DATALOGIC™

pegaso™

Industrial PDA

with Windows® CE

Product Reference Guide

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Disclaimer

Datalogic has taken reasonable measures to provide information in this manual that is complete and accurate, however, Datalogic reserves the right to change any specification at any time without prior notice.

Patents

This product may be covered by one or more of the following patents:
4,861,972 • 4,866,257 • 4,879,456 • 5,198,649 • 5,208,449 • 5,212,372 • 5,247,161 • 5,311,000 • 5,440,110 • 5,481,098 • 5,493,108 • 5,508,505 • 5,664,231 • 5,671,374 • 5,686,716 • 6,041,374 • 6,412,698 • 6,415,978 • 6,454,168 • 6,478,224 • 6,513,714 • 6,536,670 • 6,561,427 • 6,585,157 • 6,923,377 • 7,108,170 • D377345 • CA2,188,399 • Other U.S. and Foreign Patents Pending.

Table of Contents

Preface: About this Guide

How to Use this Manual

This Product Reference Guide contains comprehensive basic user instructions for the Pegaso Industrial PDA software, batteries, dock, serial cable, data transfer, as well as advanced user information such as bar code configuration and parameters.

This section provides an overview of the manual's contents and organization.

Document Overview

This document contains the following material:

- This Preface provides an overview of the contents for each chapter, and describes document style conventions.
- Chapter 1, "Batteries and Power", discusses checking battery power, power conservation, battery installation, battery charging with a dock or battery charger, battery storage, battery disposal, and resetting the mobile computer.
- Chapter 2, "Configuring the Pegaso", uses the control panels to adjust touchscreen calibration, date and time, display backlight/contrast, volume/sounds, scanner, power, and memory.
- Chapter 3, "Software Applications", covers memory, installing, selecting, using, and removing applications, entering data, and using the soft input panel with Inbox, Internet Explorer, and Word Pad.
- Chapter 4, "Networks, Communications, and Connections", describes installing, setting up, and using ActiveSync and Networking.
- Appendix A, "Accessories", describes the Accessories, such as docks, battery chargers, holsters, and soft cases available for the Pegaso.
- Appendix B, Datalogic® Desktop Utility (DDU) allows Datalogic Windows administrators to configure Windows®CE PDAs and PDTs to control individual user access.
- Appendix C, "Configuring the Web Server", describes configuring the Pegaso to work with a Web Server.
- Appendix D, "SNMP Interface", describes SNMP (Simple Network Management Protocol) concepts, MIB (Management Information Base) files, and provides additional resources.
- Appendix E, Cable and Connector Configurations contains pinout information, to create standard interface cables for use in interconnecting the Dock to power and/or peripheral devices.

- Appendix F, "Programming Parameters", provides the programmable settings for the Pegaso.
- Appendix G, "Programming Bar Codes", provides bar codes for common setup parameters used to program the Pegaso.
- Appendix H, "Glossary", is a glossary of terms used in this manual that you may not be familiar with that are specific to Windows®CE and the mobile computer.

Registering Your Datalogic Product

Datalogic values your feedback. Please take a few moments and complete the Product Registration form located on our website (www.datalogic.com). Registering your products ensures that you will be informed of the latest product news, technical specifications, software updates and other future developments from Datalogic.

Document Conventions

Formatting conventions are used throughout this guide to provide a consistent method for representing screen shots, command entries, and keyboard characters. This guide also provides special conventions for notes and cautions, information of high interest.

NOTES contain information necessary for properly diagnosing, repairing and operating the terminal.

The CAUTION symbol advises you of actions that could damage equipment or property.

CAUTION

A WARNING symbol calls attention to actions that could result in personal injury.

WARNING

Keystrokes. Filenames, paths, field selections from a pull-down list, and data or keystrokes entered by the user are shown in this **`monospaced`** typeface.

Windows Controls. Windows controls including command bar sequences, prompts, dialog boxes, fields, pull-down lists, check boxes and radio buttons are printed in this **bold** typeface.

Portable Keys

Keys on the Pegaso are bracketed by “greater than” and “less than” symbols (**< >**) to distinguish them from keys on the PC.

<F1> — <F19> Keys. The Function keys, such as **<F1>**, refers only to keys on the Pegaso.

<ENTER> Key. To differentiate the **<ENTER>** key on the portable from the **Enter** key on the PC's keyboard, portable keys are formatted with "greater than" and "less than" symbols: **<ENTER>**.

Stylus Actions

Stylus actions apply to the Pegaso only; most PCs use a mouse as an input device.

Tap or Select. Tap the display screen once with the stylus to activate a specific button or select an item from a pull-down list.

Double-Tap. Tap the stylus twice rapidly in the same location to open an application.

Tap and Hold. Tap and hold the stylus to view the context menu.

Refer to the Quick Reference Guide *(QRG)* for more information on using a stylus with the Pegaso.

Mouse Actions

Applies to the software installation portions of this document using a PC; the Pegaso comes equipped with a stylus. Refer to Stylus Actions on page vii, or see the QRG for more information.

Click or Select. Press and immediately release the left mouse button without moving the mouse. Clicking is used to select specific buttons on various forms and tables.

Double-Click. Click the left mouse button twice in rapid succession. Used to initiate an application.

Right Click. Press and hold the right mouse button without moving the mouse.

Select. Click and release the left mouse button to choose an item or items from a pull-down list.

NOTES

Chapter 1
Batteries and Power

Overview

This section contains the following topics:

Suspend Mode

The Pegaso will go into a suspend or sleep mode when it is idle for a period of time. This duration can be customized using the **Power** control panel (refer to "Power Configuration" on page 2-21. Suspend mode works and looks just like you have turned the unit off. Press **<Power>** to suspend (put to sleep) the Pegaso. Press **<Power>** again for the Pegaso to resume its previous state.

Use the **Battery Power** control panel to set the idle duration and the initiation of suspend mode. These features save battery power when the unit is not in use. Refer to "Battery Tab" on page 2-21 for more information.

Suspending

The following conditions will put the unit into suspend (sleep) mode:

1. When the unit is on, and you press **<Power>** for 0.5 second to initiate suspend mode.
2. When the sleep timer expires, indicating that there has been no use for a specified period of time.
3. A discharged battery pack.

Resuming

Use one of the following methods to resume (wake up the Pegaso):

- Press **<Power>** to resume (wake up).
- Put the Pegaso into a dock.
- Press the **Scan Trigger** to wake up the unit (handled version only).

When a battery pack is fully discharged while the unit is in suspend mode, the Pegaso remains in the suspended mode until the battery pack is charged or external power is supplied via the dock or a power cable.

Battery Warnings and Cautions

WARNING

Do not discharge the battery using any device except for the Pegaso. When the battery is used in devices other than the Pegaso, it may damage the battery or reduce its life expectancy. If the device causes an abnormal current to flow, it may cause the battery to become hot, explode or ignite and cause serious injury.

Lithium-ion battery packs may get hot, explode or ignite and cause serious injury if exposed to abusive conditions. Be sure to follow the safety warnings listed below:

- **Do not place the battery in or near fire, direct sunlight, or other high temperature locations, or heat the battery.**
- **Do not connect the positive terminal and negative terminal of the battery to each other or short circuit battery terminals with any metal object (such as wire, coin or metallic object).**
- **Do not expose the battery to liquids, or allow to get wet.**
- **Do not disassemble, modify, open, crush, bend, deform, puncture, shred, remanufacture or pierce the battery. The battery contains safety and protection devices, which, if damaged, may cause the battery to generate heat, explode or ignite.**
- **Use only battery packs that have been authorized by Datalogic per IEEE Standard 1725-200x for GSM/GPRS/EDGE operation.**
- **Promptly dispose of used batteries in accordance with local regulations.**
- **Battery usage by children should be supervised.**
- **Avoid dropping the PDA or battery. If the PDA or battery is dropped, especially on a hard surface, and the user suspects damage, return it to a service center for inspection.**
- **Only use the battery for the system for which it is specified.**

In the event the battery leaks and the fluid gets into your eye, do not rub the eye. Rinse well with water and immediately seek medical care. If left untreated, the battery fluid could cause damage to the eye.

CAUTION

Always charge the battery at 32°–104°F (0°–40°C) temperature range. Regularly charging near the temperature limits will increase the time necessary to fully charge the battery, and will shorten the battery's useful life.

If you remove the battery pack or it becomes completely discharged, there is a 30-minute window in which to insert a charged battery pack before the backup battery fails. If your backup battery completely discharges, the contents of the RAM memory will be lost. If your back-up battery is less than fully charged, there is a proportionally smaller time available.

Use only the authorized power supplies, battery pack, chargers, and docks supplied by your Datalogic reseller. The use of any other power supplies can damage the Pegaso and void your warranty. Refer to Appendix A for the correct Power Supplies and Accessories.

Only use the battery with a charging system that has been qualified with the system per this standard. Use of an unqualified battery or charger may present a risk of fire, explosion, leakage, or other hazard.

Do not disassemble or modify the battery. The battery contains safety and protection devices, which, if damaged, may cause the battery to generate heat, explode or ignite.

Do not place the battery in or near fire, on stoves or other high temperature locations. Do not place the battery in direct sunlight, or use or store the battery inside unventilated areas such as cars in hot weather. Doing so may cause the battery to generate heat, explode or ignite. Using the battery in this manner may also result in a loss of performance and a shortened life expectancy.

Do not place the battery in microwave ovens, high-pressure containers or on induction cookware.

Immediately discontinue use of the battery if, while using, charging or storing the battery, the battery emits an unusual smell, feels hot, changes color or shape, or appears abnormal in any other way.

Datalogic recommends annual replacement of rechargeable battery packs to ensure maximum performance under normal use. If battery pack has heavy use (requires charging more than once a day), it is recommended that batteries be replaced at 6-month intervals.

Battery Disposal

If you must dispose of a battery pack, please follow the CAUTIONS below:

CAUTION

Use only a battery pack supplied by a Datalogic reseller for this device.The use of other battery supplies can damage the Pegaso and void your warranty. Contact your reseller to for the correct power supplies; view your options under "Battery Pack" on page A-2.

When the battery pack is worn out, insulate the battery pack terminals with adhesive tape or similar materials before disposal.

CAUTION

Recycle Lithium-Ion Batteries.

Do not throw Lithium-Ion Batteries in the trash

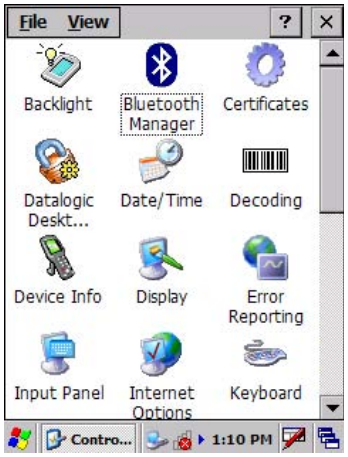
Please reference your local regulations for any further guidelines about battery disposal.

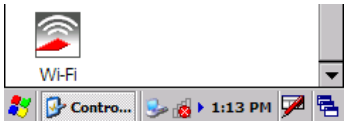
Chapter 2
Configuring the Pegaso

Overview

This section contains the following topics on configuring your Pegaso. Most control panels are accessed by selecting/tapping **Start > Settings > Control Panel**.

Control Panel





Backlight

Increasing backlight brightness can cause the battery pack to discharge at a faster rate. The battery discharge rate slows with a decrease in backlight usage.

Select **Start > Settings > Control Panel > Backlight** to open the **Backlight** control panel.

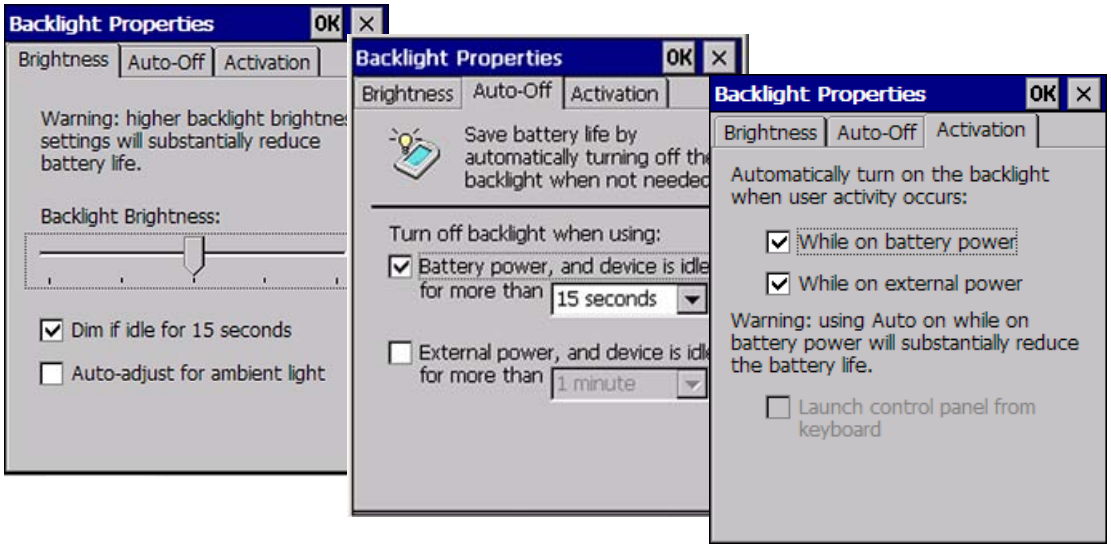
Brightness

1. On the **Brightness** tab (refer to Figure 2-1), use the slider to adjust the brightness to the desired setting. You can also use the **<UP>** and **<DOWN>** arrow keys to adjust this setting.

2. Auto Power-Save dims (rather than turning off) the backlight after 15 seconds of inactivity. This features does not change the behavior of the Auto-Off Settings. (Refer to "Power Configuration" on page 2-21).

3. The ambient light sensor automatically adjusts the intensity of the backlight on the display and keypad in response to changes in lighting conditions. Select the check box to enable or disable this feature.

Figure 2-1. Backlight Control Panel & Brightness



Auto-Off

On the **Auto-Off** tab, enable the desired option checkbox and select the desired options from the pull-down lists (refer to Figure 2-1).

Activation

1. On the **Activation** tab, just tap the checkbox(es) to enable or disable them (refer to Figure 2-1):

   - Set the backlight to turn on automatically when any key is pressed or the touch-screen is tapped, either while on battery or external power.
   - Turn on the backlight when the trigger is pulled.
   - Deselect Launch Control Panel from the Keyboard to turn off the ability to open the **Backlight** control panel with a key sequence.

Using Auto-on while running from battery power will cause the battery pack to discharge at a faster rate. The battery discharge rate decreases with a decrease in backlight usage.

2. To exit and save your modifications, tap **OK** on the command bar, or press **<Enter>** on the keypad.

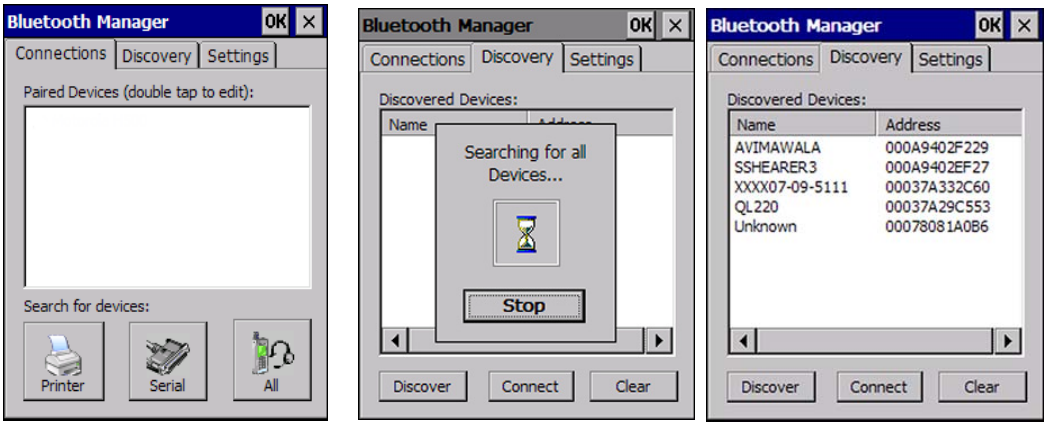
Bluetooth Manager

Search for device

1. Select **Start > Settings > Control Panel > Bluetooth Manager** to open the **Bluetooth** control panel.
2. Search for the type of Device(s) you want to connect to by tapping **Printer, Serial, or All**. The Pegaso will search for Bluetooth Devices within range.
3. If you attempt to set up a connection when the Bluetooth Radio is disabled, you will receive a message reminding you that the radio is turned off, and asking you if you want to turn it on. Tap **Yes** if you need to enable the Bluetooth Radio.

Once searching is complete, Bluetooth Device Profiles will be displayed in the Discovery tab. You can set up a connection to a device on the list, or clear it from the list by tapping the **Clear** button.

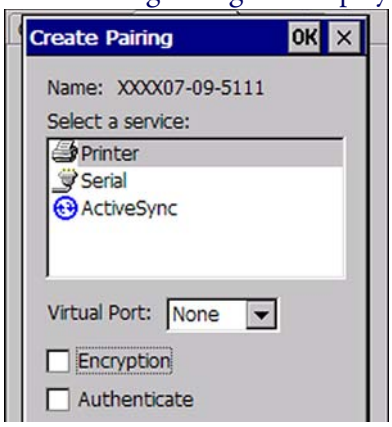
Figure 2-2. Searching for a Bluetooth Device



Connect to a Bluetooth Device

1. From the list of available devices, double tap the one you want to activate, or select and then tap **Connect**.

2. The resulting dialog will display services that are available on the device.



Select the service you want to connect to. The following table shows the icons that display for different types of service.

Table 2-1. Bluetooth Device Icons

Icon	Service
	Dialup Networking
	Printer
	File Transfer Protocol (FTP) Object Exchange (OBEX)
	Object Push (OPP) Object Exchange (OBEX)
	ActiveSync
	Human Interface Device (HID) - Keyboard
	Serial

V al Port allows you to specify the incoming port, which is used to communicate serially with an incoming device just as if it were a physical COM port. This option is available only if you have selected a Printer or Serial service.

You can also select **Encrypt** or **Authenticate** from the Bluetooth control panel to apply or modify those settings.

1. To require Authentication, tap the checkbox, then tap **OK**.
2. The Authentication Request dialog will then open, requesting that you enter a PIN. Use the Input Panel to type in the PIN.
3. Tap **OK** to complete.

The dialog will also appear when an Authentication request is received from another device.

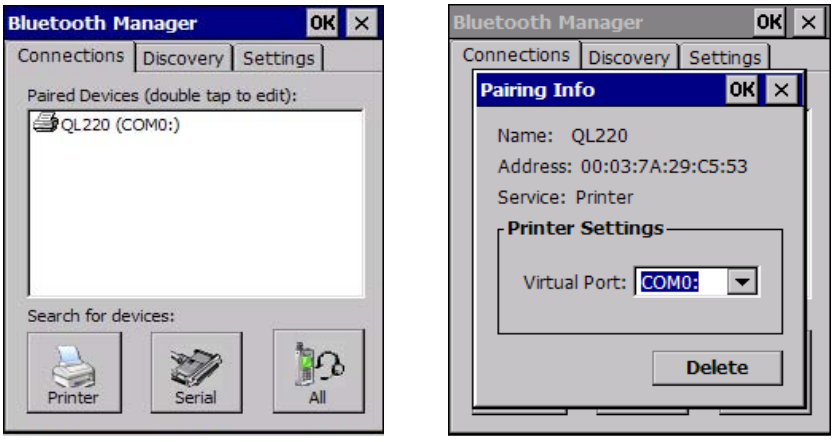
Viewing or Deleting Paired Devices

Once you have set up a Pairing, you can view the settings by double-tapping its name from the Connections tab. The Pairing info dialog will display different options, depending on what type of device you have selected and what service you use.

Pairings

- For a printer connection, tap the arrow to change the Virtual Port, or Delete to remove the device pairing.
- Tap Sync to initiate a Sync (available only if the service is an ActiveSync connection).

Figure 2-3. Pairing Info



Bluetooth Icons

The icons displayed in the taskbar at the bottom of your Pegaso's screen will show you the state of the Bluetooth connection, as shown in Table 2-2.

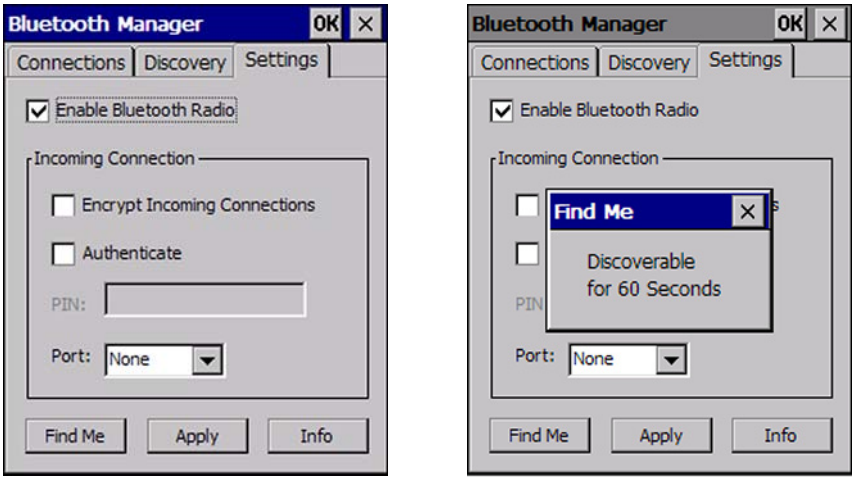
Table 2-2. Bluetooth taskbar icons

Icon	Name	Description
	Disabled Icon	Indicates that Bluetooth has been disabled.
	Unpaired Icon	Indicates that the Bluetooth radio is on but the device is currently not paired to another.
	Paired Icon	Indicates that the Bluetooth radio is on and the device is paired with at least one other device.
	Discoverable	Indicates that the device is discoverable by other Bluetooth devices.

Settings

The **Settings** tab allows you to enable or disable the Bluetooth radio and specify settings for Incoming Connections.

Tapping **Find Me** will make the Pegaso available to other Bluetooth devices for 60 seconds, allowing them to set up a connection.



Tap **Apply** to apply the settings you have selected.

Certificates

Certificates are used by some applications for establishing trust and to secure communications. See the Microsoft Windows CE help on your unit for further information about Certificates.

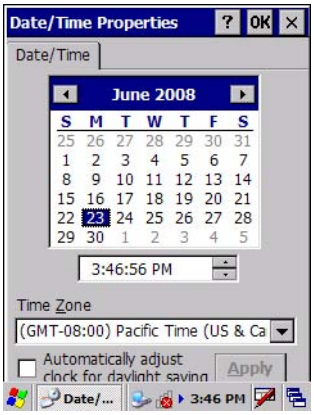
Datalogic Desktop Utility

Tap **Start > Settings > Control Panel > Datalogic Desktop Utility** to access configuration utilities such as the Datalogic Desktop Utility (DDU) settings. See "Datalogic® Desktop Utility for Windows® CE", starting on page B-1, for complete information.

DDU Settings may be configured with Datalogic Configuration Utility (DCU) and Wavelink™ Avalanche.

Date and Time

In this control panel, you can change the year, month, date, time, time zone, or select automatic adjust for Daylight Savings Time. To set or change the date and time:



1. Select **Start > Settings > Control Panel > Date/Time**.
2. Select the month to open a pull-down list of months or tap the arrow buttons on either side of the month to increase or decrease the month.
3. To change the year, select the year to open a numeric dial. Select the up arrow to increase the value; select the down arrow to decrease the value. Or you can type a new year value in the field.
4. To change the time, select the hour, minute, seconds, or AM/PM and select the up arrow to increase the value; select/tap the down arrow to decrease the value. Or you can type a new time value in the field.
5. Select your correct time zone from the pull-down list.
6. To automatically adjust the clock for Daylight Savings Time, enable the checkbox at the bottom of the screen.
7. Select **Apply** to save your changes and make additional modifications.
   - Select **OK** to save your changes and exit **Date/Time Properties**.
   - Select/tap the close button to exit without saving your changes.

Decoding

You can configure the Pegaso's decoding options by tapping on **Start > Settings > Control Panel > Decoding**. Decoder configuration can also be accomplished for large numbers of terminals using DCU (Datalogic Configuration Utility) and Wavelink Avalanche®.

There are two sections in the **Decoding** control panel, each containing additional pages. There are several General Configuration pages and multiple Bar Code symbology pages.

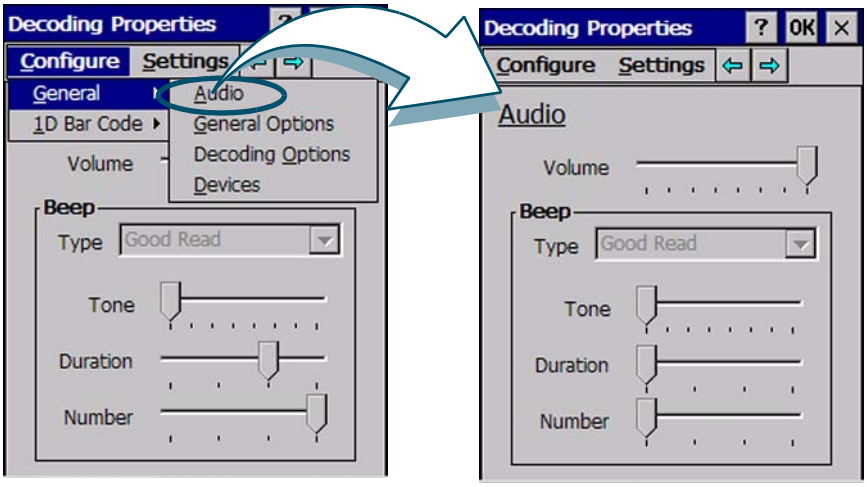
Other decoding parameters are described in Programming Parameters, starting on page F-1; bar code settings are provided in Programming Bar Codes, starting on page G-1.

Configure Control Panels

Select the desired configuration from the following options shown in Figure 2-4, and the other Decoding Properties figures on the following pages.

Use the pull-down menus or tap the left and right arrow keys to navigate the different pages from the **Configure** menu.

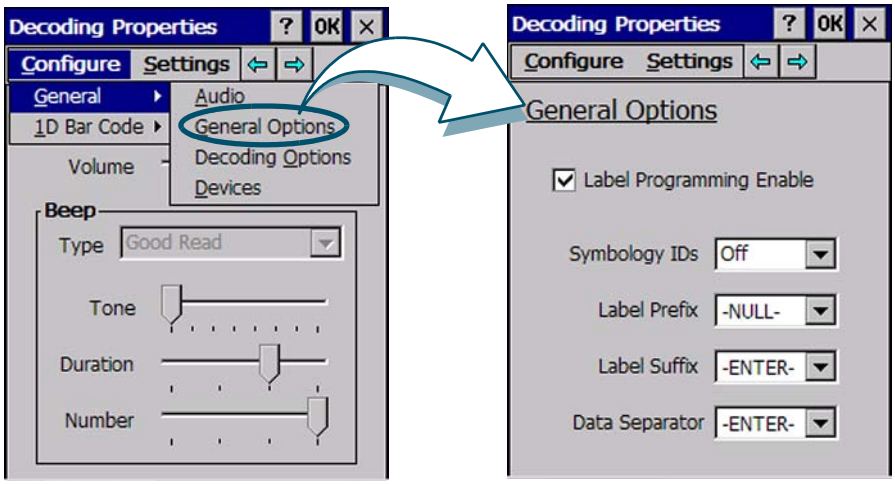
Figure 2-4. Decoding Properties: Audio



To view other configuration options, select **Configure > General** from the menu.

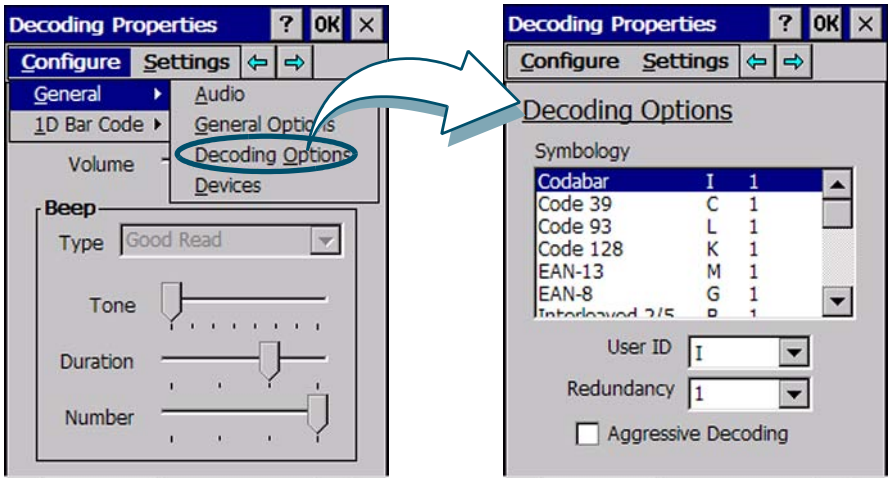
- **Audio**: Sets volume, tone, duration, and number of various types of beeps.

Figure 2-5. Decoding Properties: General Options



- **General Options**: Select from Label Programming Enable, Symbology IDs, Label Prefix, Label Suffix, and Data Separator options.

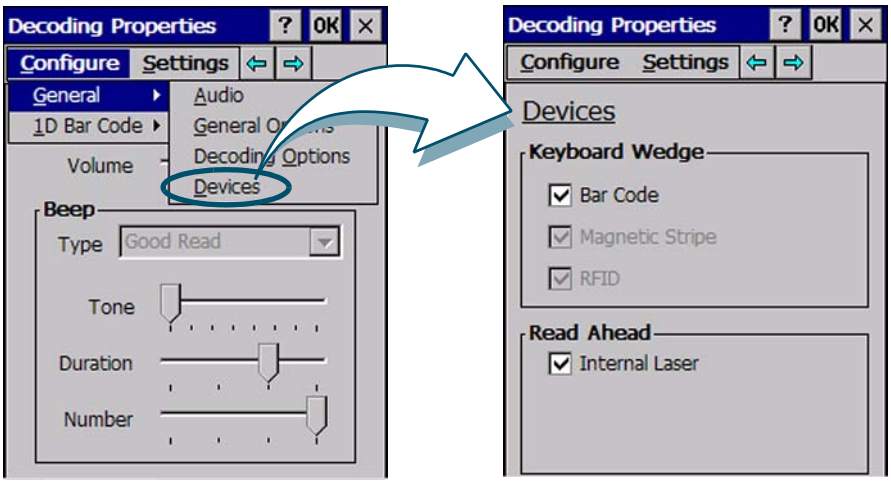
Figure 2-6. Decoding Properties: Decoding Options



To view other configuration options, select **Configure > General** from the menu.

- **Decoding Options:** Set the **User ID** character associated with a symbology, the **Redundancy** and select **Aggressive Decoding** when available.

Figure 2-7. Decoding Properties: Devices



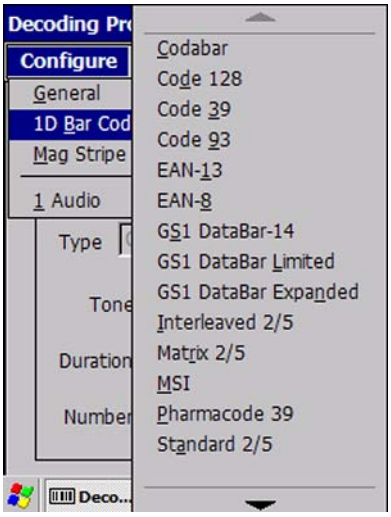
To view other configuration options, select **Configure > General** from the menu.

- **Devices**: Enable the keyboard wedge for bar code scanner, Magnetic Stripe Reader, RFID, and enable Read-Ahead for attached devices.

Bar Code Symbology Pages

Use the pull-down menus from **Configure > 1D Bar Code**, or tap the left and right arrow keys to navigate the different pages of the bar code symbology pages. Each bar code symbology opens to its own page, as shown in Figure 2-9 on page 2-11.

Figure 2-8. Available 1D Bar Code Symbologies



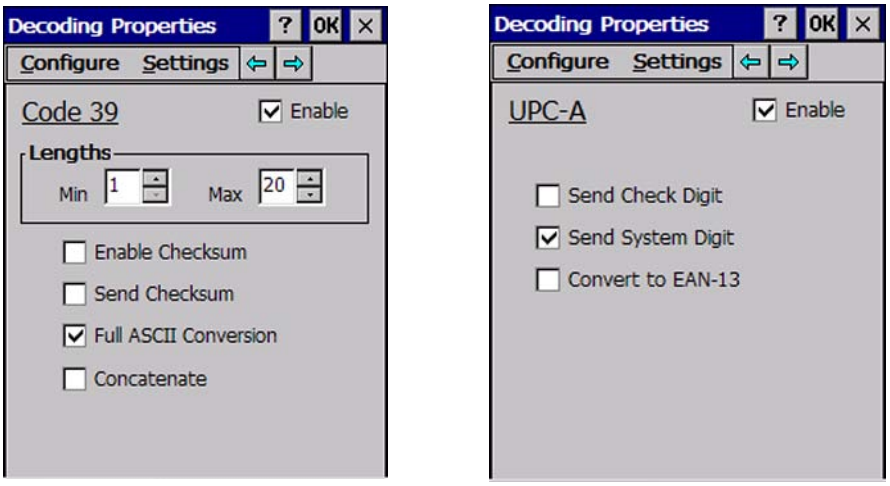
Codabar	Interleaved 2/5
Code 39	Matrix 2/5
Code 93	MSI
Code 128	Pharmacode 39
EAN-13	Standard 2/5
EAN-8	Trioptic
GS1 DataBar-14	UPC-A
GS1 DataBar Limited	UPC-E
GS1 DataBar Expanded	UPC/EAN Extensions

See **Appendix** G for details on parameters available for each symbology.

Refer to the sample symbology control panels in Figure 2-9 for examples of the types of fields and options you can modify.

Decoding parameters are described in Programming Parameters, starting on page F-1; bar code settings are provided in Programming Bar Codes, starting on page G-1.

Figure 2-9. Common Symbologies: Code 39 and UPC-A

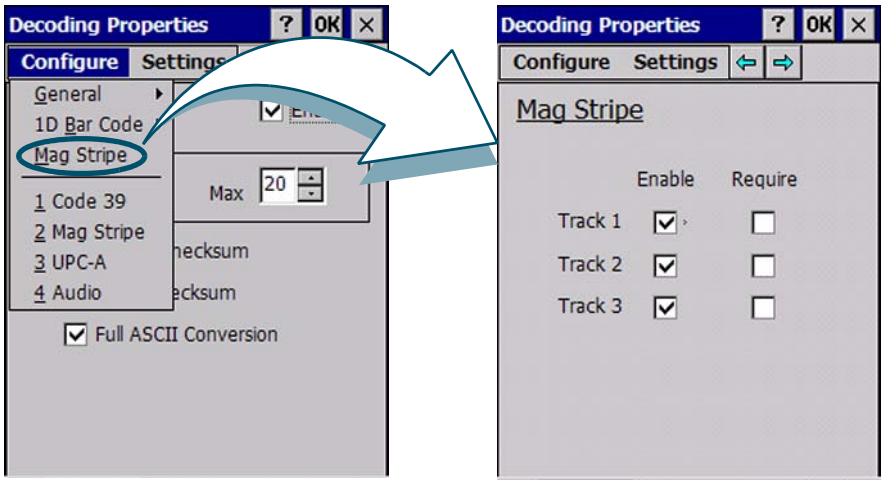


- **Code 39**: Select from enable, min/max lengths, enable checksum, send checksum, and Full ASCII conversion.
- **UPC-A**: Select from Enable, Send Check Digit, and Send System Digit.

Other decoding parameters are described in Programming Parameters, starting on page F-1; bar code settings are provided in Programming Bar Codes, starting on page G-1.

Mag Stripe Reader

Figure 2-3. Decoding Properties: Mag Stripe Reader



To view other configuration options, select **Configure > General** from the menu

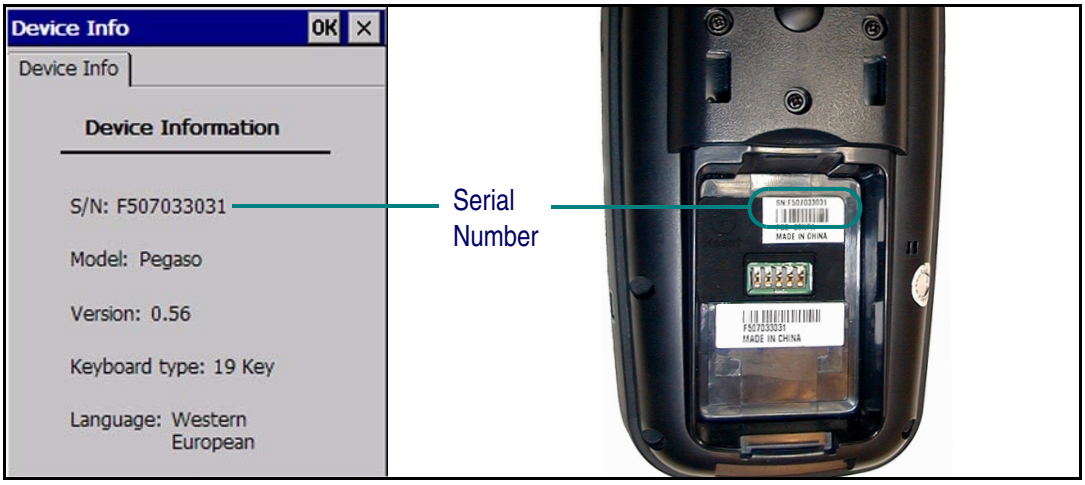
- **Mag Stripe**: Select to Enable or Require Track 1, 2, or 3.

Device Info

Select **Start > Settings > Control Panel > Device Info** to view the device serial number, model number, firmware version, and keyboard type.

The serial number is also displayed on a label inside the Battery compartment, as shown in Figure 2-10.

Figure 2-10. Serial Number Locations

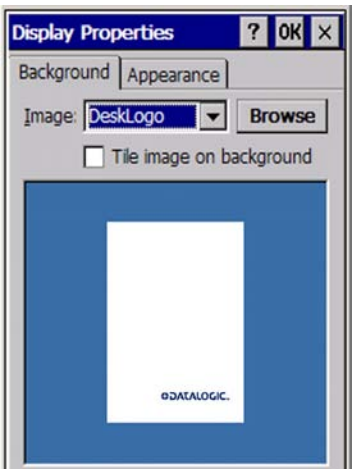


Display Configuration

To change the default Background or Appearance (Windows Color Scheme), select **Start > Settings > Control Panel > Display**.

Background

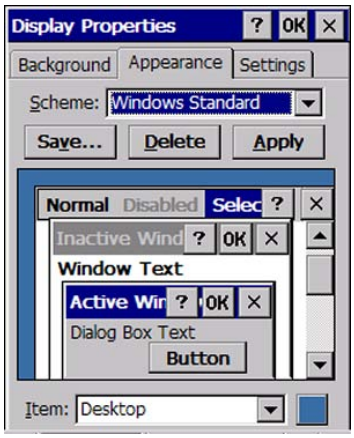
To change the Background image:



1. Select **Start > Settings > Control Panel > Display**.
2. Place a new image in the **`Windows`** directory. This file must be exactly 480 pixels wide by 640 pixels high.
3. The current file is located in the Windows directory with the Datalogic logo file named **`DeskLogo.bmp`**.
4. Select the new file name by using **Browse**.

Appearance

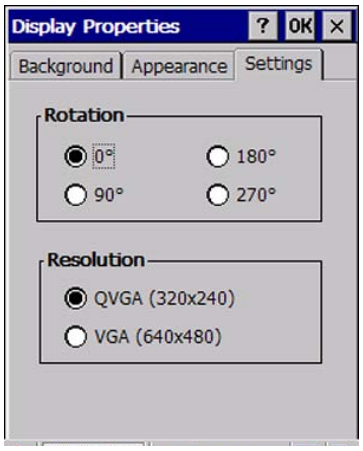
To change the default Windows color scheme:



1. Tap the **Appearance** tab.
2. Tap the **Scheme** pull-down list and select a new Windows color scheme if desired.
3. Tap **OK** on the control bar, or press **<Enter>** on the keypad.

Settings

To change the Display settings:



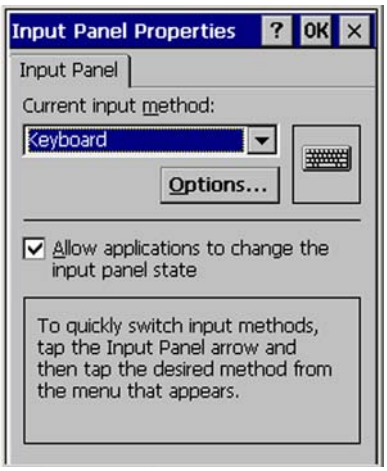
1. Tap the **Settings** tab.
2. Select the desired **Rotation** using the radio buttons.
3. Change the **Resolution** by selecting the desired setting.
4. Tap **OK** on the control bar, or press **<Enter>** on the keypad.

Error Reporting

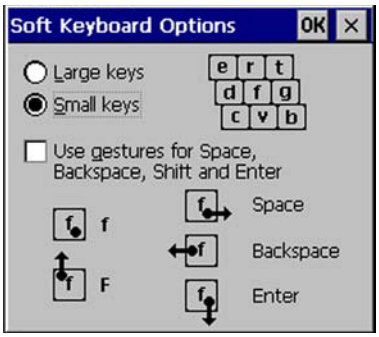
1. Select **Start > Settings > Control Panel > Error Reporting**
2. Enable or disable error reporting and related features by tapping on the desired selections.
3. Tap **OK** on the control bar, or press **<Enter>** on the keypad.

Input Panel Properties

To change the **Soft Input Panel** settings:



1. Select **Start > Settings > Control Panel > Input Panel**.
2. Change the desired settings.
3. To change the **Soft Keyboard Options**, tap **Options**.
4. Change the soft keyboard options as desired, selecting from:
   - Large or small keys.
   - Using gestures for space, backspace, shift, and enter.
5. To exit the **Soft Keyboard Options**, tap **OK** on the control bar, or press **<Enter>** on the keypad.
6. To exit **Input Panel** settings, tap **OK** on the control bar, or press **<Enter>** on the keypad.



Internet Options

To change the **Internet** default settings:

1. Select **Start > Settings > Control Panel > Internet Settings**.
2. On the **General** tab (refer to Figure 2-11A), type in the URL of the desired start page and the desired search engine. You can also select a User Agent, change the **Cache Size**, clear the Cache, and clear the History.
3. On the **Connection** tab (refer to Figure 2-11B) modify the network access settings as desired.

Figure 2-11. Internet Settings

A

B

4. On the **Security** tab (refer to Figure 2-12A) add sites or modify the security settings for Internet, Local intranet, Trusted Sites, and Restricted Sites.

Figure 2-12. Internet Settings

A

B

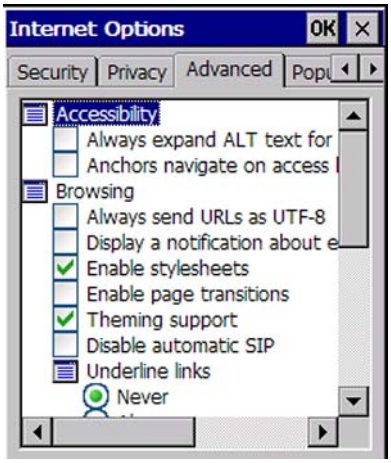
5. The **Privacy** tab (refer to Figure 2-13) allows you to modify the settings by tapping the radio buttons. You can Accept, Block or receive a Prompt for First-party and Third-party Cookies. Enable/Disable session cookies by selecting/deselecting the check box.

Figure 2-13. Internet Privacy Settings

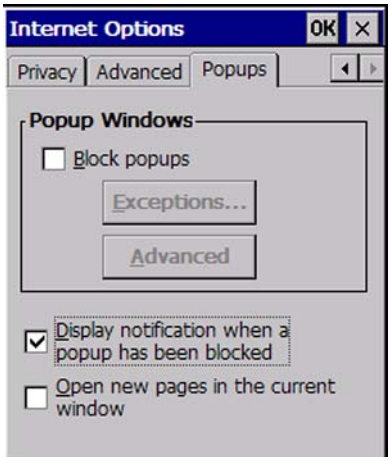
6. On the **Advanced** tab (refer to Figure 2-14A) modify the advanced settings for Accessibility, Browsing, Multimedia, and Security by tapping the check boxes.

Figure 2-14. Advanced Internet and Popup Settings

A



B



7. The **Popups** tab provides options for blocking popups, to display notification when popups have been blocked, and to open new pages in the current window.

8. To exit **Internet Settings**, tap **OK** on the control bar or press **<Enter>** on the keypad.

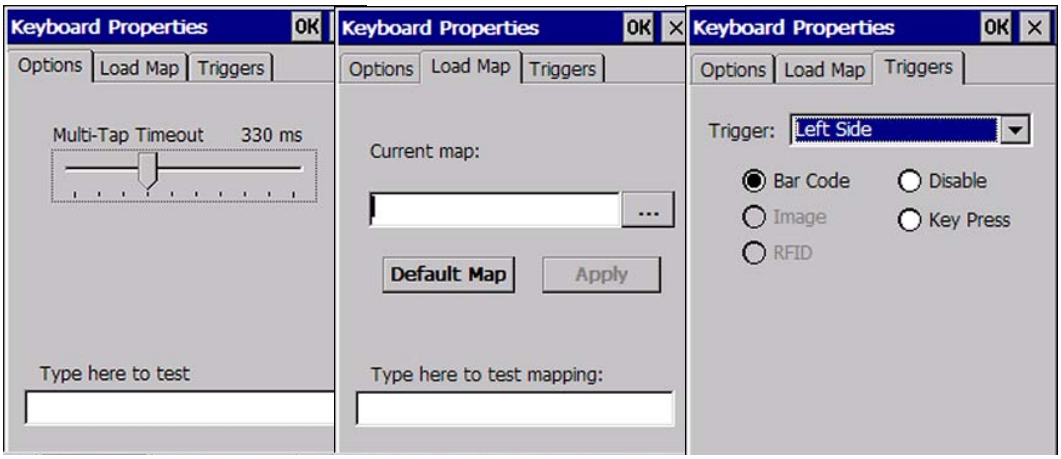
Keyboard Configuration

1. Select **Start > Settings > Control Panel > Keyboard Options** to open the Keyboard control panel.

2. Adjust the slider for **Multi-Tap Timeout** to match your personal preferences. Use the box provided to test the timeout delay.

3. Click the **Load Map** tab to select a keyboard keymap by browsing, or click the button for Default Map. Use the box provided to test the current keyboard mapping.

4. Use the **Triggers** tab to define the behavior of each Trigger by selecting it from the drop-down box, then clicking the desired option. Available items will vary depending on the model.



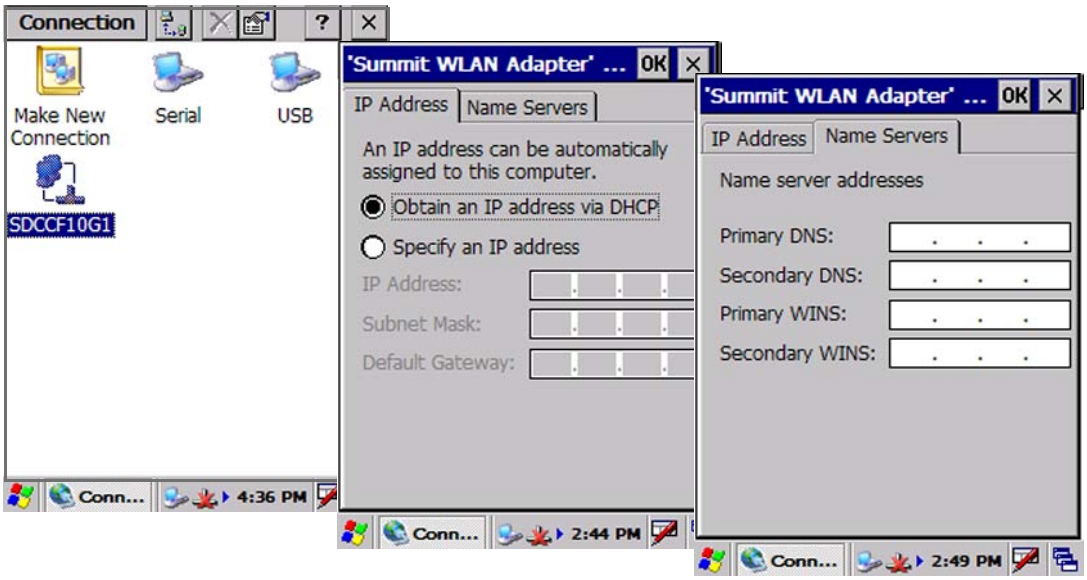
5. Tap **OK** to exit the **Keyboard Options** control panel.

Network and Dialup

To change the Network and Dialup connection settings, complete these steps:

1. Select **Start > Settings > Network and Dialup Connections**.

Figure 2-15. Changing the Network & Dialup Connection Settings.



2. Double-tap the connection to view or change the settings. The **SDCCF10G1** item shown as an example can vary, depending on the radio installed and the number of connections.

3. Complete the two tabs as shown in Figure 2-15:

   - **IP Address**: Select **DHCP** or set static IP settings.
   - **Name Servers**: If using static IP, set **DNS** and **WINS** servers.

Owner

To change the **Owner** default settings:

1. Select **Start > Settings > Control Panel > Owner Properties**. The **Input Panel** opens to facilitate entering data.

2. Enter data using the input panel or the keypad on the PDA.

3. To exit the **Owner Properties** control panel, tap **OK** on the control bar, or press **<Enter>** on the keypad.

For more information on using the **Network ID** tab, refer to "Setting up the Network ID" on page 4-7.

Password

To change the **Password** default settings:

1. Select **Start > Settings > Control Panel > Password Properties**.

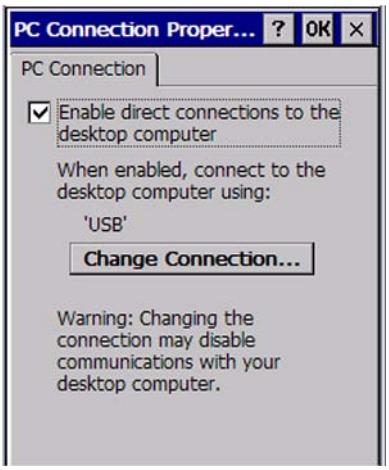
2. Enter the desired password twice as indicated in the two fields.

3. Select to enable password protection at power-on and/or enabling password protection for the screen-saver.

4. To exit the **Password** control panel, tap **OK** on the control bar, or press **<Enter>** on the keypad.

PC Connection

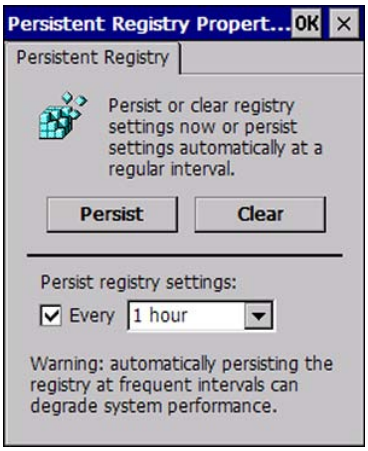
The **PC Connection** control panel determines how ActiveSync works with the PDA. To modify the default settings:



1. Select **Start > Settings > Control Panel > PC Connection**.
2. Select the first checkbox to enable direct connections to the desktop computer.
3. Tap **Change Connection** to modify the connection method from USB or Serial.
4. To exit the **Change Connection** dialog, tap **OK** on the control bar, or press **<Enter>** on the keypad.
5. To exit the **PC Connection Properties** control panel, tap **OK** on the control bar, or press **<Enter>** on the keypad.

Persistent Registry

Persistent Registry saves the RAM-based registry to persistent storage.



1. Tap **Persist** to persist the registry.
2. Tap **Persist registry settings** to automatically persist the settings at the time specified in the dropdown box
3. Tap **Clear** to delete all persistent registry files from the Flash FX disk.

Automatically persisting the registry at frequent intervals may slow system performance.

Power Configuration

To adjust power management settings, select **Start > Settings > Control Panel > Power**. Use this control panel to check the charge on the battery or to change the **Power** settings.

Battery Tab

The **Battery** tab provides power indicators for External power, **Main battery**, and **Backup battery** as shown in Figure 2-16 on page 2-21. To save your settings, tap **OK** on the command bar, or press **<Enter>** on the keypad.

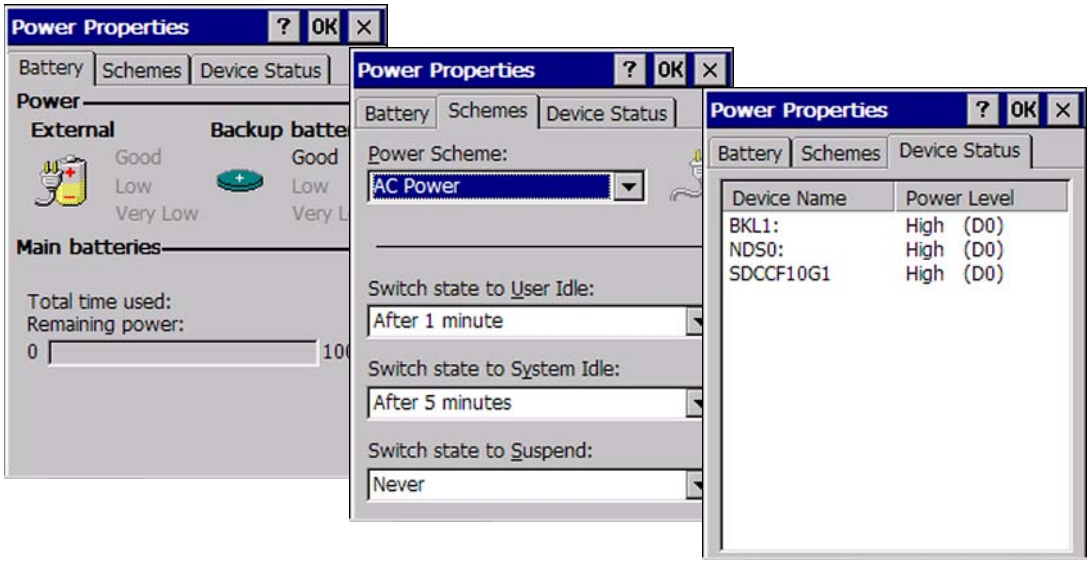
Schemes Tab

The **Schemes** tab allows you to switch the power scheme and specify the Idle settings for User (in 1-minute increments) or System (in 5-minute increments). You can also specify Suspend settings in 5-minute increments). To save your settings, tap **OK** on the command bar, or press **<Enter>** on the keypad.

Device Status Tab

The **Device Status** tab displays the power usage of active devices.

Figure 2-16. Battery and Power Tabs



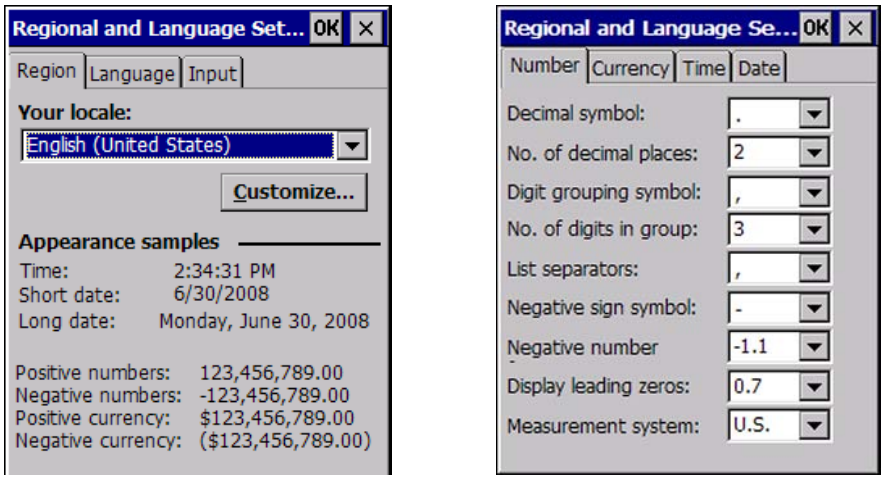
Regional Settings

To change the **Regional Settings** defaults, select **Start > Settings > Control Panel > Regional Settings**.

1. Select your locale from the spin box. See Figure 2-17 on page 2-22.

2. Review the **Appearance Samples** in the bottom half of the screen. Click Customize to change the appearance of **Number**, **Currency, Time**, and **Date.**

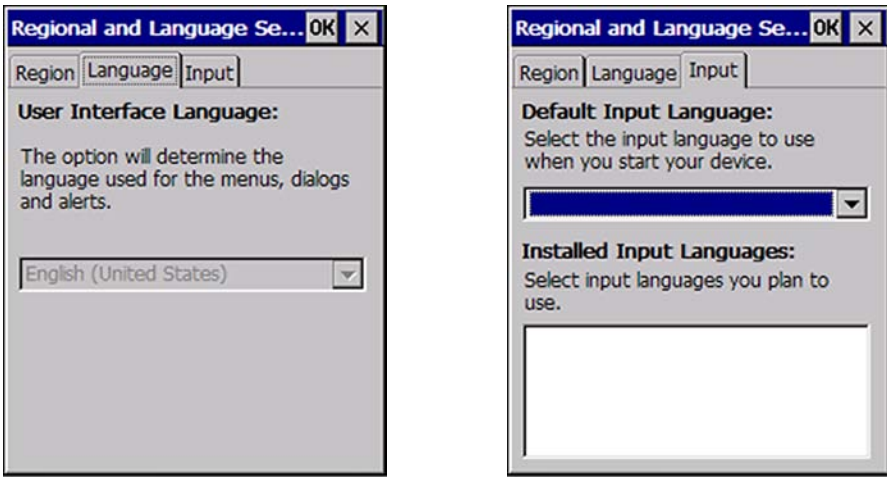
Figure 2-17. Region and Custom Settings



3. The options on the Language tab are disabled because the Pegaso will display only in English.

4. The **Input Panel** will open to facilitate data input.

Figure 2-18. Language and Input Tabs



5. To exit **Regional Settings**, tap **OK** on the control bar, or press **<Enter>** on the keypad.

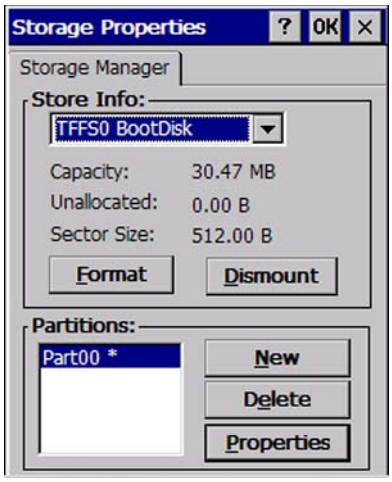
Remove Programs

See "Removing Programs" on page 3-7.

Storage Manager

To change the **Storage Manager** control panel default settings:

1. Select **Start > Settings > Control Panel > Storage Manager**.
2. From the **Store Info** pull-down list, select the desired storage device.
3. You can also format, dismount, and create partitions on storage devices using this control panel.
4. To save and exit the **Storage Manager** control panel, tap **OK** on the control bar, or press **<Enter>** on the keypad.



CAUTION **Dismounting or formatting the persistent storage drive will erase all files and programs stored in Memory.**

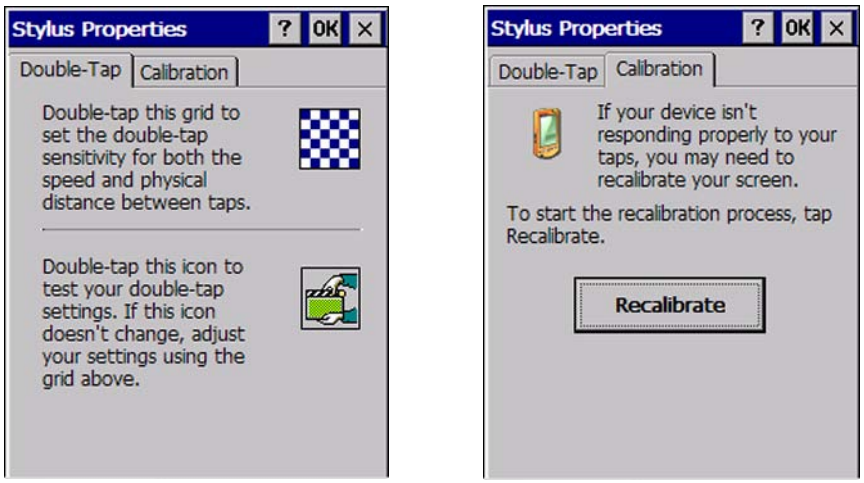
Stylus Calibration

You might need to recalibrate the touch screen (i.e. when you attempt to select one item with the stylus, another item is erroneously selected).

To recalibrate the touch screen, complete the following steps:

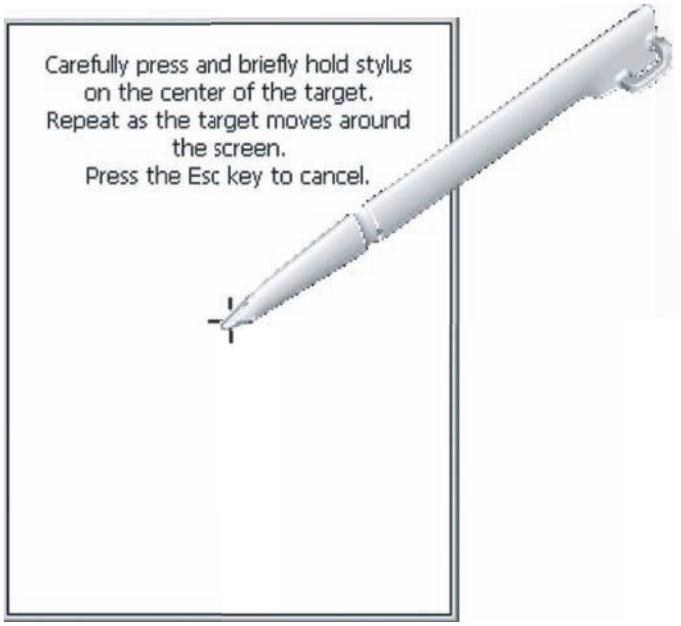
1. Select **Start > Settings > Control Panel > Stylus** to open the **Stylus Properties** dialog as shown in Figure 2-19 on page 2-24.
2. Adjust **Double-Tap** sensitivity if needed or desired.
3. Select the **Calibration** tab to open the **Calibration** application.

Figure 2-19. Stylus Properties Control Panel



4. Tap **Recalibrate** to open the **Calibration** screen shown to the right

5. Carefully press and briefly hold stylus on the center of the target as the target moves around the screen or press **<ESC>** to cancel the stylus calibration.



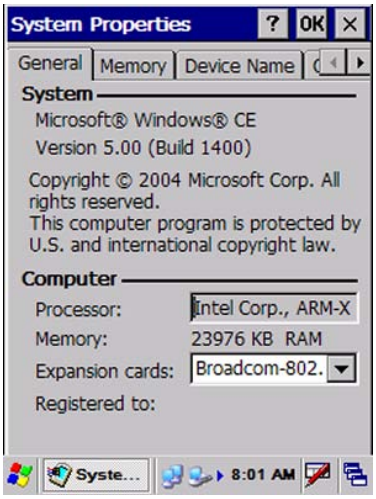
For more information about the touch-sensitive display, refer to "Using the Stylus" and "Navigating the Display" in the *Quick Reference Guide (QRG)*.

System Properties

Refer to the **System** control panel for information related to the system.To view the System properties, select **Start > Settings > Control Panel > System Properties.**

General Tab

To view the expansion card settings, select **Start > Settings > Control Panel > System Properties > General** tab.

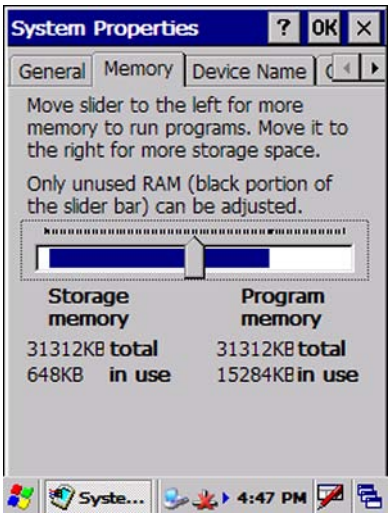


Memory Configuration

RAM Memory Allocation and Usage

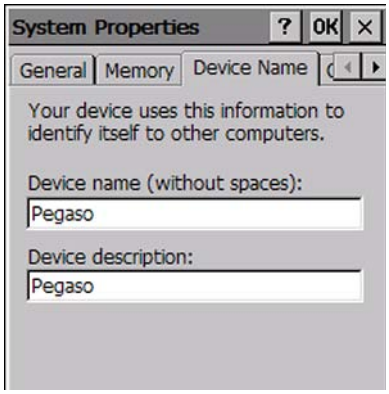
Complete the following steps to adjust the **Memory Allocation** (RAM Memory):

1. Select **Start > Settings > Control Panel > System Properties**.
2. Select the **Memory** tab.
3. Move the slider to adjust memory allocation.
4. Tap **OK**, or **<Enter>** on the Pegaso.



Device Name

Your device uses this information to identify itself to other computers.



Copyrights

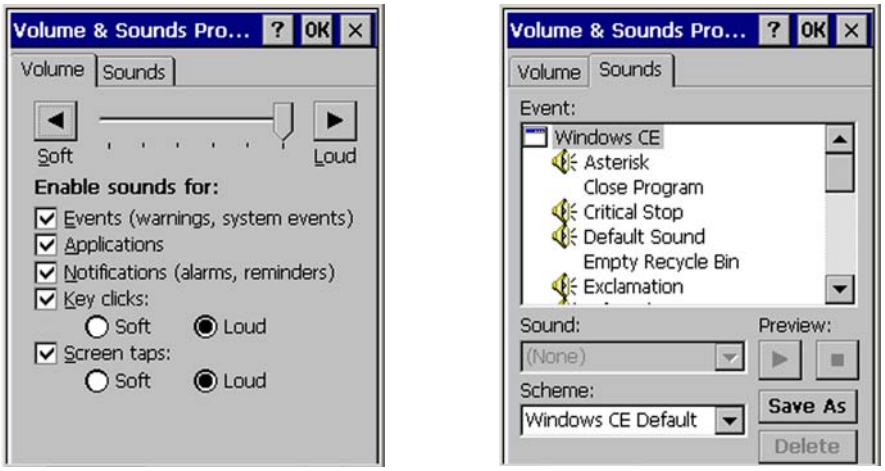
Refer to this tab for specific copyright data. As a user, you are responsible to read this statement.

Volume and Sounds

To change the **Volume and Sound** settings, complete the following steps:

1. Select **Start > Settings > Control Panel > Volume & Sounds Properties** to open the **Volume** settings.

Figure 2-20. Volume and Sounds Control Panels



2. Set the volume by adjusting the slider from **Soft** to **Loud**.
3. Enable the desired sounds for key clicks, screen taps, notifications, and applications.
4. Select the **Sounds** tab to choose from various wave files in the menu.
5. You can listen to the sound by selecting **Preview**.
6. Save your new sound scheme by selecting **Save As** and entering a name for your new Sound Scheme in the field. Delete a sound scheme by tapping **Delete**.
7. Tap **OK** when finished modifying your volume and sounds properties.

Wi-FI

Using the Summit Client Utility

The Summit Client Utility (SCU) is an application designed for end users and administrators of mobile devices that use a Summit radio module. For further information beyond the scope of this manual, you can download the complete Summit User's Guide from www.summitdatacom.com.

Reference the QRG for details about the basic functions of this utility. After completing an administrator login to the utility, you can perform these additional tasks:

- Create, rename, edit, and delete profiles
- Alter global settings, which apply to every profile

SCU provides a graphical user interface (GUI) for access to all of its functions. Access to these functions also is available through an application programming interface (API), which an application programmer can use to enable another utility to manage the radio.

To initialize SCU:

1. Go to **Start> Settings > Control Panel.**
2. Tap on the **Wi-fi** icon.

SCU Windows

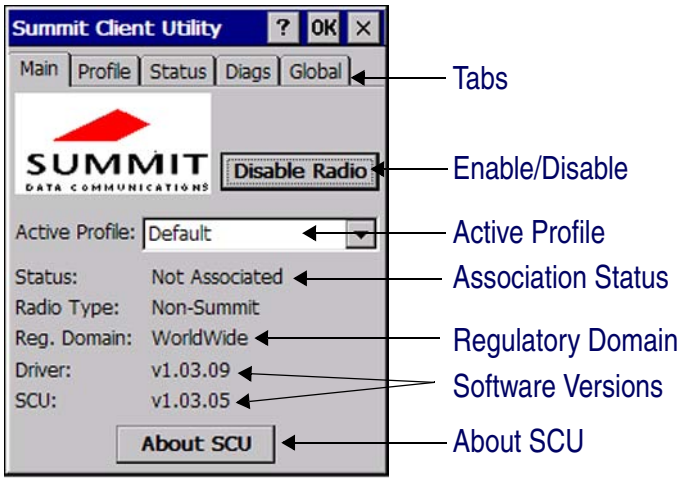
SCU has five tabs: Main, Profile, Status, Diags (Troubleshooting), and Global Settings. Tabs enable easy navigation. Each tab is described in more detail in this section.

Main Tab

Reference Figure 2-21 on page 2-28 to view the features of the Main tab.

- **Enable/Disable Radio**: Select or deselect to enable or disable the radio.
- **Active Profile:** Displays the name of the active configuration profile. An administrator can use the selection list to select a different profile.
- **Association Status:** Indicates if the radio is associated to an access point and, if not, what the radio's status is.

Figure 2-21. Main tab



- **Regulatory Domain:** Indicates the regulatory domain or domains for which the radio is configured. "Worldwide" means that the radio can be used in any domain. The domain cannot be configured by an administrator or user.
- **Software Versions:** Indicates the version of the device driver and the version of SCU that are running on the device.
- **About SCU:** Supplies information on SCU.

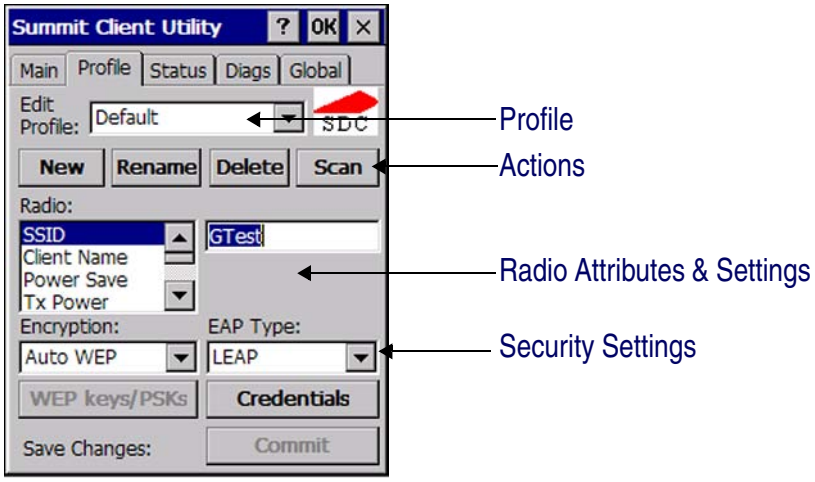
Profile Tab

Profile settings are radio and security settings that are stored in the registry as part of a configuration profile. When a profile is selected, its settings become active. An administrator can define, edit, or delete up to 20 profiles in the Profile tab in SCU. Profile changes made are saved only when the **Commit** button is pressed.

Figure 2-22 on page 2-29 is an example of a Profile tab. Here are the highlights:

- **Profile:** Use to select the profile to be viewed or edited. If "ThirdPartyConfig" is selected then, after the device goes through a power cycle, WZC is used for configuration of the radio.
- **Actions:** Four actions are available to an administrator:
  - Rename: Give the profile a new name, one that is not assigned to another profile
  - Delete: Delete the profile, provided that it is not the active profile
  - New: Create a new profile with default settings and give it a name (and then change settings using other selections on the tab)
  - Commit: Ensure that changes to profile settings made on the tab are saved in the profile

Figure 2-22. Profile tab



3. **Radio attribute and setting:** Attributes in the list box can be selected individually. When an attribute is selected, the current setting or an appropriate selection box with the current setting highlighted appears on the right. For example, selecting SSID causes an edit box to appear; selecting transmit power causes SCU to display a drop-down list box with available settings.

4. **Security settings:** The items at the bottom of the tab enable the administrator to configure the settings for EAP Type (used for 802.1X authentication) and Encryption.

To connect a Summit radio to a typical business WLAN, you must select a profile that specifies the SSID, EAP type, and encryption type supported by the WLAN:

- SSID: The name or identification of the WLAN.
- EAP type: The protocol used to authenticate the device and its user if the WLAN uses the Enterprise version of Wi-Fi Protected Access (WPA) and WPA2. SCU supports four EAP types: PEAP with EAP-MSCHAP (PEAP-MSCHAP), PEAP with EAP-GTC (PEAP-GTC), LEAP, and EAP-FAST

- Encryption: Specifies the type of key used to encrypt and decrypt transmitted data and how that key is specified or derived. Encryption options include:
  - WPA2 or WPA with dynamic keys (derived from the EAP authentication process)
  - WPA2 or WPA with pre-shared keys
  - Static WEP keys

Consult the Summit User's Guide for details on all profile settings, including security settings.

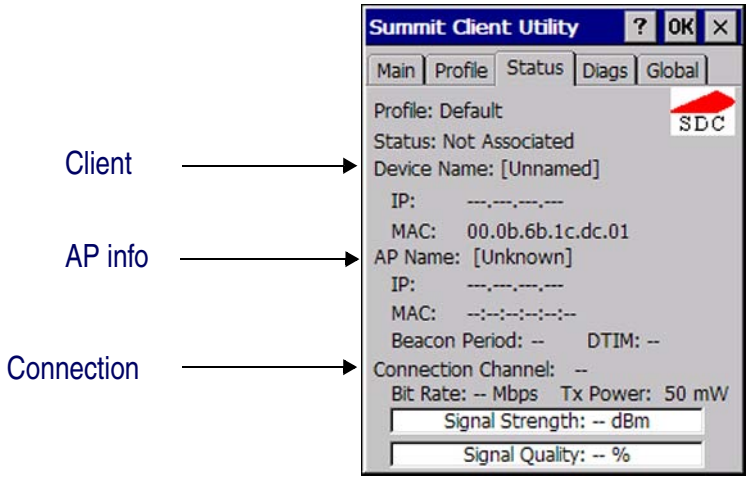
Status Tab

The Status tab shown in Figure 2-23 on page 2-30 provides status information on the radio. Status items include IP address and MAC address for the client radio, IP address and MAC address for the AP, signal strength, channel, transmit power, and data rate. A sample Status tab is shown in Figure 2-23 on page 2-30.

- **Client info:** Name of active profile, client name, client IP address, and client MAC address
- **AP info:** AP name, AP IP address, and AP MAC address
- **Connection info:** Channel, transmit power, and bit rate

One status item, the radio association state, is shown on both the Status tab and the Main tab. Potential values are: Down (not recognized), Not Associated, Associated, or [EAP type] Authenticated.

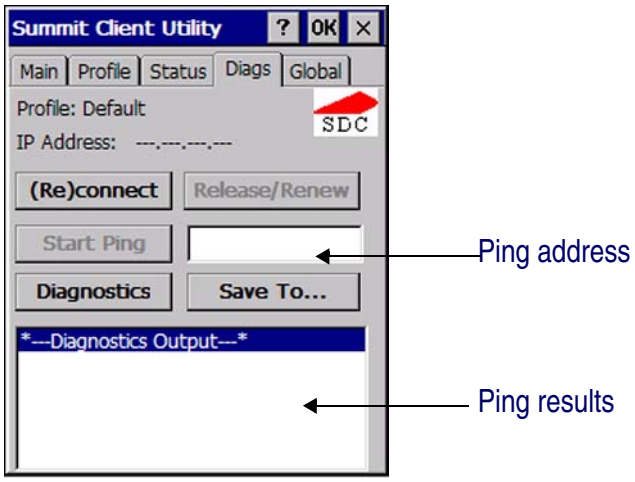
Figure 2-23. Status tab



Diags Tab

A sample Diags, or troubleshooting, tab is shown in Figure 2-24 on page 2-31.

Figure 2-24. Diags tab, with ping active



Here are the functions available on the Diags tab:

- **(Re)connect:** Disable and enable the radio, apply or reapply the current profile, and attempt to associate and authenticate to the wireless LAN, logging all activity in the output area at the bottom.
- **Release/Renew:** Obtain a new IP address through DHCP release/renew, and log all activity in the output area at the bottom.
- **Start Ping:** Start a continuous ping to the address in the edit box next to it. Once the button is clicked, its name and function will change to Stop Ping. Leaving the Diags tab also will stop the ping, as will pressing any other button on the screen.
- **Diagnostics:** Attempt to (re)connect to an AP, and provide a more thorough dump of data than is obtained with (Re)connect. The dump will include radio state, profile settings, global settings, and a BSSID list of APs in the area.

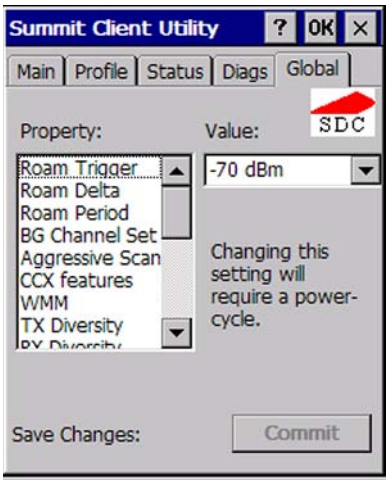
Global Settings Tab

Global settings include:

- Radio and security settings that apply to all profiles
- Settings that apply to SCU itself

An administrator can define and change most global settings on the Global Settings tab in SCU. Figure 2-25 shows a sample Global Settings tab.

Figure 2-25. Global Settings



The default setting for each global setting ensures reliable operation in most environments. Consult the user's guide for details on all global settings.

Chapter 3
Software Applications

Overview

This section contains the following topics:

Inbox

The Pegaso comes with **Inbox** for Windows CE installed from the factory. **Inbox** is a familiar Microsoft email interface. To set up your **Inbox**:

1. Open **Inbox** by selecting **Start > Programs > Inbox**.
2. Select **Services > Options** from the command bar to configure email.
3. Drag the screen to show **Add...**. Select **Add...**.
4. Select the **Service Type** and type the email service name in the **Service Name** text box. Select **OK**.
5. Enter the server and user information in the **Mail Service Definition**.
6. Configure your inbox using the **Mail General Preferences** dialog.

7. Configure your mail retrieval settings in the **Mail Inbox Preferences**.
8. Tap **OK** to complete the **Inbox** configuration.
9. Select **Services > Connect** from the command bar.
10. Select **Services > Send/Receive Mail** from the command bar to manually retrieve mail. Pending email appears in the inbox after connecting.

Internet Explorer

The Pegaso comes with **Internet Explorer** for Windows CE installed.

1. Open **Internet Explorer** by selecting **Start > Programs > Internet Explorer**.
2. To set a default home page, navigate to the desired default web page.
3. Select **View > Internet Options** from the command bar.
4. Enter the desired URL in the **Start Page** field.
5. Tap **OK.**

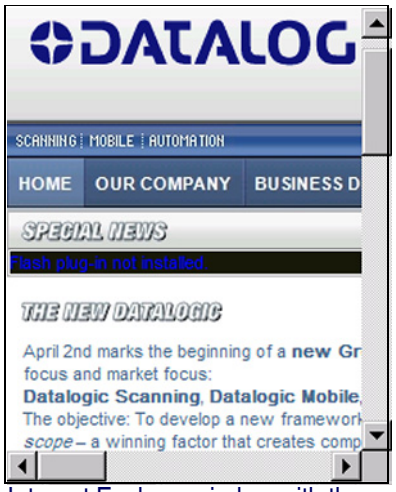
Internet Explorer window with the **Status** bar and **View** menu.

Internet Explorer uses sliding menus for application and navigation control. Tap and drag the sliding menus to the left or right to see the hidden menu items and toolbars.

To achieve more screen real estate in Internet Explorer, you can hide the **Status** bar and **View** menu. From the top menubar, go to **View > Hide Toolbars**.

Once it is hidden, you must reset the Pegaso to access these features again. Refer to the *Pegaso Quick Reference Guide (QRG)* for reset instructions.

For more control over the way Internet Explorer is displayed, refer to "Datalogic® Desktop Utility for Windows® CE", starting on page B-1



Internet Explorer window with the **Status** bar and **View** menu hidden.

Media Player

The Pegaso comes with **Media Player** for Windows CE installed.

1. Open **Media Player** by selecting **Start > Programs > Media Player**.

2. Select **File > Open** to open an available existing media file.

3. Please refer to www.microsoft.com for additional information and help with your Microsoft Windows **Media Player**.

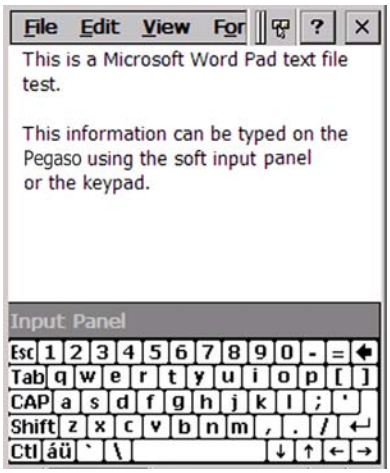
WordPad

The Pegaso comes with **WordPad** for Windows CE installed from the factory. The following text and document file types are compatible with **WordPad**:

- Text (**`*.txt`**)
- Word Document (**`*.doc`**)
- Rich Text File (**`*.rtf`**)
- WordPad (**`*.pwd`**)

When file types other than **`*.pwd`** are transferred to the device, Windows CE translates the files into a compressed file type.

To start **WordPad**, select **Start > Programs > Microsoft WordPad**.



Persistent Memory

In addition to the RAM-based storage standard on Windows CE terminals, the Pegaso is also equipped with a persistent storage application and file storage area.

The persistent storage memory persists across all reset (warm/cold reboot) conditions and software/firmware updates.

Because of this, Datalogic very strongly recommends installing all applications, applets, programs, and important data files to the persistent disk of the Pegaso.

If an application or a data file is only installed or saved in RAM, a hard reset may result in the loss of that application or data file.

CAUTION

Saving to Persistent Memory

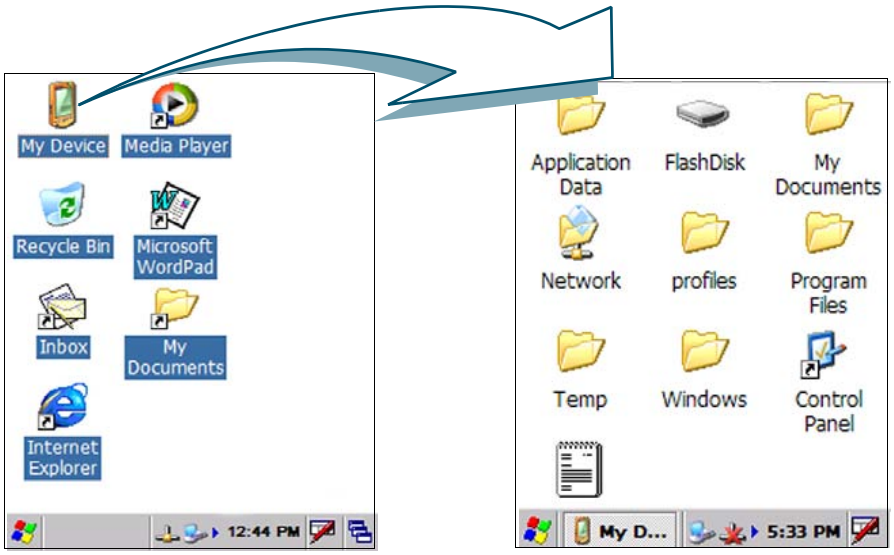
To save an application or data to the persistent memory, from your current application select **File > Save As >** and navigate to the location as described below.

Location

To access the contents of Persistent Memory:

1. Double-tap the **My Device** icon on the desktop.
2. Double-tap the **FlashDisk** icon to view.

Figure 3-1. Location of the FlashDisk



Disk Size

The size of the persistent storage disk will vary, depending upon several factors, such as the size and number of currently running applications and the amount of memory currently consumed by the OS.

To view the current size of flash memory:

1. Double-tap the **My Device** icon on the desktop. (See Figure 3-1).
2. Press and hold the **FlashDisk** directory with the stylus, and select **Properties** from the pop-up menu.
3. The **FlashDisk Properties** dialog opens. The number following **Free** is the amount of memory currently available on the Pegaso.

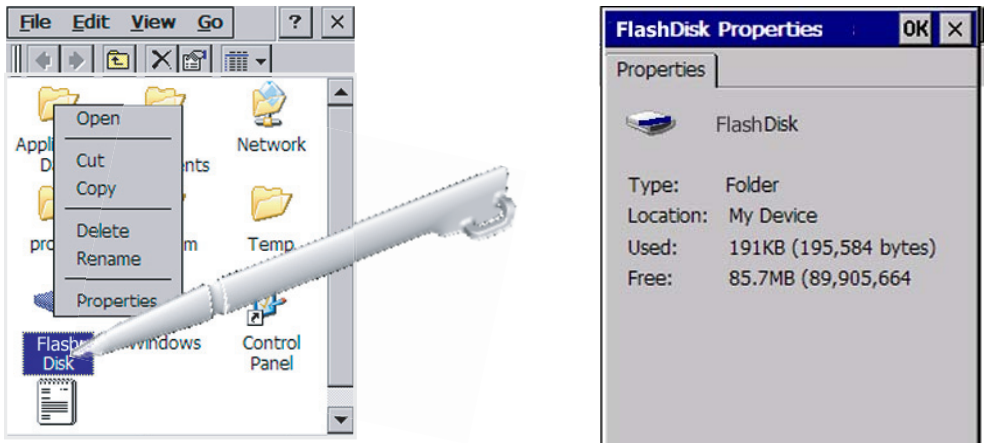


Table 3-1. Persistent Memory Specifications

Persistent Memory Specifications	
Total Flash size	128 MB
OS/Firmware uses	32 MB
FlashDisk size	96 MB

Installing Programs

Programs pre-installed on the Pegaso are stored in ROM (read-only memory). You cannot remove or modify this software.

You may add programs and data files to RAM (random access memory) or into persistent storage memory via the persistent storage disk. You can install **`*.cab`**, **`*.exe`** **`*.zip`** files, or other files designed for the Pegaso.

Please follow the directions provided with the software to install it.

Using an Installation Wizard

If the file has an installer, the installation wizard begins automatically if you have ActiveSync installed. Most installation programs require an ActiveSync connection. (Refer to "Installing & Setting Up Microsoft ActiveSync" on page 4-1.)

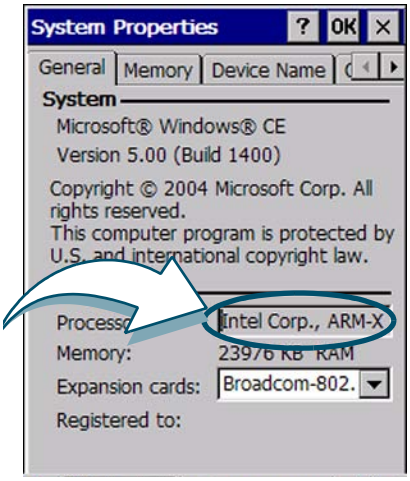
Installing Programs Manually

To quickly install programs on multiple Pegasos, use the Datalogic Firmware Utility (DFU) or Wavelink Avalanche®.

Follow the directions on the screen. Once the software is installed on your desktop computer, the installer transfers the software to your Pegaso.

If the file does not contain an installer, an error message indicates the program is valid but is designed for a different type of computer.

- Install **`*.cab`**, **`*.exe`** **`*.zip`**, **`setup.exe`** files, or other files designed for the Pegaso.
- Many Windows CE applications will also work on the Pegaso.



Start by downloading the program to your desktop computer (or insert the CD or disk that contains the program into your desktop computer).

1. Select **Start > Settings > Control Panel > System > General** on the Pegaso. Make a note of the information in the **Processor** field as shown at right. The processor type is required to determine file type compatibility.

2. Many programs provide installation instructions. Read the installation instructions such as **`ReadMe`** files or a manual that may have come with the program.

   - If you cannot find installation instructions for the program in the **`ReadMe`** file or manual, use **ActiveSync Explore** to copy the program file to the **`Program Files`** folder on your Pegaso.

   - For more information on copying files using **ActiveSync**, refer to the **ActiveSync** online Help.

3. Connect your Pegaso and desktop computer. Refer to "Networks, Communications, and Connections", starting on page 4-1 to connect your Pegaso with your PC.

4. Double-click the **`*.exe`** or **`*.cab`** file.

5. Once the installation is complete, double-tap the program icon from the desktop, or select **Programs >** and tap the program icon to select it.

Refer to "Using ActiveSync to Add to the Start Menu" on page 3-7.

Using Windows Explorer to Add to the Start Menu

1. Select **Start > Programs > Windows Explorer**, and select the directory where the application or program is stored.
2. Select **Cut** from the **Edit** menu.
3. Open the **Programs** folder located in the Windows folder, select **Paste** from the pop-up menu.

The program appears on the menu.

Using ActiveSync to Add to the Start Menu

1. Use the **Explorer** in **ActiveSync** on your desktop computer to explore the files on your Pegaso and locate the program. For more information on using **ActiveSync**, refer to "Installing & Setting Up Microsoft ActiveSync" on page 4-1, or see the **ActiveSync** online help on your unit.
2. Right-click on the program, then select **Create Shortcut**.

Move the shortcut to the **Programs** folder in the Windows folder. The shortcut appears on the menu.

Removing Programs

Only user-installed programs can be removed.

1. To remove a program, select **Start > Settings > Control Panel > Remove Programs**.
2. Select the program you wish to remove from the list and tap **Remove**.

Datalogic Firmware Utility

The Pegaso is equipped with a field upgradeable firmware mechanism. Firmware updates for the Pegaso are available on the Datalogic Mobile website (www.mobile.datalogic.com). After you have downloaded the desired update, there are several ways you can update the firmware on the Pegaso.

- Use Wavelink Avalanche® if you have multiple Datalogic mobile devices to update. Refer to the Product CD included with your device for more information.
- If Wavelink Avalanche® is not available or you have only a few Datalogic Mobile devices to update, use the Datalogic Firmware Utility (DFU), described below, to install or update the firmware using an ActiveSync connection. Refer to "Installing & Setting Up Microsoft ActiveSync" on page 4-1 for more information.

DFU can also be used to restore the firmware onto a Pegaso that has become corrupted, such as would happen if the Pegaso were powered down during an ActiveSync firmware update. See "Restoring Pegaso Firmware" on page 3-10.

The following sections provide procedures for the retrieval and installation of the most current firmware image onto a Pegaso.

Retrieving a Firmware Image Update

The following instructions use Internet Explorer to retrieve the most current firmware image.

1. Launch Internet Explorer on your PC and navigate to the Datalogic Mobile website.
2. Navigate to the Downloads section of the website.
3. Select the file you want to download, then click Save to begin copying the files to your local machine (or local network location).

Installing DFU on the Host PC

The Datalogic Firmware Utility (DFU) provides administrators with a field upgrade mechanism. You must have Microsoft® ActiveSync already loaded and running on the host PC to use DFU. Refer to "Installing & Setting Up Microsoft ActiveSync" on page 4-1 and "Using ActiveSync" on page 4-6 for more information about ActiveSync.

Prior to installing, you must remove any previous versions of DFU installed on the host PC.

To install the Datalogic Firmware Utility, complete the following steps on the PC:

1. Insert the CD ROM shipped with your Pegaso and click on the link to **Datalogic Firmware Utility.**

OR
Go to the Datalogic Mobile website and download the most current version of the Datalogic Firmware Utility. Unzip the file, then double-click to run **`DFU_Setup.exe`**

Click **OK** to continue once you have removed previous versions of DFU.

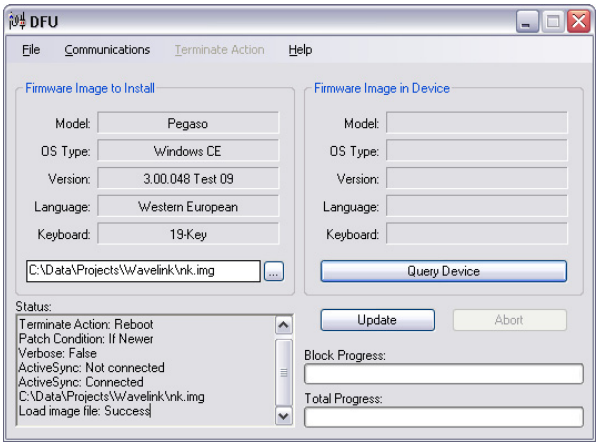
2. The **Welcome to DFU Setup Program** screen opens.
   - Please exit all Windows applications before running this setup.
   - Click **Cancel** to quit Setup and close any programs you have running.
   - Click **Next** to continue the Setup.
3. Follow the onscreen instructions to complete the installation.

Updating the Pegaso Firmware

After copying the firmware image to the host PC ("Retrieving a Firmware Image Update" on page 3-8) and installing **DFU** (see "Installing DFU on the Host PC" on page 3-8), you can upgrade the firmware on your Pegaso.

The following steps require that you have already established an ActiveSync connection between the host computer and the Pegaso. To establish an ActiveSync connection with the Pegaso, refer to "Installing & Setting Up Microsoft ActiveSync" on page 4-1 *and* "Using ActiveSync" on page 4-6, for more information on ActiveSync.

1. Go to **Start > Programs > DFU > Datalogic Firmware Utility**.
2. Verify that ActiveSync is selected by clicking **Communications > ActiveSync**.
3. Click browse (**...**) and navigate to the location where you saved the firmware file for your terminal.



4. Select the current ***`.img`** file and click **Open**.

5. Verify that the Pegaso is turned on. Insert the device into a powered dock connected to the host computer.

6. Click **Update** on DFU on the host PC to begin the update process.

7. **DFU** will compare the selected firmware image with the firmware already loaded on the Pegaso; if the images are different, **DFU** will proceed to update the firmware image on your Pegaso.

Please be patient and do not remove the Pegaso from the Dock during this procedure. The firmware image of the Pegaso can take as long as:
- 12 minutes to download using a USB connection.
- 22 minutes to download using a serial connection with 115K baud rate.
- 130 minutes to download using a serial connection with 19.2K baud rate.

8. After the firmware of your Pegaso has been updated, you must perform a warm reset of the Pegaso. Refer to the *Pegaso Quick Reference Guide (QRG)* for reset instructions.

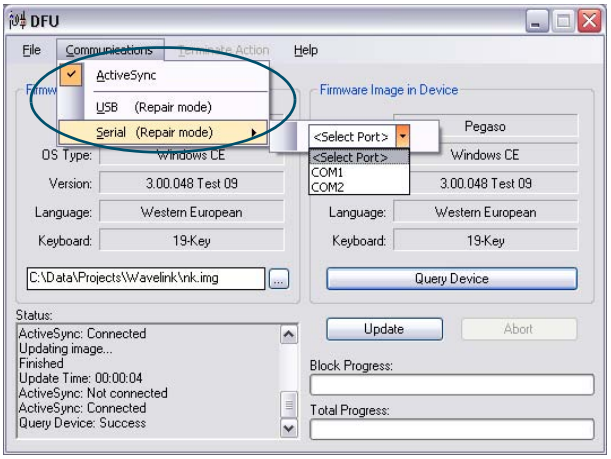
Restoring Pegaso Firmware

If the firmware image on the Pegaso becomes corrupted, the unit will beep twice and show a blank screen when powered on. This can happen if a firmware update is aborted, such as during a power loss or if the Pegaso is removed from the Dock before completion of the procedure.

To reinstall the firmware, complete the following steps:

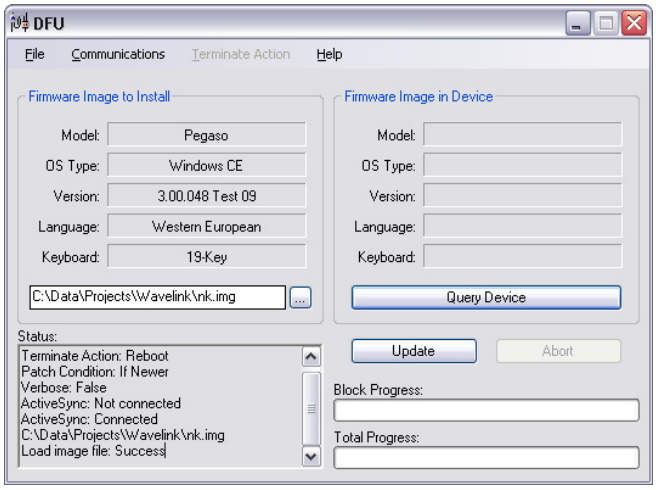
1. On the PC, click **Start > Programs > DFU > Datalogic Firmware Utility.**

2. From the **Communications** menu, select the communication mode you are using to attach your dock to the PC (**`USB`** or **`Serial)`.**



3. If you are using Serial, DFU will display the COM ports available on your PC. Select the specific COM port to which the dock is connected.

4. Click browse (**...**) to navigate to the file location.



5. Select the current *`.img` file and click **Open**.

6. Verify that the Pegaso is turned on. Insert the Pegaso into a powered dock connected to the host computer.

7. Click **Update** on **DFU** on the host PC.

8. **DFU** will restore the firmware on the Pegaso.

Please be patient and do not remove the Pegaso from the Dock during this procedure. The firmware image of the Pegaso can take as long as:

- 12 minutes to download using a USB connection.
- 22 minutes to download using a serial connection with 115K baud rate.
- 130 minutes to download using a serial connection with 19.2K baud rate.

9. After the firmware has been restored, the Pegaso will automatically reset.

Datalogic Configuration Utility

Datalogic Configuration Utility (DCU) is a Datalogic Windows-based utility tool allowing the uploading, modifying and downloading of a Datalogic brand Windows CE device. Configuration settings include Scanner, Control Panel, and Datalogic Desktop Utility (DDU). The DCU installer is available on the product CD which came with your device or from the Datalogic Mobile web page (www.datalogic.mobile.com).

DCU functions in both direct (with an ActiveSync connection) and indirect (with Wavelink Avalanche™) modes.

In direct mode, connect a device through ActiveSync (follow the ActiveSync connection procedure in "Setting Up ActiveSync" starting on page 4-2), and then click on the **Get from Device** icon  to receive the device's current configuration.

Once loaded, the Configuration Tree (on the left side of the window) is used to navigate the device's configuration. The right side of the window is a work area where the values of different parameters may be set for each branch of the configuration tree. Click on the parameter group branch to open it and visualize the parameters you wish to modify.

After altering the device's configuration, the new configuration can be sent to the terminal by clicking on the **Send to Device** icon . 

Reference the Wavelink Avalanche™ documentation on your Datalogic CD for a description of indirect mode for DCU, which will allow you to update the configuration of multiple devices simultaneously over Wi-Fi.

AutoStart

The AutoStart program provides three functions:

- Allows you to create a list of applications (with optional command line arguments) to run automatically prior to loading CAB files.
- Automatically reinstalls specified CAB files when the Pegaso is Hard Reset.
- Allows you to create a list of applications (with optional command line arguments) to run automatically after loading CAB files.

AutoStart launches each time the Pegaso is rebooted. AutoStart first runs **`PreAuto.ini`** (reference Table 3-3 for the location), executing each line with the specified command line arguments. It will take into account any AutoStart options at the begining of the line.

Upon a Cold Reset, AutoStart installs all the CAB files located in the AutoStart CAB folder. If the AutoStart CAB folder does not exist, no CAB files will be installed.

Table 3-2. AutoStart CAB folder location

Product	Operating System	Location
Pegaso	Windows CE	**\FlashFX Disk**
	Windows Mobile	**\FlashDisk**

AutoStart will then run the **Autostart.ini** (reference Table 3-3 for the location), executing each line with the specified command line arguments. It will take into account any AutoStart options at the beginning of the line.

Table 3-3. PreAuto.ini and Autostart.ini location

Product	Operating System	Location
Pegaso	Windows CE	\FlashFX Disk
	Windows Mobile	\FlashDisk

Installing CAB files

Copy any CAB files you want to install into the AutoStart CAB folder. These CAB files will then be automatically installed in alphabetical order the next time you start the device.

How AutoStart Uses Wceload

If you intend to create highly interactive installers, you should either install the CABs manually or review the section on "Interactive CAB Install" in this chapter.

CAUTION

In certain environments, CAB files will be deleted after execution. To prevent the CAB file from being deleted, write protect the file before copying the file onto the device.

CAB files are installed by AutoStart using the **Wceload.exe** application. Table 3-4 on page 3-13 shows available command line options:

Table 3-4. AutoStart command line options

Option	Description
/noui	Specifies that you will not be prompted for any input during the installation. If the CAB file is signed, any responses will automatically be answered 'Yes.' If the CAB is unsigned, then any responses will be answered 'No.'
/silent	Suppresses dialog boxes during the installation.

Please refer to the Microsoft documentation on your device for further details on **Wceload.exe**.

Sample:

```
\Windows\Wceload.exe /delete 1 /noui /silent "\Flash-
Disk\CAB\<cab file>"
```

Interactive CAB Install

If the CAB installer requires user interaction that must be performed during the AutoStart CAB installation process, you can specify a special file name to disable the silent mode installation. If this mode is specified, the CAB file will be installed with **Wceload** without any command line arguments specified.

An example of what AutoStart would execute is: **\Windows\Wceload.exe <cab file>**

To force this mode of installation via AutoStart, rename the CAB file to include a '_' character before the "**.cab**" extension of the file.

Example:

"**File.cab**" should be renamed "**File_.cab**" to force AutoStart to not install the CAB in silent mode. This specially-named CAB file should be placed in the AutoStart folder with other CAB files intended for installation on the next reboot.

Autostart.ini

Autoexec.ini, which uses AutoCE on some older models, has been deprecated. These files should be renamed to Autostart.ini and reformatted as described in "AutoStart" on page 3-12.

In the following section, all references to AutoStart.ini also pertain to PreAuto.ini.

Autostart.ini and **PreAuto.ini** are text files that AutoStart will run upon start-tup of the Pegaso, and after any CAB files are installed. This file should be placed in the AutoStart folder. AutoStart will run the **Autostart.ini** file on each reboot of the device.

Line Formatting

Each line of the **Autostart.ini** can consist of Autostart options, an executable, and any command line arguments.

< Autostart option(s)> <full path to executable> <command line arguments>

Sample: - \windows\pword.exe \file.doc

Table 3-5 breaks down the sample **Autostart.ini** line.

Table 3-5. Autostart.ini line formatting

Autostart option(s)	Full path to executable	Command line arguments
-	\windows\pword.exe	\file.doc

Spaces must be placed between each component of the line in the **Autostart.ini**.

If the executable path is in a folder that contains spaces in the name, quotes are required to distinguish what the actual executable name is. The following is an example of this:

"\Program Files\ScannerApp.exe" /run (valid)

\Program Files\ScannerApp.exe /run (invalid)

The second line is an invalid line because there is no way to distinguish the executable from the argument.

AutoStart Options

Table 3-6 shows options you can use when writing a line in the **Autostart.ini** or **PreAuto.ini** file.

Table 3-6. Options for Autostart.ini and PreAuto.ini

Description	Character	Comments
Comment: This line will not be executed.	**'#' OR ' ' (space)**	This may only be used as the first character of the line. If the comment option is specified in the options elsewhere, it is ignored.
Do not wait on line completion: This will cause the line to execute and immediately move onto the next line.	**'_'**	
Query: Request user confirmation when running the executable.	**'?'**	This will halt parsing the Autostart.ini until the confirmation is answered. *This is intended for debugging the Autostart.ini file.*
Execute only on Cold Reset	'!'	

Cold Reset Only: This will cause the line to execute only after a Cold Reset.

An empty line will be treated as a comment line.

Combining Options

Autostart options can be combined together as shown in the following sample:

```
?- \Windows\Pword.exe
```

This line would:

- Request confirmation before executing the line. The next line would not be processed before the confirmation is answered.
- Run the next line without waiting on the current line to complete execution.

Query Option

The query option is intended for use when debugging the **autostart.ini**. When a line with this option is executed, the following dialog will appear with the specified executable and command line arguments. The populated fields shown in the AutoStart Execute Query are described in Table 3-7 on page 3-16.

AutoStart Execute Query

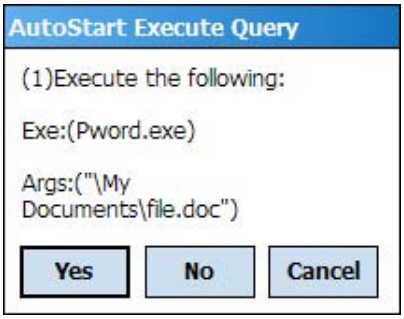


Table 3-7. AutoStart Query options

Field	Description
Line Number	This is the line number in the script being executed.
Exe	The executable as parsed by AutoStart.
Args	The argument as parsed by AutoStart.

The fields may be broken up into multiple lines (as shown in the example) due to limited space in the dialog.

Parentheses are used to surround the given field and make it very clear what the value of the field is.

Table 3-8 describes the results of each choice:

Table 3-8. AutoStart Query actions

Button	Action
Yes	The current line will execute.
No	The current line will not execute. AutoStart will continue parsing the Autostart.ini.
Cancel	The current line will not execute and AutoStart will discontinue parsing the Autostart.ini.

Autostart.ini Samples

Table 3-9 on page 3-16 is a collection of sample Autostart.ini lines.

Table 3-9. Sample Autostart.ini lines

Line	Description
`? \windows\wceload.exe "\My Documents\Sample.cab"`	This will confirm the execution of **`\Windows\wceload.exe`** with specified argument **`"\My Documents\Sample.cab"`**
`\Program Files\App.exe`	*(invalid)* This will execute **`\Program`** with the argument **`Files\App.exe.`**
`\Program Files\App.exe /run`	*(invalid)* This will execute **`\Program`** with the argument **`Files\App.exe /run.`**
`"\Program Files\App.exe" /run`	This will execute the program **`\Program Files\App.exe`** with the argument **`/run`**.
`?- \Windows\Pword.exe`	This will confirm the execution of **`\Windows\Pword.exe`**. If the execution is confirmed, AutoStart will immediately process the next line.
!"\Program Files\App.exe" /run	This will execute the program **`\Program Files\App.exe`** with the argument **`/run`** ONLY after a Cold Reset.

Chapter 4
Networks, Communications, and Connections

Overview

Microsoft Windows Vista® does not support ActiveSync. Windows Vista users, please refer to Microsoft's documentation for "Windows Mobile Device Center."

This section contains the following topics:

Installing & Setting Up Microsoft ActiveSync

Windows Vista® uses a different mechanism (interface) to talk with mobile devices. ActiveSync is not supported in Windows Vista.

This section provides instructions on setting up the Host PC so that the PC can communicate with the Pegaso and the dock.

The screen shots in the manual were taken and the procedures were written using Windows® XP. If you are using a different Windows operating system, appearances and procedures may be slightly different.

Important! You must disconnect any other PDAs, PDTs, or Pegasos using USB ActiveSync from the Host PC prior to connecting the Pegaso or the Host PC and Microsoft ActiveSync may not recognize the new device.

Installing Microsoft ActiveSync

Microsoft® ActiveSync is a file transfer tool used to synchronize the files on a PC with the files on your Pegaso. The device comes from the factory with ActiveSync loaded. If you have ActiveSync already installed on your PC, make sure that you have v3.7.1 or higher.

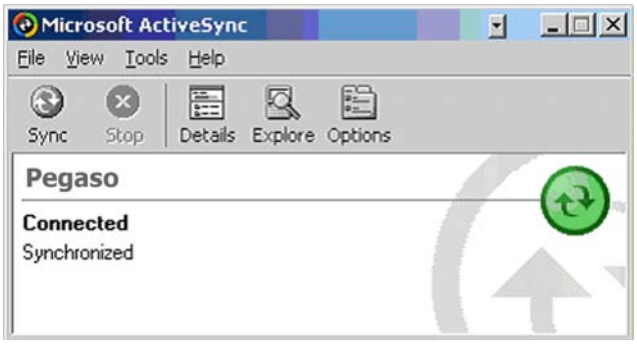
To install Microsoft® ActiveSync on the PC, complete the following steps:

1. Download the current version of ActiveSync from the Microsoft website at: http://www.microsoft.com/downloads/.
2. Install ActiveSync on your host PC. Follow the on-screen instructions to complete the installation.
3. Reboot your PC.
4. You have completed installing ActiveSync.

Setting up ActiveSync

1. Open ActiveSync from the Host PC.
2. Connect the Pegaso to the Host PC via a dock or USB/Serial cable.
3. Verify that the Pegaso is turned on.
4. Within a minute, the ActiveSync window should appear, attempting to connect to a new device.

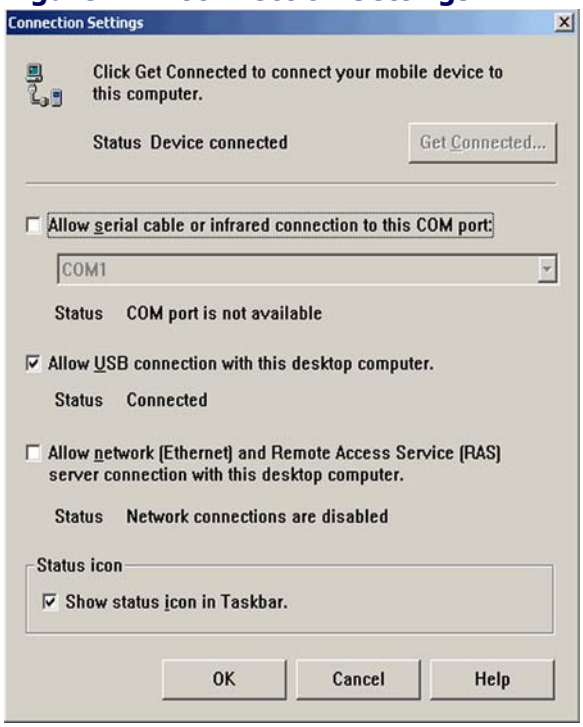
Figure 4-1. Microsoft ActiveSync dialog



5. If ActiveSync does not connect within two minutes, try the following:

   - Double-click and open **ActiveSync** from the Host PC's System Tray if it is not already open.
   - Remove the Pegaso from the dock and then reinsert it into the dock or disconnect the cable from the Host PC and reconnect it.
   - Select **File > Get Connected** for ActiveSync to look for a mobile device.
   - Go to **File > Connection Settings** and make sure that your Connection Settings dialog show the same selections as that in Figure 4-2 below if you have a USB connection. If you have a serial connection, select the correct COM port from the pull-down list.

Figure 4-2. Connection Settings



6. You have completed setting up ActiveSync. Proceed to "Installing the USB Driver", below, to install the USB driver.

Installing the USB Driver

In order for the Host PC to communicate with the Pegaso, you must install the USB driver file from the CD that came with the Pegaso, or download it from the Datalogic website at www.mobile.datalogic.com.

Microsoft ActiveSync must be installed on your computer before proceeding. See "Setting up ActiveSync" on page 4-2.

Important! Install the USB driver PRIOR to connecting the Pegaso to the host PC.

1. Copy the USB driver file (**`Datalogic ActiveSync inf`** file for Windows CE USB) from your Datalogic CD or the Datalogic website to the following location on your computer:
   `C:\Program Files\Microsoft ActiveSync\Drivers`.
2. Connect the USB or Serial cable to Pegaso or place the unit in the dock.
3. Connect the USB or Serial cable to a Host PC.
4. Follow the directions onscreen. The specified source directory will be the one identified in step 1.
5. You are now ready to use ActiveSync.

Using ActiveSync

Use ActiveSync to transfer and synchronize (share) files between the Pegaso and the Host PC.

Important! You must disconnect any other PDAs, PDTs, or Pegasos using USB ActiveSync from the Host PC prior to connecting the Pegaso, or the Host PC and Microsoft ActiveSync may not recognize the new device.

Setting up a Partnership

During the Microsoft ActiveSync installation, you were prompted to create a partnership with your mobile device. When you set up a partnership, you select synchronization and file conversion settings, which are contained in a file on your desktop computer. This file enables your desktop computer to recognize your device. Only devices that have a partnership with a desktop computer can synchronize information between the two computers.

Partnerships are stored in ActiveSync and have the same name as the corresponding device. Your desktop computer can set up partnerships with many different mobile devices, but the Pegaso can have partnerships with only two computers. For more information on partnerships, please refer to your Microsoft ActiveSync documentation or help file.

Transferring Files

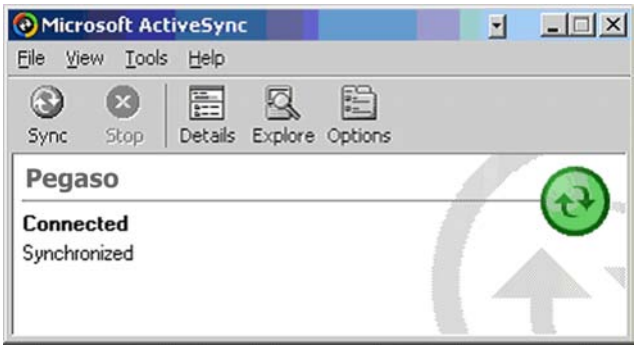
To transfer files, complete the following steps on the host PC:

1. Select **Start > Programs > Microsoft ActiveSync**.

2. Double-click on the **ActiveSync** icon in the **System Tool Tray**.

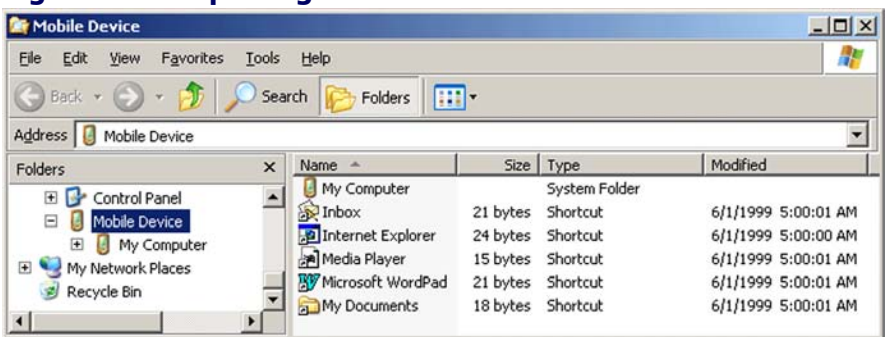
3. After you have established a connection with your Pegaso, tap **Explore** at the top of the **ActiveSync** window (or select **Explore** from the **File** menu). Refer to Figure 4-3 on page 4-5.

Figure 4-3. ActiveSync Dialog



4. Navigate to the target directory (folder) on your portable.

Figure 4-4. Exploring the Mobile Device



5. Copy the desired file by using the **Copy/Paste** method or dragging and dropping the desired file(s) into the directory (folder).

Depending on the file type, ActiveSync may convert the file into a format appropriate for the Windows CE device.

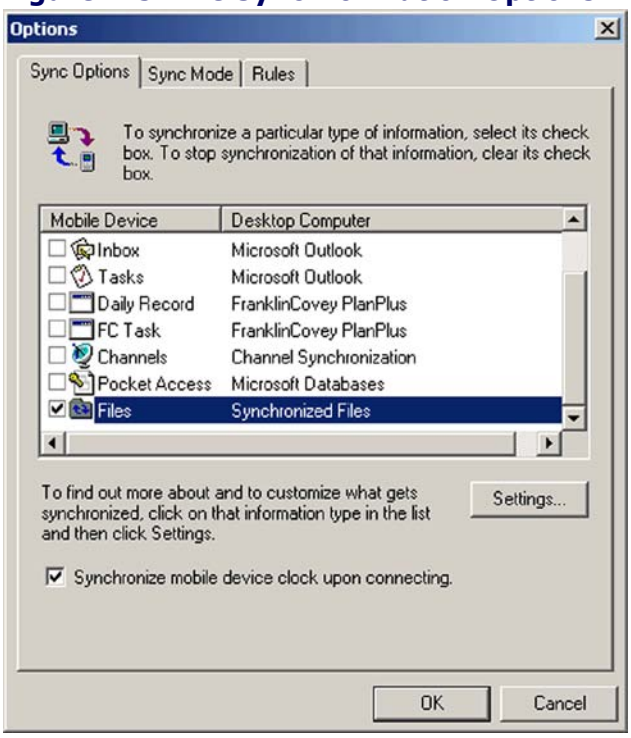
File Synchronizing using ActiveSync

ActiveSync file synchronization requires an ActiveSync partnership between the Pegaso and the Host PC. Refer to "Setting up a Partnership" on page 4-4.

1. Select the controls in the synchronization configuration for the Pegaso partnership. Refer to Figure 4-5 on page 4-6.

2. Select **Tools > Options** from the ActiveSync command bar to configure the synchronization options.

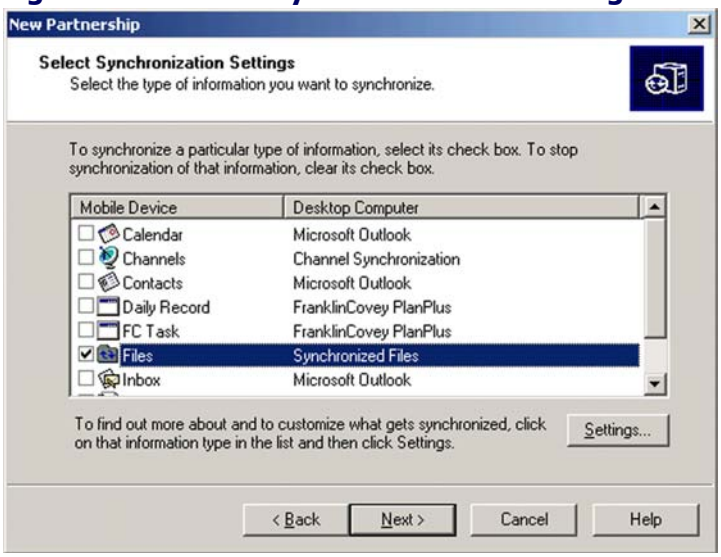
Figure 4-5. File Synchronization Options



3. Place the file to be synchronized in the **`Synchronization`** folder created in your **`My Documents`** directory (defaults to the desktop). Refer to Figure 4-4 on page 4-5.

During the ActiveSync connection, all files in the **`Synchronization`** folder will be synchronized with (copied to) the **`\My Documents`** directory on the Pegaso.

Figure 4-6. Select Synchronization Settings



Networking

Setting up the Network ID

To set up your Network ID (configure the Windows user settings, such as the user name, password, and domain), complete the following steps on the Pegaso:

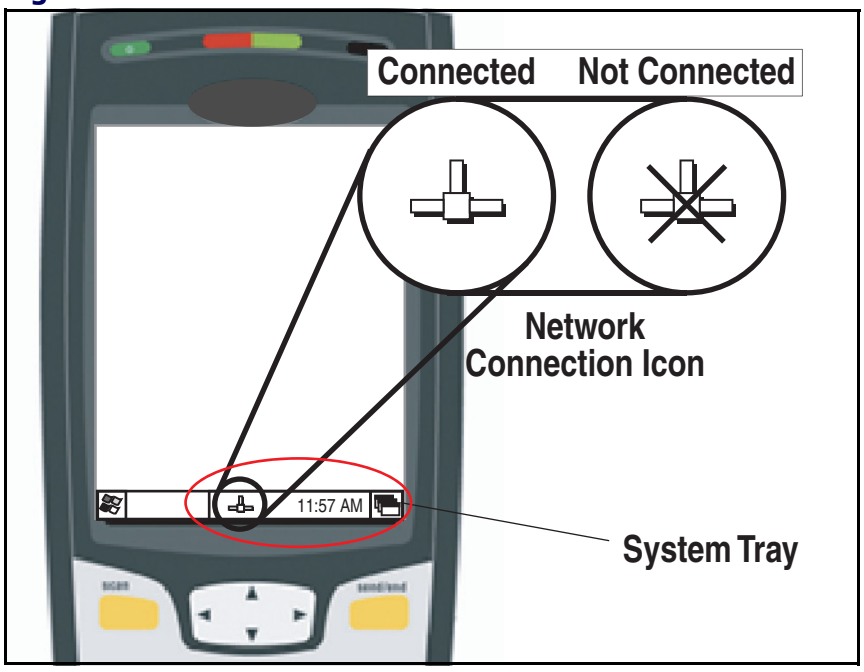
1. Go to **Start > Settings > Control Panel > Owner**.
2. Select the **Network ID** tab on the **Owner Properties** dialog box.
3. Enter your **User Name**, **Password**, and **Domain** on the **Network ID** tab.
4. Select **OK** on the command bar to save your network ID information.

Access basic network connection information by double-tapping on the **Network** icon in the system tray. Tap **Details** to show more information.

The Network Icon

The network icon in the system tray indicates if the network is currently connected or not.

Figure 4-7. The Network Icon



Network and Dialup Connections

Radio Card settings will vary depending on the type of radio card you are using. For assistance configuring the Pegaso for your RF network, reference Remote Connections in the online help on your unit. Reference the documentation for your radio card type for further information.

Network Setup: Remote ActiveSync

To execute a **Remote ActiveSync**, complete the following steps:

1. Go to **Start > Programs > Communication > Netlink**.
2. Select the target host to which you wish to connect in the **Connect To** field.
3. Tap **Connect**.
4. A network ActiveSync connection will be established.

Network functions and operations work the same when using the Dock.

You must have established an ActiveSync partnership with a host before you can use Remote ActiveSync to connect to it. To establish an ActiveSync connection with the Pegaso, refer to "Installing & Setting Up Microsoft ActiveSync" on page 4-1.

SNMP

SNMP (Simple Network Management Protocol) is the standard protocol for managing devices on a network. With SNMP running on the terminal, other SNMP based network management tools such as HP Openview® and CastleRock SNMPpc® may also be used to interface with the terminals. To support this capability, Datalogic has released the Management Information Base (MIB) for the Datalogic Windows-based terminals. The MIB is used by the management tools to allow them to better support the configuration values provided on the terminals, such as scanner controls and terminal type information.

The MIB is available at www.mobile.datalogic.com.

For more information on SNMP, refer to "SNMP Interface", or go to:
http://www.microsoft.com.

Appendix A
Accessories

Overview

This appendix covers the following topics:

Contact your Datalogic reseller for accessories and supplies for the Pegaso; go to the Datalogic website for the most current information.

Power Supplies

Powered USB Cable & Power Supply

Use only the correct battery chargers and docks with this Windows CE Pegaso. The technology used for these models is incompatible with other Datalogic chargers and docks.

Figure A-1. Power Supply and Powered USB Cable

Battery Pack

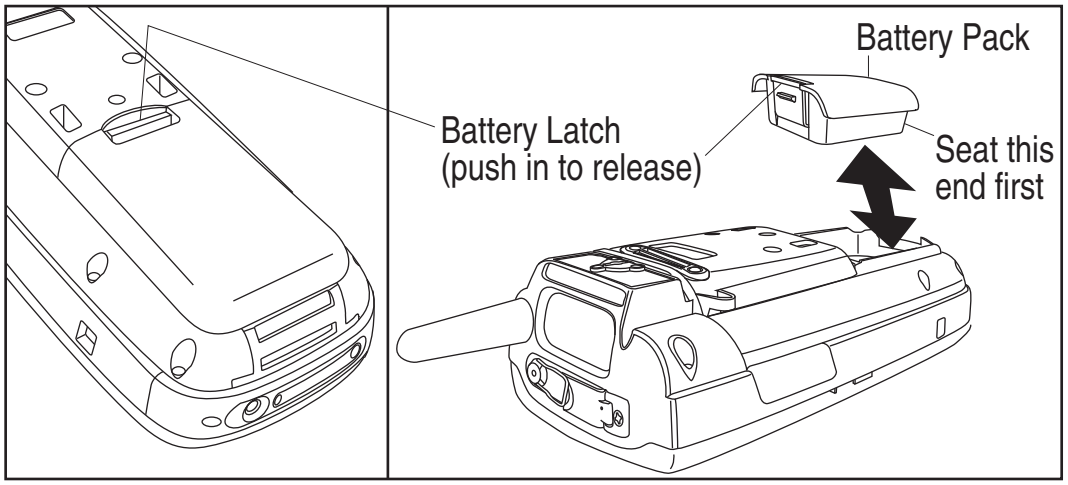
The Battery Pack and the Battery Door are integrated and are not sold separately. The Pegaso is available with either a standard or high-capacity battery.

To remove the Battery Pack on the Pegaso, complete the following steps:

1. While pushing the Battery Latch (shown in Figure A-2), lift out the Battery Pack, top first.

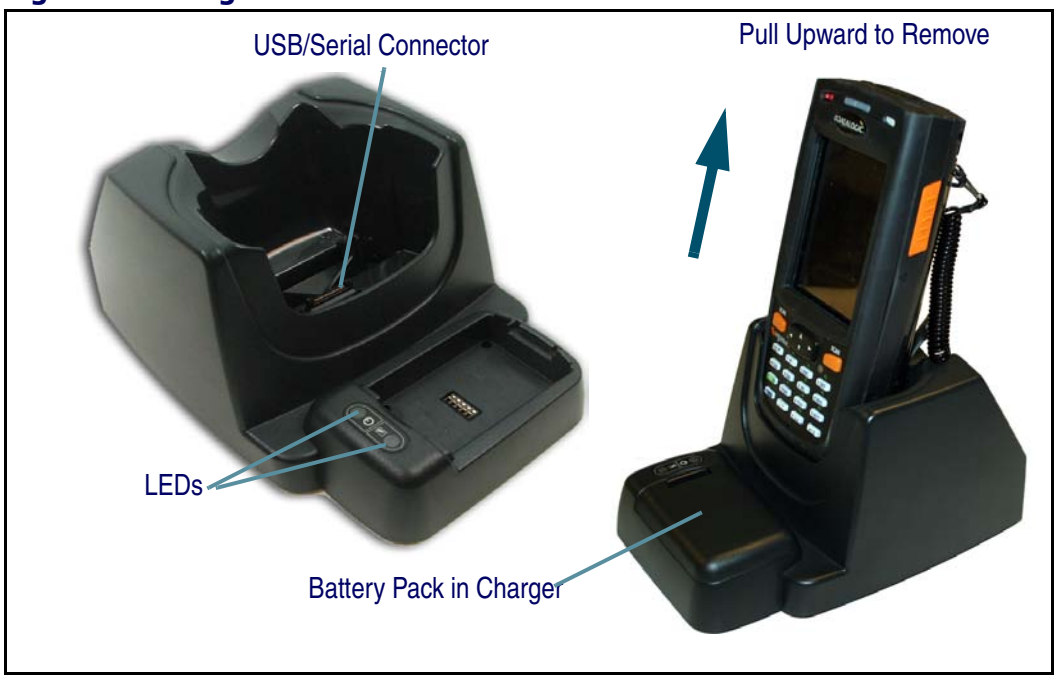
2. To replace, seat the bottom end first, then click the Battery Pack into place.

Figure A-2. Battery Pack



Single Slot Dock

Figure A-3. Single Slot Dock



Four-Slot Charge Dock

The Four-Slot Charging Dock provides the ability to charge up to four Pegasos and four spare batteries simultaneously.

Figure A-4. Four-Slot Charge Dock

Four-Slot Ethernet Dock

Like the Four-Slot Charging Dock, the Four-Slot Ethernet Dock provides the ability to charge four Pegaso and four spare batteries simultaneously. In addition, the built-in Ethernet hub gives all the docks a unique Ethernet address accessible through one physical 802.3 CAT5 connection. See "Ethernet Module"on page A-8 for more information on setting up an Ethernet connection.

Use when you want to connect to an Ethernet network, or for batch units to synchronize without the need for wireless technology.

There are two LEDs; one for 10/100 Mbps link and the other for Tx/Rx.

CAUTION

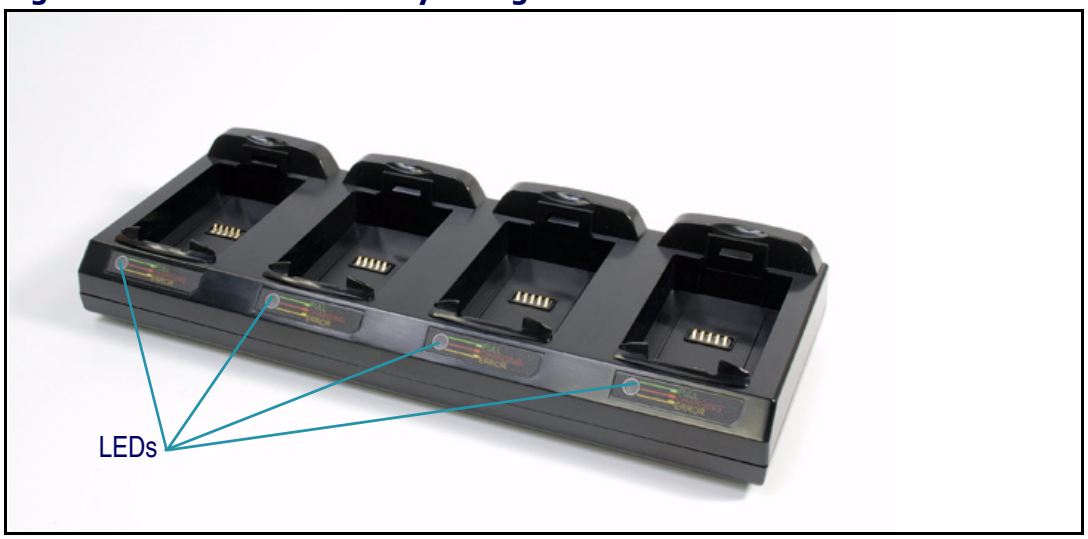
The Equipment shall not be directly connected to a Telecommunication Network.

Figure A-5. Four-Slot Ethernet Dock

Four-Slot Battery Charger

Charge up to four spare battery packs simultaneously with the Four-Slot Battery Charger.

Figure A-6. Four-Slot Battery Charger



Car Charging Adapter

A Car Charging Adapter is available for the Pegaso. To attach, just plug the adapter into the connector on the bottom of the unit, and tighten the thumb screws to secure it.

Figure A-7. Car Charging Adapter

Powered Mobile Dock

The Pegaso Powered Mobile Dock (PMD) is a rugged cradle for Pegaso PDAs, used to install it on mobile applications such as forklifts.

Features include a power on indicator, holder for the Pegaso PDA, battery charging for the Pegaso, versatile mounting options, serial port connection for peripherals (with power available), and a USB mini AB OTG port available for peripherals.

For ordering information, go to the Datalogic Mobile website or your reseller. Reference the *Powered Mobile Dock Installation Guide* for further information on installation and use of the Powered Mobile Dock.

Modem Module

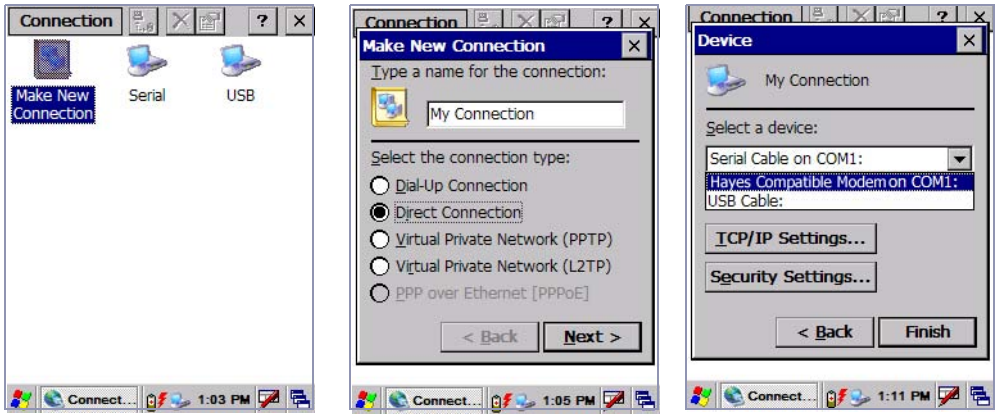
An optional Modem Module allows you to use the Pegaso to dial a server in a remote office.

Features:

- V.92/56K data rate backward compatible with lower speeds
- V.44 and V.42 bits data compression
- V.42 error correction
- AT command compatible
- U. S. Caller ID reporting
- FastPOS (V.29) and V.22vis Fast Connect
- V.80 Synchronous Access
- Built-in speaker
- Easy to use

To connect:

1. Remove the Pegaso from the dock and detach power from the dock.
2. Plug the modem module into the dock, and then plug the phone cable into modem.
3. Replace the Pegaso into the dock and restore power.
4. Select **Start > Settings > Network and Dial-up Connections** to open dial-up networking.
5. Tap **Make New Connection** to create a new connection.
6. Type a name for the connection, and tap the radio button to select **Direct Connection**. Tap **Next**.
7. Select **Hayes Compatible Modem on Com1** as the device.



8. Click on TCP/IP Settings and Security Settings and fill in as needed to connect to the remote server. Check with your network administrator for settings. Tap **Finish** when complete.

9. Double tap the newly named connection.

10. Fill in the necessary username, password, and domain.

11. Tap **Connect** to continue.

A PPP connection has now been created. TCP/IP network communications can commence.

Ethernet Module

The optional Ethernet Module allows the Pegaso to connect to an Ethernet network. There are two LEDs; one for 10/100 Mbps link and the other for Tx/Rx. The communications rate is 10/100Mbps – Auto-negotiate.

To Connect:

1. Remove the Pegaso from the Dock, and unplug the power from the Dock.

2. Plug the ethernet module into the Dock, then plug a CAT5 cable into the Ethernet module.

3. Replace the Pegaso into the Dock, and restore power to the Dock.

A network icon will be displayed in the system tray. All normal network activities can now take place.

CAUTION **The Equipment shall not be directly connected to a Telecommunication Network.**

Handstrap

It is not necessary to remove the Handstrap to install the Handle or the Belt Clip.

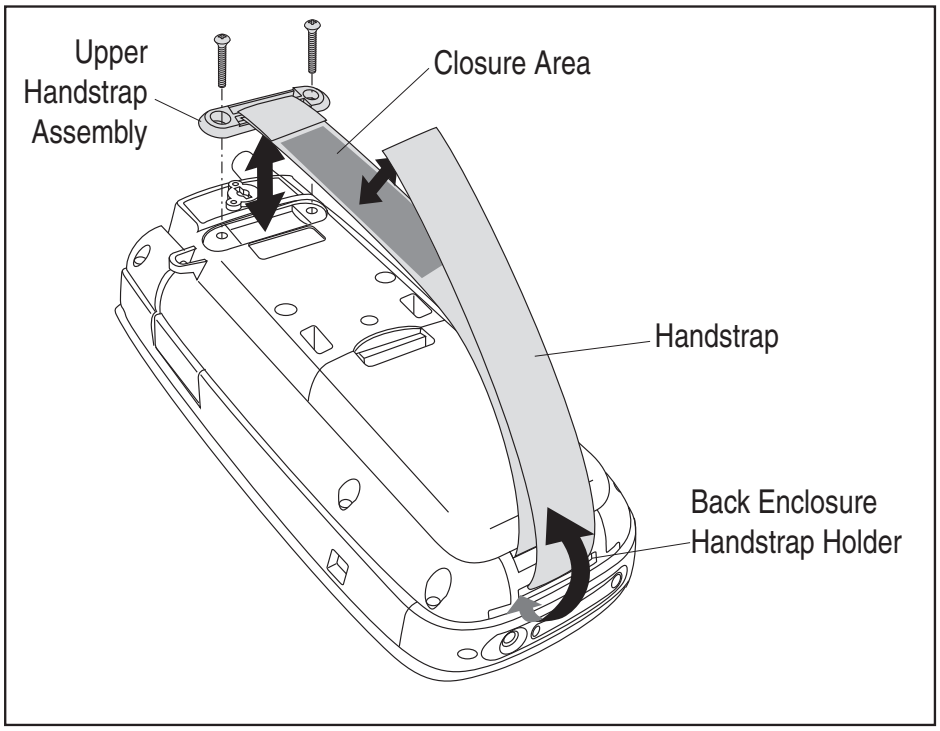
Removing the Handstrap

An elastic Handstrap is included with the Pegaso. To remove the Handstrap, complete the following steps. Reference Figure A-8 while performing these actions.

1. Grasp the lower handstrap attachment and pull to slide out from the unit.

2. Using a Phillips screwdriver, remove the two screws securing the upper handstrap attachment to the unit.

Figure A-8. Removing/Replacing the Handstrap



Installing the Handstrap

To install a Handstrap on the Pegaso, follow the steps described below.

1. Feed the strap end of the handstrap down through the Back Enclosure Handstrap Holder slot as shown in Figure A-8 and loop it up to engage the closure area at the desired position.

2. Attach the Upper Handstrap Assembly to the unit using the two Phillips screws.

Handle

The Pegaso is available with an attachable handle which provides an additional trigger for scanning. When you remove the handle, you lose the ability to press the trigger on the handle and must use the **<Scan>** key on the keypad or Scan triggers on the Pegaso instead.

To install a handle, refer to the following sections. Reverse the instructions to remove the handle.

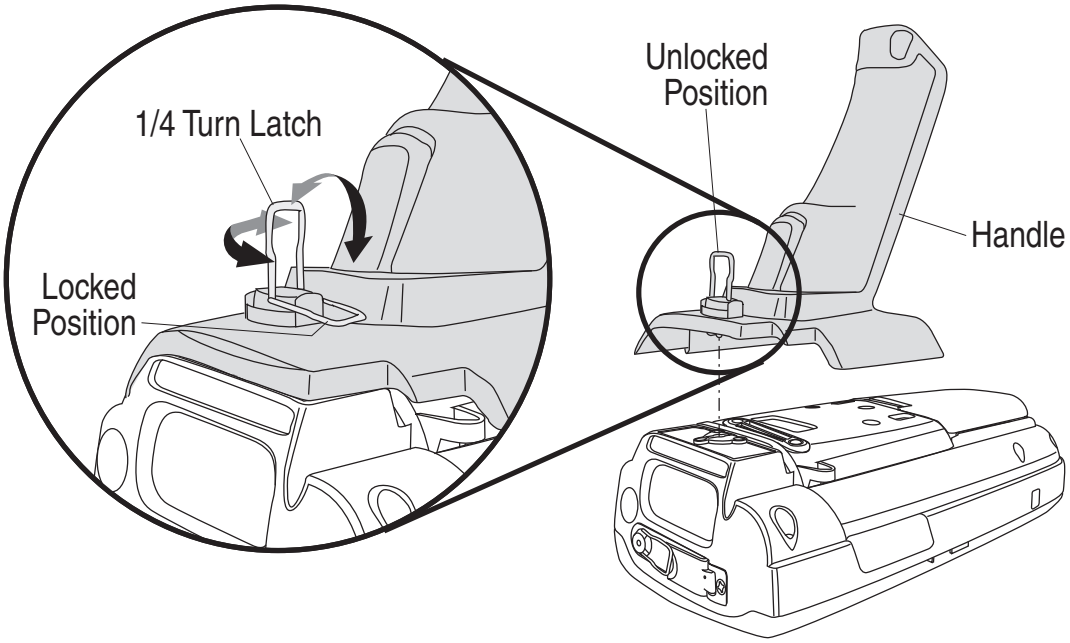
The Handstrap can be left on when installing the Handle.

Installing a Handle on the Pegaso

The handle may be installed without removing the handstrap. To install the handle on the Pegaso, complete the following steps:

1. Align the "ears" on the handle with the corresponding holes on the underside of the Pegaso and slide them into place.

2. Seat the top of the Handle against the Pegaso and turn the quarter-turn fastener to secure the Handle to the unit.



The trigger is automatically activated and available. Press to initiate scanning

Belt Clip

The Handstrap can be left on when installing the Belt Clip.

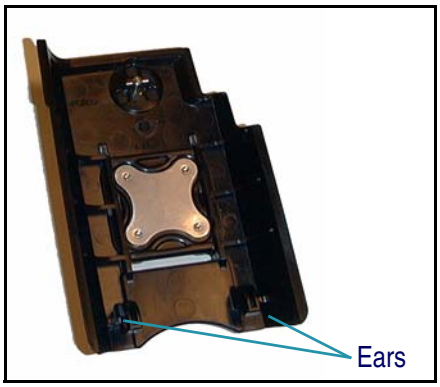
The Belt Clip comes with two separate pieces: one that attaches to the Pegaso, and one that attaches to your belt.

To install the Belt Clip on the unit, complete the following steps:

1. Turn the Pegaso face-down and ensure that power is off.

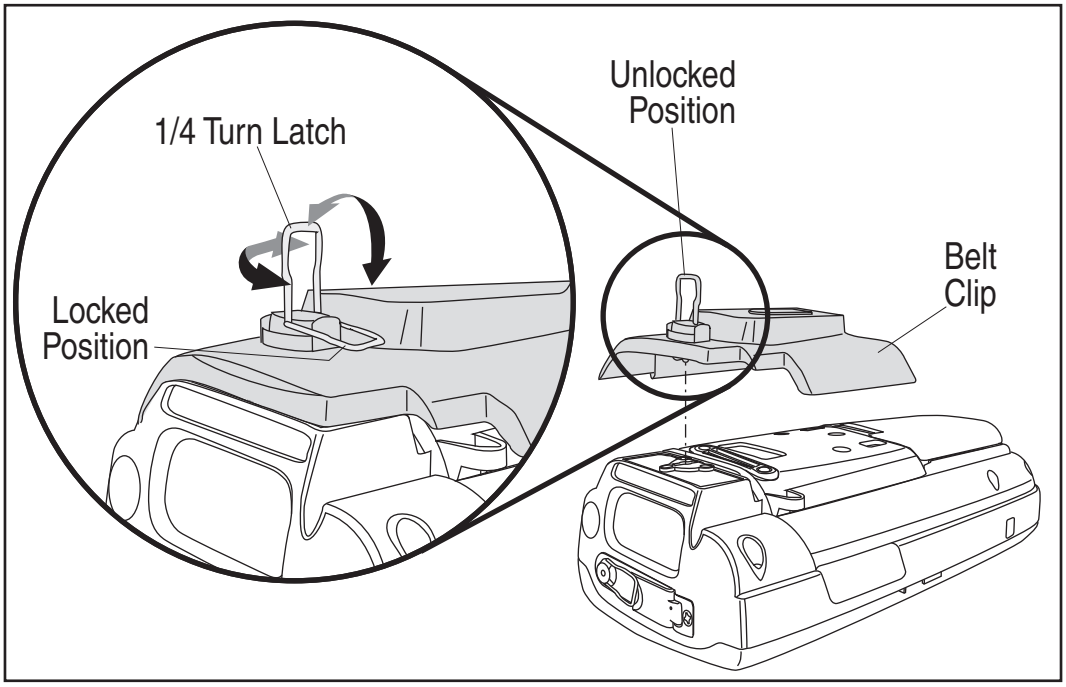
2. Orient the Belt Clip on the underside of the Pegaso.

3. Align the “ears” on the inside of the Belt Clip with the corresponding holes on the underside of the Pegaso and slide them into place.



4. Push the top of the Belt Clip against the Pegaso and turn the quarter-turn fastener to secure it.

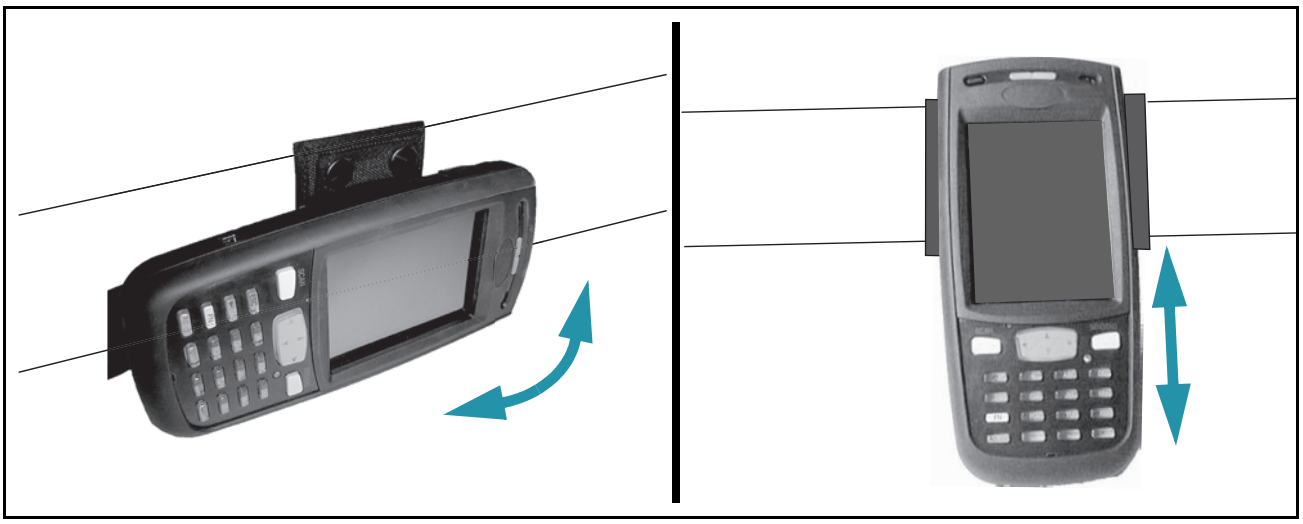
Figure A-9. Installing the Belt Clip



Attaching to a Belt

To attach the Pegaso to a belt, snap the Belt Attachment onto your Belt. Slide the Pegaso onto the Belt Attachment sideways, then rotate to an upright position to secure it into place, as shown in Figure A-10.

Figure A-10. Attaching to a Belt



Screen Protector

A Screen Protector is available for the Pegaso. Use the following instructions to attach a Screen Protector.

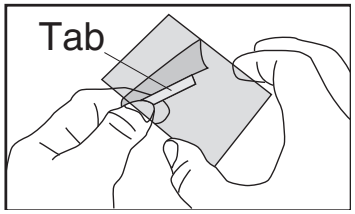
You may find it helpful to have the unit firmly seated in its dock while performing these procedures. Another useful tip is to have a credit card handy to assist in smoothing the Screen Protector in place.

1. Gently but thoroughly clean the touchscreen using a lens cloth or other soft, lint-free cloth. If necessary, dampen the cloth with a mild cleaning solution, such as liquid hand soap and water. Thoroughly dry the area after cleaning, and ensure it is lint-free.

CAUTION

Never use corrosive or abrasive cleaners or cloths on the Pegaso.

2. Remove the Screen Protector from its packaging and, while holding it by the edges, pull the tab to



begin peeling the backing from about one inch of the adhesive side. Fold the backing down as you go.

CAUTION

DO NOT touch the adhesive area, as this could leave a fingerprint when installed.

3. Orient the Screen Protector with its adhesive side towards the screen and CAREFULLY align its top edge and corners with the screen recess, as shown in Figure A-11A. If alignment is not perfect, gently lift up and start again.

4. Continue to peel the backing while slowly seating the protector in place. Use a credit card (if available) or similar soft-edged object to evenly smooth the Screen Protector and push out any bubbles between the surfaces. Reference Figure A-11B.

Figure A-11. Applying a Screen Protector to the Pegaso

A

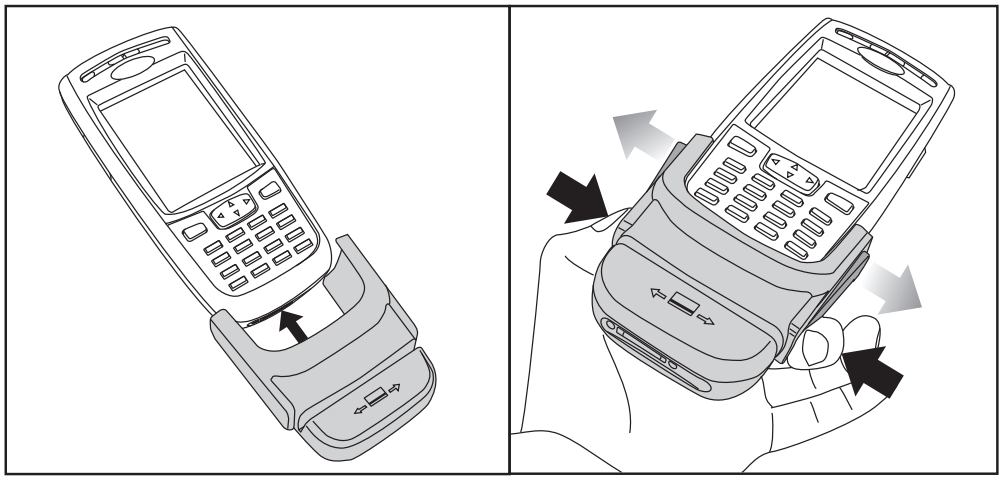
B

Magnetic Stripe Reader

Installing and Disconnecting

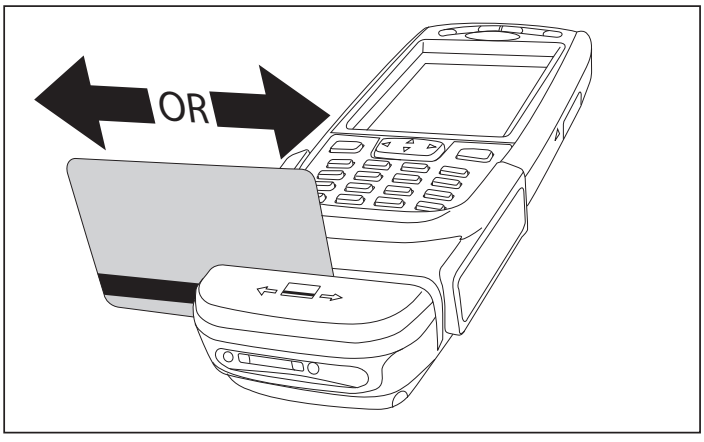
Align the Magnetic Stripe Reader (MSR) with the bottom edge of the PDA as shown below, then snap the two units together to seat the connection. To disengage the MSR, push in firmly on both of the snap releases on either side of the MSR, then slide it down and away from the PDA.

Installing the MSR/Releasing the Snaps



Using the MSR

1. Once the MSR is seated in place and the PDA powered-on, open the program into which you wish the magnetic stripe data to be read.
2. Orient the magnetic stripe card as shown below and swipe it through the MSR slot in either a right-to-left or left-to-right motion.
3. The swiped magnetic stripe data should be read into the program.



NOTES

Appendix B
Datalogic® Desktop Utility for Windows® CE

Overview

Datalogic® Desktop Utility (DDU) allows Pegaso™ Windows® administrators to configure Windows® CE devices to control individual user access. This includes:

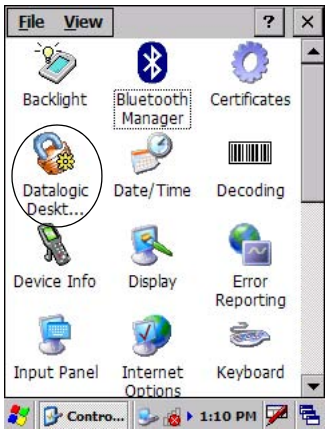
- Prevent users from changing Pegaso OS settings.
- Define keys to access specific functionality/programs.
- Use Application Selector to replace desktop with a selection of authorized applications.
- Internet Explorer access restriction, configuration and customized recovery mechanisms.

This section covers the following information:

Datalogic Desktop Utility

To open the **DDU** for the first time, select **Start > Settings > Datalogic Desktop Utility.**

Figure B-1. Accessing DDU



These options are available from all screens:

Table B-1. Options Available on all Screens

Command	Description
OK	Tap **OK** to apply the settings and modifications you have made in the DDU tabs. **OK** saves every modification.
X	Tap **X** to cancel the settings and modifications you have made in the DDU tabs. **X** cancels all modifications you have made in **DDU**.

Administrative Options

When you open the **DDU** control panel, the **Admin** tab will open.

Figure B-2. Setting a Password/Admin Tab Fields

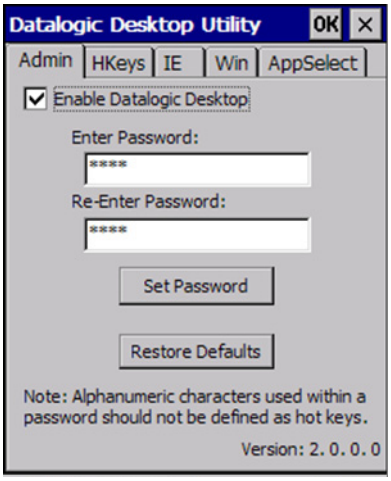


Table B-2. Setting a Password/ Admin Tab Fields

Command	Description
Enable Datalogic Desktop	Select/tap this checkbox to activate the **DDU** functions such as Hot Key assignments, IE Restrictions, Windows Settings, and the authorized application menu.
Enter Password	Enter a password in the text box. This allows the user to specify a password when this utility is launched. By default there is no password. A password can consist of all standard keyboard characters.
Re-Enter Password	Carefully re-enter the password in the second text box.
Set Password	Select/tap **Set Password** to enable the password. To change or remove the password, enter a new value, re-enter the new value, and select/tap **Set Password**.
Restore Defaults	Select/tap **Restore Defaults** to reset the default values of all the functions on all the tabs. After you select this option, you will receive a prompt to verify this selection.

Setting a Password

To set a password:

1. Enter a password in the field. This allows the user to specify a password when this utility is launched. By default there is no password set.

Be sure to record the Password for future reference.

2. Re-enter the password in the second field.
3. Select/tap **Set Password** to enable the password.
4. Select/tap **OK** close the **Set Password Confirmation** dialog.

You must select/tap Set Password prior to exiting DDU in order to store and activate your new password. It is not necessary to select Enable Datalogic Desktop.

If you select/tap Restore Defaults it will remove all custom settings and restore all the factory default settings, except a previously set password.

CAUTION

Changing a Password

To change to a new password:

1. Enter a new value in the **Enter Password** field.
2. Re-enter the new value in the **Re-enter Password** field.
3. Select/tap **Set Password**.

Removing a Password

To remove a password:

1. Enter blanks in both **Password** fields.
2. Select/tap **Set Password**.

Password Request Dialog Box

Once the password is set, the next time you open the **Datalogic Desktop Utility**, the **DDU Password** dialog box opens.

This dialog box will only open if a password was defined.

Figure B-3. Setting a Password

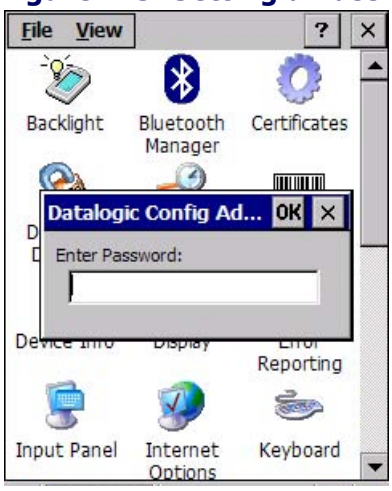


Table B-3. Setting a Password Dialog

Command	Description
Enter Password	Enter your password using the keypad, or using the stylus on the soft input panel (**SIP**) in the text box.
OK	Select/tap **OK** to accept the password.
X	Select/tap **X** to cancel the request to start the **DDU**.

Complete the **Datalogic Config** dialog:

1. Type in your password using either the keypad on the unit, or using the stylus on the soft input panel (**SIP**).
   If you enter an incorrect password, the system will prompt you to input the correct one.
2. Select/tap **OK** to verify the password. Or tap **X** to cancel.

Setting Hot Keys

You can use Hot Keys (HKeys) Tab to associate specific keys, such as **<F1>-<F10>,** with specific applications. You can also create a new **Hot Key** combinations ("Adding a New Hot Key" on page B-7). Select the **HKeys** tab to access these options.

For example, you could set **<F2>** to launch a sample application like:

`\Windows\pword.exe`.

Figure B-4. Hot Keys Tab

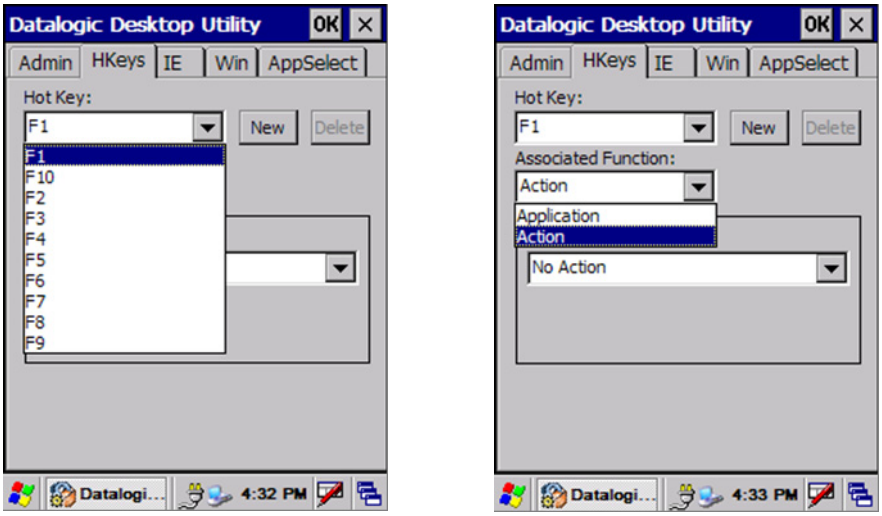


Table B-4. Hot Keys Tab Fields

Command	Description
Hot Key	This pull-down list displays the available function keys to define. Select the desired one from the list.
New	Select/tap to specify a new Hot Key, not on the **Hot Key** list. This opens a new dialog, shown on page B-7.
Delete	Tap to delete the selected **Hot Key**. You can only delete the Hot Keys you have added. You cannot delete **<F1> -<F10>**.
Associated Function	This pull-down list displays the available functions. Select either **`Application`** or **`Action`**.
Application	Displays path to the selected application.
Browse	Select/tap … to browse for application files. You can associate an executable program with the specified **Hot Key**.
Arguments	Type the command-line arguments that are needed for the specified application. This option is only available when **`Application`** is selected in the **Associated Function** pull-down list.
Action	Specify an action to associate with a **Hot Key**. This list includes: **`SIP`**, **`toggle Taskbar`**, **`Datalogic Config Admin`**, and **`Application Switcher`**. This option is only available when **`Action`** is selected in the **Associated Function** pull-down list.

The **<F6>** is the key initially assigned to **DDU Admin**.

If you wish to assign this key to a different function, you must first select an unassigned Hot Key and assign it to the Action - **DDU Admin**. You can then go back and reassign the **FKey** to something else.

Table B-5. Pegaso Hot Keys Available

Pegaso
19-key models
Numeric
F1-F10
Alpha keys
Side/top triggers

The administrator is responsible for verifying that these keys don't override existing functions. To prevent DDU Hot Keys from overriding existing application keys, select "No Action" in the Action combo box.

Adding a New Hot Key

When you select **New** on the **HKeys** tab, this opens the **Add New Hot Key** dialog box.

To define a new Hot Key, complete the following steps:

1. Enter the key combination to define a new Hot Key in the **Enter Key** textbox.
2. The **Note** displays important information indicating Hot Keys that should not be used.

Figure B-5. Add a New Hot Key

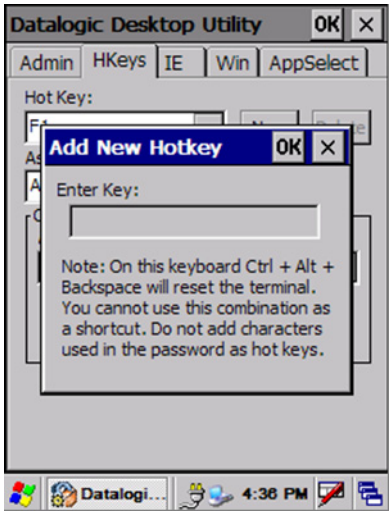


Table B-6. Adding a New Hot Key Dialog

Command	Description
Enter Key	Enter the desired key combination in this text box to define a Hot Key.
OK	Select/tap **OK** to add the specified Hot Key.
X	Select/tap **X** to cancel the specified Hot Key.

Make sure you do not attempt to add a Hot Key that is already defined.

3. Select/tap **OK** to save the **New Hot Key**. If you select/tap **X**, the key will not be saved.

It is possible for the keyboard wedge to activate assigned Hot Keys using alphanumeric characters. Barcodes containing characters associated with assigned Hot Keys will trigger the action or application assigned to that Hot Key.

Internet Explorer Configuration

Tap the **IE** (Internet Explorer) tab to access the **IE Configuration** option. Use the **IE Error Redirection** option to provide customized recovery from common **IE** errors. When an error occurs, the browser can redirect access to a specified error page with instructions on how to recover from the problem.

Figure B-6. IE Configuration Tab / IE Window Features

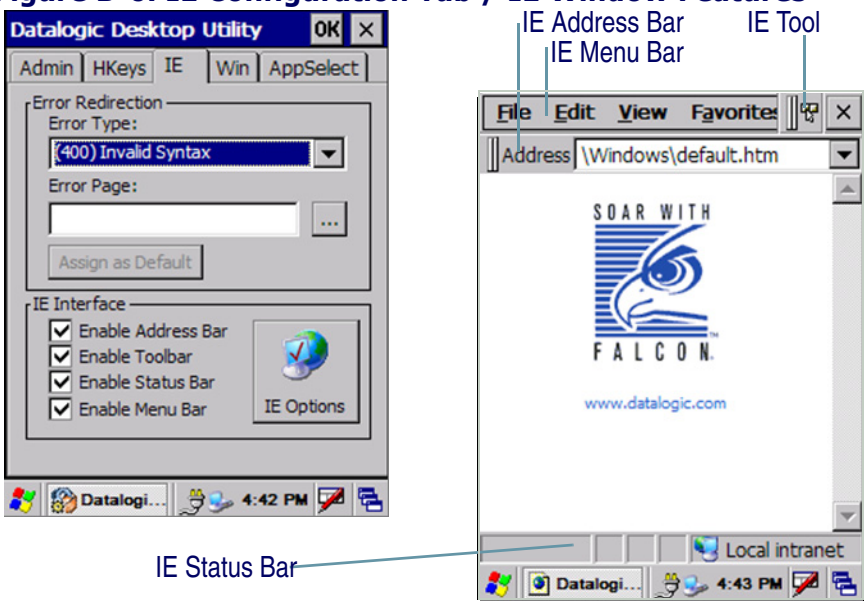


Table B-7. IE Tab Fields

Command	Description
Error Type	The **Error Types** pull-down list displays available **IE Error Types**:
	(400) Invalid Syntax, (403) Request Forbidden, (404) Object Not Found, (406) No Response Format, (410) Page Doesn't Exist, (500) Internal Server Error, (501) Server Can't Do That, Generic Error, Server Is Busy, Couldn't Find Server, URL Syntax Error, Request Cancelled, Not Available Offline
Error Page	Edit this textbox to associate a website or html file with the specified error.

Command	Description
Assign as Default	Select/tap to set a specified error page as the default. A confirmation dialog opens to ask if the default error page applies to all errors.
Browse	Select/tap to browse for files.
Show Address Bar	Select/tap this check box to show the **IE** address bar.
Show Tool Bar	Select/tap this check box to show the **IE** toolbar.
Show Status Bar	Select/tap this check box to show the **IE** status bar.
Show Menu Bar	Select/tap this check box to show the **IE** menu bar.

Internet Options

Tap **Internet Options** on the **IE** tab to open the Windows CE **Internet Options** control panel. Customize these settings as necessary.

The Internet Options control panel applet is part of the Microsoft® Windows® CE operating system.

For more information on the Windows CE operating system, please refer to the Microsoft website at http://www.microsoft.com.

CAUTION

The DDU allows you to cancel prior to applying your changes. However, any settings modified in the Internet Options control panel applet through the DDU interface will be applied even if you later cancel the your modifications in the DDU.

Modifying Windows Controls

Select/tap the **Win** (Windows Controls) tab to access the **Windows Controls** option. Use Windows controls to allow or restrict access to Windows system functions.

You can disable normal Windows functions such as the desktop and taskbar, leaving nothing but a blank workspace. This allows applications to be run on the full screen and prevents users from accidental or unauthorized use of the taskbar, Internet Explorer, and any other resident applications.

Figure B-7. Windows CE Desktop and Win Tab

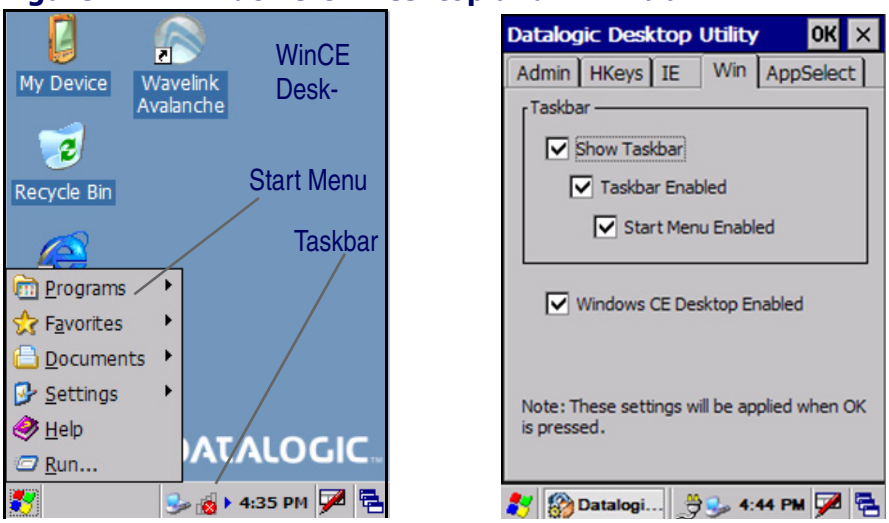


Table B-8. Win Tab Fields

Command	Description
Show Taskbar	Select/tap **Show Taskbar** to specify that the taskbar is shown or hidden.
Taskbar Enabled	Select/tap **Taskbar Enabled** to specify whether the taskbar is accessible. This option is only available when the **Show Taskbar** is checked.
Start Menu Enabled	Select/tap **Start Menu Enabled** to specify whether the **Start** menu is accessible or not. This option is only available when both **Show Taskbar** and **Task Bar Enabled** are checked.
Windows CE Desk-top Enabled	Select/tap **Windows CE Desktop Enabled** to specify that the desktop icons are accessible or not.

Application Selector

Use the **Application Selector** (AppSelect Tab) function to edit, add, or delete applications for the application selector.

Figure B-8. AppSelect Tab

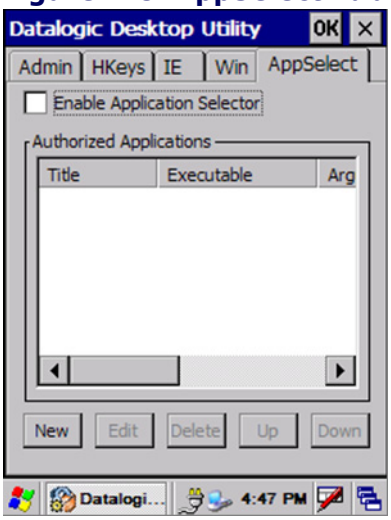


Table B-9. AppSelect Tab Fields

Command	Description
Enable Application Selector	Select/tap **Enable Application Selector** to enable/disable the application selector. When this is enabled, the **Application Selector** replaces the desktop and allows only authorized use of applications.
Authorized Applications	This is a list of applications that the user may access.
New	Select/tap **New** to create a new application entry.
Edit	Select/tap **Edit** to edit the selected entry.
Delete	Select/tap **Delete** to delete the selected entry.
Up/Down	Select/tap **Up/Down** to move an entry up or down in the list-view.

Add Application

The **Add Application** dialog opens when you tap either **New** or **Edit**. From the **Add Application** dialog the administrator can configure and/or add/change an a new application entry in the list.

Applications with the **Run Application at Startup** option enabled will start automatically when the **Application Selector** starts up.

Figure B-9. Add Application Dialog

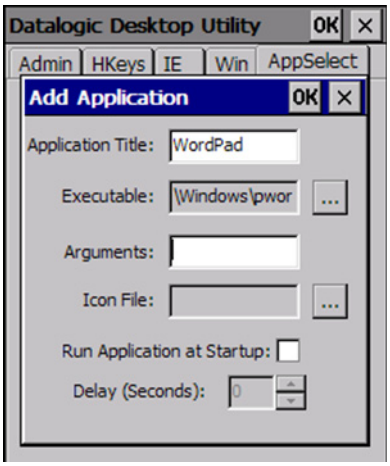


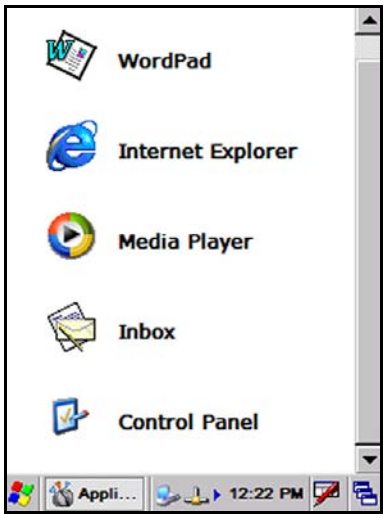
Table B-10. Add Application Dialog

Command	Description
Application Title	Type the name of the application in this textbox in the way you wish it to appear for the user.
Executable	Displays the path for the executable file which you want to run.
Browse	Select/tap ... to browse for the desired executable file. The results of this search are placed in the **Executable** textbox.
Arguments	Type any command line arguments to be used when an application is executed.
Icon File	Displays the path/link to the desired icon file.
Browse	Select/tap ... to browse for the desired icon file. The results of this search are placed in the **Icon File** textbox.
Run Application at Startup	Select/tap this box to force this application to auto start when the Application Selector starts up. Applications will be started in the order listed in the authorized application list.
Delay	Enter a delay duration in seconds in the combo box. This option delays auto start of application(s) to allow drivers to load prior to starting applications
OK	Select/tap **OK** to add/save changes.
X	Select/tap **X** to cancel the creation of this entry.

Application Selector

The administrator can choose for the user to have access to the desktop or not. The Application Selector can replace the desktop and limit the user to the specified list of applications.

Figure B-10. Application Selector



The user can select/tap the desired application.

The administrator can customize this list as shown in "Application Selector" on page B-10.

Application Switcher User Interface

The application switcher provides the same functionality as the standard Windows® Alt+Tab function. This allows the user to cycle through the various open applications.

The <Esc> key can be used to close the Application Switcher.

The application switcher is activated via an assigned **Action** key specified in the **Hot Key** tab. (Refer to "Setting Hot Keys" on page B-5.) When the assigned **Hot Key** is pressed, the dialog shown to the right will be displayed.

The application switcher can only be assigned to a single **Hot Key**, not a **Hot Key** with modifier keys. For instance, **<Shift>+<F3>** cannot be assigned to the task switcher action, but **<F3>** can be.

Press the **Hot Key** assigned to open the application switcher. Press the assigned **Hot Key** to cycle through the running applications when the dialog is open. Press **<Enter>** to switch to the selected application or **<Esc>** to close the application switcher.

NOTES

Appendix C
Configuring the Web Server

Overview

The Web Server can perform several different actions, including generating a web page containing statistics relating to performance of the mobile computer. The Web Server can also be used for creating an interface for interaction with the Terminal to configure system behavior.

This section contains the following topics on configuring the Web Server:

Enabling the Web Server

By default the Web Server is disabled. The following demonstrates how to enable the Web Server:

1. On the Pegaso, either through a CE-based registry editor or using the Remote Tools RemoteRegEdit included with eVC++ 4.0, modify the following registry entry:

   ```
   [HKEY_LOCAL_MACHINE\COMM\HTTPD]
   "Enabled"=dword:1
   ```

2. In a Command Prompt window on the Terminal, type the following:

   ```
   \> services list
   ```

   This will display a list of loaded and services and their state.

3. If the service **HTP0:** is not listed, then type the following to load the HTTP Web Server:

   ```
   \> services load httpd
   ```

4. If the service is listed and not running, type the following to start the HTTP Web Server:

   ```
   \> services start HTP0:
   ```

5. To restart the Web Server, type:

```
\> services refresh HTP0:
```

This will cause the Web Server to reload any information pertaining to the Web Server in the registry. For additional information on the registry entries, see "Web Server Registry Settings" on page C-4.

To configure the Web Server to allow access to the Web and Net administration pages:

1. On the Pegaso create the following registry entries:

```
[HKEY_LOCAL_MACHINE\COMM\HTTPD\VROOTS\/NetAdmin]
"Default" = "\windows\natadmin.dll"
[HKEY_LOCAL_MACHINE\COMM\HTTPD\VROOTS\/WebAdmin]
"Default" = "\windows\httpdadm.dll"
```

2. In a Command Prompt window on the Terminal, type the following:

```
\> services refresh HTP0:
```

Setting up a User

The following example demonstrates how to set up a user named **Testuser** in a group called **Testgroup**.

To configure **User** and **Group Permissions** for the Web Server:

1. On the Pegaso, launch Internet Explorer and type the following address in the address bar: http://localhost/NetAdmin. The Web-based network configuration utility appears.

2. Fill in the **Enter new password** and **Confirm new password** boxes, then click **Submit** on the bottom of the page.

3. On the menu bar of the displayed web page, click the **User Accounts** link. The **Enter Network Password** dialog box appears.

4. Type **Admin** in the **User Name** box, and type the password that you specified above in the **Password** box. Leave the **Domain** box empty.

5. Click **OK**. The **User Manager** Setup page appears.

6. In the **Logon Name** dialog, type **Testuser** in the **Create a new user** box, then click **Create**.The **User Manager Setup** page appears.

7. On the **User Configuration** page, type a password for **Testuser**, confirm the password, and then click **Create Account**. The new user will appear below the **Logon Name** box on the **User Manager Setup** page.

8. In the **User Group Setup** box, type **Testgroup** in the **Create a new group** box. Click **Create**.

9. Click **Return to user configuration page** to return to the **User Manager Setup** page. The new group will appear below the **Group Name** box on the **User Manager Setup** page.

10. Click **Modify** beside the **Group Name** box containing **`Testgroup`**. The **Group Configuration** page appears.

11. Select the check box in the **Member of group?** column for **`Testuser`**, and then click **Submit Changes**.

You have now added **`Testuser`** to the **`Testgroup`** group.

You can also create users programmatically by calling the NTLMSetUserInfo function. Windows CE also exposes the NTLMDeleteUser function, which is used to delete a user from the local database, and the NTLMEnumUser function, which is used to enumerate users in the local database.

Testing the Web Server

After you have created your user accounts and groups for the Web Server, you can test the Web Server by launching the Web Server configuration page from a host PC. This will demonstrate that your user has been granted administrative rights for the Web Server and therefore can access any virtual directory on the Web Server.

To launch the Web Server configuration page from your host PC:

1. On the Pegaso, verify that the **Connected Network** icon appears on the taskbar. This icon indicates you are connected to the network.

2. Double-click the **Network** icon, and then select the **IP Information** tab to obtain the Pegaso's IP address.

3. On the PC, launch Internet Explorer and type the following information in the address bar: http://<IP address from Pegaso>/Webadmin.

4. The **Web Server Login** dialog appears. Type **`Admin`** in the **User Name** box and enter the password you specified. Click **OK**, and the **Web Server Configuration** page will appear.

5. Scroll to the bottom of the page, and click **Modify** to the right of the **Default Website** box. The **Default Website** page appears.

6. Click the link to **Configure the Virtual Directories**. The **Virtual Directory Configuration** page appears.

7. Verify that the following virtual directories are listed on the page:

   `/WebAdmin/`

   `/NetAdmin/`

8. Click **Return to the Default Website** configuration page. The **Default Website page** appears.

9. Click **Configure the Administrative Users for this Website**. The **Administrative Users** page appears.

10. Select **Enabled** for **Testuser**, and then click **Update**. A message telling you that your modifications have been saved and asking you to restart the Web Server appears at the top of the page.

11. To restart the Web Server, select **Restart Web Server** from the menu bar.

Launching the Network Administration Page

To launch the network administration page from your host PC:

1. Open Internet Explorer and type the following information in the address bar: http://<IP address from Pegaso>/NetAdmin. A dialog box asking for the user name and password appears.

2. Type **Testuser** in the **User name** box and the password you created for this user in the **Password** box, and then click **OK**. The **Network Administration** page appears.

Web Server Registry Settings

To gain access to a virtual path, a user must be authenticated using NTLM authentication or Basic authentication. Specify the authentication level by setting the **"a"** value for each virtual path.

For more information on the registry settings and what each key represents, see the Windows® CE SDK help documentation included with embedded Visual C++ 4.0 SP2. The help file contains a wealth of information on this topic.

Adding these values will create virtual root directories for the Basic and NTLM-based authentication methods.

```
[HKEY_LOCAL_MACHINE\COMM\HTTPD\VROOTS\/WebAdmin]
@="\\windows\\httpdadm.dll"
"a"=dword:0
[HKEY_LOCAL_MACHINE\COMM\HTTPD\VROOTS\/BasicOnly]
@="\\"
"a"=dword:1
"Basic"=dword:1
"NTLM"=dword:0
[HKEY_LOCAL_MACHINE\COMM\HTTPD\VROOTS\/NTLMOnly]
@="\\"
"a"=dword:1
"Basic"=dword:0
"NTLM"=dword:1
[HKEY_LOCAL_MACHINE\COMM\HTTPD\VROOTS\/BothAuth]
@="\\"
"a"=dword:1
"Basic"=dword:1
"NTLM"=dword:1
```

CAUTION

Setting the "a" value to zero (0) enables anonymous users to have access to all files in the virtual directory. This potentially opens the device up to hackers. Setting this value to zero (0) is permissible for internal development and testing purposes. However, you should never ship a Web Server device with the "a" value set to zero (0) for any configuration page.

To set the password for the entire Web Server device for Basic authentication, you can create a configuration application that runs on the device and calls the SetPassword function. Setting the password programmatically through SetPassword is the equivalent of the device password setting that you add in Control Panel.

Creating and Using an ISAPI Service

Developers can create an ISAPI service written in eVC++ to access the APIs available on the Terminal. The two sample .dlls below demonstrate setting and getting a few of the configurable items available in the Pegaso SDK.

Setting Configuration Items

The following example shows how to set the Code 39 minimum label length to 10 characters:

1. Create a virtual directory under the root called **SetSym** and set the Default registry entry to **SetSym.dll** while making sure the full path is included.

   ```
   [HKEY_LOCAL_MACHINE\COMM\HTTPD\VROOTS\/SetSym]
   @="\\windows\\SetSym.dll"
   ```

2. Restart the Web Server as described on page C-2.

3. Enter the following information into Internet Explorer on the Terminal or host PC:

   ```
   http://<ip address of Terminal>/SetSym?CD39MIN&10
   ```

Getting Configuration Items

The following example demonstrates how to get all the settings for Code 39:

1. Create a virtual directory under the root called GetSym and set the Default registry entry to GetSym.dll while making sure the full path is included.

   ```
   [HKEY_LOCAL_MACHINE\COMM\HTTPD\VROOTS\/GetSym]
   @="\\windows\\GetSym.dll"
   ```

2. Restart the Web Server as described in the first section. (C-2)

3. Enter the following information into Internet Explorer on the Terminal or desktop computer:

   ```
   http://<ip address of Terminal>/GetSym?C39
   ```

These two samples are only the beginning of what can be accomplished with the Web Server. Please note that ISAPI is currently the only method of server-side method invocation. Please consult the Help file associated with the SDK and eVC++ for more information on ISAPI and Web Server features.

NOTES

Appendix D
SNMP Interface

Overview

SNMP Concepts

Simple Network Management Protocol (SNMP) is a standardized protocol for network management services using a client/server model. The network management program (client) issues queries and commands to the remote device (agent/server). The protocol itself defines a number of variable types and structures, and the rules for using them for data transfer. Using these variable types and rules, there are a number of standard variables that are supported by all SNMP agents. These standards include network addressing (IP address, subnet mask, etc.), and network statistics (total packets, bad packets, etc.).

MIB Files

A Management Information Base (MIB) is a file that defines a set of SNMP variables, their types and usage. There are a number of standard MIBs available, depending on the information being managed.

Datalogic MIBs

Beyond the standard values, SNMP allows manufacturers to define their own private MIBs. For example, Datalogic has been assigned an MIB by the Internet Assigned Numbers Authority that allows Datalogic to define SNMP values relating specifically to devices that we manufacture. Within the Datalogic MIB, several categories of values have been defined including scanner Configurations, Terminal power Configurations and Terminal network parameters.

The format of an MIB follows rules laid out in the appropriate standards, allowing the manufacturers of network management tools such as HP OpenView and CastleRock SNMPc to make use of the MIBs developed by manufacturers. So by following the procedures used by the management tool, the MIB can be processed by the tool allowing the proper display of SNMP values retrieved from the agent.

For example, if the Datalogic MIB is loaded into OpenView, the administrator can then view all of the values defined by Datalogic using the names assigned by Datalogic, as well as a brief explanation of what each value represents. This will also allow the administrator to update most values, and provides range checking information for the tool to take advantage of. The current Datalogic MIB can be found on the Datalogic Mobile website at www.mobile.datalogic.com in the Downloads area.

Additional Resources

Additional information on SNMP can be found at the following websites:

www.snmplink.org

www.snmpworld.com

www.simpleweb.com

Appendix E
Cable & Connector Configurations

Introduction

The following pages contain information about standard interface cables for use in interconnecting the Dock to power and/or peripheral devices.

General Specifications

Wire Requirements

- Cable length should not exceed 15 feet.
- Wire gauge:
  5V and GND — 26 AWG min, 24 AWG recommended.
  All others 28-26 AWG.

Supply Voltage

Current power supply voltage = 5V, 3 amp.

Docking Connector

Table E-1. Docking Connector Pin Definitions

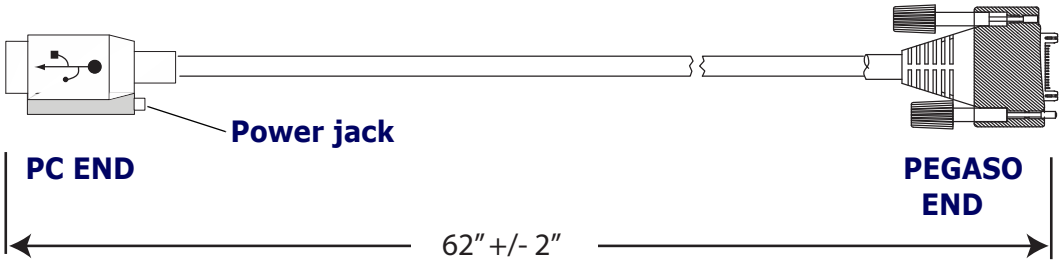
PIN	Signal	Description
1	PWR GND	GND/Return
2	Cradle IN	When Grounded Mobile computer detects it is in the cradle
3	NC	No Connect
4	USB_N	USB D- Signal
5	USB_P	USB D+ Signal
6	GND	GND/Return
7	VBUS	USB VBUS Signal
8	USB ID	USB OTG ID Signal
9	TXD	RS232 TXD (Output from Mobile Computer)
10	RXD	RS232 RXD (Input to Mobile Computer)
11	RTS	RS232 RTS (Output from Mobile Computer)

PIN	Signal	Description
12	CTS	RS232 CTS (Input to Mobile Computer)
13	DTR	RS232 DTR (Output from Mobile Computer)
14	DSR	RS232 DSR (Input to Mobile Computer)
15	NC	No Connect
16	POWER IN	Power Into Mobile Computer

USB Cable

Figure E-1 illustrates the connector configuration of the USB cable for the Pegaso.

Figure E-1. USB Connector Configurations



Appendix F
Programming Parameters

Overview

This section contains information about programmable settings for the Pegaso with Windows CE. Use the Decoding Control Panel applets or the bar codes provided in Appendix G to program the Pegaso.

Table F-2 starting on page F-3 provides the following information:

- **Code Parameter** is the "human" name for the programming option.
- **I.D. #** is the "decoder" name for the programming option. For example, to set a Code 39 minimum label length, use I.D. **0120**. Programming I.D. numbers given in this appendix can be used with all programming methods.
- **On/Off** is a toggle. **1** turns the parameter on, and **0** turns it off.
- **Acceptable Input** gives the settings or range of settings for each code parameter.
- **Defaults** indicates how the parameter is set when the predefined default **FF39**, **FF3A**, or **FF3B** is selected.

  - **Minimum (FF39)** turns every on/off parameter off and sets all minimum and Maximum Label Lengths to the lowest values.

  - **Maximum (FF3A)** turns every on/off parameter on, sets all Minimum Label Lengths to the lowest values, and sets all Maximum Label Lengths to the highest values. Use this default for troubleshooting; it provides the best settings for reading an unknown bar code symbology and can identify the symbology of scanned bar codes.

  - **Factory (FF3B)** is the factory setting installed on the Pegaso. This default set will work for most applications. To reset the Pegaso to the original defaults, scan the **Factory** bar code on page G-2.

Programming Codes Without Parameters

The following table describes the functions of special bar codes that take no parameters:

Table F-1. Programming Codes Without Parameters

Code Parameter	I.D. #	Function
Defaults Minimum	**FF39**	Turns every On/Off parameter off and sets all minimum and Maximum Label Lengths to the lowest values.
Defaults Maximum	**FF3A**	Turns every On/Off parameter on and sets all minimum and Maximum Label Lengths to the highest values. This default set is normally used only for troubleshooting. It gives the best chance of reading an unknown bar code symbology and also identifies the symbology of each bar code scanned.
Defaults Factory	**FF3B**	This is the default parameter settings that was installed at the factory. This default set will work for most applications.
Defaults Registry	**FF3C**	This restores all parameter settings to the values that exist in the registry. This is useful for restoring parameters to a known working set of values which have been saved using code parameter **FF3F**.
Exit and Restore	**FF3D**	Stops a label programming sequence and restores all parameter settings to the values that exist in the registry.
Exit and Save	**FF3E**	Stops a label programming sequence. The last valid parameter settings are left intact.
Exit and Commit	**FF3F**	Stops a label programming sequence and writes all parameter settings into the registry. This can be used to save a customized set of parameter settings for restoring later via parameter **FF3C**.

Bar Code Parameters

The following table lists the standard customer programmable settings for the Pegaso.

Table F-2. Programmable Standard Bar Code Settings

Code Parameter/ Description		I.D. #	Acceptable Input	Defaults		
				Min	Max	Factory
Codabar			Enter 1 for On and 0 for Off.			
Enable	Enables/disables the Codabar symbology.	0300	On / Off	Off	On	On
Enable Aggressive Decoding	Enables more aggressive decoding algorithms to be used in order to scan hard to read labels.	0301	On / Off	Off	On	Off
Enable Checksum	Requires the use of checksum characters to verify a bar code.	0302	On / Off	Off	Off	Off
Send Checksum	Instructs the terminal to include the checksum in the label transmission	0303	On / Off	Off	Off	Off
Send Start/ Stop	Instructs the decoder to transmit the decoded start and stop characters of Codabar labels. The start and stop characters will both be translated as A, B, C, or D.	0305	On / Off	Off	On	Off
Convert to CLSI	Restricts the Codabar decoder to only read labels that conforms to "CLSI" specifications. Label length must be 14, and the data is split into fields of 1, 4, 5, and 4 characters separated by spaces.	0306	On / Off	Off	Off	Off
Allow Wide Intercharacter Gaps	Allows wide gaps to appear between characters in a label.	0307	On / Off	Off	On	On
Minimum Label Length	Set the minimum label length to be less than or equal to maximum label length.	0320	01 - 50	01	01	04
Maximum Label Length	This feature specifies the maximum allowable length of a Codabar label. The length includes check and data characters. Maximum Label Length should be greater than or equal to Minimum Label Length.	0321	01 - 50	01	50	20
Read Verification	Sets the number of times a label must be read before it is transmitted.	0322	01 - 04	01	02	01
User ID	Specifies the symbology identifier (if any) that is sent when parameter Send Code ID (Index 0025) is set to 3. "ASCII" code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	0323	Any single ASCII character (00 = Off)	'I'	'I'	'I'

Code Parameter/ Description		I.D. #	Acceptable Input	Defaults		
				Min	Max	Factory
Code 39			Enter 1 for On and 0 for Off.			
Enable	Enables/disables the Code 39 symbology.	0100	On / Off	Off	On	On
Enable Aggressive Decoding	Enables more aggressive decoding algorithms to be used in order to scan hard to read labels.	0101	On / Off	Off	On	Off
Enable Checksum	Requires the use of checksum characters to verify a bar code.	0102	On / Off	Off	Off	Off
Send Check-sum	Instructs the terminal to include the checksum in the label transmission.	0103	On / Off	Off	Off	Off
Full ASCII Mode	Supports the entire ASCII character set by replacing various encoded ASCII characters with their corresponding "ASCII" equivalents.	0105	On / Off	Off	On	On
Minimum Label Length	Set the minimum label length to be less than or equal to maximum label length.	0120	01 - 50	01	01	01
Maximum Label Length	This feature specifies the maximum allowable length of a Code 39 label. The length includes check and data characters. Maximum Label Length should be greater than or equal to Min-imum Label Length.	0121	01 - 50	01	50	20
Read Verifi-cation	Sets the number of times a label must be read before it is transmitted.	0122	01 - 04	01	02	01
User ID	Specifies the symbology identifier (if any) that is sent when parameter Send Code ID (Index 0025) is set to 3. "ASCII" code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	0123	Any single ASCII character (00 = Off)	'C'	'C'	'C'
Code 93			Enter 1 for On and 0 for Off.			
Enable	Enables/disables the Code 93 symbology.	0400	On / Off	Off	On	Off
Enable Aggressive Decoding	Enables more aggressive decoding algorithms to be used in order to scan hard to read labels.	0401	On / Off	Off	On	Off
Minimum Label Length	Set the minimum label length to be less than or equal to maximum label length.	0420	01 - 50	01	01	02

Code Parameter/ Description		I.D. #	Acceptable Input	Defaults		
				Min	Max	Factory
Maximum Label Length	This feature specifies the maximum allowable length of a Code 93 label. The length includes check and data characters. Maximum Label Length should be greater than or equal to Minimum Label Length.	0421	01 - 50	01	50	20
Read Verification	Sets the number of times a label must be read before it is transmitted.	0422	01 - 04	01	02	01
User ID	Specifies the symbology identifier (if any) that is sent when parameter Send Code ID (Index 0025) is set to 3. "ASCII" code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	0423	Any single ASCII character (00 = Off)	'L'	'L'	'L'
Code 128			**Enter 1 for On and 0 for Off.**			
Enable	Enables/disables the Code 128 symbology.	0408	On / Off	Off	On	On
Enable Aggressive Decoding	Enables more aggressive decoding algorithms to be used in order to scan hard to read labels.	0409	On / Off	Off	On	Off
Enable UCC/ EAN-128	Instructs the decoder to recognize UCC-128 versions of Code 128 labels and process them differently by changing the Code ID, and replacing each occurrence of the FNC1 character with GS ("ASCII" 29) characters.	040C	On / Off	Off	On	Off
ISBT Concatenation	Instructs the decoder to concatenate Code 128 labels conforming to the ISBT 128 standard.	040E	On / Off	Off	Off	
Minimum Label Length	Set the minimum label length to be less than or equal to maximum label length.	0424	01 - 50	01	01	02
Maximum Label Length	This feature specifies the maximum allowable length of a Code 128 label. The length includes check and data characters. Maximum Label Length should be greater than or equal to Minimum Label Length.	0425	01 - 50	01	50	20
Read Verification	Sets the number of times a label must be read before it is transmitted.	0426	01 - 04	01	02	01
User ID	Specifies the symbology identifier (if any) sent when parameter Send Code ID (Index 0025) is set to 3. "ASCII" code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	0427	Any single ASCII character (00 = Off)	'K'	'K'	'K'

Code Parameter/ Description		I.D. #	Acceptable Input	Defaults		
				Min	Max	Factory
European Article Numbering-13 (EAN-13)			Enter 1 for On and 0 for Off.			
Enable	Enables/disables the EAN-13 symbology.	0510	On / Off	Off	On	On
Enable Aggressive Decoding	Enables more aggressive decoding algorithms to be used in order to scan hard to read labels.	0511	On / Off	Off	On	Off
Send Check Digit	Includes a check digit in the label which is transmitted.	0512	On / Off	Off	On	Off
Send System Digit	This instructs the decoder to include the system digit in the label transmission. For UPC-E, the system digit is zero.	0513	On / Off	Off	On	On
Convert EAN-13 to ISBN	This instructs the decoder to identify ISBN labels and append the check digit (per ISBN guidelines) to the end of the label.	0514	On / Off	Off	Off	Off
Convert EAN-13 to ISSN	This instructs the decoder to identify ISSN labels and append the check digit (per ISSN guidelines) to the end of the label.	0515	On / Off	Off	Off	Off
Enable EAN 4-Digit Price/ Weight Check Digit	Requires the use of a 4-digit price/weight check digit to verify a bar code.	0516	On / Off	Off	Off	Off
Enable EAN 5-Digit Price/ Weight Check Digit	Requires the use of a 4-digit price/weight check digit to verify a bar code.	0517	On / Off	Off	Off	Off
Read Verification	Sets the number of times a label must be read before it is transmitted.	0524	01 - 04	01	02	01
User ID	Specifies the symbology identifier (if any) that is sent by the decoder when parameter Send Code ID (Index 0025) is set to 3. "ASCII" code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	0525	Any single ASCII character (00 = Off)	'M'	'M'	'M'
European Article Numbering-8 (EAN-8)			Enter 1 for On and 0 for Off.			
Enable	Enables/disables the EAN-8 symbology.	0518	On / Off	Off	On	On
Enable Aggressive Decoding	Enables more aggressive decoding algorithms to be used in order to scan hard to read labels.	0519	On / Off	Off	On	Off

Code Parameter/ Description		I.D. #	Acceptable Input	Defaults		
				Min	Max	Factory
Send Check Digit	Instructs the terminal to include the check digit in the label transmission.	051A	On / Off	Off	On	Off
Convert EAN-8 to EAN-13	Instructs the decoder to expand EAN-8 labels to their EAN-13 equivalents. Any EAN-13 parameters will then apply to the result.	051B	On / Off	Off	On	Off
Read Verification	Sets the number of times a label must be read before it is transmitted.	0526	01 - 04	01	02	01
User ID	Specifies the symbology identifier (if any) that is sent by the decoder when parameter Send Code ID (Index 0025) is set to 3. "ASCII" code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	0527	Any single ASCII character (00 = Off)	'G'	'G'	'G'
GS1 DataBar-14			**Enter 1 for On and 0 for Off.**			
GS1 DataBar-14 Enable	Enables/disables the GS1 DataBar-14 symbology.	0800	On / Off	Off	On	On
GS1 DataBar-14 to UCC-EAN 128	Instructs the decoder to transmit the label data as one or more UCC-128 labels. The transmission will use the UCC-128 AIM identifier.	0804	On / Off	Off	On	Off
	If GS1 DataBar-14, GS1 DataBar Expanded, GS1 DataBar Limited, or GS1 DataBar Composite symbologies are enabled for UCC-EAN 128, then that setting is also enabled for all other GS1 DataBar symbologies.					
NOTE: For the 2D Imager, GS1 DataBar Expanded User Code ID is used for GS1 DataBar-14						
GS1 DataBar Limited			**Enter 1 for On and 0 for Off.**			
GS1 DataBar Limited Enable	Enables/disables the GS1 DataBar Limited symbology.	0808	On / Off	Off	On	On
GS1 DataBar Limited to UCC-EAN 128	Instructs the decoder to transmit the label data as one or more UCC-128 labels. The transmission will use the UCC-128 AIM identifier.	080C	On / Off	Off	On	Off
	If GS1 DataBar-14, GS1 DataBar Expanded, GS1 DataBar Limited, or GS1 DataBar Composite symbologies are enabled for UCC-EAN 128, then that setting is also enabled for all other GS1 DataBar symbologies.					
NOTE: For the 2D Imager, GS1 DataBar Expanded User Code ID is used for GS1 DataBar Limited						

Code Parameter/ Description		I.D. #	Acceptable Input	Defaults		
				Min	Max	Factory
GS1 DataBar Expanded			Enter 1 for On and 0 for Off.			
GS1 DataBar Expanded Enable	Enables/disables the GS1 DataBar Expanded symbology.	0810	On / Off	Off	On	On
GS1 DataBar Expanded to UCC-EAN 128	Instructs the decoder to transmit the label data as one or more UCC-128 labels. The transmission will use the UCC-128 AIM identifier.	0804	On / Off	Off	On	Off
GS1 DataBar Expanded Minimum	Set the minimum bar code label length to be less than or equal to maximum label length.	0824	1 - 74	1	74	1
GS1 DataBar Expanded Maximum	This feature specifies the maximum allowable length of a label. The length includes check and data characters, if applicable. Maximum Label Length should be greater than or equal to Minimum Label Length.	0825	1 - 74	1	74	74
GS1 DataBar Expanded User Code ID	Specifies the symbology identifier (if any) that is sent when parameter Send Code ID (Index 0025) is set to 3. "ASCII" code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	0827	Any single ASCII character (00 = Off)	'R'	'R'	'R'
Interleaved 2 of 5			Enter 1 for On and 0 for Off.			
Enable	Enables/disables the Interleaved 2 of 5 symbology.	0210	On / Off	Off	On	On
Enable Aggressive Decoding	Enables more aggressive decoding algorithms to be used in order to scan hard to read labels.	0211	On / Off	Off	On	Off
Enable Checksum	Requires the use of checksum characters to verify a bar code.	0212	On / Off	Off	Off	Off
Send Checksum	Instructs the terminal to include the checksum in the label transmission.	0213	On / Off	Off	Off	Off
Enable Case Code	Restricts Interleaved 2 of 5 label lengths to only 6 and 14 data characters. Enabling this parameter overrides the minimum and maximum length values.	0214	On / Off	Off	Off	Off
Minimum Label Length	Set the minimum label length to be less than or equal to maximum label length.	0228	02 - 50	02	02	06

Code Parameter/ Description		I.D. #	Acceptable Input	Defaults		
				Min	Max	Factory
Maximum Label Length	This feature specifies the maximum allowable length of a Interleaved 2 of 5 label. The length includes check and data characters. Maximum Label Length should be greater than or equal to Minimum Label Length.	0229	02 - 50	02	50	10
Read Verification	Sets the number of times a label must be read before it is transmitted.	022A	01 - 04	01	02	01
User ID	Specifies the symbology identifier (if any) that is sent by the decoder when parameter Send Code ID (Index 0025) is set to 3. "ASCII" code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	022B	Any single ASCII character (00 = Off)	'B'	'B'	'B'
Matrix 2 of 5			**Enter 1 for On and 0 for Off.**			
Enable	Enables/disables the Matrix 2 of 5 symbology.	0208	On / Off	Off	On	Off
Enable Aggressive Decoding	Enables more aggressive decoding algorithms to be used in order to scan hard to read labels.	0209	On / Off	Off	On	Off
Enable Checksum	Requires the use of checksum characters to verify a bar code.	020A	On / Off	Off	Off	Off
Send Checksum	Instructs the terminal to include the checksum in the label transmission.	020B	On / Off	Off	Off	Off
Minimum Label Length	Set the minimum label length to be less than or equal to maximum label length.	0224	01 - 50	01	01	06
Maximum Label Length	This feature specifies the maximum allowable length of a Matrix 2 of 5 label. The length includes check and data characters. Maximum Label Length should be greater than or equal to Minimum Label Length.	0225	01 - 50	01	50	10
Read Verification	Sets the number of times a label must be read before it is transmitted.	0226	01 - 04	01	02	01
User ID	Specifies the symbology identifier (if any) that is sent by the decoder when parameter Send Code ID (Index 0025) is set to 3. "ASCII" code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	0227	Any single ASCII character (00 = Off)	'D'	'D'	'D'

Code Parameter/ Description		I.D. #	Acceptable Input	Defaults		
				Min	Max	Factory
MSI			Enter 1 for On and 0 for Off.			
Enable	Enables/disables the MSI symbology.	0608	On / Off	Off	On	Off
Enable Aggressive Decoding	Enables more aggressive decoding algorithms to be used in order to scan hard to read labels.	0609	On / Off	Off	On	Off
Require 2 Check Digits	An MSCI label must contain 2 check digits.	060A	On / Off	Off	Off	Off
Send Check Digits	This instructs the decoder to include any enabled check digit(s) in the label which is transmitted.	060B	On / Off	Off	On	Off
2nd Check Digit Mod 11	Instructs the decoder to interpret any second MSI check digit as modulo 11 instead of modulo 10.	060C	On / Off	Off	Off	Off
Minimum Label Length	Set the minimum label length to be less than or equal to maximum label length.	0624	01 - 15	01	01	04
Maximum Label Length	This feature specifies the maximum allowable length of an MSI label. The length includes check and data characters. Maximum Label Length should be greater than or equal to Minimum Label Length.	0625	01 - 15	01	15	10
Read Verification	Sets the number of times a label must be read before it is transmitted.	0626	01 - 04	01	02	01
User ID	Specifies the symbology identifier (if any) that is sent by the decoder when parameter Send Code ID (Index 0025) is set to 3. "ASCII" code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	0627	Any single ASCII character (00 = Off)	'H'	'H'	'H'
Pharmacode 39 (Code 32)			Enter 1 for On and 0 for Off.			
Enable	Enables/disables the Pharmacode 39 (Code 32) symbology.	0110	On / Off	Off	On	Off
Send Checksum	Instructs the terminal to include the checksum in the label transmission.	0112	On / Off	Off	Off	Off
Send Start/ Stop	Instructs terminals to prefix a Pharmacode 39 label with an “A” prior to transmission.	0113	On / Off	Off	On	Off

Code Parameter/ Description		I.D. #	Acceptable Input	Defaults		
				Min	Max	Factory
User ID	Specifies the symbology identifier (if any) that is sent when parameter Send Code ID (Index 0025) is set to 3. "ASCII" code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	0127	Any single ASCII character (00 = Off)	'Y'	'Y'	'Y'
Standard 2 of 5			**Enter 1 for On and 0 for Off.**			
Enable	Enables/disables the Standard 2 of 5 symbology.	0200	On / Off	Off	On	Off
Enable Aggressive Decoding	Enables more aggressive decoding algorithms to be used in order to scan hard to read labels.	0201	On / Off	Off	On	Off
Enable Checksum	Requires the use of checksum characters to verify a bar code	0202	On / Off	Off	Off	Off
Send Checksum	Instructs the terminal to include the checksum in the label transmission.	0203	On / Off	Off	Off	Off
Use 2-bar Start/Stop	Allows the terminal to recognize labels that are printed using only two bars for start/stop characters.	0204	On / Off	Off	Off	Off
Minimum Label Length	Set the minimum label length to be less than or equal to maximum label length.	0220	01 - 50	01	01	06
Maximum Label Length	This feature specifies the maximum allowable length of a Standard 2 of 5 label. The length includes check and data characters. Maximum Label Length should be greater than or equal to Minimum Label Length.	0221	01 - 50	01	50	10
Read Verification	Sets the number of times a label must be read before it is transmitted.	0222	01 - 04	01	02	01
User ID	Specifies the symbology identifier (if any) that is sent when parameter Send Code ID (Index 0025) is set to 3. "ASCII" code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	0223	Any single ASCII character (00 = Off)	'F'	'F'	'F'
Trioptic			**Enter 1 for On and 0 for Off.**			
Enable	Enables/disables the Trioptic symbology.	0108	On / Off	Off	On	Off
Enable Aggressive Decoding	Enables more aggressive decoding algorithms to be used in order to scan hard to read labels.	0109	On / Off	Off	On	Off

Code Parameter/ Description		I.D. #	Acceptable Input	Defaults		
				Min	Max	Factory
Read Verification	Sets the number of times a label must be read before it is transmitted.	0124	01 - 04	01	02	01
User ID	Specifies the symbology identifier (if any) that is sent when parameter Send Code ID (Index 0025) is set to 3. "ASCII" code zero (null) is used to indicate that an identifier is not to be sent for the symbology	0125	Any single ASCII character (00 = Off)	'X'	'X'	'X'
Universal Product Code-A (UPC-A)			**Enter 1 for On and 0 for Off.**			
Enable	Enables/disables the UPC-A symbology.	0500	On / Off	Off	On	On
Enable Aggressive Decoding	Enables more aggressive decoding algorithms to be used in order to scan hard to read labels.	0501	On / Off	Off	On	Off
Send Check Digit	Includes check digit in the label which is transmitted.	0502	On / Off	Off	On	Off
Send System Digit	Includes the system digit in the label transmission. For UPC-A, the system digit is always zero.	0503	On / Off	Off	On	On
Convert UPC-A to EAN-13	Instructs the decoder to expand UPC-A labels to their EAN-13 equivalents. Any EAN-13 parameters will then apply to the result.	0504	On / Off	Off	On	Off
Read Verification	Sets the number of times a label must be read before it is transmitted.	0520	01 - 04	01	02	01
User ID	Specifies the symbology identifier (if any) sent when parameter Send Code ID (Index 0025) is set to 3. "ASCII" code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	0521	Any single ASCII character (00 = Off)	'A'	'A'	'A'
Universal Product Code-E (UPC-E)			**Enter 1 for On and 0 for Off.**			
Enable System Digit 0	Enables/disables UPC-E labels with a system digit of zero.	0508	On / Off	Off	On	On
Enable Aggressive Decoding	Enables more aggressive decoding algorithms to be used in order to scan hard to read labels.	0509	On / Off	Off	On	Off
Send Check Digit	Includes the check digit in the label which is transmitted.	050A	On / Off	Off	On	Off

Code Parameter/ Description		I.D. #	Acceptable Input	Defaults		
				Min	Max	Factory
Send System Digit	This instructs the decoder to include the system digit in the label transmission. For UPC-E, the system digit is zero.	050B	On / Off	Off	On	Off
Convert UPC-E to UPC-A	Instructs the decoder to expand UPC-E labels to their UPC-A equivalents. Any UPC-A parameters will then apply to the result.	050C	On / Off	Off	On	Off
Read Verification	Sets the number of times a label must be read before it is transmitted.	0522	01 - 04	01	02	01
User ID	Specifies the symbology identifier (if any) that is sent by the decoder when parameter Send Code ID (Index 0025) is set to 3. "ASCII" code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	0523	Any single ASCII character (00 = Off)	'E'	'E'	'E'
UPC/EAN Extensions			**Enter 1 for On and 0 for Off.**			
Enable 2-Digit Extensions	Requires a 2 digit extension (supplemental label) to be verified for a successful decode of a label.	051C	On / Off	Off	On	On
Enable 5-Digit Extensions	Requires a 5 digit extension (supplemental label) to be verified for a successful decode of a label.	051D	On / Off	Off	On	On
Require Extensions	Instructs the decoder to require any enabled UPC/EAN extensions (supplemental labels) to be with a label in order for a scan to be successful.	051F	On / Off	Off	Off	Off
Read Verification	Sets the number of times an extension (supplemental label) must be read before it is included in the transmission of the base UPC/EAN label.	0528	01 - 04	01	01	01

Table F-3. Other Controls

Code Parameter/ Description		I.D. #	Acceptable Input	Defaults		
				Min	Max	Factory
Other Controls			Enter 1 for On and 0 for Off.			
Enable Label Programming	Enables/disables the ability to perform label programming.	FF00	On / Off	On	On	On
Beeper Volume	Adjusts the beeper volume.	FF20	00 = Off 00 - 09 (01 = Lowest; 07 = Highest; 08 = Higher; 09 = Lower)	07	07	07
Long Range Trigger Mode	Selects the Long Range Trigger mode.	0000	On = Release Scan Off = Spot Timeout	Off	Off	Off
Spotting Beam Enable	Enables/disables the Spotting Beam	0001	On / Off	On	On	On
Spotting Beam Timeout	Sets the duration of the spotting beam before it automatically turns off.	0023	00 = 0.25 sec. 01 = 0.5 sec. 02 = 1.0 sec. 03 = 1.5 sec. 04 = 2.0 sec.	01	01	01
Release Scan Timeout	Sets the duration of the scan before it turns off.	0024	1-10	02	02	02
Number of Good-Read Beeps	Determines the number of beeps for a good read indicator.	0020	01 - 04	01	01	01
Good-Read Beep Tone	Adjusts the pitch of the beeper frequency.	0021	00 - 07 (00 = Lowest; 07 = Highest)	00	00	00
Good-Read Beep Duration	Determines the duration of a good read beep.	0022	00 = 0.07 sec. 01 = 0.13 sec. 02 = 0.18 sec. 03 = 0.36 sec.	00	00	00
Send Symbology Identifiers	Specifies the symbology identifier (if any) that is sent by the decoder when parameter Send Code ID (Index 0025) is set to 3. "ASCII" code zero (null) used to indicate an identifier not to be sent for the symbology.	0025	00 = Off 01 = DLM IDs* 02 = AIM IDs 03 = User IDs	00	01	00

Code Parameter/ Description		I.D. #	Acceptable Input	Defaults		
				Min	Max	Factory
Label Prefix	Indicates a label prefix.	0026	Any single ASCII character (00 = Off)	None	None	None
Label Suffix	Indicates a label suffix.	0027	Any single ASCII character (00 = Off)	CR	CR	CR

Table F-4. Datalogic Label IDs

DLM Label IDs		
UPC-A = A	Code 128 = K	Trioptic = X
UPC-E = E	I 2 of 5 = B	Pharmacode 39 = Y
EAN-8 = G	S 2 of 5 = F	GS1 DataBar-14 = P
EAN 13 = M	M 2 of 5 = D	GS1 DataBar Limited = Q
Code 39 = C	Code 93 = L	GS1 DataBar Expanded = R
Codabar = I	MSI = H	

Table F-5. ASCII/Hex Conversion Table

ASCII	Hex	ASCII	Hex	ASCII	Hex	ASCII	Hex
NUL	00	SP	20	@	40		60
SOH	01	!	21	A	41	a	61
STX	02	“	22	B	42	b	62
ETX	03	#	23	C	43	c	63
EOT	04	$	24	D	44	d	64
ENQ	05	%	25	E	45	e	65
ACK	06	&	26	F	46	f	66
BEL	07	&	26	G	47	g	67
BS	08	(	28	H	48	h	68
HT	09	)	29	I	49	i	69
LF	0A	*	2A	J	4A	j	6A
VT	0B	+	2B	K	4B	k	6B
FF	0C	,	2C	L	4C	l	6C
CR	0D	-	2D	M	4D	m	6D
SO	0E	.	2E	N	4E	n	6E
SI	0F	/	2F	O	4F	o	6F
DLE	10	0	30	P	50	p	70
DC1	11	1	31	Q	51	q	71

ASCII	Hex	ASCII	Hex	ASCII	Hex	ASCII	Hex
DC2	12	2	32	R	52	r	72
DC3	13	3	33	S	53	s	73
DC4	14	4	34	T	54	t	74
NAK	15	5	35	U	55	u	75
SYN	16	6	36	V	56	v	76
ETB	17	7	37	W	57	w	77
CAN	18	8	38	X	58	x	78
EM	19	9	39	Y	59	y	79
SUB	1A	:	3A	Z	5A	z	7A
ESC	1B	;	3B	[	5B	{	7B
FS	1C	<	3C	\	5C	|	7C
GS	1D	=	3D	]	5D	}	7D
RS	1E	>	3E	^	5E	~	7E
US	1F	?	3F	_	5F	DEL	7F

Appendix G
Programming Bar Codes

Overview

This appendix provides bar codes for common setup parameters for programming the Pegaso. Factory default settings are OUTLINED.

To make settings that are not provided in the chapter, you can design custom bar codes to program the Pegaso. Refer to "Configuring the Pegaso", on page 2-1.

1D Symbologies

Symbologies and bar code setup parameters included in this appendix are:

Depending on which Pegaso options you have, some programming parameters may not be available on your unit. Refer to Table F-2 on page F-3 for specific details on which parameters are applicable.

Predefined Defaults

Minimum

Registry

Maximum

Restore From Registry

Factory

Save To Registry

Codabar

ENABLE

On

Off

ENABLE AGGRESSIVE DECODING

On

Off

ENABLE CHECKSUM

On

Off

SEND CHECKSUM

On

Off

SEND START/STOP

On

Off

CONVERT TO CLSI

On

Off

ALLOW WIDE INTERCHARACTER GAPS

On

Off

MINIMUM LENGTH

1

30

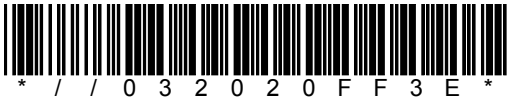
4

40

10

50

20



MAXIMUM LENGTH

1

30

10

40

20

50

READ VERIFICATION

1

3

2

4

Code 39

ENABLE

On

Off

ENABLE AGGRESSIVE DECODING

On

Off

ENABLE CHECKSUM

On

Off

SEND CHECKSUM

On

Off

FULL ASCII MODE

On

Off

MINIMUM LENGTH

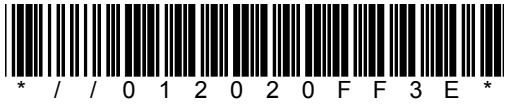
1

30

10

40

20



50

MAXIMUM LENGTH

1

30

10

40

20

50

READ VERIFICATION

1

3

2

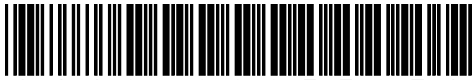
4

Code 93

ENABLE

On

Off



ENABLE AGGRESSIVE DECODING

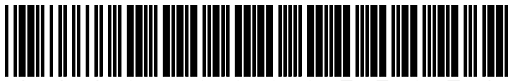
On

Off

MINIMUM LENGTH

2

30



10

40

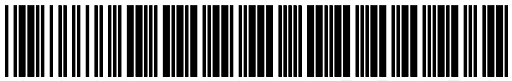
20

50

MAXIMUM LENGTH

2

30

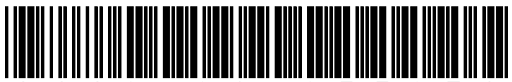


10

40

20

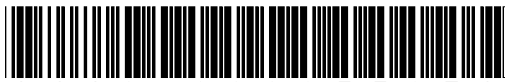
50



READ VERIFICATION

1

3



2

4

Code 128

ENABLE

On

Off

ENABLE AGGRESSIVE DECODING

On

Off

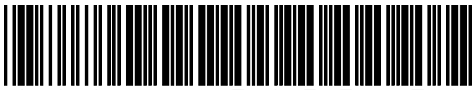
ENABLE UCC/EAN-128

On

Off

ISBT CONCATENATION

On



Off

MINIMUM LENGTH

1

2

10

20

30

40

50

MAXIMUM LENGTH

1

30

10

40

20

50

READ VERIFICATION

1

3

2

4

EAN-13

ENABLE

On

Off

ENABLE AGGRESSIVE DECODING

On

Off

SEND CHECK DIGIT

On

Off

SEND SYSTEM DIGIT

On

Off

CONVERT EAN-13 TO ISBN

On

Off

CONVERT EAN-13 TO ISSN

On

Off

ENABLE EAN 4-DIGIT PRICE/WEIGHT CHECK DIGIT

On

Off

ENABLE EAN 5-DIGIT PRICE/WEIGHT CHECK DIGIT

On

Off

Off

READ VERIFICATION

1

3

2

4

EAN-8

ENABLE

On

Off

ENABLE AGGRESSIVE DECODING

On

Off

SEND CHECK DIGIT

On

Off

CONVERT EAN-8 TO EAN-13

On

Off

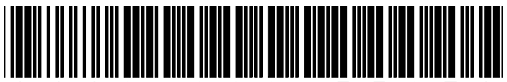
READ VERIFICATION

1

3

2

4



GS1 DataBar-14

ENABLE

On

Off

ENABLE GS1 DataBar-14 to UCC-128

On

Off

GS1 DataBar Limited

ENABLE

On

Off

ENABLE GS1 DataBar Limited to UCC-128

On

Off

GS1 DataBar Expanded

ENABLE

On

Off

ENABLE GS1 DataBar Expanded to UCC-128

On

Off

MINIMUM LENGTH

1

45

15

60

30

74

MAXIMUM LENGTH

1

45

15

6

30

74

Interleaved 2 of 5

ENABLE

On

Off

ENABLE AGGRESSIVE DECODING

On

Off

ENABLE CHECKSUM

On

Off

SEND CHECKSUM

On

Off

ENABLE CASE CODE

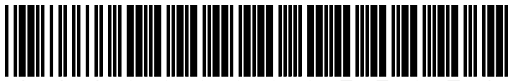
On

Off

MINIMUM LENGTH

2

30



6

40

10

50

20

MAXIMUM LENGTH

2

30

10

40

20

50

READ VERIFICATION

1

3

2

4

Matrix 2 of 5

ENABLE

On

Off

ENABLE AGGRESSIVE DECODING

On

Off

ENABLE CHECKSUM

On

Off

SEND CHECKSUM

On

Off

MINIMUM LENGTH

1

30

6

40

10

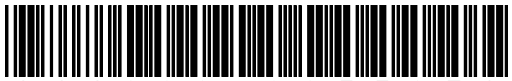
50

20

MAXIMUM LENGTH

1

30



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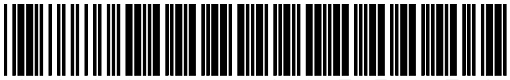


40

20

50

READ VERIFICATION

1

3

2

4

MSI

ENABLE

On

Off

ENABLE AGGRESSIVE DECODING

On

Off

REQUIRE 2 CHECK DIGITS

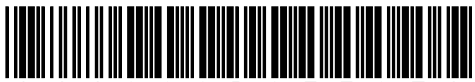
On

Off

SEND CHECK DIGITS

On

Off



2ND CHECK DIGIT MOD 11

On

Off

MINIMUM LENGTH

1

10

4

12

7

15

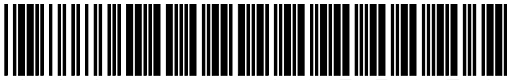
MAXIMUM LENGTH

1

10

4

12



7

15

READ VERIFICATION

1

3

2

4

Pharmacode 39 (Code 32)

ENABLE

On

Off

SEND CHECKSUM

On

Off

SEND START/STOP

On

Off

Standard 2 of 5

ENABLE

On

Off

ENABLE AGGRESSIVE DECODING

On

Off

ENABLE CHECKSUM

On

Off

SEND CHECKSUM

On

Off

USE 2-BAR START/STOP

On

Off

MINIMUM LENGTH

1

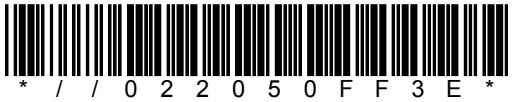
30

6

40

10

50



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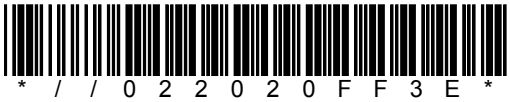


MAXIMUM LENGTH

1

30

10

40

20

50

READ VERIFICATION

1

3

2

4

Trioptic

ENABLE

On

Off

ENABLE AGGRESSIVE DECODING

On

Off

READ VERIFICATION

1

3

2

4

UPC-A

ENABLE

On

Off

ENABLE AGGRESSIVE DECODING

On

Off

SEND CHECK DIGIT

On

Off

SEND SYSTEM DIGIT

On

Off

CONVERT UPC-A TO EAN-13

On

Off

READ VERIFICATION

1

3

2

4

UPC-E

ENABLE SYSTEM DIGIT 0

On

Off

ENABLE AGGRESSIVE DECODING

On

Off

SEND CHECK DIGIT

On

Off

SEND SYSTEM DIGIT

On

Off

CONVERT UPC-E TO UPC-A

On

Off

READ VERIFICATION

1

3

2

4

UPC/EAN Extensions

ENABLE 2-DIGIT EXTENSIONS

On

Off

ENABLE 5-DIGIT EXTENSIONS

On

Off

REQUIRE EXTENSIONS

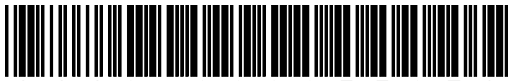
On

Off

READ VERIFICATION

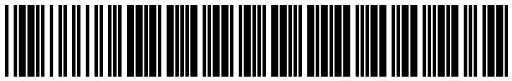
1

3



2

4



Other Controls

BEEPER VOLUME

Off

Lowest

Medium

Highest

//FF2007FF3E

Higher (Increases the current value one increment higher)

//FF2008FF3E

Lower (Decreases the current value one increment lower)

//FF2009FF3E

NUMBER OF GOOD-READ BEEPS

1

//002001FF3E

2

//002002FF3E

3

//002003FF3E

4

//002004FF3E

GOOD-READ BEEP TONE

Lowest

//002100FF3E

Medium

//002103FF3E

Highest

//002107FF3E

GOOD-READ BEEP DURATION (IN SECONDS)

0.07

0.13

0.18

0.36

Long Range Trigger Mode

Spot Timeout

Release Scan

Spotting Beam Enable

On

Off

Spotting Beam Timeout

0.25

0.5

1.0

1.5

2.0

Release Scan Timeout (IN SECONDS)

1

2

3

5

10

SEND SYMBOLOGY IDENTIFIERS

Off

DLM IDs

AIM IDs

User IDs

LABEL PREFIX

(CR)

(TAB)

None

LABEL SUFFIX

(CR)

(TAB)

None

NOTES

Appendix H
Glossary

Many definitions for this Glossary were taken directly from the Microsoft Developer's Network website at http://msdn.microsoft.com/library/default.asp.

1D bar code	A traditional linear bar code. The code itself contains no information about the item to which it is assigned but represents a string of identifying numbers or letters.
2D bar code	Two-dimensional (2D) bar codes permit the encoding of information about an item in addition to an identifying code. Two axes, or directions, are used for recording and reading the codes and the bar size is reduced, increasing the space available for data.
4-way rocker key	Refer to "navigation key".
active notification	The state of a user notification from the time the user is notified until the user handles the event.
active window	The window in which a user is currently working or directing input. An active window is typically on top of the Z order and is distinguished by the color of its title bar.
ActiveSync	Microsoft Windows Communication application that synchronizes a Windows CE device with a Microsoft Windows-based host PC. ActiveSync can use RS-232, USB, and Wireless networks.
AP	Access Point used for RF applications.
ASCII	American Standard Code for Information Interchange; a code for information exchange between computers made by different companies; a string of 7 binary digits represents each character; used in most microcomputers. Any member of the standard code for representing characters by binary numbers. Refer to Table F-5 on page F-15.
AutoCAB	The AutoCAB program allows the Pegaso to automatically reinstall selected applications when the terminal is cold reset. When the Pegaso is rebooted, the AutoCAB program runs automatically and determines if it is a warm or cold reset.
AutoCE	The AutoCE program allows the user to create a list of applications to run when the Pegaso is rebooted. Each application may be designated to run only on a cold reset, or on both warm and cold resets. The applications run sequentially, allowing interdependencies to be handled.
Batch units	Batch Pegaso units are synchronized and updated using Microsoft ActiveSync software and a dock for communication with the host PC.

Bluetooth	A short-range radio technology for Internet and mobile devices, aimed at simplifying communications among them.
calibration	You may need to calibrate the touch screen. One way to know that the touch screen needs to be calibrated is that you will notice that when you attempt to select one item with the stylus, another item is erroneously selected.
checksum	A number used to verify the contents of a data file. This number is generated by calculating the contents of the data. If the calculated checksum is different from the expected checksum, the data has errors in it.
CLSI	CLSI, Inc., developer of the “LIBS 100 scanning and decoding system”. The ““Convert to CLSI”” parameter refers to formatting a Codabar bar code label in the manner defined by CLSI, Inc.
command band	A rebar control with a fixed band at the top that contains a toolbar with a **Close** (X) button, an **OK** button, and optionally a **Help** (?) button in the upper right corner.
command bar	A control window that can contain buttons, combo boxes, and menu bars. Windows CE–based applications can use a command bar rather than a separate menubar and toolbar to efficiently use available screen space.
CompactFlash	A CompactFlash (CF) card is a popular memory card developed by SanDisk in 1994 that uses flash memory to store data on a very small card.
Concatenate	To arrange (strings of characters) into a connected list.
control	A standardized part of the window that can be manipulated by the user to perform an action or display information. The most common controls are buttons that allow the user to select options and scroll bars that allow the user to move through a document or position text in a window.
context sensitive help	Tap “**?**” to open a help dialog about the specific windows application you are using. Context sensitive help can tell where you are in a program and can provide assistance with the specific problems you might be having.
control panel	Control Panels are several different applets that allow you to configure the Pegaso to meet your specific requires. There are control panels for scanning, keyboard, display, etc. Access the control panels at **Start > Settings > Control Panel.**
Datalogic Configuration Utility (DCU)	A Datalogic Windows-based field configuration mechanism, compatible with Wavelink Avalanche™. See page 3-12.
Datalogic Desktop Utility (DDU)	Datalogic® Desktop Utility (DDU) allows Datalogic Mobile Windows® administrators to configure Windows®CE Pegasos to control individual user access.
Datalogic Firmware Utility (DFU)	A Datalogic Windows-based field upgradeable firmware mechanism. Use the Datalogic Firmware Utility (DFU), described starting on page 3-8, to install or update the firmware using an "ActiveSync" connection.
device manager	A tool to track all loaded device drivers and their interfaces. It issues notification of the appearance, disappearance of device interfaces, loads and tracks drivers by reading and writing registry values, and unloads drivers when their devices are no longer needed.

device partnership	A registry key on a "Windows CE" device that a desktop computer uses to identify the device when it is connected. The key defines values for synchronization, file conversions, and backup and restore information, which enable multiple "Windows CE" devices to connect to the same desktop computer. A device partnership is created the first time you connect a "Windows CE" device to a host PC.
embedded	Broadly, software code or commands built into a device, as opposed to software that is added. In a narrower sense, code that is typically stored in ROM and dedicated to either controlling a device or providing a specific functionality.
firmware	Operating System on the Pegaso.
FlashFX	Persistent Flash Memory management system made by Datalight™. Data in the flash memory is retained when a battery pack is fully discharged. The backup battery must be charged to retain flash memory.
GPRS	General Packet Radio Services (GPRS) is a packet-based wireless communication service that promises data rates from 56 up to 114 Kbps and continuous connection to the Internet for mobile phone and computer users. GPRS is based on Global System for Mobile (GSM) communication and complements existing services.
GSM	GSM (Global System for Mobile communication) is a digital mobile telephony system. GSM uses a variation of time division multiple access (TDMA) and is the most widely used. GSM digitizes and compresses data, then sends it down a channel with two other streams of user data, each in its own time slot.
gripper bar	A gripper bar is a tall, thin rectangle with a dark stripe running through it that appears on a rebar or a command band control. By touching and dragging a gripper bar with a stylus, a user can reposition a rebar or command bar. Gripper bars are especially useful for bringing off-screen rebar or command bar controls into view.
host PC system	PC using the Microsoft Windows operating system and "ActiveSync".
Infrared Data Association	The industry organization of computer, component, and telecommunications vendors who have established the standards for infrared communication between computers and peripheral devices such as printers. Windows CE supports the IrDA standard through the Winsock API. Windows CE–based applications that communicate over serial cables using the Winsock API communicate over IrDA-compliant infrared links with only minimal reprogramming.
input method (IM)	A component that allows the user to input text using a touch screen.
input panel	Refer to "soft input panel (SIP)".
ISBN	International Standard Book Number. A unique number assigned to each book to allow ease of ordering from any source: local bookstore, online book dealers, or directly from the publisher. The ISBN number is usually printed on the back cover of a book near the bar code, but can also appear within the book.
ISSN	International Standard Serial Number. An ISSN consists of eight digits comprising two groups of four digits each, separated by a hyphen. The eighth digit is a check digit used as a computer validity check; it consists of a number between 0 and 9 or an uppercase X (for the arabic numeral 10).

MIB (Management Information Base)	A Management Information Base (MIB) is a file that defines a set of "SNMP (Simple Network Management Protocol)" variables, their types and usage. There are a number of standard MIBs available, depending on the information being managed. The MIB is used by the management tools to allow them to better support the configuration values provided on the terminals, such as scanner controls and terminal type information.
mounted file system	A file system located on a removable medium, such as a PC Card storage device. The operating system loads, or mounts, the file system when the medium is inserted into the device. It unloads, or unmounts, the file system when the medium is removed or when the user issues a command to do so.
navigation key	A large navigation button (4-way rocker key) on the keypad with 4 arrows: pointing up, down, left, and right that allows the user to move the cursor or highlighted text entry during menu selection. Press and release one edge of the key to move the display screen one line or one character in the direction of the arrow.
Network ID	Here used to mean that you should configure the Windows user settings, such as the user name, password, and domain name. Microsoft's definition includes some wireless network IDs as equivalent to SSIDs.
non-persistent state	A non-persistent state affects only the next keypress. FN state is a non-persistent state.
object store	The persistent storage that Windows CE makes available to applications. For example, Windows CE reserves part of its available RAM for the operating system and uses the rest for the object store. This data can be stored in files, registry entries, or Windows CE databases.
portable data assistant (PDA)	A handheld Windows-based (Pocket-PC or Windows CE) computer that can be synchronized with a host PC to share files and data. Sometimes contains an infrared device to beam information to another unit.
portable data terminal (PDT)	An industrial strength handheld computer with a keypad, navigation keys, and a bar code scanner used in inventory, retail, and warehouse activities to collect data and upload it to a host PC.
Persistent Memory	Persistent Memory is the Pegaso's flash application and file storage area. The persistent storage memory persists across all reset (warm/cold reboot) conditions and software / firmware updates.
persistent state	A state which is maintained after releasing a key. Alpha mode is a persistent mode. Also called a "sticky" state. A persistent state must be turned off by pressing the key again.
PRG	Product Reference Guide.
program memory	Memory that is used for stack and heap storage for both system and nonsystem applications. Nonsystem applications are taken from storage memory, uncompressed, and loaded into program memory for execution.
RF card	A small card-shaped device installed in a Pegaso that allows wireless connection and communication with a network.
QRG	Quick Reference Guide.

RAM (random access memory)	You can add applications and data files to RAM or into Flash memory via the "FlashFX" Disk. While Flash memory is persistent (as long as the backup battery is charged), RAM is not and will be cleared when you remove or replace the battery. As you can only suspend the device, the only way to turn it fully off is to remove the battery or to perform a cold reset.
ROM (read only memory)	The operating system ("Windows CE") and applications are pre-installed on ROM and cannot be removed or modified. These applications are persistent.
rebar	A command bar with a gripper bar.
remote access server (RAS)	A feature that connects a device to a host computer. Windows CE can connect to a remote access server using direct serial, infrared, and dial-up connections. Windows CE supports the standard Microsoft Win32 RAS functions; however, it allows only one connection at a time. RAS functions can be implemented for direct serial connections or dial-up modem connections.
RTC	Real Time Clock on the PC.
Secure Digital (SD) Card	A Secure Digital (SD) card is a tiny memory card used to make storage portable among various devices. It features a high data transfer rate and low battery consumption. An SD card is about the size of a postage stamp and weighs approximately two grams.
shortcut menu	A menu that is displayed for a selected object. The menu contains commands that are contextually relevant to the selection.
SNMP (Simple Network Management Protocol)	SNMP is the standard protocol for managing devices on a network. Simple Network Management Protocol (SNMP) is a standardized protocol for network management services using a client/server model. The network management program (client) issues queries and commands to the remote device
soft input panel (SIP)	Click on the **Keyboard** icon in the system tray to open the **SIP**. Use this virtual QWERTY keyboard like you would a computer's keypad to enter alpha numeric and symbols in the current application.
splash screen	An initial screen displayed by software, usually containing a logo, version information, author credits, or a copyright notice.
start	The start button opens the Start menu. The Start menu contains a list of the resident applications, applets, and utilities available to the user.
status bar	An area that displays state information for the content in the window, typically placed at the bottom of a window.
status icons	A graphic representation of the status of a feature or function.
stylus	The stylus is the equivalent of a mouse on the Pegaso. Use the stylus on a touch-sensitive display. Only a plastic tipped stylus should be used on a touch-sensitive display. Use the stylus to navigate the "touchscreen display", select characters in the soft input panel (SIP), select applications from the desktop or system tray, select tabs, fields and text within applications and dialog boxes.
suspend mode	The Pegaso will go into a suspend or sleep mode when it is idle for a period of time. Suspend mode works and looks just like you have turned the unit off. Press **<Power>** to suspend (put to sleep) the Pegaso. Press **<Power>** again for the Pegaso to resume its previous state.

Symbology	A symbology is a protocol for arranging the bars and spaces that make up a particular kind of bar code. A bar code is made up of numbers, letters, and computer-recognized characters that can be represented in a combination of bars and spaces. There is not one standard bar code; there are currently over 400 bar code symbologies that serve different uses, industries, or geographic needs.
system tray	An area of the display screen located at the bottom, within the Task bar that displays status icons and symbols.
system tray keyboard Indicators	The System Tray Keyboard Indicators are located at the bottom of the display in the "task bar" and contain "status icons" and symbols indicating open features and active applets.
task bar	The Task bar at the bottom of the screen displays the "start" icon, an icon for the active program, an icon for the current character, the current time, and system icons for utilities loaded in memory, including the keyboard icon, which opens and closes the "soft input panel (SIP)".
touchscreen display	A graphical computer interface display screen that allows the user to enter and select items with a "stylus".
Tracert	Trace Route. A utility/command to determine TCP/IP packet routing.
Uniform Resource Locator (URL)	The address of a resource on the Internet. URL syntax is in the form *protocol://host/localinfo*, where *protocol* specifies the means of returning the object, such as HTTP or FTP. *Host* specifies the remote location where the object resides and *localinfo* is a string, often a file name, passed to the protocol handler at the remote location. *Also called* a Uniform Resource Identifier.
USB	Universal Serial Bus is a protocol for connecting PCs with peripheral devices, including PDTs, PDAs, Pegaso mobile computers, cameras, printers, mice, scanners, etc.
Web Server	The web server can perform several different actions, including generating a web page containing statistics relating to performance of the mobile computer and creating an interface for interaction with the terminal to configure system behavior.
Wi-Fi	Wi-Fi (short for "wireless fidelity") is a term for certain types of wireless local area network (WLAN) that use specifications in the 802.11 family.
Windows CE	As per Microsoft, Windows CE combines an advanced real-time embedded operating system with the most powerful tools for rapidly creating the next generation of smart, connected, and small-footprint devices.
XPING	XPing is a protocol that sends a message to another computer and waits for acknowledgment, often used to check if another computer on a network is reachable.

INDEX

SYMBOLS

NUMERICS

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NOTES

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