

# **System Administrator's Guide**

Monarch® Pathfinder® Ultra® Platinum Printer



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This device has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the Federal Communications Commissions Rules and Regulation. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. However, there is no guarantee that interference will not occur in a particular installation.

If the equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- ♦ Connect the equipment into an outlet on a circuit different from that which the receiver is connected.

This Class B digital apparatus meets the requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la Classe B respecte toutes les exigences du Règlement sur le Matériel Brouilleur du Canada.

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# TABLE OF CONTENTS

INTRODUCTION	1-1
Using This Manual	1-1
Audience	1-1
ADMINISTRATIVE TOOLS	2-1
Using the Taskbar Lockdown Option	2-1
Locking the Taskbar	2-1
Removing Applications	2-2
Unlocking the Taskbar	2-2
Using Asset Tracking	2-2
Editing Owner Data	2-2
Printing an Asset Tracking Label	2-3
Using Printer Passthru	
CONFIGURING WIRELESS SETTINGS	3-1
About the Symbol® 802.11b Wireless Card	3-1
Using the Mobile Companion	3-1
Finding a Network	3-1
Creating a Profile	3-2
Setting a Password	3-3
About the Motorola® 802.11b/g Wireless Card	3-4
Using Fusion	
Finding a Network	3-4
Creating a Profile	3-5
Setting a Password	3-6
About the Summit 802.11g Wireless Card	3-7
Using the Summit Client Utility	3-7
Finding a Network	3-8
Creating a Profile	3-9
About ThirdPartyConfig	3-10
Setting a Password	3-10
USING PRINTER DIAGNOSTICS	4-1
Accessing Printer Diagnostics	4-1
Testing the Print Engine	4-2
Checking Machine Totals	4-2
Printing Diagnostic Labels	4-3
Checking the Stock Registration	4-4
Testing the Sensors	4-5
Testing the Printhead	4-7
Viewing the Print Engine Memory Expansion Directory	4-8
Testing the Keypad	4-9
Testing the Speaker	4-9

CONFIGURING THE SCANNER	
Setting Scanner Options	5-1
Enabling Specific Bar Codes	5-3
Configuring UPC/EAN Bar Codes	5-4
Configuring Code 39 Bar Codes	5-5
Configuring Code 128 Bar Codes	5-6
Configuring I 2of5 Bar Codes	5-6
Configuring MSI Bar Codes	5-7
Configuring MSI Bar Codes	5-7
Configuring Codabar Bar Codes	5-7
Configuring Code 93 Bar Codes	5-8
Configuring D 2of5 Bar Codes	5-8
Configuring RSS Bar Codes	5-8
Scannable Bar Codes vs. Printable Bar Codes	5-9
USING SCANNER DIAGNOSTICS	6-1
Performing Scanner Diagnostics	6-1
Setting the Scanner Mode	6-2
Setting the Trigger Mode	6-2
SCAN STATUS VALUES	

# INTRODUCTION



The Monarch® Pathfinder® Ultra® *Platinum* 6039™ printer prints, scans bar codes, collects data, and communicates with other devices. The printer operates on a modified Microsoft® Windows® CE platform.

Information in this document supercedes information in previous versions. Check our Web site for the latest documentation and release information.

**Note:** Before you begin, review the safety information in the *Regulatory Compliance* document included with your printer.

# Using This Manual

Following is a summary of the contents of this manual.

	Chapter	Contents
1	Introduction	Information you should know before using the printer.
2	Administrative Tools	Using the taskbar lockdown, asset tracking, and printer passthru options.
3	Wireless Configuration	Setting communications between your wireless printer and network.
4	Printer Diagnostics	Using printer diagnostics to print test labels, check sensors, view inches printed, etc.
5	Scanner Configuration	Configuring the scanner to accept certain bar codes and setting the scanner and trigger modes.
6	Scanner Diagnostics	Using scanner diagnostics.

#### Audience

This manual is for the System Administrator who configures the printer and scanner and performs diagnostics.

A Quick Reference for this printer is available in the box.

The Programmer's Manual and other documentation are available on our Web site.

# ADMINISTRATIVE TOOLS



Use these tools to

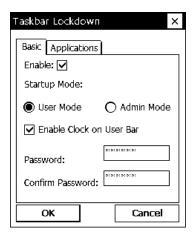
- ♦ lock the taskbar to restrict user access
- identify and track your printers
- send MPCLII packets directly to the printer.

# Using the Taskbar Lockdown Option

The Taskbar Lockdown option prevents access to the Start Menu or any unspecified applications without a password. The system administrator selects which applications are accessible when the taskbar is locked.

#### Locking the Taskbar

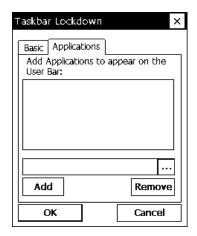
- From the Start Menu, tap Settings, Control Panel, Taskbar Lockdown.
- 2. Check Enable under the Basic tab.



- Select the Startup Mode for the user or administrator.
   To disable the clock display on the taskbar, uncheck the Enable Clock on User Bar.
- 4. Enter and confirm a password. The default password is 123321.

**Note:** Make a note of the password if you change it. You must have the current password to unlock the taskbar.

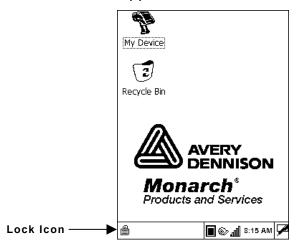
5. Tap the Applications tab.



- 6. Tap the browse button (...) and select an application that the user has permission to run.
- 7. Tap **OK**. The selected application path appears in the browse field.

- 8. Tap Add. The application appears in the list.
- 9. When you are finished, tap **OK**, then **Yes**. The printer restarts.

A small lock icon appears over the Start Menu when the taskbar is locked.



#### **Removing Applications**

If an application is removed from the list, the user no longer has access to that application when the taskbar is locked.

- 1. From the Taskbar Lockdown screen, tap the **Applications** tab.
- 2. Select the application to remove from the list.
- 3. Tap **Remove**. The application disappears from the list.
- 4. When you are finished, tap **OK**, then **Yes**. The printer restarts.

#### Unlocking the Taskbar

To unlock the taskbar:

- 1. Tap the lock icon at the bottom-left of the taskbar. The Input Panel keyboard appears on the display.
- Enter the Administrator password and tap OK.

To re-lock the taskbar, tap the lock icon again, which has moved to the bottom-right side of the screen.

# **Using Asset Tracking**

Asset tracking contains the manufacturer's product ID and serial number, and the owner's product ID and serial number. A password is required to edit this data. You can print an asset tracking label that contains the product IDs and serial numbers for your records.

# **Editing Owner Data**

1. From the Start Menu, tap Settings, Control Panel, Asset Tracking.



2. Tap **Edit**. Use the keypad to enter the password and press **Enter**. The default password is 123321.

The Owner Product ID field is highlighted.

- 3. Use the keypad or scan a bar code to enter a new Product ID and press Enter.
  - The Owner Serial Number field is highlighted.
- 4. Use the keypad or scan a bar code to enter a new Serial Number and press Enter.

Note: You can only edit owner data. The Product ID and Serial Number cannot be changed.

- 5. Tap Export to create a backup file of the new data on your computer or server, then tap OK.
- 6. Tap **Import** to retrieve a backup file from your computer or server, then tap **OK**. The retrieved data appears on the screen.



### **Printing an Asset Tracking Label**

From the Asset Tracking screen, tap Print.

A label prints with the Company and Owner Product IDs and Serial Numbers and their corresponding bar codes.

**Note:** You may want to keep this label in a safe place for future reference.

2. Tap **OK**, then **X** in the upper-right corner of the screen to exit the application.

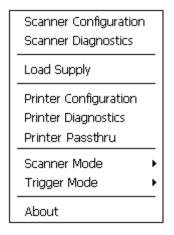


**Asset Tracking Label** 

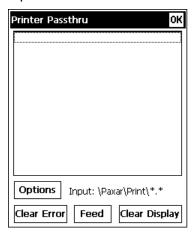
# Using Printer Passthru

Printer passthru mode is an easy way to send an MPCLII packet (format, font, batch, graphic, etc.) directly to the printer. When designing a format, use printer passthru to send the format and batch to the printer to see how the format looks.

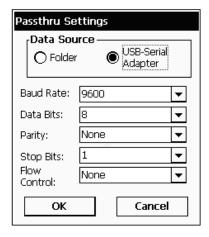
1. Tap the printer icon in the System Tray.



#### 2. Tap Printer Passthru.



- 3. Tap Options.
- 4. Select Data Source as Folder or USB-Serial Adapter.



If you select Folder, the printer looks for packets in the \Paxar\Print folder. Make sure packets are saved in the \Paxar\Print folder.

If you select USB-Serial Adapter, you must set the communication settings and attach the USB cable via the USB-Serial adapter.

- 5. Tap **OK**.
- 6. Send a packet.

The text of the packet appears as well as any error messages or status for the packet.

Tap Clear Error to clear an error on the printer.

Tap **Feed** to feed a blank label.

Tap Clear Display to clear the Printer Passthru screen.

**Note:** If your battery power level is too low, printing is disabled. Refer to the *Operator's Handbook* for more information about the battery status.

7. When you are finished, tap **OK** to return to the desktop.

# CONFIGURING WIRELESS SETTINGS



Use this chapter to configure the 802.11b and 802.11b/g wireless (radio) card settings.

# About the Symbol® 802.11b Wireless Card

The Symbol® Spectrum24® 802.11b wireless card operates at speeds of up to 11Mbps on any 802.11b wireless compatible network. You can use the printer in Ad-Hoc (peer-to-peer) or AP (access point or Infrastructure) wireless mode. Use the Windows® CE Mobile Companion utility available on your printer to configure the wireless card to communicate with your network.

# Using the Mobile Companion

The Mobile Companion utility starts automatically when you turn on the printer and an icon appears in the System Tray.

Note: You may need to be in Admin Mode to access wireless features.

See Chapter 2, "Administrative Tools" for more information.

Tap the Mobile Companion icon in the System Tray. You see the main menu.

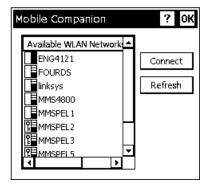
Menu Option	Description	
Status	Displays the current connection's signal strength, IP information, ping tests, and available access points.	
WLAN Profiles	Lists existing profiles to connect or edit.	
Find WLANs	Searches for available networks, signal strength, and any encryption.	
Options Enables or disables wireless modes (Ad-Hoc or AP) roaming, sounds, set/change passwords.		

### Finding a Network

The printer searches for available networks and lists the SSIDs, signal strength, and encryption for each network. You can connect to an existing network profile if you have the required network security information.

# Tap , Find WLANs.

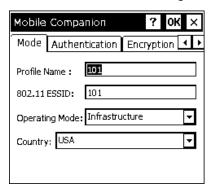
The printer searches for all networks in range and lists them alphabetically by SSID. This may take a few minutes.



**Note:** A key indicates that encryption is enabled on the access point. You must have the network encryption settings to connect to a protected access point.

2. Select a network and tap Connect.

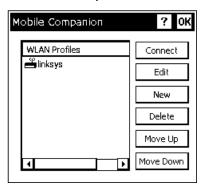
You see the Profile Configuration screen.



- 3. Verify the mode, authentication, encryption, and IP configuration settings.
- 4. Tap **OK** when you are finished.

The WLAN Profiles screen appears. When you connect to a network, Mobile Companion creates a profile for that connection.

Your selected profile is shown with an access point icon.



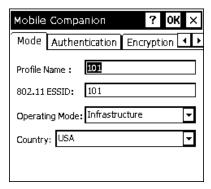
**Note:** The icon indicates a connection to this profile. To connect to a different profile, select the profile name and tap **Connect**.

5. Tap **OK** to return to the desktop.

### **Creating a Profile**

You can create a new connection profile if the network you need does not appear in the list of available profiles.

- Tap , WLAN Profiles.
- 2. Tap New. You see the Profile Configuration screen.



- 3. Enter a profile name and SSID to identify the printer on the network. The default name is 101.
- 4. Specify the wireless operating mode. The options are Ad-Hoc or Infrastructure.
- 3-2 System Administrator's Guide

- 5. Tap the **Authentication** tab and specify the authentication security settings. The options are None, Kerberos, EAP-TLS, or PEAP.
  - These settings must match the network authentication settings or the printer cannot connect.
- 6. Tap the **Encryption** tab and specify the encryption settings.

  The options are Open System (no security), WEP, or TKIP (WPA).
  - These settings must match the network encryption settings or the printer cannot connect.
- 7. Tap the IP Config tab and select the IP type. The options are DHCP or Static.
- 8. Tap the **Power** tab and adjust the radio transmission power, if necessary.
- 9. When you are finished, tap **OK**. You return to the desktop.
- 10. Tap , WLAN Profiles. The new profile is listed.

#### **Setting a Password**

You can set or change the Mobile Companion access password. The default is Disabled.

- 1. Tap , Options.
- 2. Tap Change Password.
- 3. To enable password protection, enter and confirm a new password.

To change a current password, enter the current password, then enter and confirm a new password.

To disable password protection, enter the current password but do not specify a new password.

- 4. Tap **OK**.
- 5. Tap **X** in the upper-right hand corner of the screen to exit the application.

**Note:** Make a note of the password if you change it. Setting a password restricts all access to wireless features.

# About the Motorola® 802.11b/g Wireless Card

The Motorola® LA-5127 802.11b/g wireless card operates at speeds of up to 11Mbps in 802.11b mode and 54Mbps in 802.11g mode on any wireless-compatible network. You can use the printer in Ad-Hoc (peer-to-peer) or Infrastructure (access point) wireless mode. Use the Fusion utility available on your printer to configure your wireless card to communicate with your network.

# Using Fusion

The Fusion utility starts automatically when you turn on the printer and an icon appears in the System Tray.

Note: You may need to be in Admin Mode to access wireless features.

See Chapter 2, "Administrative Tools" for more information.

Tap the Fusion icon the System Tray. You see the main menu.

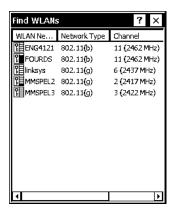
Menu Option	Description	
Wireless Status	Displays the current connection's signal strength, IP address, and version information.	
Wireless Diagnostics	Troubleshoots your connection using ping tests and trace routes.	
Find WLANs	Searches for available networks, signal strength, and any encryption.	
Manage Profiles	Lists existing profiles for connecting or editing.	
Options	Enables or disables wireless mode, (Ad-Hoc or Infrastructure), roaming, and other system options, import/export settings, and set/change passwords.	
Log On/Off	If you have a password-protected profile, select this option to enter your username and password.	
Enable/Disable Radio	Turns the radio on and off.	
Cancel Menu	Closes the menu.	
Exit	Closes Fusion and removes the icon from the System Tray.	

### Finding a Network

The printer searches for available networks and lists the SSIDs, signal strength, and encryption. You can connect to an existing network profile if you have the required network security information.

# 1. Tap , Find WLANs.

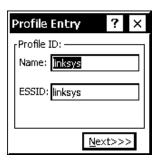
The printer searches for all networks in range and lists them alphabetically by SSID.



This may take a few minutes.

**Note:** A key indicates that encryption is enabled on the access point. You must have the network encryption settings to connect to a protected access point.

2. Double-tap the network you need, then tap **Connect** in the pop-up menu. You see the



Profile Entry screen.

- 3. Tap **Next** to verify the mode, authentication, encryption, and IP configuration settings.
- 4. Tap Finished.

The Manage Profiles screen appears. When you connect to a network, Fusion creates a profile for that connection. Your selected profile is shown with an access point icon.

**Note:** The icon indicates a connection to this profile. To connect to a different profile, double-tap on the profile name, then tap **Connect** in the pop-up menu.

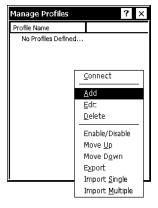


5. Tap **X** in the upper right-hand corner of the screen to return to the desktop.

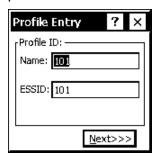
#### Creating a Profile

You can create a new connection profile if the network you need does not appear in the list of available profiles.

- 1. Tap 💜, Manage Profiles.
- 2. Hold the stylus on an empty section of the screen until the pop-up menu appears.



3. Tap Add. You see the Profile Entry screen.



- 4. Enter a profile name and SSID to identify the printer on the network. The default name is 101. Tap **Next**.
- 5. Specify the wireless operating mode (Ad-Hoc or Infrastructure) and your country of operation, if necessary. Tap **Next**.
- 6. Specify the authentication security settings. The options are None, EAP-TLS, PEAP, LEAP, or TTLS.
  - These settings must match the network authentication settings or the printer cannot connect. Tap **Next**.
- 7. Specify the encryption settings. The options are Open (no security), 40- or 128-bit WEP, TKIP (WPA), or AES.
  - These settings must match the network encryption settings or the printer cannot connect. Tap **Next**.
- 8. Select the IP Address Entry method. The options are DHCP or Static. Tap Next.
- 9. Adjust the radio transmission power, if necessary. The options for Infrastructure mode are Automatic and Power Plus.
  - When using Automatic, the printer uses the same transmit power level as the access point. When using Power Plus, the printer uses a transmit power one level higher than that of the access point. Tap **Next**.

<u>A</u>dd

Edit

Delete

Move Up

Move D<u>o</u>wn E<u>x</u>port

Import <u>S</u>ingle Import <u>M</u>ultiple

- 10. Adjust the battery usage settings, if necessary.
- 11. Tap Finished.

Your new profile appears on the Manage Profiles screen. If you are not automatically connected to your new profile, double-tap your profile's name, then tap **Connect** in the pop-up menu.

#### Setting a Password

You can set or change the Fusion access password. The default is no password.

**Note:** Make a note of the password if you change it. Setting a password restricts all access to wireless features.

- ı. Tap 🗣, **Options**.
- 2. Select Change Password from the drop-down menu.



3. To enable password protection, enter and confirm a new password.

To change a current password, enter the current password, then enter and confirm a new password.

To disable password protection, enter the current password but do not specify a new password.

- 4. Tap Save, then OK.
- 5. Tap X in the upper-right hand corner of the screen to return to the desktop.

# About the Summit 802.11g Wireless Card

The Summit SDC-CF20G 802.11g wireless card operates at speeds of up to 11Mbps in 802.11b mode and 54Mbps in 802.11g mode on any wireless-compatible network. You can use the printer in Ad-Hoc (peer-to-peer) or Infrastructure (access point) wireless mode. Use the Summit Client Utility (SCU) available on your printer to configure your wireless card to communicate with your network.

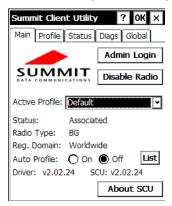
# Using the Summit Client Utility

The Summit Client Utility starts automatically when you turn on the printer and an icon appears in the System Tray.

**Note:** You may need to be in Admin Mode to access wireless features.

See Chapter 2, "Administrative Tools" for more information.

Double-tap the signal strength icon 🗐 in the System Tray. You see the main SCU window.

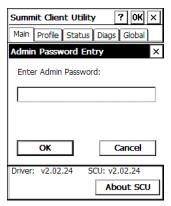


The main window shows you the active profile, current wireless status (Down, Disabled, Not Associated, Associated, or Authenticated), the radio type, the regulatory domain, and the driver and utility version. From the main window you can also log in as administrator to make changes to radio settings, and disable or enable the radio.

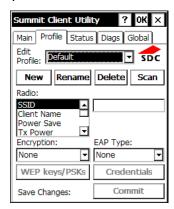
#### Finding a Network

The printer searches for available networks and lists the SSIDs, signal strength, and encryption. You can connect to an existing network profile if you have the required network security information. You can create up to 20 profiles.

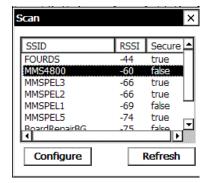
From the main SCU window, tap Admin Login.



- 2. Enter the password. The default password is **SUMMIT**. The password is case-sensitive. See "Changing the Admin Password" later in this chapter for information on setting passwords.
- 3. Tap **OK**.
- 4. Tap the **Profile** tab.

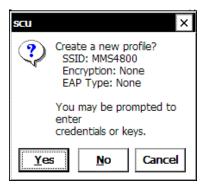


5. Tap Scan.



A list of available networks appears.

Select the network you need, then tap **Configure**.



#### 7. Tap Yes.

SCU creates a profile for the selected network.

#### Creating a Profile

The default profile does not have an SSID or security settings. It can only connect to an access point that broadcasts its SSID and is not secured. Use the instructions in this section to create a new profile without scanning for a network. The Profile screen also allows you to edit or delete existing profiles.

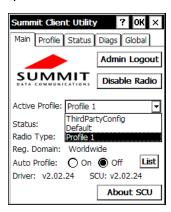
- From the main SCU window, tap Admin Login and enter the password. The default password is summit. Tap OK.
- Tap the Profile tab. 2.
- 3. Tap **New** and enter a name for your profile. When you are finished, tap **OK**.



- Tap Commit to save the profile name, then tap OK in the confirmation pop-up screen.
- Enter the SSID and select the authentication and encryption, along with any necessary credentials. Tap **Commit** to save your settings, then tap **OK** in the confirmation pop-up screen.
- Enter any other settings required by your network administrator.

Note: You must tap Commit to save your settings.

7. When you are finished, tap the **Main** tab. Your new profile appears in the Active Profile drop-down menu.



8. Select your new profile from the drop-down menu. The printer connects to the network based on your settings.

#### About ThirdPartyConfig

The ThirdPartyConfig profile allows you to configure the printer's wireless settings using Windows Zero Config (WZC) instead of the Summit Client Utility. When you select this profile, the printer automatically turns off and back on and launches WZC.

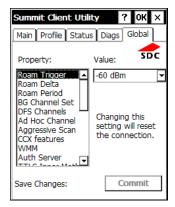
We recommend using the Summit Client Utility to configure the Summit 802.11g wireless card.

#### Setting a Password

You can set or change the SCU Admin password. The default is **SUMMIT**.

**Note:** Make a note of the password if you change it. The Admin password restricts all access to wireless settings.

- 1. From the main screen, tap Admin Login.
- 2. Enter the password. The default password is **SUMMIT**. Tap **OK**.
- 3. Tap the Global tab.



4. Scroll down the Property menu until you see Admin Password.

5. Select Admin Password and enter a new password in the Value box.



6. Tap Confirm to save your changes.

**Note:** Make a note of the password if you change it. The Admin password restricts all access to wireless settings.

# USING PRINTER DIAGNOSTICS

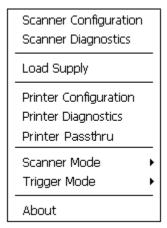


Use printer diagnostics to

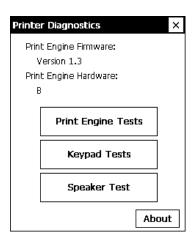
- check machine totals
- print diagnostic labels
- perform sensor tests
- peform a printhead dot resistance test
- check the keyboard's functionality.

# **Accessing Printer Diagnostics**

1. Tap the printer icon in the System Tray.



2. Tap Printer Diagnostics.



#### You can tap

• About to see the printer's software version and other information.

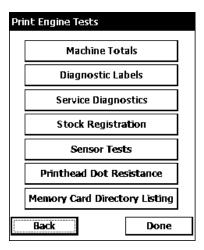


Tap **OK** to close the About box.

◆ Tap X in the upper-right hand corner of the screen to quit Printer Diagnostics and return to the desktop.

### Testing the Print Engine

- 1. Tap **Print Engine Tests** from the Printer Diagnostics screen.
- 2. Decide which of the following tests to perform:



- ◆ For Machine Totals, see "Checking Machine Totals" for more information.
- ◆ For Diagnostic Labels, see "Printing Diagnostic Labels" for more information.
- For Stock Registration, see "Checking the Stock Registration" for more information.
- ◆ For Sensor Tests, see "Performing Sensor Tests," for more information.
- ◆ For the Printhead Dot Resistance, see "Testing the Printhead," for more information.
- ◆ For the Print Engine memory expansion directory, see "Memory Card Directory Listing," for more information.

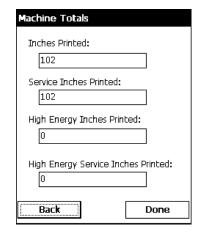
The Service Diagnostics Menu can only be accessed by a Service Representative because it requires a separate password.

### **Checking Machine Totals**

 Tap Machine Totals from the Print Engine Tests screen. You see the machine totals for inches printed, service inches printed, high (for synthetic supply) inches printed, and service high inches printed.

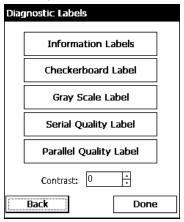
The printer tracks how many inches of supply it prints.

Tap Back to return to the Print Engine Tests screen. OR



#### **Printing Diagnostic Labels**

- 1. Tap Diagnostic Labels (test labels) from the Print Engine Tests screen.
- 2. Before you run these tests, be sure to load your supply in Non-Peel mode. Refer to the

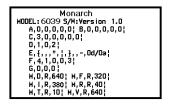


Operator's Handbook for more information about loading supply.

#### Select:

#### The following labels print:

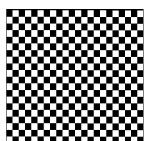
Information Labels



Monarch MODEL:M60395/N:Version 1.0		
TOTAL INCHES:	0000505	
HI ENERGY INCHES:	0000000	
VOLTAGE:	07.45	
CONTRAST POT:	N/A	
PH RESISTANCE:	(0384) 0319	
BAD DOTS:	000	
MEHORY:	1024KR/2048KN	
OPTIONS:		
SHID: N/A		

The first diagnostic (test) label shows the model number, software version, and the printer's configuration by packet. Refer to the *Programmer's Manual* for more information about configuration packets. The second diagnostic label shows the model number, software version, total number of inches printed, voltage, print contrast, printhead resistance, number of bad dots, and memory.

Checkerboard Label



Prints a label to verify that the printhead strobes are working. If your printed sample has fewer lines or no lines, keep the sample and call Service.

Gray Scale Label



Label with voids

The gray scale test checks the uniformity of the printing. The printed sample should be uniformly gray across the supply. If you see voids, especially on the edges, keep the sample and call Service.

#### Select:

#### The following label prints:

Serial Quality Label



A label prints bar codes for you to scan to check the quality of serial bar codes.

Parallel Quality Label



A label prints bar codes for you to scan to check the quality of parallel bar codes.

Contrast

Use the arrow keys to change the print contrast. The higher the number, the darker the print; the lower the number, the lighter the print.

The print contrast controls the darkness of the printing on your supply. The range is -28 to +40 and the default is 0. You may need to increase or decrease the print contrast depending on your supply type.

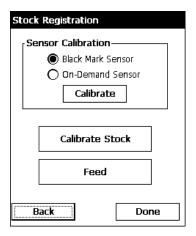
The correct print contrast setting affects how well your bar codes scan and how long your printhead lasts.

3. Tap **Back** to return to the Print Engine Tests screen. OR

Tap **Done** to return to the desktop.

# **Checking the Stock Registration**

- 1. Load the supply and feed it through the label path as shown in the *Operator's Handbook* or *Quick Reference*.
- 2. Tap Stock Registration from the Print Engine Tests screen.



- Select the sensor to calibrate (either Black Mark or On-Demand). The black mark sensor is used with black mark supplies (supplies with rectangular marks on the back side of the liner or on the supply). The on-demand sensor is for peeled supplies, either die-cut or black mark.
- 4. Tap Calibrate Sensor to calibrate the selected sensor.

If you select the Black Mark sensor, the printer feeds supply until it detects a black mark to calibrate the sensor. When the calibration is successful, a label prints: "Stock Sensor Calibration Successful."

If you select the On-Demand sensor, the printer feeds one or two labels to calibrate the on-demand sensor.

As these tests are successfully performed, a window appears that tells you if the calibration was successful or unsuccessful. Tap **OK**.

If you calibrate the sensor, there is no need to calibrate the supply. However, if you tap **Calibrate Stock**, two or three labels are fed to calibrate the supply.

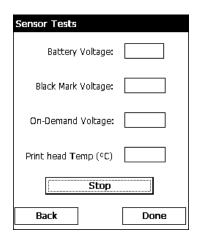
**Note:** If you want to feed a blank label, tap **Feed**.

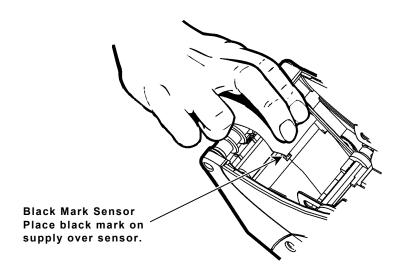
5. Tap **Back** to return to the Print Engine Tests screen. OR

Tap **Done** to return to the desktop.

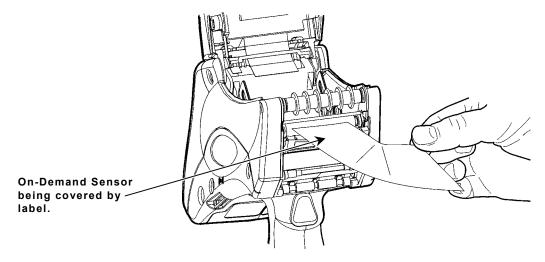
#### **Testing the Sensors**

- Tap Sensor Tests from the Print Engine Tests screen.
- You see the values for battery voltage, black mark sensor, ondemand sensor, and printhead temperature. The battery voltage range is between 7.0 and 8.4 volts. The printer will not print if the voltage is below 7.0.
- 3. Open the cover to test the sensors.
  - For the Black Mark sensor, hold a black mark against the sensor as shown. When you place the black mark on the sensor, the values change on the screen. If white is over the sensor, the values shown for the sensor are higher. The range is between 0 and 5.0.





◆ For the On-Demand sensor, hold a white label against the sensor as shown. When you cover the sensor with a label, the values change on the screen. The valid range is between 3.0 and 5.0. If the sensor is covered by a black mark, the valid range is between 0 and 1.5.



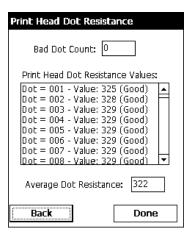
- 4. The value listed for PH Temperature is the current temperature of the printhead. The valid range is between 5 and 60 Celsius. The temperature of the printhead depends upon the number of labels printed and the operating environment. If the temperature is greater than 60, the printer will not print.
- 5. Tap **Stop** to stop the test and clear the values. Tap **Start** to run the test again.

**Note:** If the value is not within the ranges, make a note of the values given and call Service.

Tap Back to return to the Print Engine Tests screen. OR

# **Testing the Printhead**

1. Tap **Printhead Dot Resistance** from the Print Engine Tests screen to perform the printhead dot resistance test.



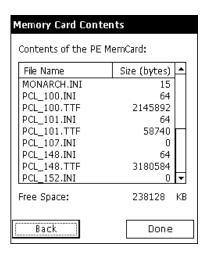
 The printhead test checks for dot resistance. The dot resistance test checks each dot on the printhead. The valid range is between 245 and 455.

Note: If the values are not within range, make a note of the values given and call Service.

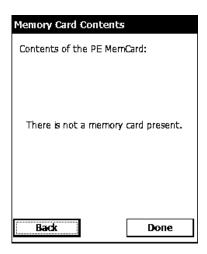
 Tap Back to return to the Print Engine Tests screen, and again to return to the Printer Diagnostics screen OR

#### Viewing the Print Engine Memory Expansion Directory

- Tap Memory Card Directory Listing from the Print Engine Tests screen to view the Print Engine memory expansion directory.
  - This button is grayed out if you do not have this option in your printer.
- 2. You see a list of what is currently saved to your Print Engine MicroSD card. For example:



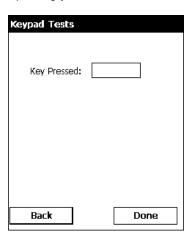
If the MicroSD card is not present, you see



 Tap Back to return to the Print Engine Tests screen, and again to return to the Printer Diagnostics screen.
 OR

#### Testing the Keypad

1. Tap **Keypad Tests** from the Printer Diagnostics screen.

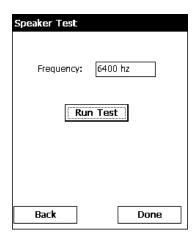


- 2. Press the key you want to test. The key pressed appears on the display. If you press Enter, the word "Enter" appears on the display.
- 3. Tap **Back** to return to the Printer Diagnostics screen. OR

Tap **Done** to return to the desktop.

#### **Testing the Speaker**

- 1. Tap **Speaker Test** from the Printer Diagnostics screen to perform the speaker test.
- 2. Tap Run Test. While the test is performed, you hear a tone sounded at each frequency



(200 Hz - 6400 Hz). The frequencies are displayed for each tone.

3. Tap **Back** to return to the Printer Diagnostics screen. OR

# CONFIGURING THE SCANNER

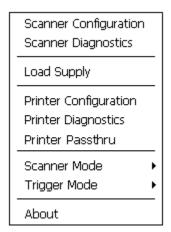


Use scanner configuration to

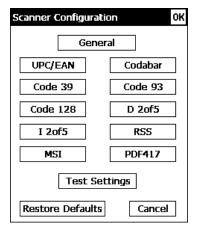
- set the scanner operating mode, trigger mode, and scanner timeout
- select the .wav file for successful and unsuccessful scans
- enable and disable each specific bar code.

### **Setting Scanner Options**

Tap the printer icon in the System Tray.



2. Tap Scanner Configuration.

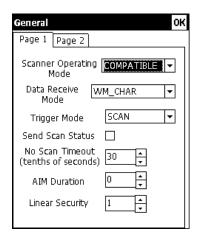


Note: Tap Restore to Defaults to return all the scanner settings to the default values. Tap

Test Settings to go to the Scanner Diagnostics screen.

The printer automatically resets any invalid settings or ranges to the default setting. A message appears specifying which setting or range was reset.

#### 3. Tap General.



4. Set the **Scanner Operating Mode**: Momentary, Continuous, or Compatible. The default is compatible.

Momentary The scanner is on when the trigger is pressed and goes off when the

trigger is released.

Continuous The scanner is always on. A good scan causes the scanner to reset

and continue scanning.

Compatible The scanner operates in Monarch® 6037™ compatible mode, which

means the scanner is on when the trigger is pressed and goes off

after a successful scan or a predetermined timeout period.

**Note:** An unsuccessful scans turns off the scanner and activates the tone (.wav file) set using the Scanner Configuration menu. A "no scan" is interpreted as an unsuccessful scan.

5. Set the Data Receive Mode: WMCHAR or SMSCANCHAR. The default is WMCHAR.

WM CHAR The application receives data by the keyboard buffer.

SM\_SCANCHAR The application receives data by the scanner through a special

message.

6. Set the **Operation of the Trigger Mode**: Scan, Drop, or Forward. The default is Forward.

Scan Pressing the trigger turns on the scanner.

Drop The printer ignores the trigger press and does not turn on the

scanner.

Forward The printer passes the trigger press to the application as an F11,

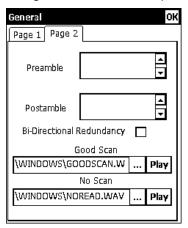
which allows for more control of the application. You can code a custom application to perform a special function whenever it receives

an F11.

7. Enable **Send Scan Status** to return the data after any scan. This data precedes the bar code and includes the length of data and bar code type. See Appendix A, "Scan Status Values," for more information.

8. Set the **No Scan Timeout** in tenths of seconds, which is the amount of time the scanner beam is on before turning off when the trigger is pressed. The range is **5** – **99**. The default is 30.

9. Tap the Page 2 tab at the top of the screen to continue. You see additional options.



- 10. Set the Preamble, which specifies the characters to preface returned data from certain bar codes. The Preamble can be up to twenty user-defined characters.
- 11. Set the **Postamble**, which is the data to be sent after each scanned barcode. The Postamble can be up to twenty user-defined characters.
- 12. Set the **AIM Duration**, which is the duration of the aiming beam when the scanner is activated. The range is **0.0 9.9** seconds in .1-second increments (0 disables the AIM feature). The default is 0.
- 13. Set the **Linear Security**, which is how many times to scan the same barcode to determine a successful read. The range is 1 4. The default is 1.
- 14. Enable **Bi-Directional Redundancy**, which specifies that good scans must occur in both directions (forward and reverse) for the scan to be complete.
- 15. Use **Browse** to select the tone (.wav file) for a Good Scan. This tone is heard whenever a bar code is successfully scanned.
- 16. Tap **Play** to hear the tone.
- 17. Use **Browse** to select the tone (.wav file) for No Scan. This tone is heard whenever a bar code is unsuccessfully scanned.
- 18. Tap Play to hear the tone.
- 19. Tap OK to save all the settings and return to the Scanner Configuration screen.

# **Enabling Specific Bar Codes**

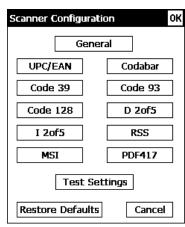
You must enable and disable each specific bar code type for scanning. Some bar codes require additional settings.

You can scan any of the following bar codes:

- ◆ UPC/EAN
- Codabar
- ♦ Code 39
- ♦ Code 93
- ♦ Code 128
- ◆ D 2of5
- ♦ 1 2 of 5
- ♦ RSS

♦ MSI

Note: Some bar codes can be printed, but not scanned. See "Printable Bar Codes vs. Scannable Bar Codes" for more information.



#### Configuring UPC/EAN Bar Codes

- To configure UPC/EAN settings, tap UPC/EAN from the Scanner Configuration screen.
- 2. Enable each bar code you need to scan.

**UPCA** Allows the scanner to scan UPCA, UPCA+2, and UPCA+5 bar codes.

**UPCE** Allows the scanner to scan UPCE bar codes.

**UPCE1** Allows the scanner to scan UPCE1 bar codes.

**EAN8** Allows the scanner to scan EAN8 bar codes.

**EAN13** Allows the scanner to scan EAN13 bar codes.

For each bar code, decide if you want to tell the scanner to
return the check digit with the data when the bar code is scanned. Check the Transmit CD
box as necessary.

4. For each bar code, set the **Preamble**, which specifies the characters that preface the returned data from a UPCA bar code. The choices are

None (No Data)

**EAN Zero** 

- SYSCHAR (System Character)
- ◆ **SYSCOUNT** (Country Code and System Character).

Note: The USA country code is 0.

- 5. Tap the Page 2 tap at the top of the screen to continue.
- 6. Enable each bar code you need to scan.

**Coupon Code** Allows the scanner to scan UPCA, UPCA+2,

UPCA+5, and UPCA/EAN-128 bar codes.

Note: Set Supplemental to Auto to use this

option

**UPCE to UPCA**Tells the scanner to convert UPCE bar codes to a UPCA format before

returning the data.

Note: After the conversion, your UPCA selections affect the data.

Tells the scanner to add 5 leading zeros to EAN8 bar codes to convert them

Note: After the conversion, your or ox selections affect the data.

**Extend** into EAN13 bar codes.

**Bookland** Allows the scanner to scan Bookland EAN bar codes.

EAN8 to EAN13 Tells the scanner to label the bar code as EAN8 or EAN13 when EAN Zero

Extend is enabled.

**UPCE1 to UPCA** Tells the scanner to convert UPCE1 bar codes to a UPCA format before

returning the data.

Note: After the conversion, your UPCA selections affect the data.

7. Set the Supplemental Mode for UPC/EAN bar codes, which specifies how to treat UPC and EAN bar codes with supplemental characters (UPCA+2, for example). The choices are Required, Ignore, or Auto. The default is Ignore.

**Required** The scanner scans bar codes with supplemental characters only. For

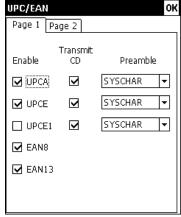
example, it scans a UPCA+2 bar code, but not UPCA.

Ignore The scanner ignores supplemental characters. For example, it scans a

UPCA+2 bar code as a UPCA.

Auto Uses scanning information as specified in Scan UPC/EAN Supplemental

Redundancy.



UPC/EAN

Page 1 Page 2

Supplemental

Supplemental

Redundancy

Security

Coupon Code Bookland

☐ UPCE to UPCA ☐ EAN8 to EAN13 ☐ EAN Zero Ext ☐ UPCE1 to UPCA

IGNORE

÷

÷

∀

- 8. Set the **Supplemental Redundancy**, which sets the number of times a symbol without supplemental information is decoded. The range is 2-20. The default is 7.
- 9. Set the **Security**, which is how many times to scan the same barcode to determine a successful read. The range is 1 4. The default is 1.

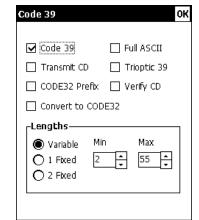
Before setting this security level, you must decide the print quality of the bar codes you are scanning. The better the quality of the bar code, the lower the security level needed.

- 1 Choose 1 if most of your scans are successful.
- 2 Choose 2 when your unsuccessful scans are related to characters 1, 2, 7, and 8.
- 3 Choose 3 when your unsuccessful scans are not limited to characters 1, 2, 7, and 8.
- 4 Choose 4 if unsuccessful scans still occur at level 2.
- 10. Tap **OK** to save all the settings and return to the Scanner Configuration screen.

#### Configuring Code 39 Bar Codes

- To configure Code 39 settings, tap Code 39 from the Scanner Configuration screen.
- 2. Enable each bar code you need to scan.

Code 39	Allows the scanner to scan Code 39 bar codes.
Transmit CD	Tells the scanner to return the check digit with the data when a Code 39 bar code is scanned.
Code32 Prefix	Allows the scanner to scan Code 32 Prefix bar codes.



Convert to Tells the scanner to convert Code 39 bar codes to Code 32 bar codes. Code32

Full ASCII Conversion

Allows the scanner to interpret data in a Code 39 bar code as an ASCII representation. The scanner does not autodiscriminate between Code 39 and Code

39 Full ASCII.

Note: Do not enable this option and Trioptic Code 39 at the same time.

Trioptic 39 Allows the scanner to scan Trioptic Code 39 bar codes. The length is always 6.

Note: Do not enable this bar code and Code 39 Full ASCII at the same time.

**Verify CD** Tells the scanner to check the integrity of all Code 39 bar codes that it scans.

Note: This option only works on Code 39 bar codes that include a modulo 43 check digit.

Lengths
Sets the
length(s) for

Code 39 bar

codes.

Variable, specifies that Code 39 bar codes can be any length.

Note: Lengths include check digits.

1 Fixed, specifies a single length for valid Code 39 bar codes. The range for Length 1 is 2 – 99.

The default is 2.

2 Fixed, specifies two lengths for valid Code 39 bar codes. The range for Length 2 is 2 – 99.

The default is 55.

If you have enabled Code 39 Full ASCII, choose Variable.

Note: Specifying a range of lengths increases the likelihood of unsuccessful scans.

3. Tap **OK** to save all the settings and return to the Scanner Configuration screen.

## Configuring Code 128 Bar Codes

- To configure Code 128 settings, tap Code 128 from the Scanner Configuration screen.
- Enable each bar code you need to scan.

Allows the scanner to scan Code 128 bar codes.

UCC/ Allows the scanner to scan UCC/EAN-128 bar codes.

**EAN-128** 

**ISBT 128** Allows the scanner to scan ISBT 128 bar codes. Any

length bar code is valid.

Tap **OK** to save all the settings and return to the Scanner Configuration screen.

#### Configuring I 2of5 Bar Codes

- To configure I 2of5 settings, tap I 2of5 from the Scanner Configuration screen.
- Enable each bar code you need to scan.

I 20f5 Allows the scanner to scan I 2of5 bar codes.

**Transmit** CD

Tells the scanner to return the check digit with the data

when an

I 2of5 bar code is scanned.

Convert EAN13

Tells the scanner to convert 14-character I 2of5 bar

codes into an EAN13 bar code.

For the conversion to work, the following must occur:

- ♦ I 2of5 bar codes must be enabled.
- ♦ 14 must be a valid length.
- ◆ The data must have a leading zero.
- The data must include an EAN13 check digit.

Verify CD

Tells the scanner to check the integrity of a scanned I 2of5 bar code to ensure it complies with either USS or OPCC standards.

Lengths

Variable, specifies that I 2of5 bar codes can be any length.

Sets the length(s) for I2 of 5 bar

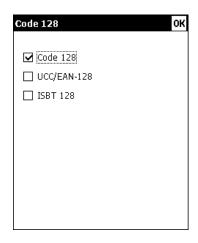
Note: Specifying a range of lengths increases the likelihood of unsuccessful scans.

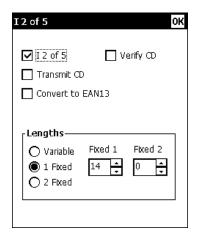
1 Fixed, specifies a single length for valid I 2of5 bar codes. The range for Length 1 is 2 - 99. The default is 14.

codes.

2 Fixed, specifies two lengths for valid I 2of5 bar codes. The range for Length 2 is 2 - 99. The default is 0.

Tap **OK** to save all the settings and return to the Scanner Configuration screen.





#### **Configuring MSI Bar Codes**

- To configure MSI settings, tap MSI from the Scanner Configuration screen.
- Enable each bar code you need to scan.

MSI Allows the scanner to scan MSI bar codes.

Transmit CD

Tells the scanner to return the check digit with the data

when an MSI bar code is scanned.

Mod 10/11 CD Scheme Tells which algorithm to use to ensure the integrity of a

11 CD two-check digit MSI bar code.

Use 2 CDs Tells the number of check digits that MSI bar codes

should have.

Note: Check digits are not always returned with the data.

If you choose two check digits, you must choose a

check digit algorithm.

Lengths Variable, specifies that MSI bar codes can be any length.

Sets the length(s)

Note: Specifying a range of lengths increases the likelihood of unsuccessful scans.

1 Fixed, secifies a single length for valid MSI bar codes. The range for Length 1 is 1

for MSI – 99. The default is 6.

bar codes. 2 Fixed, secifies two lengths for valid MSI bar codes. The range for Length 2 is 1 -

99. The default is 55.

3. Tap **OK** to save all the settings and return to the Scanner Configuration screen.

#### **Configuring Codabar Bar Codes**

1. To configure Codabar settings, tap **Codabar** from the Scanner Configuration screen.

2. Enable each bar code you need to scan.

**Codabar** Allows the scanner to scan Codabar bar codes.

NOTISEdit Tells the scanner to strip the start and stop characters

from scanned Codabar bar codes.

**CLSIEdit** Tells the scanner to strip the start and stop characters

from 14-character Codabar bar codes and insert spaces

after the first, fifth, and tenth characters.

Note: The 14-character length does not include start and

stop characters.

**Lengths** Variable, specifies that Codabar bar codes can be any

Sets the length. length(s) Note: 5

Note: Specifying a range of lengths increases the likelihood of unsuccessful scans.

Codabar bar codes.

for

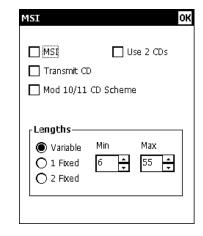
1 Fixed, specifies a single length for valid Codabar bar codes. The range for Length 1 is 1-99. The default is

5.

2 Fixed, specifies two lengths for valid Codabar bar codes. The range for Length 2 is 1-99. The default is

55.

3. Tap **OK** to save all the settings and return to the Scanner Configuration screen.



Codabar

Codabar

■ NOTISEdit

Lengths

Variable1 Fixed

C 2 Fixed

OK

CLSIEdit

55

#### Configuring Code 93 Bar Codes

- To configure Code 93 settings, tap Code 93 from the Scanner Configuration screen.
- Enable each bar code you need to scan.

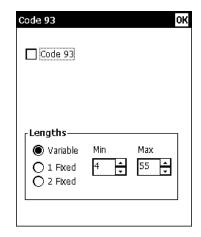
Code 93 Allows the scanner to scan Code 93 bar codes.

Lengths Sets the length(s) for Code 93 bar codes. *Variable,* specifies that Code 93 bar codes can be any length.

**Note:** Specifying a range of lengths increases the likelihood of unsuccessful scans.

1 Fixed, specifies a single length for valid Code 93 bar codes. The range for Length 1 is 2 – 99. The default is 4.

2 Fixed, specifies two lengths for valid Code 93 bar codes. The range for Length 2 is 2 – 99. The default is 55.



3. Tap **OK** to save all the settings and return to the Scanner Configuration screen.

#### Configuring D 2of5 Bar Codes

- To configure D 2of5 settings, tap D 2of5 from the Scanner Configuration screen.
- Enable each bar code you need to scan.

D 2of5

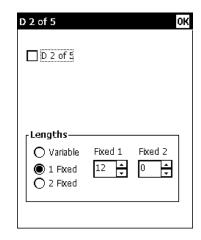
Lengths
Sets the length(s) for D
2of5 bar codes.

Variable, specifies that D 2of5 bar codes can be any length.

Note: Specifying a range of lengths increases the likelihood of unsuccessful scans.

1 Fixed, Specifies a single length for valid D 2of5 bar codes. The range for Length 1 is 2 – 99. The default is 12.

2 Fixed. Specifies two lengths for valid D 2of5 bar



3. Tap **OK** to save all the settings and return to the Scanner Configuration screen.

codes. The range for Length 2 is 2 – 99. The default is

#### Configuring RSS Bar Codes

0.

- 1. To configure RSS settings, tap **RSS** from the Scanner Configuration screen.
- 2. Enable each bar code you need to scan.

**RSS 14** Allows the scanner to scan RSS 14 bar codes.

**RSS** Allows the scanner to scan RSS Limited bar codes.

Limited

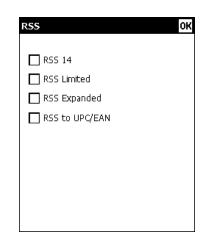
**RSS** Allows the scanner to scan RSS Expanded bar codes.

Expanded

RSS to Tells the scanner to convert RSS bar codes into an

UPC/EAN UPC/EAN bar code.

3. Tap **OK** to save all the settings and return to the Scanner Configuration screen.



## Scannable Bar Codes vs. Printable Bar Codes

The printer scans the following bar codes:

- Codabar
- ◆ Code 39 (no check digit)◆ Code 93
- ◆ EAN 13 & Price CD
- ♦ EAN 8
- I2 of 5 with Barrier Bar
- ◆ UPCA
- ♦ UPCA +5
- ♦ UPCE +5

- ◆ Code 128
- ♦ EAN 13 +2
- ♦ EAN 8 +2
- ♦ 12of5
- UPCA & Price CD
- ◆ UPCE

- ◆ Code 39 (MOD 43 check digit)
- ♦ EAN 13
- ♦ EAN 13 +5
- ♦ EAN 8 +5
- ♦ MSI
- ◆ UPCA +2
- ♦ UPCE +2

- The printer prints the following bar codes:
  - ◆ Codabar
  - Code 39 (no check digit)
  - ◆ EAN 13 & Price CD
  - ♦ EAN 8
- ♦ 12of5
- ♦ MSI
- ◆ UPCA
- ♦ UPCA +2
- ◆ UPCE +2

- ♦ Code 128
- ♦ Code 93
- ♦ EAN 13 +2
- ♦ EAN 8 +2
- I2of5 with Barrier Bar
- ◆ PDF417
- ♦ UPCA +5
- ♦ UPCE +5

- ♦ Code 39 (MOD 43 check digit)
- ♦ EAN 13
- ♦ EAN 13 +5
- ◆ EAN 8 +5
- ◆ MaxiCode
- ◆ Postnet
- ♦ UPCA & Price CD
- ◆ UPCE

## USING SCANNER DIAGNOSTICS

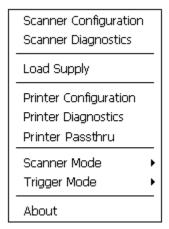


Use scanner diagnostics to

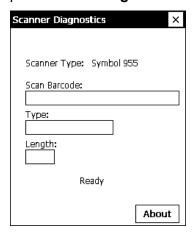
- check the data in a bar code
- view a bar code's type and length.

## **Performing Scanner Diagnostics**

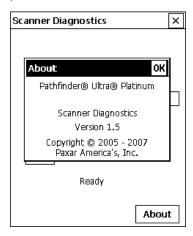
1. Tap the printer icon in the System Tray.



2. Tap Scanner Diagnostics.



- 3. Scan a bar code. You see the bar code's data and length.
- 4. Tap About to see additional scanner information.



- 5. Tap **OK** to close the About box.
- 6. Tap X in the upper-right hand corner of the screen to return to the desktop.

## Setting the Scanner Mode

To set the scanner mode without using the Scanner Configuration menu:

- 1. Tap the printer icon in the System Tray.
- 2. Set the **Scanner Mode**: Momentary, Continuous, or Compatible.

The scanner is on as long as the trigger is pressed and goes off when the trigger is released.

Continuous The scanner is always on. A good scan causes the scanner to reset and

continue scanning.

**Compatible**The scanner operates in Monarch® 6037<sup>™</sup> compatible mode. The scanner is on as long as the trigger is pressed and goes off after a

successful scan or a predetermined timeout period.

**Note:** A bad scan turns off the scanner and activates the tone (.wav file) set in Scanner Configuration.

## Setting the Trigger Mode

To set the trigger mode without using Scanner Configuration:

- 1. Tap the printer icon in the System Tray.
- 2. Set the **Trigger Mode**: Scan, Drop, or Forward. The default is Forward.
  - 2. Pressing the trigger activates the scanner.

**Drop** The printer ignores the trigger press and does NOT activate the scanner.

Forward The printer passes the trigger press to the application, which simulates pressing F11.

# SCAN STATUS VALUES



If you have enabled **Send Scan Status**, use the following table to interpret the data returned from every scan. This data precedes the bar code and includes the length of data and bar code type. Refer to the *Programmer's Manual* for more information.

Value	Bar Code Type
0	No Scan
1	Code 39
2	Codabar
3	Code 128
4	Dk 2of5
5	IATA 2of5
6	I 2of5
7	Code 93
8	UPC A
9	UPC E
10	EAN 8
11	EAN 13
14	MSI Plessey
15	EAN 128
16	UPC E1
21	Trioptic Code 39
22	Bookland EAN
23	Coupon Code
48	RSS 14
49	RSS Limited
50	RSS Expanded
72	UPC A with 2 Supplements
73	UPC E with 2 Supplements
74	EAN 8 with 2 Supplements
75	EAN 13 with 2 Supplements
80	UPC E1 with 2 Supplements
136	UPC A with 5 Supplements
137	UPC E with 5 Supplements
138	EAN 8 with 5 Supplements
139	EAN 13 with 5 Supplements
144	UPC E1 with 5 Supplements



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