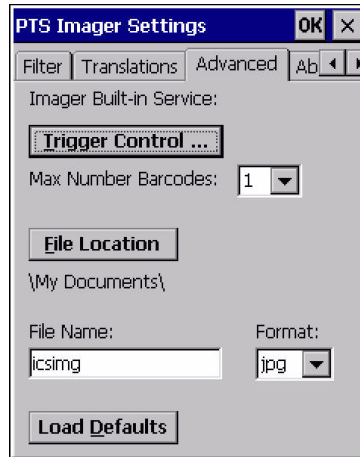
For instructions on adding, editing, and removing translation rules, refer to “Translations Tab” on page 140.

D.4.16 Advanced Tab

D.4.16.1 File Locations for Captured Images

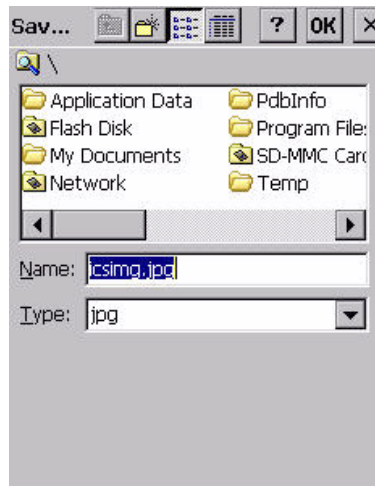
To configure the location for saved images, open the dialog box as follows:

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



To define the location where imager files will be stored:

- Tap on the **File Location** button.



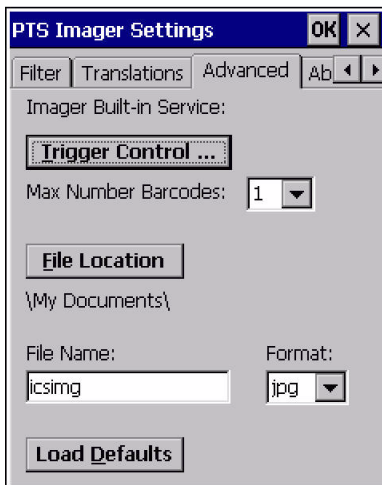
- Type the file **Name**, choose the **Folder** and file **Type**.
- Choose the **Location** in which your files will be saved.
- When you have completed all the changes, tap on the **Save** button.

D.4.16.2 Configuring Triggers

Viewing the Trigger Configuration

The trigger on NEO 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 98.

D.5 Bar Code Symbolologies - Descriptions

To *view* all symbolologies available for the imager:

- Tap on the **Barcoding** tab, and tap on **All**.



*Note: Remember that if you want to **edit** the symbolologies, the preset you want to change must be active. Highlight the **preset** you want to edit, and tap on the **Activate** button – an **A** is added at the far right of the preset. With the activated preset highlighted, double-tap on the **Edit** button.*

D.5.1 Options

Auto Retry On Failed Decode Enabled

Setting this parameter to *on* allows the imager to repeat the image capture attempt if the initial attempt fails. The number of retries is dependent on the value assigned in the next parameter, *Max Number of Auto Retry*. If this parameter is set to *off*, the imager will only attempt the image capture once.

Max Number of Auto Retry

The value assigned for this parameter governs the number of times the imager will attempt to capture a bar code if the first attempt fails to a maximum of 99 times.

Decoder Timeout

This parameter determines the maximum time that the decoder will spend searching for a bar code on a captured image. The value assigned here is dependent on the type of bar code and quality of the image being captured. For example, the value may need to be increased to compensate for larger bar codes with more data encoded or for poor quality images. On the other hand, the value can be decreased for smaller, good quality images. The allowable value ranges from 200 to 500 msec.

Single Target Mode Enabled

When this parameter is enabled, the decoder assumes that a single bar code exists in the image and that it is located in the centre of the image.

Add AIM ID Prefix

The *AIM ID* (Association for Automatic Identification and Mobility) is an international bar code identifier. When this parameter is enabled, the *AIM ID* is inserted at the beginning of the decoded bar code.

D.5.2 Code 39

Enabled

Setting this parameter to *on* makes “Code 39” readable to the imager.

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.

Start/Stop Strip

“Code 39” has start/stop patterns that can be output as ASCII characters in the output data. When *Start/Stop Strip* is enabled, start/stop characters are not output.

Check Char

When this parameter is enabled, before data is output, the “Code 39” symbol integrity is verified based on a parity character that must be present in the code. If the parity character is not part of the code, the code is not output. Keep in mind the parity character may not be part of your output setup; in this case, this parameter should be turned *off*.

Check Char Strip

If this parameter is set to *on*, check characters – if present – are not output.

Concatenation

When *Concatenation* is set to *on*, all decoded “Code 39” symbols with a SPACE as the first data character are concatenated to the internal buffer. Data from the last “Code 39” symbol *without* a SPACE is added to the buffer as well, and the entire buffer will be output.

Pharmaceutical

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

Minimum and Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays screens in which you can set the minimum and maximum allowable code lengths – *0 to 48*.

D.5.3 Trioptic Code



Note: “Trioptic Code” and “Full ASCII” should not be enabled simultaneously. The scanner does not automatically discriminate between these two symbologies.

Enable

Trioptic Code symbols always contain six characters. Setting this parameter to *on* allows this type of symbology to be recognized.

D.5.4 Code 128

Enabled

Set this parameter to *on* to enable “Code 128”.

ISBT Concatenation

These codes are not concatenated by default. You need to set this parameter to *on* to send concatenated code.

Minimum and Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays screens in which you can set the minimum and maximum allowable code lengths – 0 to 80.

D.5.5 EAN 13

Enabled

Set this parameter to *on* to enable “EAN 13”.

Check Digit Strip

If you enable this parameter, a check digit is stripped from the decoded bar code data.

Supplements 2 and Supplements 5

Supplements are additions to EAN/UPC codes. These addendums can be 2 or 5 characters in length. Usually, data from an addendum is a suffix to the main symbol output data.

Mandatory Enabled

When this parameter is set to *on*, the imager does not accept the main bar code without a supplement.

Supplements Separator

A *Supplements Separator* is a space that is added between the EAN 13 bar code and the Supplement code/Addenda.

ISBN Translate

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

D.5.6 EAN 8

Enabled

Set this parameter to *on* to enable “EAN 8”.

Check Digit Strip

If you enable this parameter, a check digit is stripped from the decoded bar code data.

Supplements 2 and Supplements 5

Supplements are additions to EAN/UPC codes. These addendums can be 2 or 5 characters in length. Usually, data from an addendum is a suffix to the main symbol output data.

Mandatory Enabled

When this parameter is set to *on*, the imager does not accept the main bar code without a supplement.

Supplements Separator

Supplements Separator is a space that is added between the EAN 8 bar code and the Supplement code/Addenda.

D.5.7 UPC-A

Enabled

Set this parameter to *on* to enable “UPC-A”.

Check Digit Strip

If you enable this parameter, a check digit, if present, is stripped from the decoded bar code data.

Number System

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

Supplements 2 and Supplements 5

Supplements are additions to EAN/UPC codes. These addendums can be 2 or 5 characters in length. Usually, data from an addendum is a suffix to the main symbol output data.

Mandatory Enabled

When this parameter is set to *on*, the imager does not accept the main bar code without a supplement.

Supplements Separator

Supplements Separator is a space that is added between the UPC-A bar code and the Supplement code/Addenda.

D.5.8 UPC-E Settings

Enabled

Set this parameter to *on* to enable “UPC E”.

Enabled UPC-E1

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

Expand

This parameter expands the UPC-E code to a 12 digit UPC-A format.

Check Digit Strip

If you enable this parameter, a check digit is stripped from the decoded bar code data.

Number System

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

Supplements 2 and Supplements 5

Supplements are additions to EAN/UPC codes. These addendums can be 2 or 5 characters in length. Usually, data from an addendum is a suffix to the main symbol output data.

Mandatory Enabled

When this parameter is set to *on*, the imager does not accept the main bar code without a supplement.

Supplements Separator

Supplements Separator is a space that is added between the UPC-E bar code and the Supplement code/Addenda.

D.5.9 UPC/EAN Shared Settings

Extended Coupon Code

This parameter specifies whether or not the imager will read only UPC-A/EAN-13 bar codes that have addenda.



Note: The 2 or 5 digit addenda must be turned on/off, depending on the desired behavior.

D.5.10 Code 93

Enabled

Set this parameter to *on* to enable “Code 93”.

Minimum and Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – 0 to 80.

D.5.11 Codabar

Enabled

Set this parameter to *on* to enable “Codabar”.

Start/Stop Strip

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

Setting this parameter to *on* strips the start and stop characters from this bar code.

Check Char

When this parameter is enabled, before data is output, the “Codabar” symbol integrity is verified based on a parity character that must be present in the code. If the parity character is not part of the code, the code is not output. Keep in mind the parity character may not be part of your output setup; in this case, this parameter should be turned *off*.

Check Char Strip

If you enable this parameter, a check character is stripped from the decoded bar code data.

Concatenation

“Codabar” supports symbol concatenation. When *Concatenation* is set to *on*, Codabar uses a ‘D’ stop character to indicate that data from that symbol should be concatenated with data from the adjacent symbol with a ‘D’ start character.

Minimum and Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – 2 to 60.

D.5.12 MSI Plessey

Enabled

Set this parameter to *on* to enable MSI.

Enable Plessey

Set this parameter to *on* to enable Plessey.

Check Char

When this parameter is set to *on*, the integrity of a “MSI Plessey” symbol is checked to ensure that it complies with specified algorithms.

Minimum and Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – 4 to 48.

Plessey Minimum and Plessey Maximum Length

These parameters apply to Plessey bar codes. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – 4 to 48.

D.5.13 Code 11

Enabled

Set this parameter to *on* to enable “Code 11”.

Check Digits

Double-tapping on this parameter displays a dialog box in which you can choose *One Check Digit* or *Two check digits*.

If this parameter is set to *One Check Digit*, it is assumed that the last digit is a check digit. If it is set to *Two Check Digits*, it is assumed that the last two digits are check digits.

Minimum and Maximum Length

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

D.5.14 Interleaved 2 of 5

Enabled

Set this parameter to *on* to enable “Interleaved 2 of 5”.

Check Char

When this parameter is set to on, the integrity of a “Interleaved 2 of 5” symbol is checked to ensure that it complies with specified algorithms.

Check Char Strip

If you enable this parameter, a check character is stripped from the decoded bar code data.

Minimum and Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *2 to 80*.

D.5.15 Matrix 2 of 5

Enabled

Set this parameter to *on* to enable “Matrix 2 of 5”.

Minimum and Maximum Length

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

D.5.16 IATA 2 of 5

Enabled

Set this parameter to *on* to enable “IATA 2 of 5”.

Minimum and Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 48*.

D.5.17 Discrete 2 of 5

Enabled

Set this parameter to *on* to enable “Discrete 2 of 5”.

Minimum and Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 48*.

D.5.18 Telepen

Enabled

Set this parameter to *on* to enable “Telepen”.

Enable AIM Output

If you set *Enable AIM Output* to *on*, the imager reads symbols with start/stop pattern 1 and decodes them as standard full ASCII (start/stop pattern 1). If you set this parameter to *off*, the imager reads symbols with start/stop pattern 1 and decodes them as compressed numeric with optional full ASCII (start/stop pattern 2).

Minimum and Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 60*.

D.5.19 GS1 DataBar

GS1 DataBar

Set this parameter to *on* to enable the imager to read “GS1 Databar” symbols.

Minimum and Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *4 to 74*.

D.5.20 Posi Code (Reduced Space Symbology)

Enable

Setting this parameter to *on* enables “Posi Code” scanning capability.

Enable Limited A and Enable Limited B

“Posi Code” is a “position” based symbology. A position based symbology de-couples the widths of the bars from their positions. The centers of the bars are specified to be laid out on a grid of equally spaced parallel lines. The distance between these grid lines is called the G-dimension and is analogous to the X-dimension of conventional bar codes.

There are two variations of this code: *Posi Code A*, and *Posi Code B*.

Minimum and Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *2 to 80*.

D.5.21 Composite

Enabled

Set this parameter to *on* to enable “Composite” bar codes.



Important: *To successfully read this type of bar code, the two types of symbologies included in a composite bar code must be enabled.*

D.5.22 TLC-39

This composite component integrates MicroPDF417 with the linear code.

Enabled

Setting this parameter to *on* enables this parameter.

D.5.23 2D PDF-417

Enabled

Set this parameter to *on* to enable “2D PDF-417”.

Minimum and Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 2750*.

D.5.24 2D Micro PDF-417

Enabled

Set this parameter to *on* to enable “2D Micro PDF-417”.

Minimum and Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 366*.

D.5.25 Code 16K

The “Code 16K” bar code is a multiple-row bar code that can encode the full ASCII character set below ASCII 128. It uses existing UPC and Code 128 character set patterns. Up to 77 full ASCII characters or 154 numeric characters can be encoded into 2 to 16 rows. Each row is divided by a separator bar. The top and bottom of the symbol also have separator bars that extend to the ends of the minimum quiet zones.

Enabled

Set this parameter to *on* to enable “Code 16K”.

Minimum and Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 160*.

D.5.26 Code 49

The “Code 49” bar code is a multiple-row bar code that can encode the full ASCII character set below ASCII 128. Up to 49 alphanumeric characters or 81 numeric characters can be encoded into two to eight rows. Each row is divided by a separator bar. The top and bottom of the symbol also have separator bars that extend to the ends of the minimum quiet zones.

Enabled

Set this parameter to *on* to enable “Code 49”.

Minimum and Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 81*.

D.5.27 Codablock

Enable

Set this parameter to *on* to enable “Codablock”.

Minimum and Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 2048*.

D.5.28 2D Data Matrix

Enable

Set this parameter to *on* to enable “2D Data Matrix”.

Minimum and Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – 1 to 1500.

D.5.29 2D QR Code

Enabled

Set this parameter to *on* to enable “2D QR Code”.

Minimum and Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – 1 to 3500.

D.5.30 2D Maxicode

Enabled

Set this parameter to *on* to enable “2D Maxicode”.

Minimum and Maximum Length

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

D.5.31 2D Aztec

Enabled

Set this parameter to *on* to enable “2D Aztec”.

Aztec Runes

Aztec Runes, the smallest type of Aztec Code symbol, has the ability to encode a very short license plate message.

Minimum and Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – 1 to 3750.

D.5.32 Postal: PlaNET

Enabled

Set this parameter to *on* to enable “Postal: PlaNET”.

Check Digit Strip

If you enable this parameter, a check digit is stripped from the decoded bar code data.

D.5.33 Postal: PostNET

Enabled

Set this parameter to *on* to enable “Postal: PostNET”.

Check Digit Strip

If you enable this parameter, a check digit is stripped from the decoded bar code data.

D.5.34 Postal: Australian

Enabled

Set this parameter to *on* to enable “Postal: Australian”.

D.5.35 Postal: Canadian

Enabled

Set this parameter to *on* to enable “Postal: Canadian”.

D.5.36 Postal: China

Enabled

Set this parameter to *on* to enable “Postal: China”.

D.5.37 Postal: Japanese

Enabled

Set this parameter to *on* to enable “Postal: Japanese”.

D.5.38 Postal: Kix

Enabled

Set this parameter to *on* to enable “Postal: Kix”.

D.5.39 Postal: Korean

Enabled

Set this parameter to *on* to enable “Postal: Korean”.

D.5.40 Postal: Royal

Enabled

Set this parameter to *on* to enable “Postal: Royal”.

D.5.41 VeriCode®

Enabled

VeriCode is a 2D omni-directional symbol. To read this symbol, set this parameter to *on*.

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