

## Introduction

This chapter provides suggested scanner and cradle maintenance, troubleshooting, technical specifications, and signal descriptions (pinouts).

## Maintenance

### *Scanner*

Cleaning the exit window is the only maintenance required. A dirty window may affect scanning accuracy.

- Do not allow any abrasive material to touch the window.
- Remove any dirt particles with a damp cloth.
- Wipe the window using a tissue moistened with ammonia/water.
- Do not spray water or other cleaning liquids directly into the window.

### *Cradle*

- Do not pour, spray, or spill any liquid on the cradle.

## Battery Information

Symbol rechargeable battery packs are designed and constructed to the highest standards within the industry. However, there are limitations to how long a battery can operate or be stored before needing replacement. Many factors affect the life of a battery pack such as heat, cold, customer usage profiles, age and severe drops.

When batteries are stored over a year, battery cell manufacturers advise that some irreversible deterioration in overall battery quality may occur. To minimize this loss, they recommend storing batteries half charged in a dry, cool place between 41° F and 77° F (5° C and 25° C), the cooler the better, and removed from the equipment to prevent the loss of capacity. Batteries should be charged to half capacity at least once a year. If an electrolyte leakage is observed, avoid any contact with the affected area and properly dispose of the battery.

Replace the battery when a significant loss of run time is detected. Batteries must be charged within the 32° F to 104° F (0° C to 40° C) temperature range.

The standard warranty period for all Symbol batteries is 30 days, regardless if the battery was purchased separately or included as part of the mobile computer. For more information on Symbol batteries, please visit:

<http://mysymbolcare.symbol.com/battery/batbasics1.html>.

## Troubleshooting

**Table 3-1. Troubleshooting**

Problem	Possible Causes	Possible Solutions
<b>Battery</b>		
Scanner battery requires frequent charging.	Battery may need reconditioning.	Restore the battery by performing a battery reconditioning cycle. See <a href="#">Reconditioning the Scanner Battery on page 1-12</a> for more information.
<b>Beeper Indications</b>		
Scanner emits low/high/low beeps.	ADF transmit error.	See <a href="#">Chapter 14, Advanced Data Formatting</a> for information about ADF programming.
	Invalid ADF rule is detected.	See <a href="#">Chapter 14, Advanced Data Formatting</a> for information about ADF programming.
	The Code 39 buffer was erased or there was an attempt to clear or transmit an empty buffer.	Normal when scanning the Code 39 Buffering <b>Clear Buffer</b> bar code or upon attempt to transmit an empty Code 39 buffer.
Scanner emits a low/high/low/high beep sequence while it is being programmed.	Out of ADF parameter storage space.	Erase all rules and re-program with shorter rules.
Scanner emits long low/long high beeps.	Input error, incorrect bar code or <b>Cancel</b> bar code was scanned.	Scan the correct numeric bar codes within range for the parameter programmed.
	Page timeout; remote device is out of range/not powered.	Move the scanner back into range of the remote device; try to re-connect; check remote device configuration.
Scanner emits long low/long high/long low/long high beeps.	Out of host parameter storage space.	Scan <a href="#">Default Parameters on page 5-5</a> .
	Out of memory for ADF rules.	Reduce the number of ADF rules or the number of steps in the ADF rules.
	Connection attempt was rejected by remote device.	Free up remote device resources.
Scanner emits high/high/high/low beeps.	RS-232 receive error.	Normal during host reset. Otherwise, set the scanner's RS-232 parity to match the host setting.
Scanner emits high/low beeps.	The scanner is buffering Code 39 data. Or Keyboard parameter selected.	Normal. Or Enter value using bar code keypad.
	Bluetooth disconnection event.	Move the scanner back into range of the remote device.  In Master (SPP/HID) mode, re-pair the scanner and cradle by scanning the <b>PAIR</b> bar code on the cradle; check cradle power.  In Slave (SPP/HID) mode, reestablish connection between the scanner and remote device from the remote device side.
Scanner emits three long high beeps.	Code 39 buffer is full.	Scan the Code 39 bar code without a leading space or scan <b>Do Not Buffer Code 39</b> on <a href="#">page 13-24</a> to transmit stored Code 29 data.
Scanner emits four high beeps on trigger release.	Low battery.	Place scanner in cradle to charge the battery.

**Table 3-1. Troubleshooting (Continued)**

Problem	Possible Causes	Possible Solutions
Scanner emits four long low beeps.	A transmission error was detected in a scanned symbol. The data is ignored.	This occurs if a unit is not properly configured. Check option setting.
	The scanner is either: - Out of range - Not paired to the cradle - Not connected to a remote Bluetooth device.	Move the scanner back into range of the remote device. Or Scan the <b>PAIR</b> bar code on the cradle.
	Acknowledgment that transmitted data was not received by the cradle.	Data may have been received by the host. Check the host system for receipt of transmitted data. If data was not received by the host, re-scan the bar code.
Scanner emits five low long beeps.	Conversion or format error.	Check ADF rules for the host.
<b>Decoding Bar Codes</b>		
Scanner emits the laser, but does not decode the bar code.	Scanner is not programmed for the correct bar code type.	Program the scanner to read that type of bar code. See <a href="#">Chapter 13, Symbologies</a> .
	Bar code symbol is unreadable.	Scan test symbols of the same bar code type to determine if the bar code is defaced.
	Distance between scanner and bar code is incorrect.	Move the scanner closer to or further from the bar code. See <a href="#">Decode Zone on page 2-11</a> .
	The scan line is not crossing every bar and space of the symbol.	Move the symbol until the scan line is within the acceptable aiming pattern. See <a href="#">Figure 2-2 on page 2-6</a> .
Scanner decodes bar code, but does not transmit the data to the host.	Scanner is not programmed for the correct host type.	Scan the appropriate host type programming bar code. See the chapter corresponding to the host type.
	Interface cable is loose.	Ensure all cable connections are secure.
	Cradle is not programmed for the correct host interface.	Check scanner host parameters or edit options.
	Scanner not paired to host-connected interface.	Pair the scanner to the cradle by scanning the <b>PAIR</b> bar code on the cradle.
	Cradle has lost connection to host.	<i>In this exact order:</i> disconnect power supply; disconnect host cable; wait three seconds; reconnect host cable; reconnect power supply; reestablish pairing.
Scanner emits five long low beep after a bar code is decoded.	Conversion or format error was detected. The scanner's conversion parameters are not properly configured.	Ensure the scanner's conversion parameters are properly configured.
	Conversion or format error was detected. An ADF rule was set up with characters that can't be sent for the host selected.	Change the ADF rule, or change to a host that can support the ADF rule.
	Conversion or format error was detected. A bar code was scanned with characters that can't be sent for that host.	Change the bar code, or change to a host that can support the bar code.

**Table 3-1. Troubleshooting (Continued)**

Problem	Possible Causes	Possible Solutions
<b>Host Displays</b>		
Host displays scanned data incorrectly.	Scanner is not programmed to work with the host.	Ensure the proper host is selected. Scan the appropriate host type programming bar code.
		For RS-232, ensure the scanner's communication parameters match the host's settings.
		For a USB HID keyboard or Keyboard Wedge configuration, ensure the system is programmed for the correct keyboard type and language, and turn off the CAPS LOCK key.
		Ensure editing options (e.g., ADF, UPC-E to UPC-A Conversion) are properly programmed.
		Check the scanner's host type parameters or editing options.
<b>Trigger</b>		
Nothing happens when the trigger is pulled.	No power to the scanner.	Check the system power. If the configuration requires a power supply, re-connect the power supply. Check the battery. Ensure that end cap to battery chamber is secured.
	Interface/power cables are loose.	Check for loose cable connections and re-connect cables.
	Scanner is disabled.	For Synapse or IBM-468x mode, enable the scanner via the host interface.
The laser does not appear when the trigger is pulled.	No power to the scanner.	Check the system power. If the configuration requires a power supply, re-connect the power supply.
	Incorrect host interface cable is used.	Verify that the correct host interface cable is used. If not, connect the correct host interface cable.
	Interface/power cables are loose.	Check for loose cable connections and re-connect cables.



If after performing these checks the symbol still does not scan, contact the distributor or contact Motorola Enterprise Mobility Support. See [page xvi](#) for contact information.