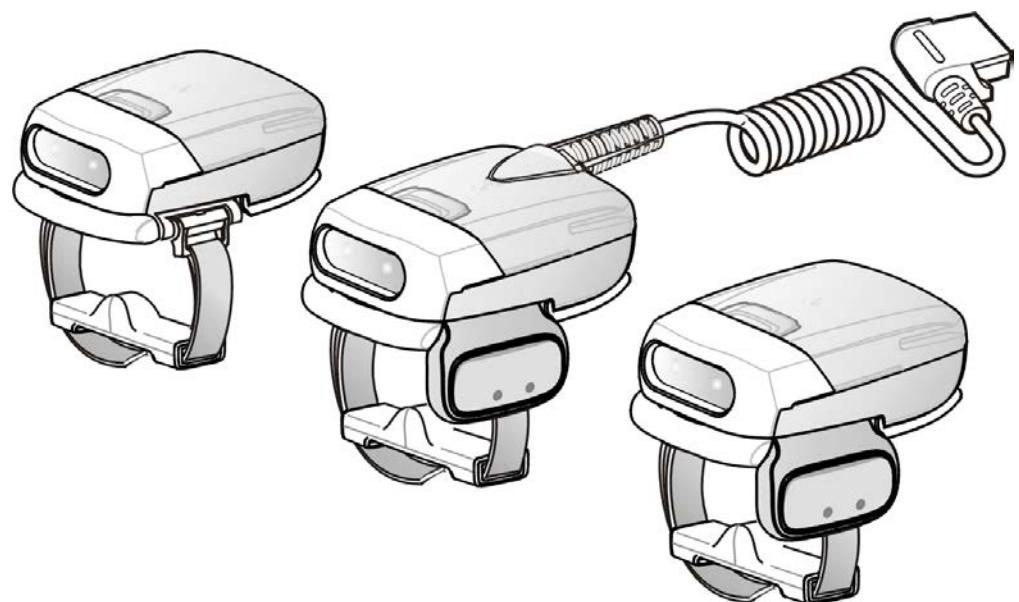


RS507

Hands-Free Imager



**Product Reference
Guide**



ZEBRA

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Revision History

Changes to the original guide are listed below:

Change	Date	Description
-01 Rev A	10/2009	Release
-01 Rev B	10/2011	Add Chapter 7
-02 Rev A	3/2015	Zebra rebranding

Change	Date	Description
-03 Rev A	4/2017	Correct LED indicator indications in Table 2.
-04 Rev A	11/2017	Add model number RS507X

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About This Guide

Introduction

This Product Reference Guide provides additional information that is not covered by the Quick Reference Guide and is helpful for application developers and customers alike.

The Product Reference Guide provides information on operating the Imager for the first time, using the Imager, resetting and capturing data.

The guide also covers issues such as charging and testing the Imager battery, troubleshooting, maintenance, firmware update and configuration of the Imager. Sample bar codes are provided for configuring and testing the Imager.

This guide applies to Model Numbers RS507 and RS507X.

Documentation Set

The documentation set for the RS507 is divided into guides that provide information for specific user needs.

- **RS507 Hands-Free Imager Quick Start Guide** - describes how to use the Imager.
- **SAC5070 8-Bay Battery Charger Quick Reference Guide** - describes how to use the Imager charger.
- **EMDK Help File** - provides API information for writing applications.
- **Advanced Data Formatting Programmer Guide** - describes how to customize data before transmission to the host device.

Model Configurations

This guide covers the following model configurations:

- RS507-IM2xxxxSTWR -Triggered RS507 with standard battery
- RS507-IM2xxxxSNWR - Triggerless RS507 with standard battery
- RS507-IM2xxxxENWR -Triggerless RS507 with extended battery
- RS507-IM2xxxxCTWR - Cabled and Triggered RS507

For shipping configuration of each model option, refer to [Unpacking on page 15](#).

Chapter Descriptions

Topics covered in this guide are as follows:

- [Getting Started](#) provides information on getting the Imager up and running for the first time, basic instructions for using the Imager and instructions for resetting the Imager and capturing data.
- [SAC5070 8-Bay Battery Charger](#) provides information on charging and testing the Imager battery.
- [Troubleshooting & Maintenance](#) provides troubleshooting, cleaning, part replacement and technical specifications for the Imager.
- [RS507 Update and Configuration](#) provides instructions for firmware update and configuration of the Imager operation.
- [Miscellaneous Imager Options](#) provides information on programming the Imager to perform various functions, or activating different features.
- [Symbologies](#) details symbology features and provides programming bar codes for selecting these features.
- [Bluetooth Connection Using HID and SPP Profiles](#) describes the Bluetooth connection modes of the RS507 to a personal computer and non-Zebra terminals.
- [Specifications](#) provides Imager and charger technical specifications.
- [`<em_Empasis>Appendix , Standard Default Parameters`](#) provides a sample of bar codes used for configuring the Imager.
- [`<em_Empasis>Appendix , Programming Reference`](#) provides symbol code characters.
- [`<em_Empasis>Appendix , Sample Bar Codes`](#) provides sample bar codes for Imager testing.
- [`<em_Empasis>Appendix , Numeric Bar Codes`](#) provides a sample of numeric bar codes.

Notational Conventions

The following conventions are used in this document:

- “RS507” refers to the Zebra RS507 Hands-Free Imager.
- “Imager” refers to the Zebra RS507 Hands-Free Imager.
- “Terminal” refers to the Wearable Terminal WT4090 or any mobile computer connected to the Imager.
- “Charger” refers to the SAC5070 8-Bay Battery Charger of the RS507.
- **Bold** text is used to highlight the following:
 - Dialog box, window and screen names
 - Drop-down list and list box names
 - Check box and radio button names
 - Icons on a screen
 - Key names on a keypad
 - Button names on a screen.
- Bullets (•) indicate:
 - Action items
 - Lists of alternatives
 - Lists of required steps that are not necessarily sequential.

- Sequential lists (e.g., those that describe step-by-step procedures) appear as numbered lists.

Related Documents

- RS507 Hands-Free Imager Quick Start Guide, p/n 72-115987-01-xx
- SAC5070 8-Bay Battery Charger Quick Reference Guide, p/n 72-115989-01-xx
- WT4090 Quick Start Guide p/n 72-86717-02 -xx as well as other supported terminals'
- Enterprise Mobility Developer Kit (EMDK for C and EMDK for .NET), available at: www.zebra.com/support.

For the latest version of this guide and all guides, go to: www.zebra.com/support.

Service Information

If you have a problem with your equipment, contact Zebra Support for your region. Contact information is available at:

www.zebra.com/support.

When contacting Support, please have the following information available:

- Serial number of the unit
- Model number or product name
- Software type and version number

The following information should be available when reporting a problem:

- Customer name
- Application used
- Configuration (corded/cordless, trigger/triggerless, standard or extended battery)
- RS507 or Cradle version number
- RS507 CAB file version and OEM version
- Use the [ScannerLog Application on page 62](#) to retrieve and E-mail the RS507 log to the support representative
- Occurrence (always, once out of 10 attempts, etc...)
- Suggested steps to reproduce the problem

Zebra responds to calls by E-mail, telephone or fax within the time limits set forth in support agreements.

If your problem cannot be solved by Zebra Support, you may need to return your equipment for servicing and will be given specific directions. Zebra is not responsible for any damages incurred during shipment if the approved shipping container is not used. Shipping the units improperly can possibly void the warranty.

If you purchased your business product from a Zebra business partner, contact that business partner for support.

Provide Documentation Feedback

If you have comments, questions, or suggestions about this guide, send an email to EVM-Techdocs@zebra.com.

Getting Started

Introduction

This chapter describes the features of the RS507 Hands-Free Imager and explains how to install and charge the battery, capture data and reset the Imager.

Unpacking

Carefully remove all protective material from around the equipment and save the shipping container for later storage and shipping.

After opening the shipping box, inspect the contents. You should have received the following:

Table 1 RS507 Shipping Configuration Model Options

Model	Description	Standard Battery	Extended Battery	corded Adapter	Trigger	Quick Reference Guide
RS507-IM2xxxxSTW R	Triggered RS507 with standard battery	x			x	x
RS507-IM2xxxxSNW R	Triggerless RS507 with standard battery	x				x
RS507-IM2xxxxENW R	Triggerless RS507 with extended battery		x			x
RS507-IM2xxxxCTW R	Corded and Triggered RS507			x	x	x

Inspect the equipment for damage. If you are missing any equipment or if you find any damaged equipment, contact the Zebra Support immediately. See [Service Information on page 14](#) for contact information.

Introduction

The RS507 Hands-Free Imager (also referred to as the Imager) is a wearable bar code scan solution for both 1D and 2D bar code symbologies. The Imager is also compatible with a wide range of mobile computers communicating over Bluetooth.

The Imager is designed for a wide range of applications from management of products in a warehouse, to processing deliveries at a courier facility to processing prescription drugs at the pharmaceutical distribution center.

The Imager uses camera-based scanning technology, designed to offer flexible hands-free operation with ergonomic comfort for right or left hand users.

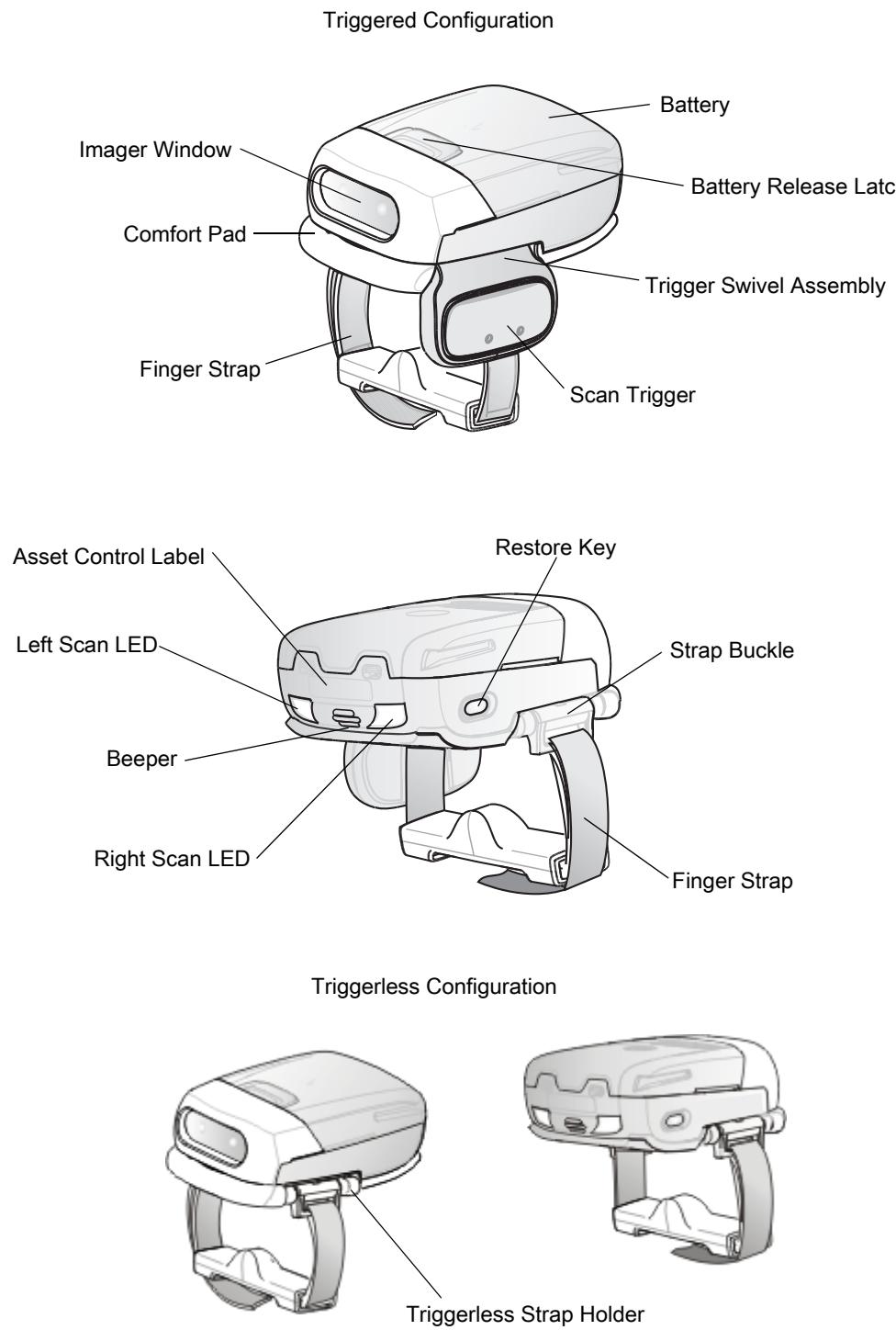
The Imager can be operated in both manual and auto-triggering modes.

Auto-triggering is a patent-pending Interactive Sensing Technology combining motion and proximity sensing for triggering the Imager.

The Imager is built to last and rated for indoor and outdoor daily use in scan-intensive environments. Built on a magnesium chassis, the Imager offers the durability associated with the most rugged mobile computers.

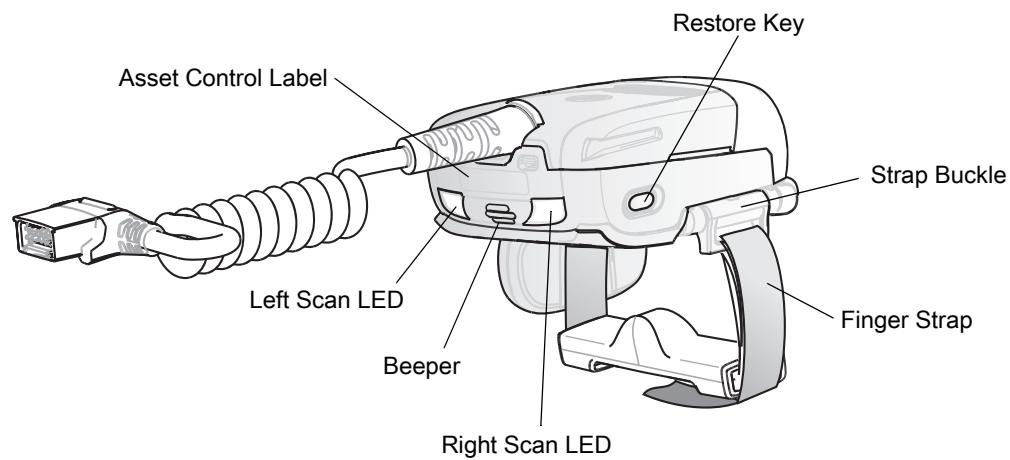
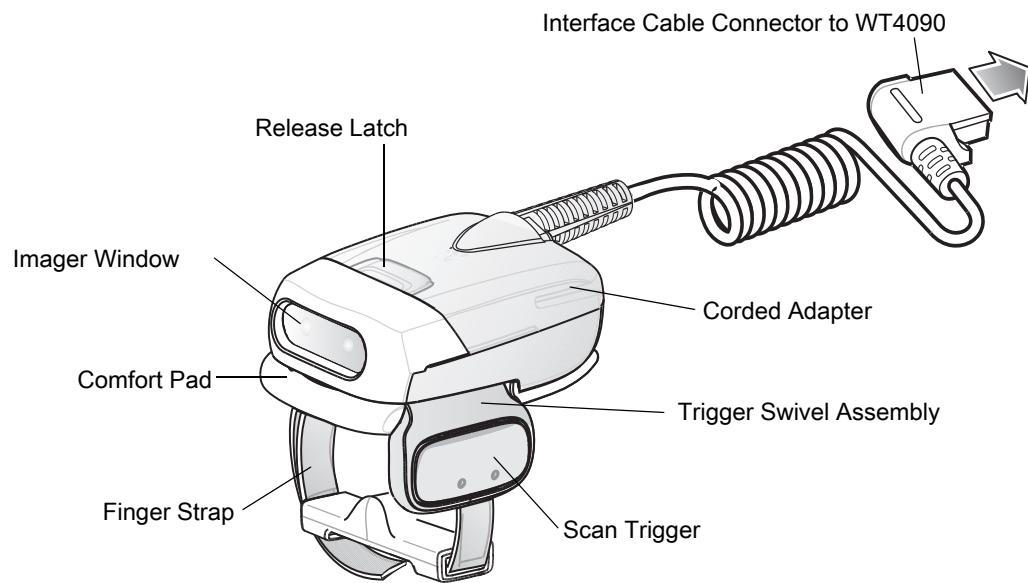
Cordless Configuration Features

Figure 1 RS507 Cordless Configuration Features



Corded Configuration Features

Figure 2 RS507 Corded Configuration Features



Trigger Swivel Assembly - Change Trigger Position

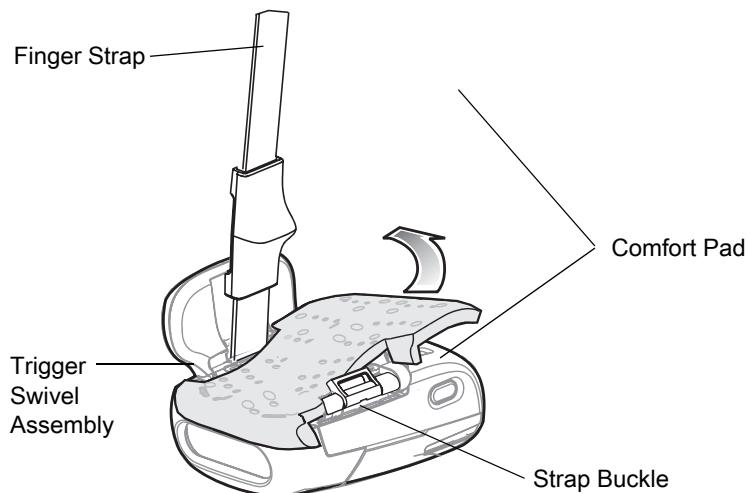
The Imager is worn on the index and middle fingers, and triggered with the thumb. The Trigger Swivel Assembly of the Imager rotates to provide left-hand or right-hand use.

To change the position of the Trigger:

1. From the bottom of Imager, hold and pull the Comfort Pad off the Imager.

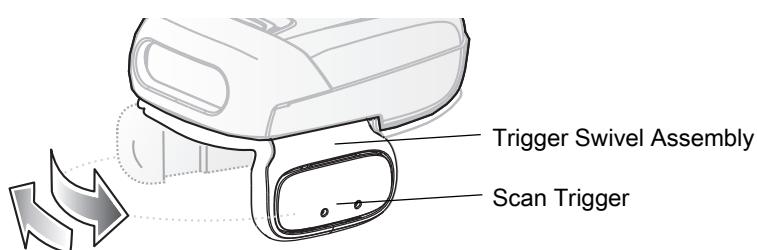
✓ **NOTE:** When removing the Comfort Pad off the Imager, It is not necessary to remove the Finger Strap from the Trigger Swivel Assembly.

Figure 3 Change Trigger Position - Removal of Finger Strap and Comfort Pad



2. Determine whether the Imager is used on the right or left hand and rotate the Trigger Swivel Assembly.

Figure 4 Change Trigger Swivel Assembly Position



CAUTION: The Trigger Swivel Assembly only rotates 180° around the front of the scan assembly. Do not rotate the Trigger Swivel Assembly past the designed stops.

3. Rotate the Trigger Swivel Assembly so that the Scan Trigger is positioned next to the thumb when the Imager is placed on the index and middle fingers.
4. Position the Comfort Pad onto the Imager.
5. Press the Comfort Pad onto the Imager. When properly installed, the Comfort Pad locks into place.
6. Insert the Finger Strap into the Strap Buckle.

Getting Started - Cordless Configuration

Charge the Battery

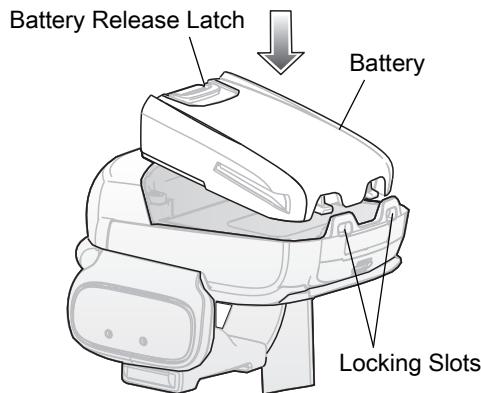
Before using the Imager, charge the battery. The SAC5070 8-Bay Battery Charger supports both standard and extended capacity batteries.

To charge the Imager battery, refer to the SAC5070 8-Bay Battery Charger Quick Reference Guide, p/n 72-115989-01 available at: www.zebra.com/support and search for 'SAC5070'.

Install the Battery

1. Align the battery on top of the Imager.
2. Push the battery all the way into the Locking Slots of the Imager.
3. Firmly press the battery into the Imager until a “click” is heard ensuring the Battery Release Latch is fully engaged with the Imager.

Figure 5 Install the Battery



Remove the Battery

1. Hold the Imager in one hand.
2. Press the Battery Release Latch.
3. Pull up the battery to release it from the Locking Slots of the Imager.

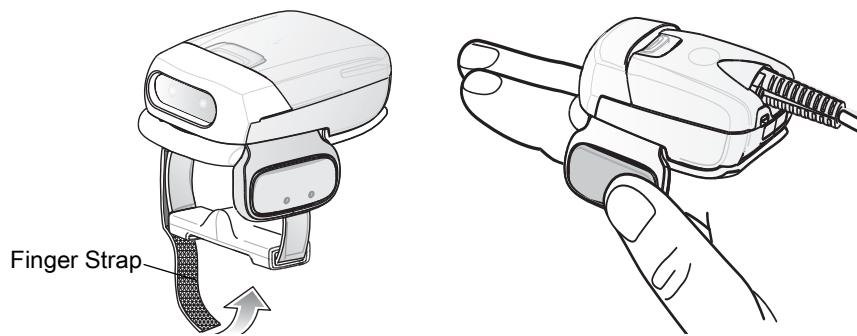
Wearing the Imager

1. Slide the Imager onto the index and middle fingers with the Scan Trigger next to the thumb.
2. Tighten the Finger Strap.



NOTE: When using the Imager for the first time, press and release the Scan Trigger to enable the manual triggering mode (this operation disables the default auto triggering mode).

Figure 6 Wearing the Imager - Cordless Adapter



Getting Started - Corded Configuration

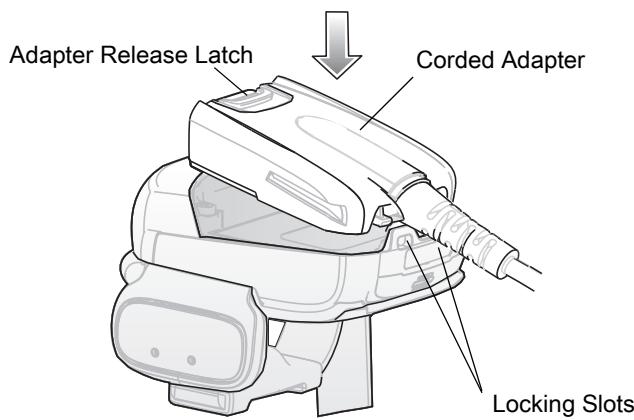
In order to start using the Imager you must install the Corded Adapter.

Connect the Corded Adapter

To connect the Corded Adapter:

1. Align the Corded Adapter on top of the Imager.
2. Support the bottom side of the Imager and push the Corded Adapter all the way into the Locking Slots of the Imager.
3. Firmly press the Corded Adapter into the Imager until a click is heard ensuring the Adapter Release Latch is fully engaged with the Imager.

Figure 7 Connect Corded Adapter



Remove the Corded Adapter

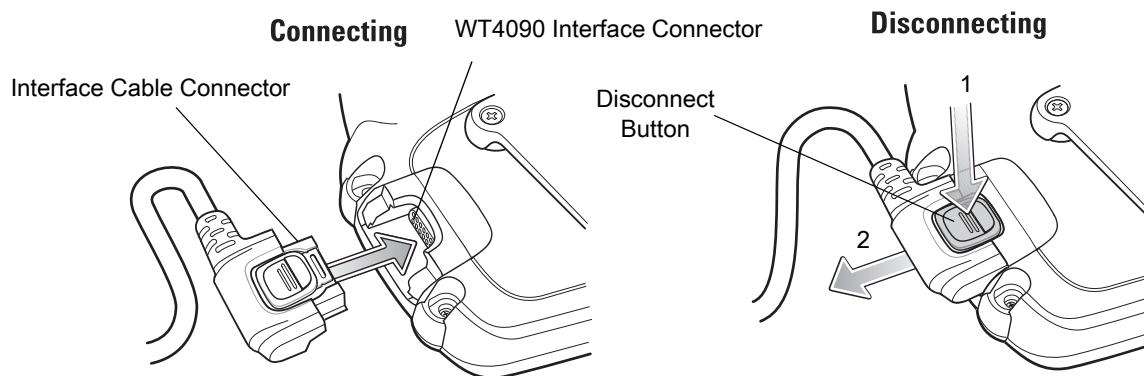
To remove the Corded Adapter:

1. Hold the Imager in one hand.
2. Press the Adapter Release Latch.
3. Pull up the Corded Adapter to release it from the Locking Slots of the Imager.

Connect to a WT4090 Wearable Terminal

The Imager connects to the Wearable Terminal and mounts on the fingers.

Figure 8 Connecting and Disconnecting to a Wearable Terminal



To connect the Imager to the terminal:

1. On the terminal, remove the cover from the WT4090 Interface Connector.
2. Connect the Interface Cable Connector of the Imager to the WT4090 Interface Connector.

To disconnect the Imager from the terminal:

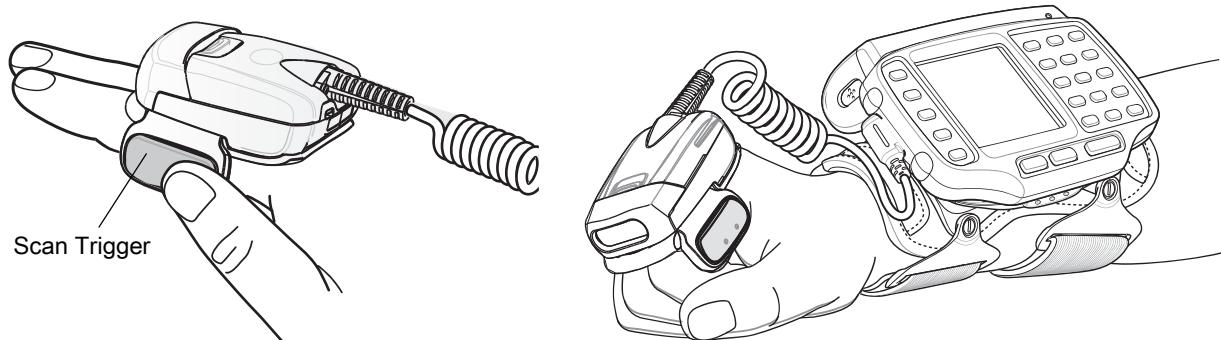
1. Press the Disconnect Button on the Interface Cable Connector.
2. Pull the Interface Cable Connector out of the WT4090 Interface Connector.

Wearing the Imager

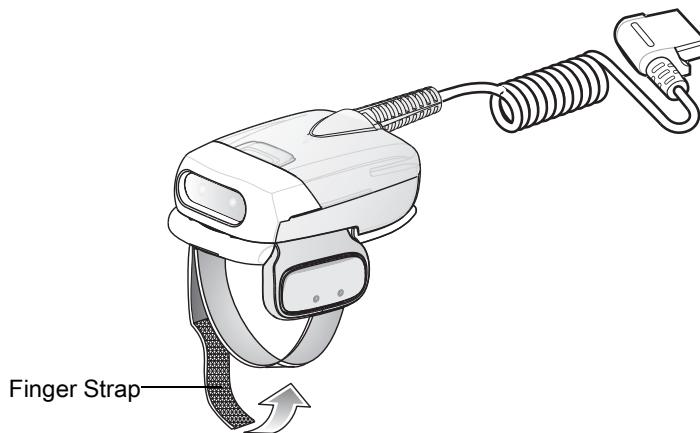
To wear the Imager:

1. Slide the Imager onto the index and middle fingers with the Scan Trigger next to the thumb (see [Figure 9](#)).

Figure 9 Wear the Imager - Corded Adapter



2. Tighten the Finger Strap.

Figure 10 Wear the Corded Adapter Imager - Finger Strap

- ✓ **NOTE:** When using the Imager for the first time, press and release the Scan Trigger to enable the manual triggering mode (this operation disables the default auto triggering mode).

Status Indications

The Imager has two Scan LEDs that provide identical indications. The Imager is also equipped with a beeper that issues different beep sequences and patterns to indicate status.

[Table 2](#) defines the LED and beep sequences indications that occur during normal operation and bar code scanning.

Table 2 Status Indications

No.	LED	Beep Indication	Description
1.	None	High/low	Bluetooth communication is disconnected due to: <ul style="list-style-type: none">• host device is powered off.• host device Bluetooth is off.• Bluetooth un-pair bar code scanned by the RS507.• Bluetooth Disconnect bar code scanned by the RS507.• RS507 is out of Bluetooth range with the host device.
2.	Short green flashes	None	Attempting to connect over Bluetooth.
3.	None	Low/high	Imager is connected over Bluetooth.
4.	None	High/low/high/low	Properly decoded scan of Bluetooth pairing bar code.

Table 2 Status Indications

5.	None	Long low/ long high/	Bluetooth connection attempt failed. If there is no acknowledgment from the host device. Example: Bluetooth on the host device is off.
6.	None	Long low/ long high/ Long low/ long high/	Bluetooth connection attempt is rejected. When the RS507 tries to connect to the host and the host rejects the connection. Example: There is already a successful Bluetooth connection in the host device and it unable to create a new connection.
7.	One green flash	High	Proper scanning indication.
8.	None	4 long beeps	No Bluetooth communication after re-connection failure.
9.	Red flash	2 short beeps every 15 seconds	Low battery.
10.	Long red flash followed by a green flash	High/low High/low	Clean Boot was performed successfully.



NOTE: When the Imager is connected by corded configuration, only “Proper scanning indication” and “Clean Boot was perform successfully” status events are indicated.

Imager Standby Mode

To save battery power, the Imager goes into Standby when not active.

The Image resumes functionality when:

- Bluetooth data is received from the mobile computer (in cordless configuration)
- Scan trigger is pressed
- Restore key is pressed
- Motion is detected (in cordless configuration)
- Incoming data from mobile computer is sensed (in corded configuration).

Bluetooth Connection

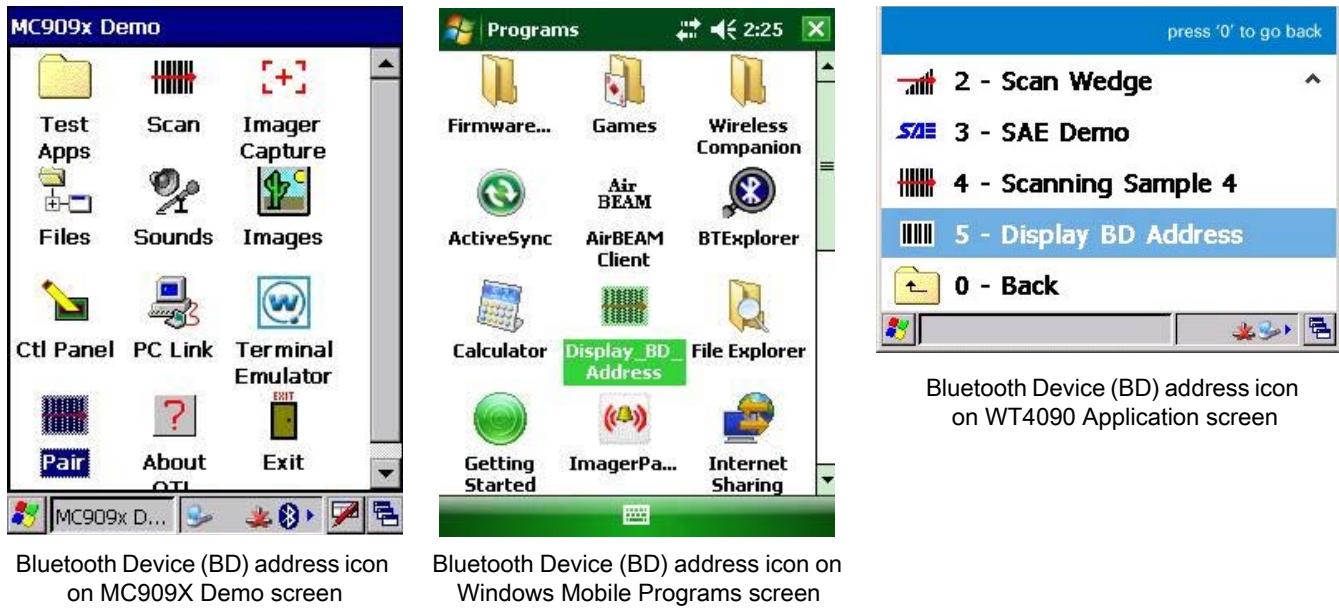
Establish Bluetooth Connection

To establish Bluetooth connection with a mobile computer:

1. Ensure that the Imager is within a range of 10 meters (30 feet) from the mobile computer.
2. Install the battery in the Imager.
3. Launch the Bluetooth Device (BD) address application (see [Figure 11](#)) from the mobile computer. Most BD Address applications display a pairing bar code image on the screen of the mobile computer.

- ✓ **NOTE:** To find the BD address application tap the **Start** button and select Programs > Display_BD_Address or **Start** > Programs > BT Information and then tap the **Generate Local BD Address Barcode** button to display the BD address bar code.

Figure 11 Icon of Bluetooth Device (BD) Address Application



- Scan the pairing bar code on the mobile computer screen (see [Figure 12](#)) or a provided pairing label. When scanning, the Imager emits one string of high/low/high/low beeps.

- ✓ **NOTE:** To create printed pairing bar code label, refer to [Pairing Bar Code Format on page 26](#).

Figure 12 Pairing Bar Code Example as Shown on the Mobile Computer Screen



- The Scan LED starts flashing green indicating that the Imager is attempting to establish connection with a mobile computer.
- ✓ **NOTE:** If the Imager default PIN code is required for establishing connection, enter the following code: "12345". You may also need to set the authentication and encryption to Enabled.
- When connection is established, the Scan LED turns off and the Imager emits one string of low/high beeps. The Imager is connected and ready for scanning.
- ✓ **NOTE:** When replacing the Imager battery, the Imager memory retains the pairing information of the last paired mobile computer.

Restore Lost Bluetooth Connection

The Imager maintains Bluetooth communication with a mobile computer within a range of 10 meters (30 feet). When the Imager fails to establish connection or connection is lost during operation, the Imager emits one string of high/low beeps.

To reestablish the Bluetooth connection with a mobile computer:

1. Ensure that the Imager is within a range of 10 meters (30 feet) from the mobile computer.
2. Ensure that the mobile computer is on and “awake” (not in Suspend mode).
3. The Imager automatically attempts reconnecting to the mobile computer for 30 seconds (Scan LED flashes green). If automatic re-connection fails, verify that the Imager is within Bluetooth range and briefly press the Restore Key on the Imager to reconnect.



NOTE: You can also reconnect by scanning a pairing bar code from the mobile computer screen or provided label. When scanning, the Imager emits one string of high/low/high/low beeps.

4. The Scan LED starts flashing green indicating that the Imager is attempting to establish connection with a mobile computer. The Scan LED turns off and the Imager emits one string of low/high beeps indicating that the Imager is connected and ready for scanning.

Remove Bluetooth Connection

Remove Bluetooth connection to allow the Imager to connect to another mobile computer or to enable the a mobile computer to accept the connection from another Imager.



NOTE: Removing Bluetooth connection is only required if the Imager is configured to auto-connect upon power-up (permanent pairing is enabled) and has to be paired with a different mobile computer.

To remove Bluetooth connection:

1. Scan an un-pairing bar code for disconnecting the Imager from the mobile computer.

Figure 13 Un-pairing Bar Code



2. The Imager emits one string of high/low beeps indicating that Bluetooth communication with the mobile computer is disconnected.

Pairing Bar Code Format

In order to pair the Imager with a mobile computer over Bluetooth, a pairing bar code must be created. You can use the Display_BD_Address application on the mobile computer, or create and print a pairing bar code label. To create a pairing bar code label, the Bluetooth address of the mobile computer should be available (refer to the mobile computer user guide).

Pairing bar codes are Code 128 or Data Matrix symbologies formatted as follows:

<Fun3>Bxxxxxxxxxxxx

Where xxxxxxxxxxxx represents the 12-character Bluetooth address.

Pairing Bar Code Example

If the mobile computer to which the Imager connects has a Bluetooth address of 11:22:33:44:55:66, then the pairing bar code is:

Figure 14 Creating a Pairing Bluetooth Bar Code



Paring Bar Code Content: <FnC 3> 'B' + Bluetooth Address

Scan

The Imager uses digital camera technology to take an image of a bar code and software decoding algorithms are executed to extract the bar code data from the image.

Scan Triggering Modes

Manual Triggering (Triggered models only)

1. Launch a scanning software application on the mobile computer.
2. Position the Imager approximately 22.8 cm (9 inches) from a bar code and press the Scan Trigger. Position the cross hair laser beam to cover the bar code. The Imager takes a digital picture (image) of the bar code and stores it in memory for decoding.

✓ **NOTE:** After battery is inserted or a corded adaptor is connected (on both sides), the first trigger press disables the auto triggering mode.

3. One green flash of the LEDs is given and a high beep sounds to indicate that the bar code was properly decoded.

✓ **NOTE:** In some configurations proper decoding of a bar code is indicated by the software application running on the mobile computer.

Auto-triggering (Triggerless models only)

The Imager is provided with auto-triggering capability. In auto-triggering mode, both motion and proximity sensors are used to trigger the Imager when the user intends to scan a bar code.

With auto-triggering activated, the Imager automatically scans when motion stops and a bar code is placed within the depth of field of the Imager. The Imager scans the bar code and turns off to conserve power.

To scan a bar code in auto-triggering mode:

1. Position the Imager approximately 22.8 cm (9 inches) from a bar code.
2. Aim at the bar code.
3. The Imager takes a picture (image) of the bar code and stores it in memory for decoding.

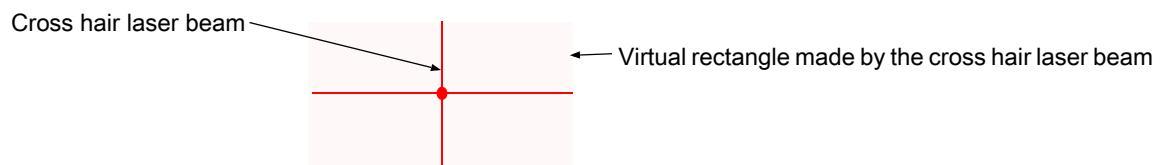
4. One green flash of the Scan LEDs and a high beep indicates that a bar code was properly decoded.

✓ **NOTE:** In some applications, proper detection of a bar code is indicated by a software application running on the mobile computer.

Aiming the Imager

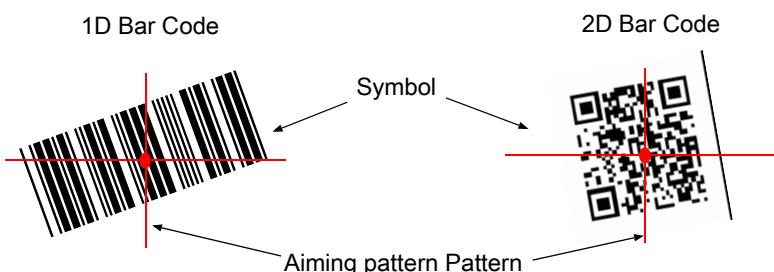
The aiming pattern of the Imager is a cross hair laser beam with bright center dot (see [Figure 15](#)). The virtual rectangle made by the cross hair reflects the field of view of the Imager. The aiming pattern is used to position the bar code within the field of view.

Figure 15 Cross Hair Laser Beam



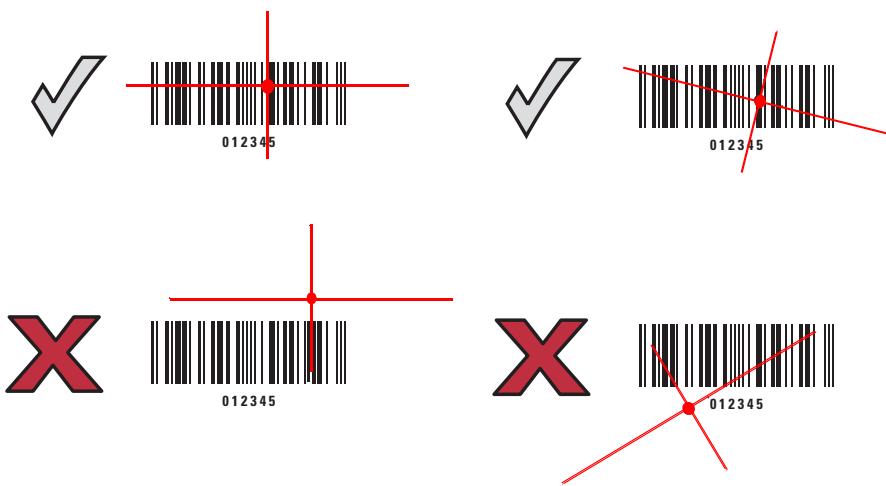
Enter the symbol in any orientation within the virtual rectangle made by the cross hair laser beam, making use of its omnidirectional reading capability within the entire field of view.

Figure 16 Symbol Scan Orientation



The Imager can also read a bar code presented within the aiming pattern but not centered (see the top bar codes on [Figure 17](#)). The bar codes marked with X in [Figure 17](#), however, show bar code aiming that may result in no decode.

When using the application on your mobile computer in “Pick List” mode, the Bright Center Dot can be positioned anywhere on the symbol (see [Figure 15](#)). The top examples in [Figure 17](#) show acceptable aiming options, while the bottom examples can not be decoded.

Figure 17 Acceptable Aiming Options

The aiming pattern is smaller when the Imager is closer to the symbol and larger when it is farther from the symbol. Scan symbols with smaller bars or elements (mil size) closer to the Imager and those with larger bars or elements (mil size) farther from the Imager.

1. Hold the Imager between two and eleven inches from the bar code (depending on the bar code density).
 **NOTE:** When a symbol is under transparent plastic or on a mobile computer screen, it is recommended to use a tilt (pitch) or skew scan angle to minimize reflection.
2. Press the Scan trigger. The aiming pattern illuminates red indicating that the laser is on. One green flash of the Scan LED and a high beep indicates that a bar code was properly decoded.

Customize the Imager

Changing from Triggered to Triggerless Configuration

To change from Triggered to Triggerless configuration:

1. Remove the Comfort Pad (see [Comfort Pad Replacement on page 39](#)).
2. Remove the Trigger Swivel Assembly (see [Trigger Swivel Assembly Replacement on page 40](#)).
3. Install the Triggerless Strap Holder (see [Triggerless Strap Holder Replacement on page 41](#)).
4. Install the Comfort Pad (see [Comfort Pad Replacement on page 39](#)).
5. Perform a cold boot (see [Cold Boot on page 30](#)).

Changing Triggerless to Triggered Configuration

To change from Triggerless to Triggered configuration:

1. Remove the Comfort Pad (see [Comfort Pad Replacement on page 39](#)).
2. Remove the Triggerless Strap Holder (see [Triggerless Strap Holder Replacement on page 41](#)).
3. Install the Trigger Swivel Assembly (see [Trigger Swivel Assembly Replacement on page 40](#)).
4. Install the Comfort Pad (see [Comfort Pad Replacement on page 39](#)).
5. Perform a cold boot (see [Cold Boot on page 30](#)).

6. Press and release the Scan Trigger to enable the manual triggering mode (this operation disables the default Triggerless mode).

Resetting the Imager

If the Imager stops responding to input, reset it. There are three reset functions, warm boot, cold boot and clean boot. Perform a warm boot first. If the Imager still does not respond, perform a cold boot. Perform clean boot to restore the Imager to its factory default configuration.

Warm Boot

To perform warm boot, press and hold the Restore Key for more than six seconds.

Cold Boot

Cold boot restores the Imager's operation by resetting its software. To perform cold boot, remove and re-insert the battery into the Imager. When using a corded Imager model with WT4090, remove and reconnect the interface cable that connects between the Imager and the WT4090.

Clean Boot

Clean Boot restores the Imager to its factory default configuration.

To perform clean boot:

1. Remove battery or disconnect the Corded Adapter.
2. Press and hold the Restore Key.
3. Insert the battery or Corded Adapter into the Imager.
4. Continue to press and hold the Restore Key for about five seconds until a chirp is heard and the Scan LEDs flash green. The Imager is now in its factory default configuration.



NOTE: The factory default configuration is set in the factory or the service center. These parameters are unique for each Imager and cannot be changed. The Factory default configuration includes: Imager serial number, Bluetooth Device (BD) address, model number, production date and proximity calibration.

SAC5070 8-Bay Battery Charger

Introduction

The SAC5070 8-Bay Battery Charger is an accessory for the RS507 Hands-free Imager and provides a quick way to recharge the Lithium-ion battery that provide power for the RS507 Hands-Free Imager. One charger can hold up to eight batteries at a time.

The 8-Bay Battery Charger supports both standard and extended capacity batteries. The Charger may only be used indoors.

Unpacking the Charger

After opening the shipping box, inspect the contents. You should have received the following:

Model	Description	8-Bay Battery Charger	Power supply	AC Line Cord	Quick Start Guide
SAC5070-800CR	USA model	x	x	x	x
SAC5070-801CR	International model	x	x	*	x

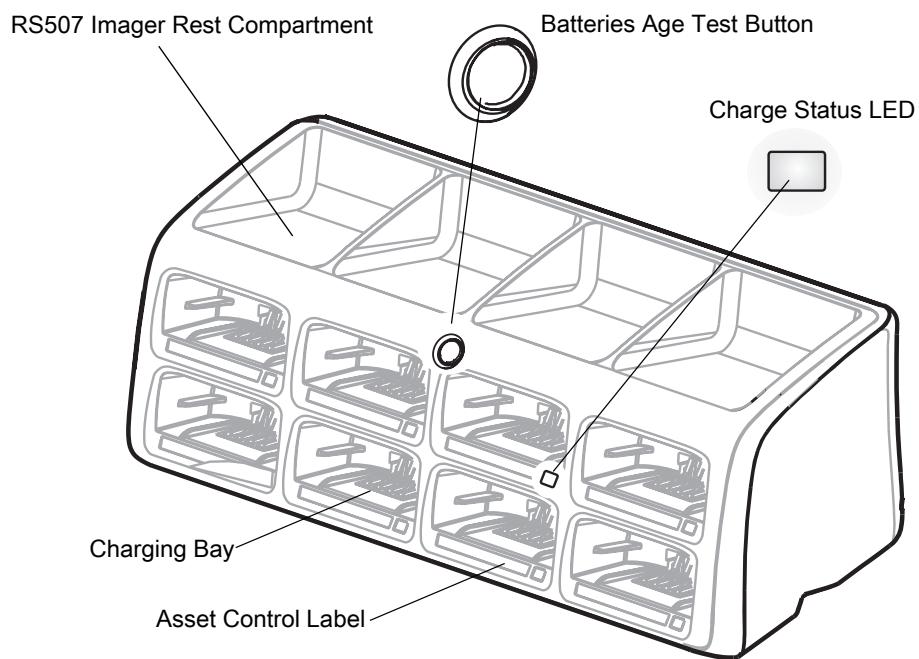
* For AC line cord, contact the Zebra representative in your country.

Inspect the equipment for damage. If you are missing any equipment or if you find any damaged equipment, contact Zebra Support immediately.

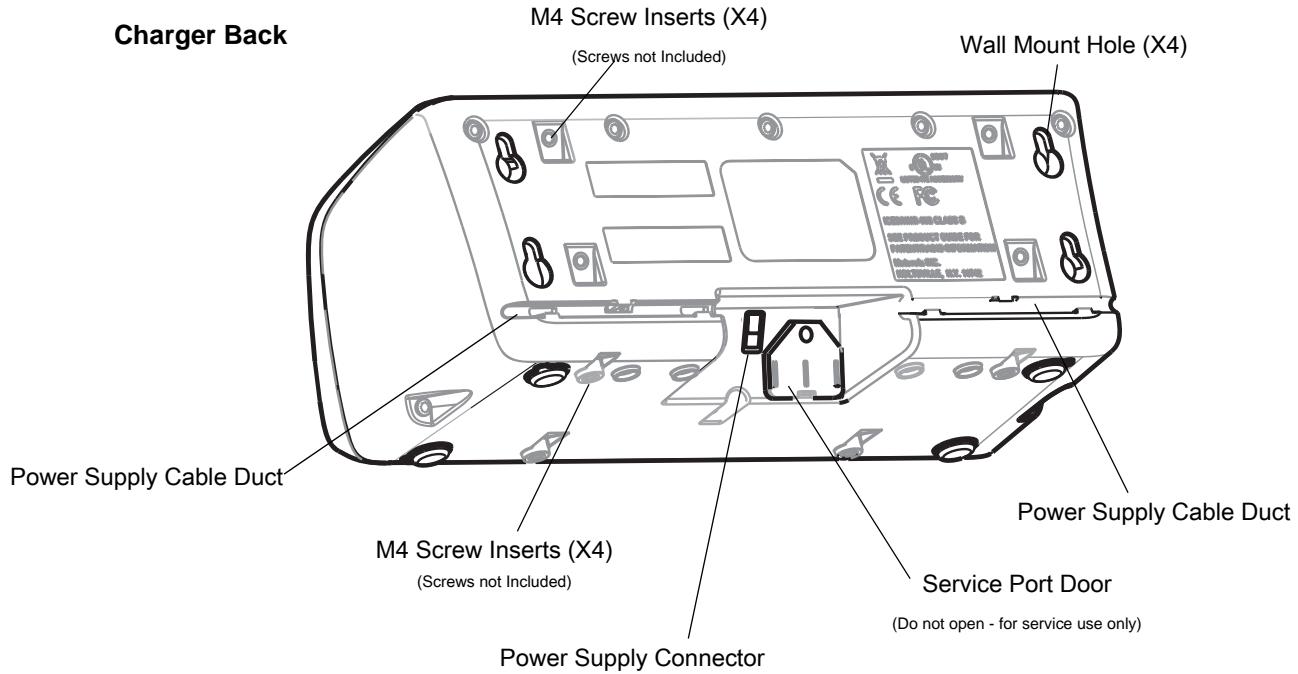
Parts of the Charger

Figure 18 Parts of the Charger

Charger Front



Charger Back



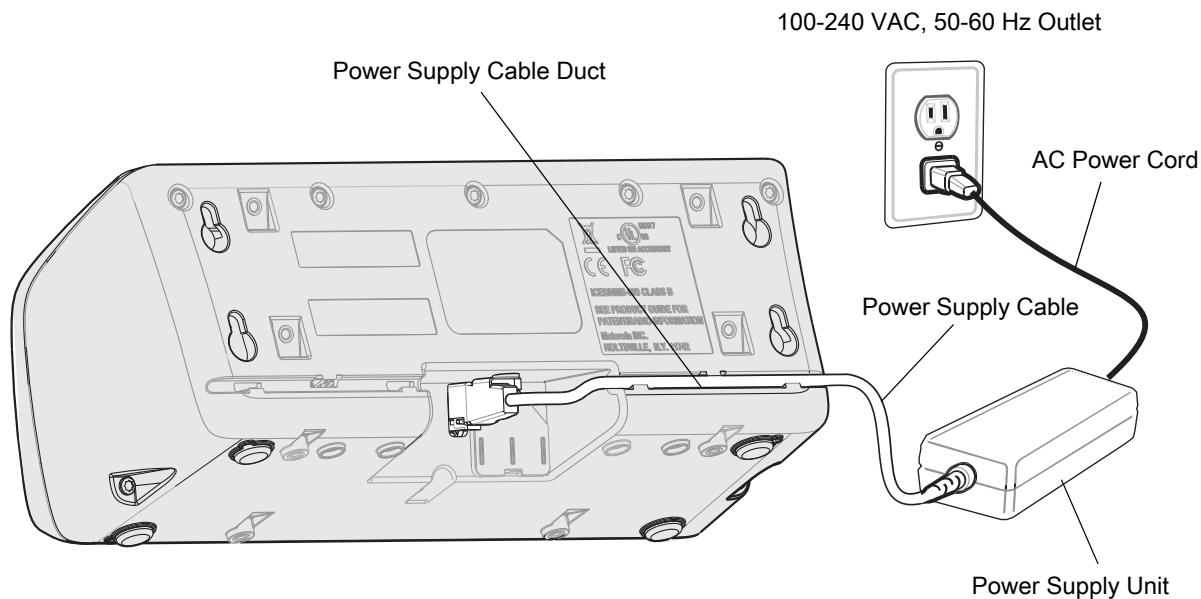
Installation

Tabletop / Shelf Set Up

To set the Charger on a tabletop or shelf:

1. Place the Charger and the Power Supply Unit on a tabletop or shelf.
✓ **NOTE:** When required, use the screw inserts at the back and base to secure the Charger to the tabletop or shelf surface.
2. Connect the Power Supply Cable to the power connector on the back of the Charger.
3. Use the Power Supply Cable Duct, on the back of the Charger, to route the Power Supply Cable to the left or right side of the Charger.
4. Connect the AC plug of the AC Power Cord to a standard electrical outlet.

Figure 19 Charger Installation



Wall Mount



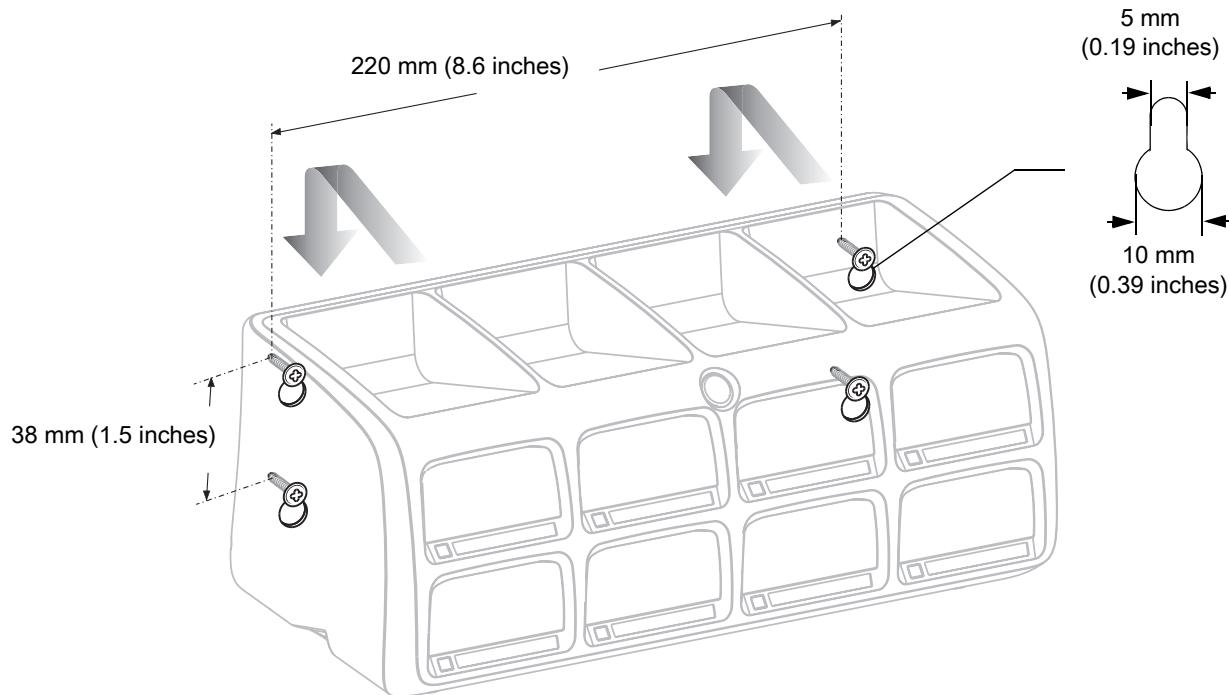
WARNING: For safe mounting, it is essential to use wall anchors appropriate to the wall type (i.e. plaster, drywall, concrete, etc.). Mount to wood studs whenever possible.

To mount the Charger on a wall:

1. Mark the screw location on the wall.

2. Use four screws to mount the Charger to a wall. Be sure to use additional wall mounting hardware, as needed, for safe mounting according to the wall type.
3. Connect the power supply cable to the power connector on the back of the Charger (see [Figure 20](#)).
4. Use the Power Supply Cable Duct, on the back of the Charger, to route the Power Supply Cable to the left or right side of the Charger.
5. Place the Power Supply Unit on a shelf or tabletop.
6. Connect the AC plug of the AC Power Cord to a standard electrical outlet.

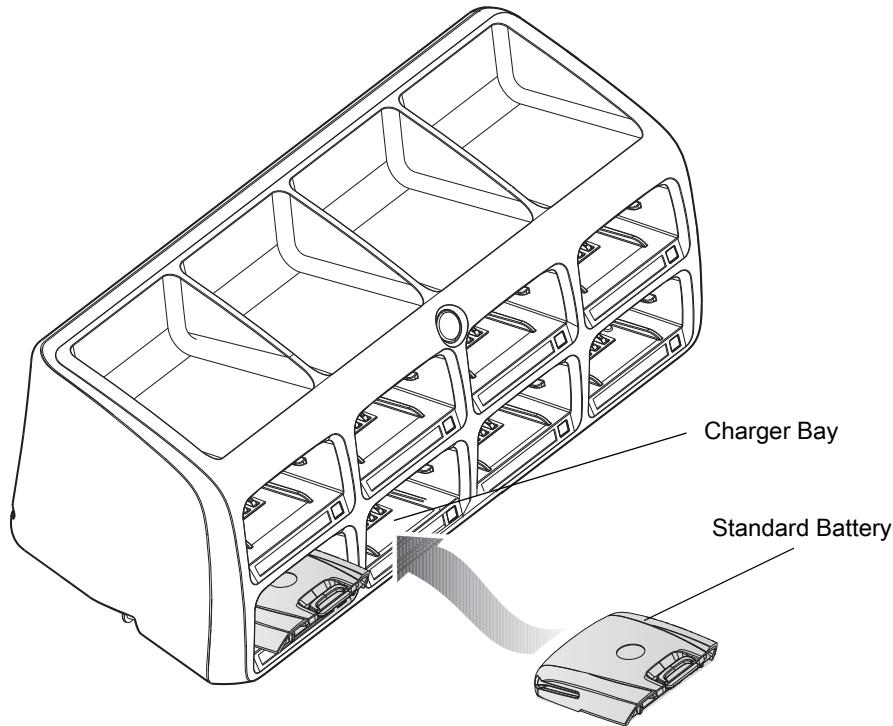
Figure 20 Wall Mounting of Charger



Inserting the Imager Battery in the Charger

The Charger supports both standard and extended capacity batteries.

Figure 21 Inserting the Imager Battery into the Charger



Charge the Battery



CAUTION: Only Lithium-ion batteries that have been designed for use with the RS507 Hands-free Imager can be recharged by the Charger. Do not attempt to recharge other types of rechargeable batteries or any type of batteries. Doing so could destroy those batteries and damage the Charger.



NOTE: Batteries should be charged within the 0°C (+32°F) and +40°C (+104°F) ambient temperature range.

To charge the battery(s):

1. Insert the battery(s) into the 8-Bay Battery Charger so that the contacts of the battery are first to enter, facing down, gently. Do not use excessive force.
2. The 8-Bay Battery Charger starts to charge automatically. On each bay, the flashing amber Charge Status LED (see [Figure 18](#)) indicates the charge status.

A full charge of a depleted battery takes up to four hours. The Charge Status LED lights solid amber when the battery is fully charged.

Battery Age Test

The battery age test checks the battery capacity when fully charged. A worn-out battery is considered to have less than 80% of its nominal capacity. The battery test is simultaneously performed for all batteries inserted into the charger. It is recommended to perform battery age testing once a month. The age test may take up to 16 hours.



NOTE: A battery removed during test and re-inserted is excluded from the test but continues normal charging.

To test the battery(s):

1. Insert one or more batteries into Charging Bay(s).
2. Press and hold the Test Button for approximately 3 seconds until the Charge Status LED of each active bay flashes green.
3. Refer to the table below when the indication of the Charge Status LED changes.

Charge Status LED

The Charge Status LEDs show the charge status of each Charging Bay:

Table 3 Charge LED - Status Indications

LED Indication	Status
Flashing amber	Charging in progress.
Solid amber	Charging is completed.
Flashing green	Battery age testing in progress.
Flashing red/green	Defective battery or error in charging; re-insert the battery into the bay.
Solid green	Battery age test and charge are completed. Battery is good.
Solid red	Battery age test and charge are completed. Battery capacity is marginal.
Flashing red	Battery age test and charge are completed. Battery is worn out.

Troubleshooting & Maintenance

Introduction

This chapter provides suggested Imager and Charger troubleshooting and maintenance.

Troubleshooting

Imager

Table 4 Imager Troubleshooting

Problem	Cause	Solution
Laser aiming pattern does not display when pressing the Scan Trigger.	Corded: Interface cable is not secure.	Verify that the interface cable is properly connected.
	Cordless: Battery is not charged.	Replace or charge battery.
	Power is not applied to Imager.	Corded: Verify that the mobile computer has a fully charged battery installed. Cordless: Replace or charge Imager battery.
	Scan application on the mobile computer is not functioning.	Restart the scanning application on the mobile computer.
	Imager does not respond.	Reset the Imager (See Resetting the Imager on page 30).

Table 4 Imager Troubleshooting

Problem	Cause	Solution
Imager does not decode a bar code.	Bar code is unreadable.	Verify that the bar code is not defective, i.e., smudged or damaged.
	Exit window is dirty.	Clean exit window with a lens tissue. Tissues for eyeglasses work well. Do not use tissues coated with lotion (see Cleaning the Imager on page 46).
	Bar code symbology is not supported or enabled.	See your system administrator.
	Cordless: Bluetooth link is disconnected.	Reestablish Bluetooth connection (See Establish Bluetooth Connection on page 24).



NOTE: If after performing these checks the Imager still experiences problems, contact the distributor or call Zebra Support. See [Service Information on page 14](#).

Charger

Table 5 Charger Troubleshooting

Problem	Solution
The Power LED does not light	Make sure the Power plug of the Power Supply Unit is plugged into a wall outlet and the connector on the end of the Power Supply Cable is plugged into the Charger's power connector.
	Plug the Power plug of the Power Supply Unit into another outlet.
	Replace the Power Supply Unit.
	Contact a service representative (see Service Information on page 14).
The battery takes too long to recharge	Ensure that room/battery temperatures are within charging range 0 °C to +40 °C (+32 °F to +104 °F).
	Clean the contacts on the battery (see Cleaning the Charger on page 47).
	Try another battery to make sure the Charger functions properly. (If the charge time is more than four hours the Charge Status LED flashes red/green.)
	Contact a service representative (see Service Information on page 14).

Table 5 Charger Troubleshooting

Problem	Solution
LED indication continuously changes from red to green	Remove and re-insert the battery into the charging bay.
	Check for dirt on battery charging contacts and/or charging bay contacts (see Cleaning the Charger on page 47).
	Replace battery with a new one.
	Contact a service representative (see Service Information on page 14).

Maintenance

Cleaning the scan window is the basic maintenance required. A dirty window can affect scanning accuracy.

- Do not allow 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.

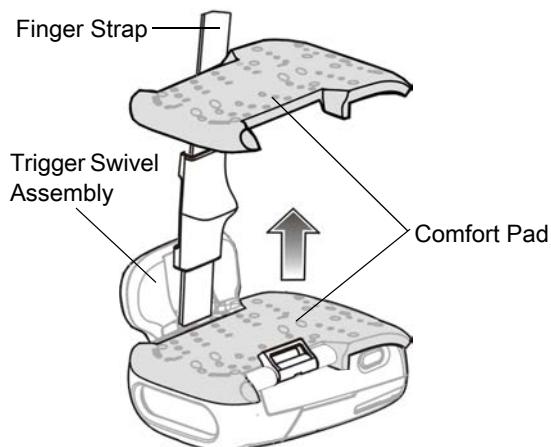
Maintaining the Imager

Comfort Pad Replacement

Removal

To remove the Comfort Pad: from the bottom of the Imager, hold and pull the Comfort Pad out of the Imager.

✓ **NOTE:** It is not necessary to remove the Finger Strap from the Trigger Swivel Assembly.

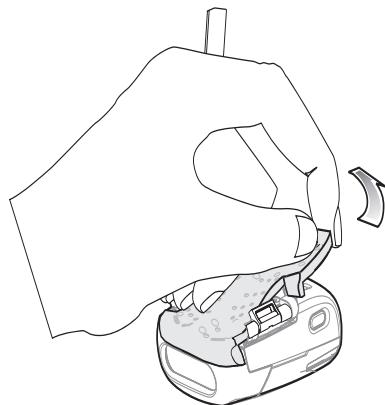
Figure 22 Removal of Comfort Pad

Installation

To install the Comfort Pad:

1. Position the Comfort Pad onto the Imager as shown.

Figure 23 Installation of Comfort Pad



2. Press the Comfort Pad onto the Imager. When properly installed, the Comfort Pad locks into place.

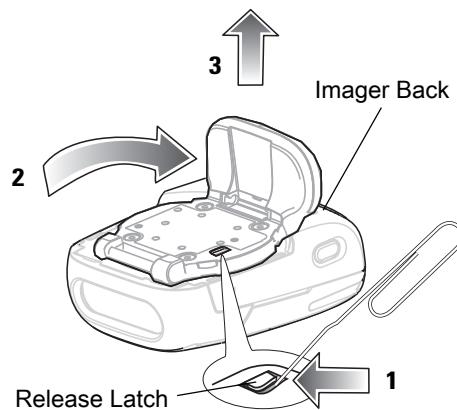
Trigger Swivel Assembly Replacement

Removal

To remove the Trigger Swivel Assembly:

1. Turn the Imager upside-down.
2. Remove the Comfort Pad.
3. Use a paper clip or similar object to press the Release Latch.

Figure 24 Removal of Trigger Swivel Assembly



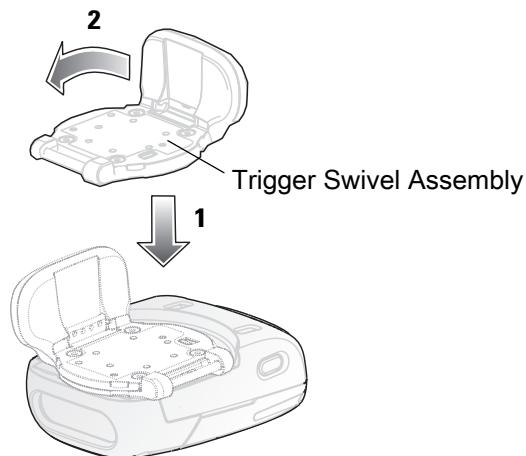
4. Rotate the Trigger Swivel Assembly to align with the back of the Imager.
5. Lift the Trigger Swivel Assembly off the scan assembly.

Installation

To install the Trigger Swivel Assembly:

1. Turn the Imager upside-down.
2. Position the Trigger Swivel Assembly to align with the back of the Imager.
3. Lower the Trigger Swivel Assembly onto the scan assembly.

Figure 25 Installation of Trigger Swivel Assembly



1. Rotate the Trigger Swivel Assembly 1/4 turn counterclockwise.
2. Press the Comfort Pad onto the Imager. When properly installed, the Comfort Pad locks into place.

Triggerless Strap Holder Replacement

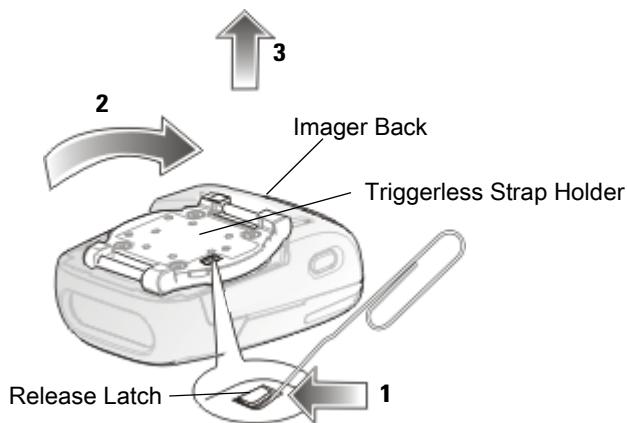
✓ **NOTE:** The Triggerless Strap Holder should be installed when the Imager is intended to be used in Motion and Proximity Initiated bar code read mode.

Removal

To remove the Triggerless Strap Holder:

1. Turn the Imager upside-down.
2. Remove the Comfort Pad.
3. Use a paper clip or similar object to press the Release Latch.

Figure 26 Removal of Triggerless Strap Holder



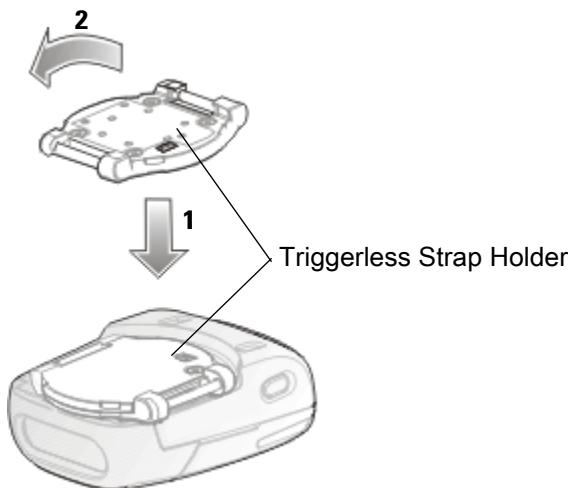
4. Rotate the Triggerless Strap Holder to align with the back of the Imager.
5. Lift the Triggerless Strap Holder off the Imager.

Installation

To install the Triggerless Strap Holder:

1. Position the Triggerless Strap Holder to align with the back of the Imager.

Figure 27 Turn the Imager upside-down. Installation of Triggerless Strap Holder



1. Lower the Triggerless Strap Holder onto the Imager.
2. Rotate Triggerless Strap Holder 1/4 turn counterclockwise.

Finger Strap Replacement (Trigger Swivel Assembly)

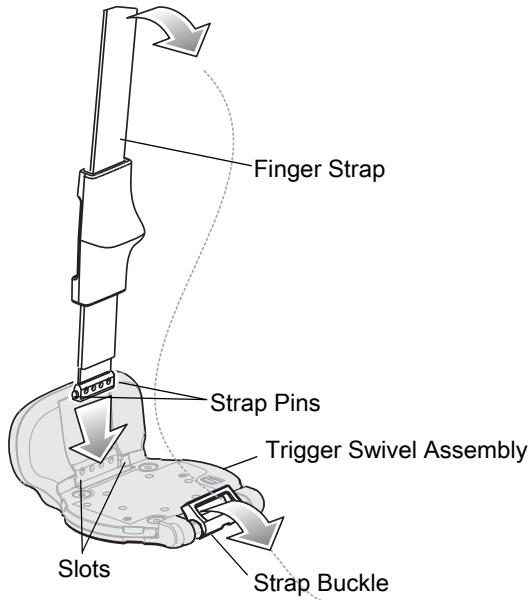
Removal

1. Remove the Finger Strap from the Strap Buckle.
2. Pull the Finger Strap out of the Trigger Swivel Assembly.

Installation

1. Align a new Finger Strap with the Slots in the Trigger Swivel Assembly.

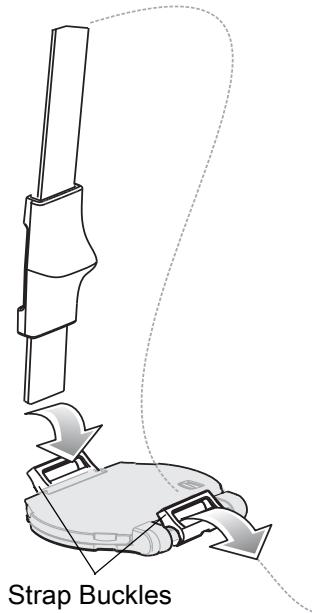
Figure 28 Finger Strap Replacement (Trigger Swivel Assembly)



2. Gently press the Strap Pins to engage with the Slots of the Trigger Swivel Assembly. The Strap Pins snap into the slots.
3. Slip the Finger Strap through the Strap Buckle.

Finger Strap Replacement (Triggerless Strap Holder)

Figure 29 Replacement of Finger Strap (Triggerless Strap Holder)



Removal

Remove the Finger Strap from the Strap Buckles.

Installation

Slip the Finger Strap through the Strap Buckles.

Strap Buckle Replacement

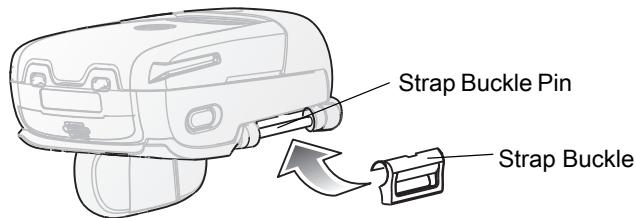
Figure 30 Strap Buckle Replacement

Removal

1. Remove the Trigger Swivel Assembly (see [Trigger Swivel Assembly Replacement on page 40](#)).
2. Press the Strap Buckle off the Trigger Swivel Assembly Pin.

Installation

1. Align the pin slot of Strap Buckle with the pin of the Trigger Swivel Assembly.

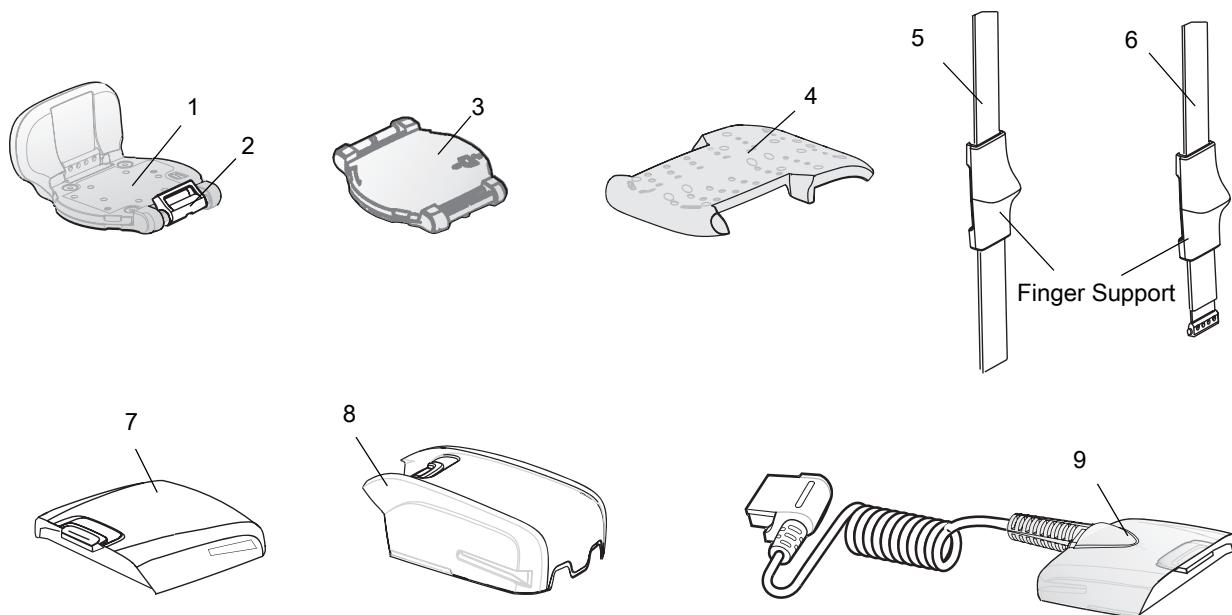
Figure 31 Strap Buckle Replacement

2. Gently press the pin slot of Strap Buckle to engage with the pin of the Trigger Swivel Assembly. The pin slot snaps onto the pin.
3. Install the Trigger Swivel Assembly (see [Trigger Swivel Assembly Replacement on page 40](#)).

Field Replaceable Parts

Table 6 Imager Field Replaceable Parts

No	Part	Description
1	KT-CLMPT-RS507-01R	Trigger Swivel Assembly
2	KT-BKL-RS507-10R	Set of 10 Strap Buckles
3	KT-CLMPN-RS507-01R	Triggerless Strap Holder
4	KT-PAD-RS507-10R	Set of 10 Comfort Pads
5	KT-STRPN-RS507-10R	Set of 10 Triggerless Finger Strap with Finger Support
6	KT-STRPT-RS507-10R	Set of 10 Trigger Finger Strap with Finger Support
7	KTTRYRS50EAB00-01	Standard Battery
8	KTTRYRS50EAB02-01	Extended Battery
9	ADPTRWT-RS507-R	Corded Adapter

Figure 32 Imager Field Replaceable Parts

Cleaning the Imager

Wipe the exit window periodically with a lens tissue or other material suitable for cleaning eyeglasses.



CAUTION: Do not pour, spray, or spill any liquid on the Imager.

The gold plated battery contacts do not tarnish or oxidize. No maintenance should be needed. If the contacts need to be cleaned:

1. Wet the tip of a cotton swab with isopropyl alcohol and squeeze the excess alcohol from the swab.
2. Wipe the metal contacts with the damp swab.

Maintaining the Charger

The Charger is well constructed and durable; however, it is a precision electronic device and must be treated as such.

Follow the procedures in this section to ensure reliable service.

Operating conditions for the Charger

The Charger is designed to operate in environments that are normally free of dust, dirt, and moisture. It can be operated at temperatures between 0°C (+32°F) and +40°C (+104°F).

Handling the Charger

- Do not attempt to open the Charger. No user-serviceable parts are inside.
- Charge only Lithium-ion batteries that have been designed for use with the Imager. Do not attempt to recharge other types of rechargeable batteries or any type of primary batteries.

- Do not place objects other than Imager batteries inside the Charger.
- Protect the Charger from excessive heat, cold, moisture, and harsh, dirty environments.
- Do not leave the Charger where moisture will condense on it.

Cleaning the Charger



CAUTION:Do not pour, spray, or spill any liquid on the Charger.

The gold plated battery contacts do not tarnish or oxidize. No maintenance should be needed. If the contacts need to be cleaned:

1. Remove power from the Charger.
2. Wet the tip of a cotton swab with isopropyl alcohol and squeeze the excess alcohol from the swab.
3. Wipe the metal contacts with the damp swab.

RS507 Update and Configuration

Introduction

This chapter covers the following topics:

- Configuring the Imager
 - Imager Motion and Proximity Configuration
 - Debugging logger
 - Firmware upgrade
-

Configuring the Imager

Introduction

The Imager is a modular product used in several hardware configurations. Such configurations may include corded or cordless connection to a terminal / mobile computer with manual or automatic triggering.

The Imager is provided with a default software configuration set in the factory. This software configuration can be optimized by the customer to meet their specific operational requirements. Therefore, before using the Imager, it is essential that the Imager be properly configured to harness its extensive capabilities and gain maximum efficiency.

There are several ways to configure the Imager. The best way is to set the parameters for each application allowing the required degrees of freedom. In some cases it is recommended to allow the user to select between the various operational modes or use cases, each with its own set of parameters.

Zebra mobile computers using the EMDK may utilize the SCAN and/or RSM APIs to configure the operation of the Imager. Zebra terminals that cannot use the EMDK, may configure some operations of the Imager by scanning special configuration bar codes (see [Miscellaneous Imager Options on page 70](#)) as done with many of Zebra bar code scanners.

A selection of most configured Imager parameters can be set with the Remote Scanner Management Sample (RSMSample) application installed on all Zebra mobile computers supporting the Imager. Some of the Imager parameters can also be set by the Control Panel application.

Once connected to a mobile computer, the application running on the mobile computer overrides the Imager parameters previously set.

Control Panel Application

The Control Panel (CTLpanel) application can be used for configuring the Imager by changing its values. The Control Panel application also enables one to retrieve and display the current setting of each value.

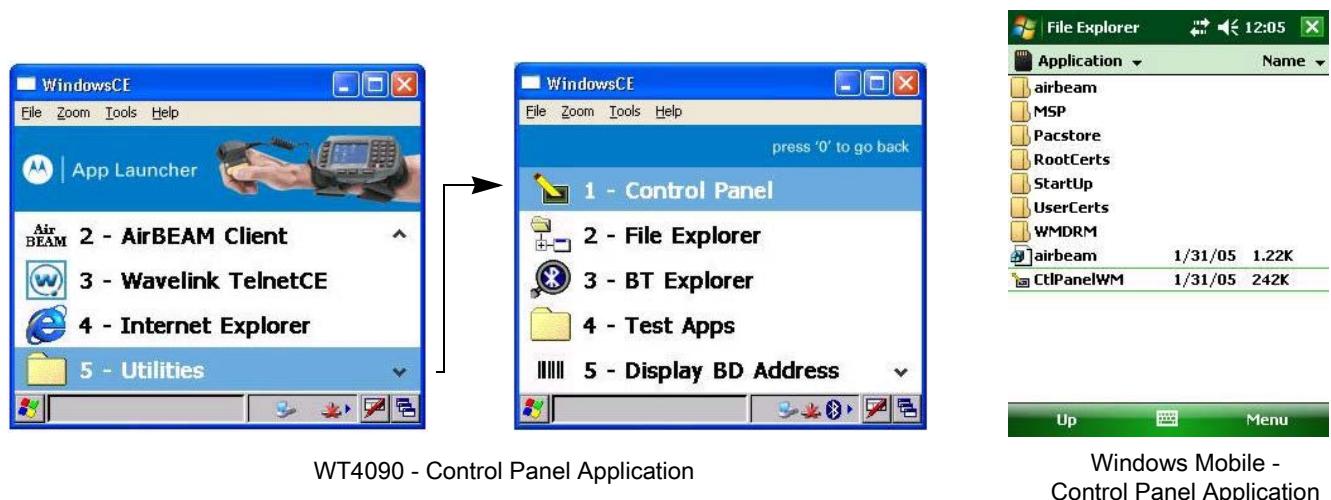
The Control Panel application together with the RSMsample application enable the user to configure the RS507. Users with Mobile computer that do not have the Control Panel application installed can download the application (CtlPanelWM.exe) and related documentation from the Support Central site at: <http://www.zebra.com/support>.

The following example describes how to read and configure new values of the Imager attributes.

To set new attribute values:

1. When using the WT4090, from the App Launcher screen, open the Utilities folder and start the Control Panel application. When using a mobile computer with Windows Mobile, open the Application folder and start the CtlPanelWM application.

Figure 33 Starting the Control Panel Application



2. Select Scanner Settings

Figure 34 Scanner Settings



3. Use the > < keys to select scanner. Select SCN1 for corded Imager or SCN2 for cordless Imager (Bluetooth).

✓ **NOTE:** Before you select *SCN2* make sure to pair and connect the Imager to the mobile computer.

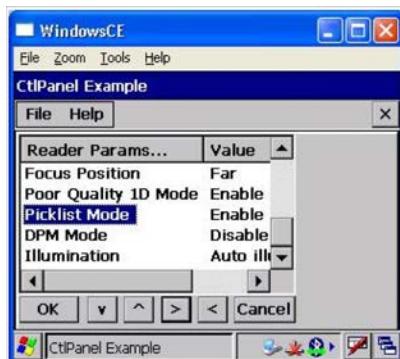
4. Select Reader Params...

Figure 35 Reader Params



5. Use the > < keys to change the Picklist Mode to Enable and press the OK button.

Figure 36 Picklist Mode



This setting is retained until cold boot is performed to the mobile computer or new setting is entered through the Control Panel application.

6. Re-start your scan application and verify that Picklist Mode is enabled.

RSMSample Application

The Remote Scanner Management Sample (RSMSample) application is used for configuring the Imager by changing its attribute values. The RSMSample application also enables one to retrieve and display the current setting of each attribute. Users with mobile computer that do not have the RSMSample application installed can download the application and related documentation from the Support Central site at: www.zebra.com/support.

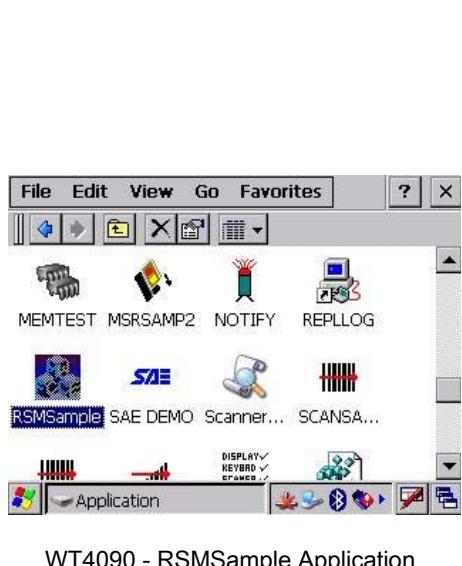
✓ **NOTE:** When the Imager is connected to a mobile computer, configuration by scanning bar codes is disabled. In such case, the Imager configuration is performed by the application (e.g RSMSampen) running on the mobile computer. The new configuration overrides the previous configuration. The new configuration is saved in the Imager memory after disconnecting the Imager from the mobile computer or terminating the application.

The following example describes how to read and configure new values of the Imager attributes.

To set new attribute values:

- From the mobile computer Application folder, run the RSMSample application.

Figure 37 Mobile Computer Application Folder - RSMSample Application Icon



WT4090 - RSMSample Application



Windows Mobile - RSMSample Application

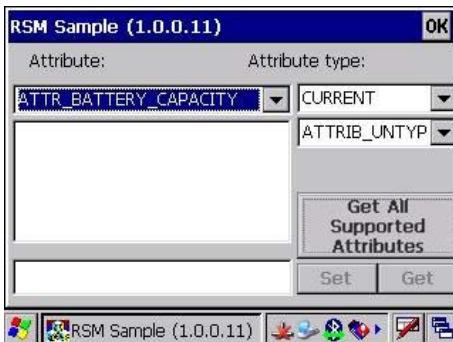
- From the Dialog window, select Bluetooth SSI Scanner Driver.

Figure 38 Dialog Window - Bluetooth SSI Scanner Driver



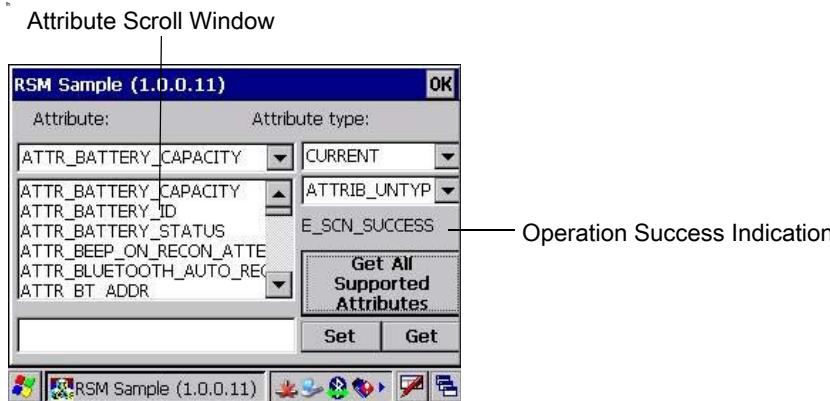
- Press the **Get All Supported Attributes** button to display all supported attributes.

Figure 39 RSMSample Application - Get All Supported Attributes Button



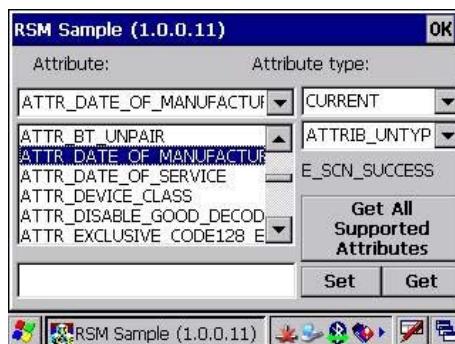
- The Attribute scroll window displays all supported attributes (see [Table](#) on page 53) and an operation success indication.

Figure 40 RSMSample Application - Attribute Scroll Window



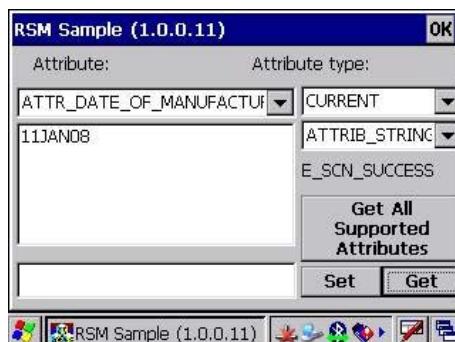
- Select the attribute you wish to change and press the **Get** button to display the current value of the attribute.

Figure 41 RSMSample Application - Get Button

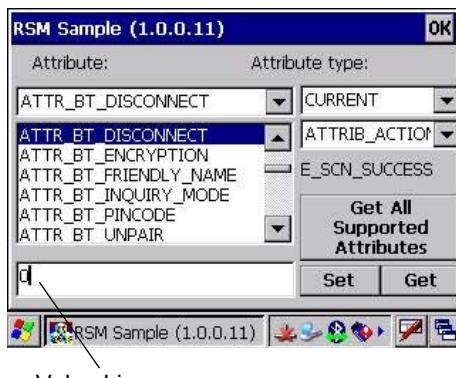


- The application returns the current value settings of the attribute.

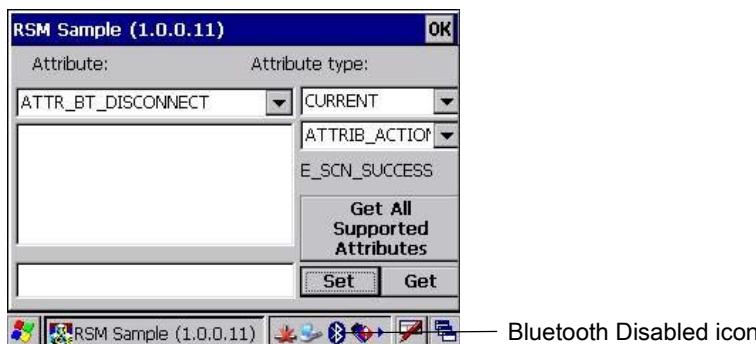
Figure 42 RSMSample Application - Current Value Settings of Attribute



- Press again the **Get All Supported Attributes** button to show all supported attributes (see [Figure 43](#)).
- Select an attribute (see [Table](#)), enter the new value and press the **Set** button.

Figure 43 RSMSample Application - Setting an Attribute

In the following example, after setting the ATTR_BT_DISCONNECT attribute to 0 (disconnect), the Bluetooth radio of the Imager is turned off successfully as indicated by the change of the Bluetooth icon from Bluetooth Connection icon to Bluetooth Disabled icon.

Figure 44 RSMSample Application - Bluetooth Radio Turned Off Successfully Indication

Imager Attributes

[Table](#) lists the Imager attributes that can be changed using the RSMSample application.

Table 7 Imager Attributes

Attribute	Access	Values	Factory Default	Description
ATTR_SCANLINE_WIDTH	R/W	0 – (Pick list disabled) 2 – Narrow (Pick list enabled)	0	Width of laser scan line or size of Imager's effective Field of View (Pick list)
ATTR_DISABLE_GOOD_DECOD E_LED_BEEP	R/W	0- Enabled automatically green LED and beep on good decode. 1- Disabled		Good decode feedback on Imager
ATTR_MODEL_NUMBER	R	N/A	N/A	Model number

Table 7 Imager Attributes

Attribute	Access	Values	Factory Default	Description
ATTR_SERIAL_NUMBER	R	N/A	N/A	Serial number
ATTR_DATE_OF_MANUFACTURE	R	N/A	N/A	Date of manufacture
ATTR_DATE_OF_SERVICE	R	N/A	N/A	Last date of repair by Zebra
ATTR_BT_ADDR	R	N/A	N/A	Imager Bluetooth address
ATTR_BT_AUTHENTICATION	R/W	1 - Enabled 0 - Disabled	1	Enable Bluetooth authentication (Permanently saved)
ATTR_BT_ENCRYPTION	R/W	1 - Enabled 0 - Disabled	1	Enable encryption over Bluetooth (Permanently saved)
ATTR_BT_PINCODE	R/W	Up to six characters	"12345"	Pin code when Bluetooth Authentication is enabled (Permanently saved)
ATTR_RECONNECT_ATTEMPTS	R/W	6 = 30 sec, 7 = 35 sec, 8 = 40 sec, 9 = 45 sec, 10 = 50 sec, 11 = 55 sec, 12 = 60 sec	6	Reconnect attempt duration when the Imager is out of range
ATTR_BEEP_ON_RECON_ATTEMPT	R/W	1 - Enabled 0 - Disabled	0	When enabled, the Imager emits 5 short high beeps every 5 seconds while the reconnection attempt is in progress
ATTR_HID_AUTO_RECON	R/W	0 - Never Reconnect 1 - Reconnect on Data 2 - Reconnect immediately	0	Auto-reconnect behavior when connection is lost.
ATTR_BT_FRIENDLY_NAME	R/W	Up to 23 characters	"RS507"	Friendly name displayed by Bluetooth remote devices (Permanently saved).
ATTR_PIN_CODE_TYPE	R/W	1 - User prompt 0 - Automatically use stored PIN code	0	Prompt the user for PIN code or use PIN code stored in memory.

Table 7 Imager Attributes

Attribute	Access	Values	Factory Default	Description
ATTR_BT_INQUIRY_MODE	R/W	1 - Limited 0 - General	0	The used inquiry mode: Limited: The Imager finds only an associated device. General: The Imager finds all the visible devices.
ATTR_EXCLUSIVE_CODE128_EN	R/W	1 - Enabled 0 - Disabled	0	Ignore Code 128 beginning with 420 and 421
ATTR_MEMS_ENABLE	R/W	1 - Enabled 0 - Disabled	Trigger Model -0 Triggerless Model -1	Motion trigger feature
ATTR_PROXIMITY_ENABLE	R/W	1 - Enabled 0 - Disabled	Trigger Model -0 Triggerless Model -1	Proximity feature
ATTR_PROXIMITY_DISTANCE	R/W	0 – Short 1 – Mid 2 – Long	2	Proximity distance
ATTR_PAGING_ENABLE	R/W	1 - Enabled 0 - Disabled	0	Paging device enable / disable
ATTR_PAGING_BEEP_SEQ	R/W	0-26	15	Paging beep sequence Beep pattern values.
ATTR_LOW_BATTERY_IND_EN	R/W	1 - Enabled 0 - Disabled	0	Low battery indication.
ATTR_SCAN_TRIG_WAKEUP_EN	R/W	1 - Enabled 0 - Disabled	1	Scan trigger serves as an Imager wake-up source from low power.

Table 7 Imager Attributes

Attribute	Access	Values	Factory Default	Description
ATTR_BLUETOOTH_AUTO_REC_ON	R/W	0 –None 1 - Power on 2 - On when back in range 3 - On when power is on and back within range	2	Defines Bluetooth reconnection scheme (Permanently saved) Important: If option 1 (On Power) or 3 (On when power is on and back within range) is set, the pair should be properly marked and kept visible on the Imager and mobile computer to avoid user selecting of an unpaired set.
ATTR_PROXIMITY_CONTINUOUS_EN	R/W	1 - Enabled 0 - Disabled	0	Proximity continuous mode (for scanning packages off conveyer belt).
ATTR_GOOD_SCANS_DELAY	R/W	Values 0 -150 (in 100 msec intervals) 0 – No delay 1 – 150 (100 – 15000 msec)	0	Delay between good scans in proximity continuous mode (msec).
ATTR_FORCE_PAIRING_SAVE	R/W	0 – Disabled 1 – Enabled	1	Force BD_Address saving when pairing fails (Permanently saved).
ATTR_PAGING_ACTIVATE	W	0 – Stop 1 – Start		Start / stop Imager paging
ATTR_BT_DISCONNECT	W	0 - Disconnected		Bluetooth disconnect command from terminal to Imager
ATTR_BT_UNPAIR	W	0 - Unpaired		Bluetooth un-pair command from terminal to Imager.
ATTR_FIRM_VERSION	R	N/A		Imager Firmware version.
ATTR_DEVICE_CLASS	R	N/A		Imager system class

Table 7 Imager Attributes

Attribute	Access	Values	Factory Default	Description
ATTR_BATTERY_STATUS	R	0- Unknown 1- Full 2- Medium 3- Empty 4- Charging – full rate 5- Charging – half rate 6- Charging – Trickle 7- Discharging – Battery Cycle in progress		Battery Status
ATTR_BATTERY_CAPACITY	R	0-100 (battery percent) 9999 if error (no battery)		Battery capacity
ATTR_BATTERY_ID	R	0 – Simple 1 – Double 2 – Cabled 9999 – Error		Battery ID

Imager Motion and Proximity Configuration

The Imager proximity and motion feature enables auto-triggering of the Imager upon motion and/or proximity to an object.

Motion and proximity detection can be enabled or disabled by the mobile computer application such as the Remote Scanner Management (RSMSample) application of the mobile computer (see “[RSMSample Application](#)” on page 8-50) or by scanning configuration bar codes (see [**Emphasis>Miscellaneous Imager Options**](#) on page 9-70).



NOTE: Once configured, the motion and/or proximity attributes are retained in the Imager memory following warm or cold boot.

Operation Modes

The Imager can be configured to a single or continuous scan operation. In most use cases, a single scan mode is the preferred operation. However, when scanning packages off a moving conveyor belt, it is sometimes recommended to use the continuous scan mode (also referred to as 'Proximity Continuous' mode). Continuous operation automatically results from the combined settings of motion and proximity (enabling or disabling motion and/or proximity. See [Table](#)). The Imager is provided with motion and proximity enabled by default.

To set new values to the motion and/or proximity attributes, refer to [**Emphasis>Imager Attributes**](#) on page 8-53.

Table 8 Imager Operation Modes

Mode Number	Parameter States (Motion / Proximity / Continuous Scan)	Description
1	Motion: enabled Proximity: enabled Continuous scan: disabled	The Imager performs a single scan when moved and positioned in proximity to an object. Scanning resumes when the Imager is moved and re-positioned in proximity to an object. This mode is a default mode.
2	Motion: disabled Proximity: enabled Continuous scan: disabled	The Imager starts to continuously scan when positioned in proximity to an object. The Imager stops scanning when the object is out of proximity range.
3	Motion: enabled Proximity: disabled Continuous scan: disabled	Upon movement, the Imager performs a single scan and stops.
4	Motion: enabled Proximity: enabled Continuous scan: enabled	The Imager performs a continuous scan when moved and positioned in proximity to an object. The Imager continues to scan as long as it detects an object within its range and bar codes are scanned successfully. The Imager stops scanning if proximity to an object is not detected, or if the Imager fails to scan three consecutive times.
5	Motion: disabled Proximity: enabled Continuous scan: enabled	The description of this operation mode is identical to the description of mode number 2 in this table.

Configuring Motion and Proximity by Scanning Bar Codes

✓ **NOTE:** Scanning bar codes for configuring motion and/or proximity is enabled only when the Imager is in cordless (Bluetooth) configuration.

To enable or disable motion or proximity, perform cold boot by removing and re-installing the battery (see [Remove the Battery on page 20](#)).

✓ **NOTE:** Throughout this section, configuration bar codes shown with asterisks (*) indicate default values.

Motion Sensing Control

Disable Motion Trigger



*Enable Motion Trigger



Proximity Sensing Control

Disable Proximity



*Enable Proximity



Proximity Continuous Enable

The Proximity Continuous Enable parameter enables/disables the proximity continuous feature.

*Disable Proximity Continues



Enable Proximity Continues



The Proximity Distance parameter sets the proximity sensitivity range.

Short Range



Mid Range



*Long Range



Good Scan indication delay Control

The Good Scan Delay parameter sets a delay between good scans when scanning is in continuous mode.

This delay is effective when:

- Motion detection - Enabled
- Proximity - Enabled
- Proximity continues - Enabled

Or

- Motion detection - Disabled
- Proximity - Enabled

0 msec



200 msec



400 msec



*600 msec



800 msec



1000 msec



1200 msec



1400 msec



1600 msec



1800 msec



2000 msec



Real Time Logger

The Imager includes a Real Time Logger application that logs events, errors, exceptions and software diagnostics of the Imager during its operation. Each log record has a time stamp with a 1ms resolution. The logger time is synchronized with the host computer's time. The log is retained only after warm boot. The log memory size is 4 MB and operates in a cyclic way.

[Figure 45](#) shows the Real Time Logger file content as shown on a host computer screen.

Figure 45 Real Time Logger Content Screen

```

log1.txt - Notepad
File Edit Format View Help
JAN 01 08 00:00:00:100 01 Logger Task 0 Cold Boot Logger module
JAN 01 08 00:00:00:100 01 Logger Task 0 Logger module initialized successfully
JAN 01 08 00:00:00:100 02 System Exec Task 2 RS507 PRODUCT HARDWARE VERSION P2
JAN 01 08 00:00:00:100 02 System Exec Task 2 RS507 PRODUCT RELEASE VERSION PAAAC
-S00-AAA-N51
JAN 01 08 00:00:00:100 02 System Exec Task 2 RS507 PRODUCT RELEASE DATE 12-
Nov-2008
JAN 01 08 00:00:00:100 05 System Exec Task 0 sw_diags_init: SW diags parameters
Cleared
JAN 01 08 00:00:00:200 05 System Exec Task 0 sw_diags_init: Successfully
initialized
JAN 01 08 00:00:00:200 07 PMF Task 0 PMF: init passed successfully.
JAN 01 08 00:00:00:200 02 System Exec Task 2 SysConfig 1
JAN 01 08 00:00:00:200 02 System Exec Task 2 NVP:op=1
JAN 01 08 00:00:00:200 02 System Exec Task 2 Size of PARAMBUF_T (696)
JAN 01 08 00:00:00:200 02 System Exec Task 2 NVP:init case:
JAN 01 08 00:00:00:300 02 System Exec Task 2 D
JAN 01 08 00:00:00:300 02 System Exec Task 2
JAN 01 08 00:00:00:300 02 System Exec Task 2 NVP:op=3
JAN 01 08 00:00:00:300 06 System Exec Task 0 Battery id = 1 (double)
JAN 01 08 00:00:00:300 06 System Exec Task 0 Battery successfully initiated
  
```

ScannerLog Application

✓ **NOTE:** When ScannerLog Application is used with a corded connection. Open the ScannerLog application while the scan application is still running.

1. Perform a warm boot (see [Warm Boot on page 30](#)).
2. Select the Imager ScannerLog application from the Application folder.

Figure 46 ScannerLog Application Icon

ScannerLog Application icon on WT4090 screen

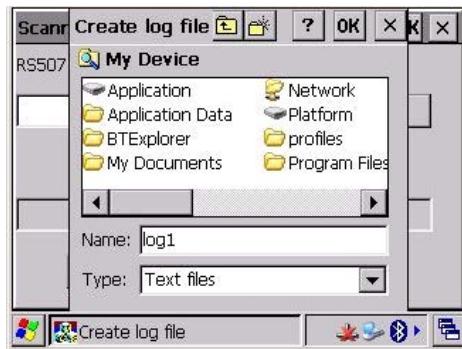


ScannerLog Application icon on Windows Mobile screen

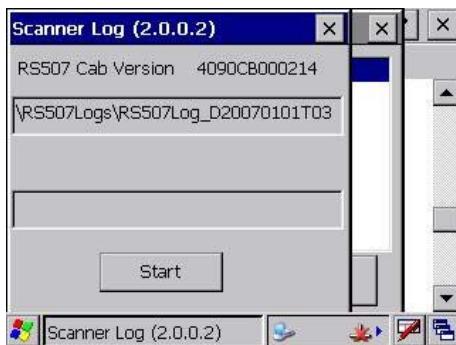
3. From the Dialog screen, Select Bluetooth SSI Scanner Driver and press the **OK** button.

Figure 47 Dialog Screen - Bluetooth SSI Scanner Driver

4. Define the name and download location of the log file and press the **OK** button.

Figure 48 ScannerLog Application - Log File Name and Download Location

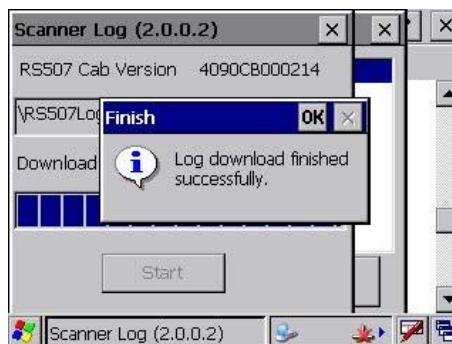
5. Press **Start** to begin downloading.

Figure 49 ScannerLog Application- Starting Download

6. Verify that downloading of the log file starts.

Figure 50 ScannerLog Application- Download in Progress

7. Verify that the log file download is completed and press the **OK** button.

Figure 51 ScannerLog Application- Download Completed

8. On the mobile computer, open the log file to see the content.

Figure 52 ScannerLog Application - Log File Content

The screenshot shows the 'Scanner Log (2.0.0.2)' application window with a menu bar. The main area displays a log of system events:

```

File Edit View Format Tools
JAN 01 08 00:00:00:0011 01 Logger Task 0 Clean
Boot logger module
JAN 01 08 00:00:00:0011 01 Logger Task 0 logger
module initialized successfully
JAN 01 08 00:00:00:0011 02 System Exec Task 2
ARSR_reg = Hardware/Power-On Reset
JAN 01 08 00:00:00:0011 03 System Exec Task 0
sw_diags_init: SW diags parameters cleared
JAN 01 08 00:00:00:0011 03 System Exec Task 0
sw_diags_init: Successfully initialized
JAN 01 08 00:00:00:0011 07 PMF Task 0 PMF: init
passed successfully.
JAN 01 08 00:00:00:0012 02 System Exec Task 0

```

Imager Firmware Update

Required Equipment

The following hardware is required for updating the firmware of the Imager:

- Host computer
- Mobile computer

- USB / RS232 interface cable or any cradle set-up used for establishing an ActiveSync connection between the host computer and mobile computer.

The following software is required for updating the firmware of the Imager:

- New Imager firmware file (*.DAT file format)
- CAB file to install in the mobile computer.
- ActiveSync application installed on the host computer and the mobile computer (for copying the new Imager firmware and RS507 CAB files from the host computer to the mobile computer).
- FirmwareUpdate application installed in the mobile computer (part of the CAB file installation). This application is used for downloading the firmware file from the mobile computer to the Imager.

Updating the RS507 Firmware

Before using the FirmwareUpdate application:

1. Exit all scanning applications running on the mobile computer.
2. Verify that the mobile computer battery is fully charged or that the mobile computer is connected to an external power source.
3. When using a corded Imager, verify that the Imager is properly connected to the mobile computer. When using a cordless Imager verify that the Imager battery is fully charged.

To upgrade the Imager firmware:

1. Connect the Imager to the mobile computer that supports the RS507.
2. Start the FirmwareUpdate application located in the Application folder for WinCE devices or under Start / Programs for Windows Mobile devices (the FirmwareUpdate application and related documentation can be downloaded from the Support Central site at: <http://www.zebra.com/support>).

Figure 53 FirmwareUpdate Application Icon



3. Select the interface method (Bluetooth in the following example).

✓ **NOTE:** The following screen is displayed only when using the WT4090. In other mobile computers, Bluetooth mode is selected by default. Press **Yes** (Bluetooth mode) to pair the Imager with the mobile computer (see [Restore Lost Bluetooth Connection on page 26](#)).

Figure 54 Selection of the Bluetooth Interface Mode

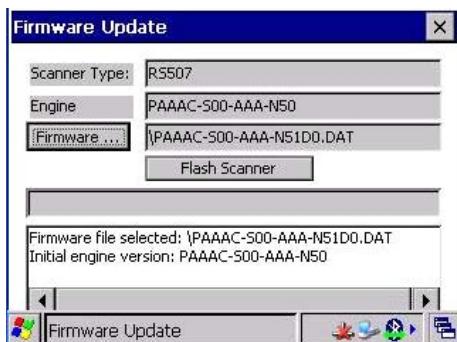
4. Press the **Firmware** button and verify that the application shows the version number of the current firmware of the Imager.

Figure 55 Firmware Update Screen

5. Copy the *.DAT file to the mobile computer using ActiveSync connection.
6. Press the **Firmware...** button to select the new firmware *.DAT file and the **OK** button.

Figure 56 Firmware Update Screen - Selection of *.DAT File

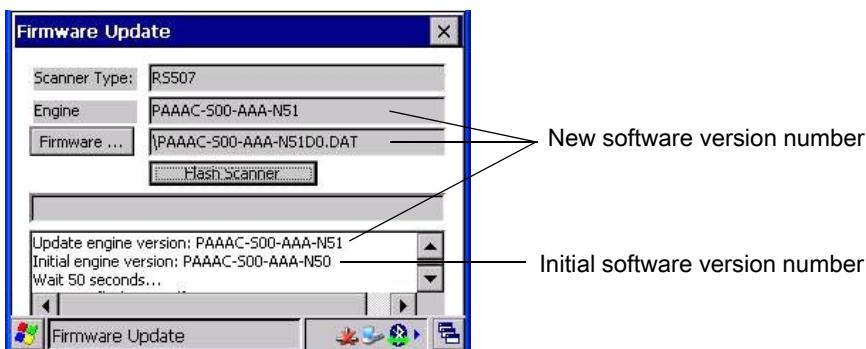
7. Press the **Flash Scanner** button to start updating the firmware.

Figure 57 Firmware Update Screen - Flash Scanner Button

8. Verify that the firmware download starts. When the download starts, the ### Starting Firmware Download! message displays. Firmware download is completed when the Update engine version... message is displayed.

Figure 58 Firmware Update Screen - "Starting Firmware Download!" Message

9. Pair the Imager with the mobile computer (see [Restore Lost Bluetooth Connection on page 26](#)).
10. Verify that the firmware download is completed by looking at the Initial software version number and the new software version number.

Figure 59 Firmware Update Screen

11. Press the **Esc** key on the mobile computer or the X in the top right corner of the application window to exit the FirmwareUpdate application.

Rapid Deployment Client

The Rapid Deployment (RD) Client application downloads an AirBeam package to a mobile computer connected to an Imager from a Mobility Services Platform (MSP) Console's FTP server.

The MSP Console is a web-based interface to the wireless infrastructure monitoring and management tools provided by the MSP Lite or MSP Enterprise server.

AirBeam packages transferred to the FTP server, are downloaded to mobile computers connected to the wireless network. The location of AirBeam packages are encoded in deployment bar codes. When an Imager captures a deployment bar code, the AirBeam package(s) is downloaded from the FTP server to the Imager via the mobile computer. A single deployment bar code can be captured by many Imagers.

- ✓ **NOTE:** For detailed information about the MSP Console, MSP Lite/MSP Enterprise servers and creating deployment bar codes, refer to the MSP User Guide.

The AirBeam package can be downloaded from the Support Central web site ([Service Information on page 14](#)). The package includes:

- Mobile computer's RS507 enhancement .APF file
- Compatible RS507 Firmware .APF file.

The .APF file is used for management and distribution of the AirBeam package when the file is transferred from the MSP to the Imager connected to the mobile computer over the Bluetooth.

- ✓ **NOTE:** Make sure that the enhancement APF file is deployed on the mobile computer before you start the deployment.

To download the AirBeam package from the remote MSP server:

1. Install the RS507_xxx.APF file on the MSP server (refer to MSP server documentation).
2. Connect the mobile computer to the network via WLAN, or other cradle or cable connection (refer to your mobile computer user guide).
3. From the App Launcher (or Windows Mobile Programs) screen of your mobile computer, start the Rapid Deployment Client application.

Figure 60 Rapid Deployment Client Application Icon



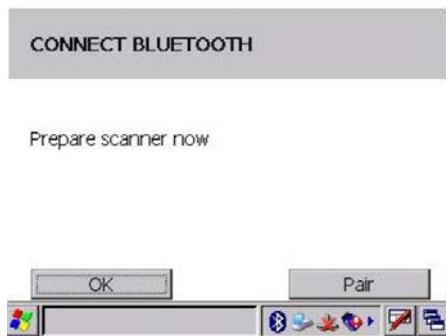
Rapid Deployment Client Application Icon
on WT4090 Screen



Rapid Deployment Client Application Icon
on Windows Mobile Screen

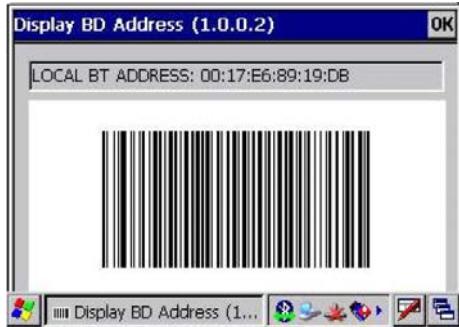
4. The Rapid Deployment Client Application searches for Imagers. Press the **Pair** button displayed on the screen.

Figure 61 Rapid Deployment Client Application - Bluetooth Connection Screen



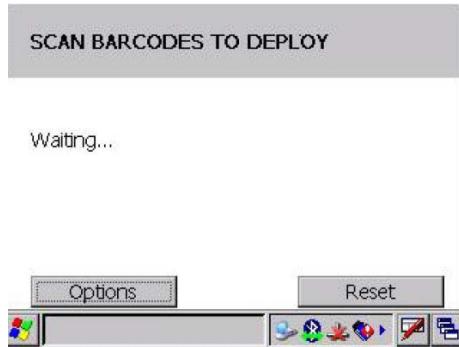
5. The Display BD Address utility is displayed. Use the Imager to scan the pairing bar code from the mobile computer screen and press the **ESC** button on the mobile computer.

Figure 62 Display BD Address Utility - Pairing Bar Code



6. The Scan bar code to deploy screen is displayed. Scan the deployment bar code provided by your system administration to start the update process.

Figure 63 Scan Bar Code to Deploy Screen



During the update, process reports are display on the screen and the Imager LEDs show the following indications:

- Flashing red - firmware file is downloading
- Steady red - firmware file is extracted inside the Imager
- Steady Green and a single beep - firmware update is completed

Miscellaneous Imager Options

Introduction

The Imager is intended to operate hand in hand with the mobile computer to which it is connected.

The mobile computer automatically loads configuration data whenever connected to an Imager (corded or cordless). This operation does not require scanning configuration bar codes. Using configuration bar codes is only available for a cordless Imager when decontrolled from the mobile computer.

It is recommended to use configuration bar codes only for setting parameters that cannot be configured by the other mobile computer application.



NOTE: Imager parameters set by scanning configuration bar codes, persist in the Imagers memory.

The Imager ships with the settings shown in [Table 9 on page 71](#) (also see [Appendix , Standard Default Parameters](#) for host device and miscellaneous defaults). If the default values suit the requirements, programming is not necessary.



NOTE: Most computer monitors allow scanning the bar codes directly on the screen (when using the imaging engine). When scanning from the screen, be sure to set the document magnification to a level where you can see the bar code clearly, and bars and/or spaces are not merging.

To return all features to default values, scan the [Set Default Parameter on page 72](#). Throughout the programming bar code menus, asterisks (*) indicate (*) default values.



* Indicates Default

*High Volume

(00h)

Feature/Option

Option Hex Value for
programming via SSI
command

Scanning Sequence Examples

In most cases, scanning one bar code sets the parameter value. For example, to set the beeper tone to high, scan the **High Frequency** (beeper tone) bar code listed under [Beeper Tone on page 75](#). The Imager issues a fast warble beep and the LED turns green, signifying a successful parameter entry.