Zebra CS4070 Scanner User Manual

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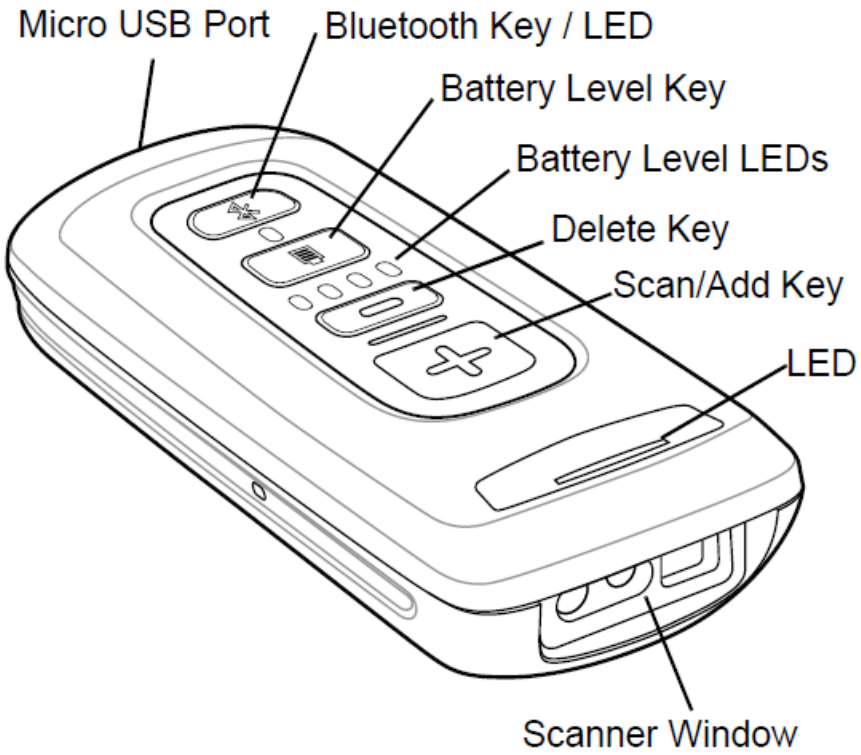
Introduction

The CS4070 Scanner captures and stores bar codes for a variety of uss, and transmits bar code data to a host via USB connection or Bluetooth. This document provides basic instructions for setting up, programming, and using CS4070 scanners.

The scanner is available in the following configurations:

- CS4070SR – Standard range, cordless Bluetooth
- CS4070HC – Healthcare, cordless Bluetooth

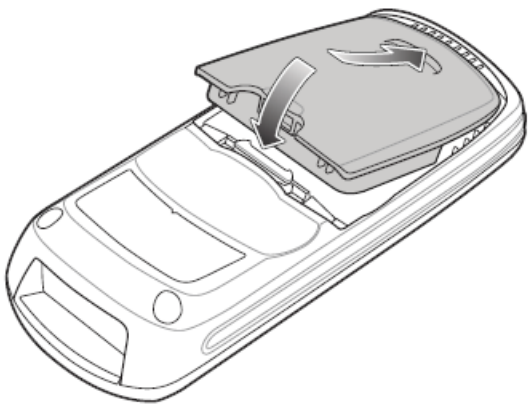
Each scanner includes a micro USB host cable. Cradles are also available for mounting, charging, and host connection.



Charging
Before using the CS4070 for the first time, charge the battery using the micro USB cable or a cradle until all four green charging LEDs light. Charge time is approximately three hours for a fully discharged battery.

Inserting the Battery

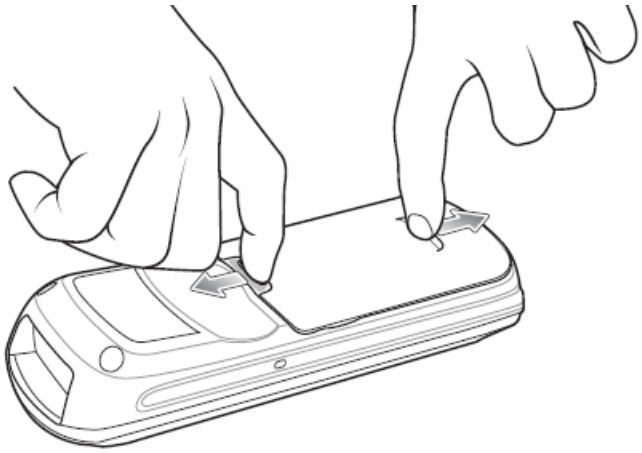
1. Insert the battery, bottom first, into the battery compartment in the back of the device. Ensure the charging contacts point toward the bottom of the scanner.
2. Press the battery down into the battery compartment until the battery release latch snaps into place.



Removing the Battery

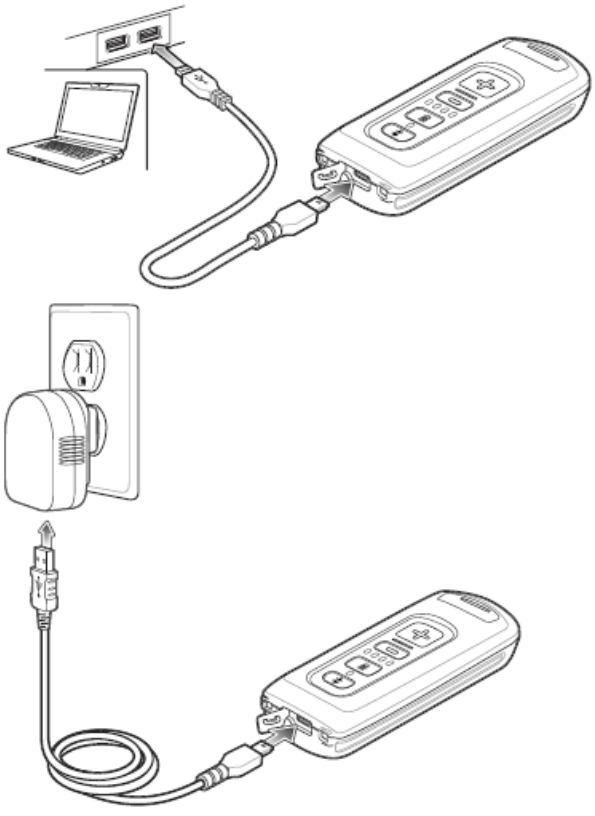
To remove the battery, pull the release latch upward with one finger, and use a finger from your other hand to pull

back on the indent in the bottom of the battery housing. The battery rotates about the bottom edge and the latch end of the battery pops up, enabling you to lift it out from the sides.



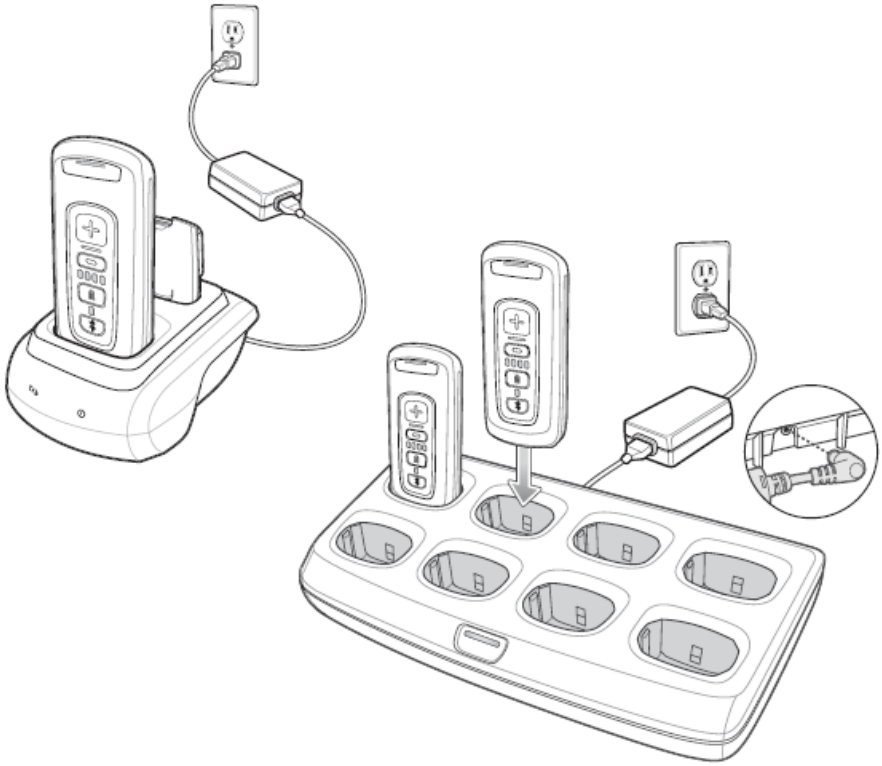
Charging via USB Host Cable

1. Insert the micro USB connector on the cable into the interface port on the scanner.
2. Connect the other end of the host cable to a USB port on the host PC or a USB power adapter plugged into an AC outlet.



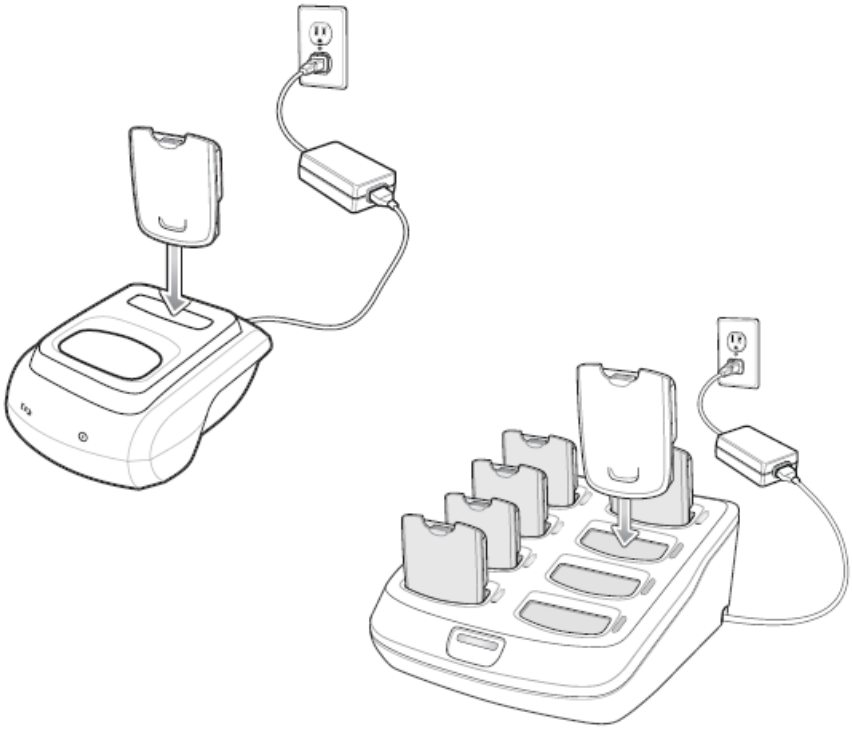
Charging via Charging Cradle

1. Connect the single-slot or 8-slot charging cradle to power.
2. Insert the CS4070 into a device slot to begin charging.



The CS4070 begins charging. The charge status LEDs light up to indicate progress. See User Indications on page 14 for charging indications.
Refer to the CS4070 Scanner Product Reference Guide for information on accessories.

Charging Spare Batteries



1. Connect the single-slot cradle or 8-slot spare battery charger to power.
2. Insert the battery into a spare battery slot with the charging contacts facing down, contacting the charging pins in the cradle.

The charge LED on the cradle lights to show the charge status.

Connecting to a Host

Batch Connection

The micro USB cable enables communication between the CS4070 and a PC, and charges the battery in the CS4070.

Note

To enter batch scanning mode, the scanner cannot be paired to a Bluetooth host. See Charging via USB Host Cable on page 5 for connection instructions.

Bluetooth Connection

Pairing

The CS4070 supports Serial Port Profile (SPP) and Human Interface Device (HID) protocols. To pair with a Bluetooth-enabled host:

1. Press the scan button (+) to wake the scanner.
2. Press and hold the Bluetooth button until the scanner beeps and the blue LED begins to flash to indicate that the scanner is discoverable by the host.
3. On the host, launch the Bluetooth pairing application and place the application into discover Bluetooth device mode. Refer to the CS4070 Scanner Product Reference Guide for pairing examples.
4. Select the CS4070 from the discovered device list. The Bluetooth application may prompt you to scan a PIN it generated, or for you to create and then scan the PIN.
5. If required, scan the PIN Entry Bar Codes on page 10 that correspond to the PIN, then scan Enter.

The Bluetooth button blinks slowly to indicate that the scanner is paired with the host.

- Note: Bluetooth pairing suspends temporarily while charging via a USB cable. Disconnecting the cable re-establishes Bluetooth pairing.
- Not:e When pairing with an iPad, press the delete key (-) on the CS4070 to toggle the virtual keyboard on and off.

Pairing via the Dongle

To use the dongle accessory to pair with a USB HID device:

1. Connect the RJ45 cable to the dongle’s RJ45 port, and the other end of the cable to a USB port on the HID device.
2. Press the scan button (+) to wake the scanner.
3. Scan the barcode on the dongle to pair the scanner with the HID device.

Unpairing

To unpair the scanner and host, press the Bluetooth button. Upon unpairing, the Bluetooth button stops blinking.

- Note: To enter batch scanning mode, the scanner cannot be paired to a Bluetooth host.

PIN Entry Bar Codes

0

1

2

3

4

5

6

7

8

9

Enter

Bluetooth Communication Options

To set up the scanner for communication with a host using a standard Bluetooth profile, scan one of the following bar codes.

- Bluetooth HID Profile (default): The scanner emulates a keyboard.
- Bluetooth Serial Port Profile (SPP): The scanner emulates a serial connection.
- Bluetooth SSI Profile: The scanner uses SSI.

*Bluetooth HID Profile

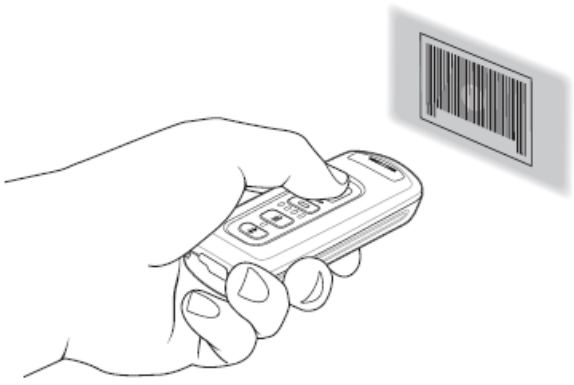
Bluetooth SPP

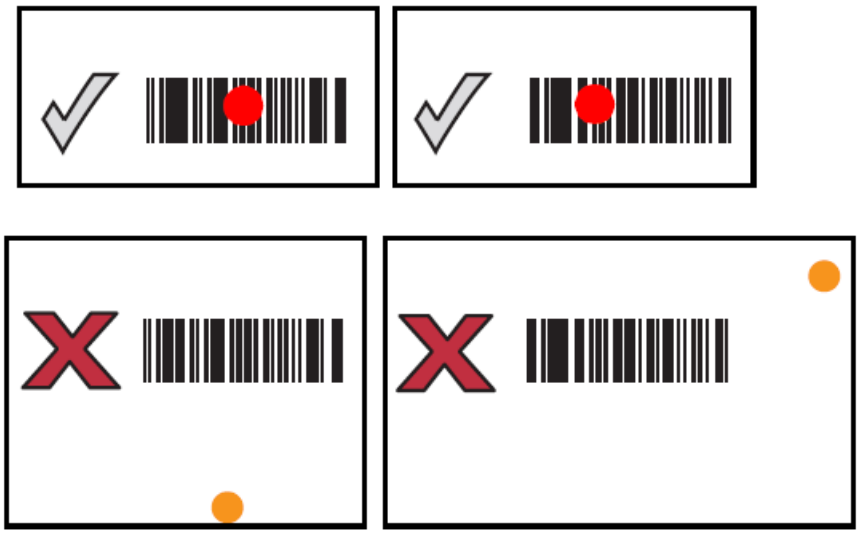
Bluetooth SSI Profile

Scanning

To scan a bar code:

1. Aim the scanner at the bar code.
2. Press the scan (+) button.
3. Ensure the aiming dot is centered on the bar code.





The scanner beeps and the LED turns green to indicate a successful decode. See User Indications for beeper and LED definitions.

- Note: The scanner cannot scan bar codes when it is connected to the host via the USB cable.
- Note: Hold down the + button for 10 seconds to toggle the beeper functionality on and off.

Deleting Bar Codes
In batch mode, to delete a barcode, aim the scanner at the barcode and press the delete (–) button.

- Note: Bar codes cannot be deleted in Bluetooth mode.

User Indications

Function	User Action	LED	Beeper
Scan the item barcode	Press scan (+) button	Flashing green -> solid green	Short high tone
Battery status: Full charge (12 hours in a busy environment)	Press bthe attery charge button	4 green	N/A
Battery status: approximately 3/4 charge		3 green	N/A
Battery status: approximately 1/2 charge		2 green	N/A
Battery status: approximately 1/4 charge		1 green	N/A
Delete bar code	Hold the delete (-) button	Flashing amber -> solid amber	Short medium tone
Delete – item doesn't exist		Flashing amber -> solid red	Long short short
Clear All (with Delete and Clear All enabled)	Hold the delete (-) button (if enabled) for 3 seconds past the scan time	Flashing amber -> solid amber	2 long, medium tones

Function	User Action	LED	Beeper
USB connection to host	Connect the scanner to the host	Flashing amber – charging; solid green – charged	Low high
Data protection toggle (when enabled)	Hold both scan (+) and delete (-) buttons for 6 seconds	None -> solid amber	Short long short
Bluetooth radio enabled (discoverable)	Hold the Bluetooth button	Rapidly flashing blue LED	Short beep
Bluetooth radio paired		Slowly flashing blue LED	Short low high
Bluetooth radio out of host range		Blue LED is off	Short high low
Bluetooth radio returns to the host range	Press any button	Slowly flashing blue LED	Short low high

Transmitting Bar Code Data to Host

Transferring Data via USB Cable
The BarcodeFile.txt file within the Scanned Barcodes directory on the scanner stores scanned (batch) bar code data. Connect the scanner to the host via USB cable or the charging cradle and use Windows Explorer to navigate to the scanner. Copy the barcode data file to the host.

- Note The scanner also supports an autorun feature where you can build an autorun.inf file to automatically

copy data to the host upon connection.

To clear the barcode data, delete the BarcodeFile.txt file from the scanner, or scan the Clear Data barcode in the Product Reference Guide.

Transferring Data via Bluetooth
When the scanner is paired to a host via Bluetooth, data transmits to the host after each scan and is not stored on the scanner unless the scanner moves out of range of the host. In this case, if the scanner does not re-pair with the host within the timeout period, it stores data in a batch file. This data must be manually copied to the host.

Troubleshooting

Problem	Possible Solutions
The imager comes on, but the scanner does not decode the barcode.	Ensure the scanner is programmed to read the type of barcode being scanned.
	Ensure the symbol is not defaced. Scan other bar codes of the same barcode type.
	Move the scanner closer to or further from the bar code.
The scanner LED turns solid red for a few seconds.	Charge the battery. See *Charging on page 4*.
The scanner does not fully charge.	Ensure the scanner is connected to a powered USB hub (5 V, 500mA max).
Bluetooth LED turns off.	Scanner is out of range; move closer to the host and press any button to re-pair with the host.
The scanner emits long beeps for 5 seconds when scanning a barcode.	Memory is full; download barcode data to the host and clear the memory.

Configuring the CS4070

123Scan2

Use the 123Scan2 utility to generate a 2D barcode with the desired configuration options. Scan the barcode to configure the scanner with these options.

Config.ini
Use a text editor such as Notepad to set configuration values in the Config.ini editable text file in the parameters folder on the CS4070.

Updating Scanner Firmware

1. Connect the micro USB cable from the host to the CS4070.
2. Copy the .dat and .bin files to the root directory of the scanner.
3. Disconnect the cable when the host indicates that it is safe to remove.

After several minutes, the LED turns green to indicate that the firmware was successfully installed.

Regulatory Information
This guide applies to Model Number CS4070.

All Zebra devices are designed to be compliant with rules and regulations in locations they are sold and will be labeled as required. Local language translations are available at the following website: **http://www.zebra.com/support** Any changes or modifications to Zebra Technologies equipment, not expressly approved by Zebra Technologies, could void the user's authority to operate the equipment.

CAUTION

- Only use Zebra-approved and UL-listed accessories, battery packs, and battery chargers.
- Do NOT attempt to charge damp/wet mobile computers or batteries. All components must be dry before connecting to an external power source.
- Declared maximum operating temperature: 40°C.

Bluetooth® Wireless Technology
This is an approved Bluetooth® product. For more information or to view End Product Listing, please visit **https://www.bluetooth.org/tpg/listings.cfm**.

Wireless Device Country Approvals
Regulatory markings, subject to certification, are applied to the device signifying the radio(s) is/are approved for use in the following countries: United States, Canada, Japan, China, S. Korea, Australia, and Europe.
Please refer to the Zebra Declaration of Conformity (DoC) for details of other country markings. This is available at **http://www.zebra.com/doc**.

Note: Europe includes, Austria, Belgium, Bulgaria, Croatia, Czech Republic, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, Switzerland and the United Kingdom. Operation of the device without regulatory approval is illegal.

Health and Safety Recommendations

Ergonomic Recommendations
Caution: In order to avoid or minimize the potential risk of ergonomic injury follow the recommendations below. Consult with your local Health & Safety Manager to ensure that you are adhering to your company's safety programs to prevent employee injury.

- Reduce or eliminate repetitive motion.n
- Maintain a natural position
- Reduce or eliminate excessive force
- Keep objects that are used frequently within easy reach
- Perform tasks at athe correct heights
- Reduce or eliminate vibration
- Reduce or eliminate direct pressure
- Provide adjustable workstations
- Provide adequate clearance
- Provide a suitable working environment
- Improve work procedures.

Warnings for Use of Wireless Devices

Please observe all warning notices about the usage of wireless devices.

Safety in Aircraft

Switch off your wireless device whenever you are instructed to do so by airport or airline staff. If your device offers a ‘flight mode’ or similar feature, consult airline staff as to its use in flight.

Safety in Hospitals

Wireless devices transmit radio frequency energy and may affect medical electrical equipment. Wireless devices should be switched off wherever you are requested to do so in hospitals, clinics, or healthcare facilities. These requests are designed to prevent possible interference with sensitive medical equipment.

Pacemakers

Pacemaker manufacturers recommended that a minimum of 15cm (6 inches) be maintained between a handheld wireless device and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with independent research and recommendations by Wireless Technology Research.

Persons with Pacemakers

- Should ALWAYS keep the device more than 15cm (6 inches) from their pacemaker when turned ON.
- Should not carry the device in a breast pocket.
- Should use the ear furthest from the pacemaker to minimize the potential for interference.
- If you have any reason to suspect that interference is taking place, turn OFF your device.

Other Medical Devices

Please consult your physician or the manufacturer of the medical devic, to determine if the operation of your wireless product may interfere with the medical device.

RF Exposure Guidelines

Safety Information

Reducing RF Exposure – Use Properly
Only operate the device according to the instructions supplied.

International

The device complies with internationally recognized standards covering human exposure to electromagnetic fields from radio devices. For information on “International” human exposure to electromagnetic fields, refer to the Declaration of Conformity (DoC) at **http://www.zebra.com/doc**.For further information on the safety of RF energy from wireless devices, see **http://www.zebra.com/corporateresponsibility.**located under Wireless Communications and Health.

Europe

Handheld Devices
To comply with EU RF exposure requirements, this device must be operated in the hand with a minimum separation distance of 20 cm or more from a person’s body. Other operating configurations should be avoided.

US and Canada

Handheld Devices (that cannot be body worn in a belt clip/holster):
To comply with FCC RF exposure requirements, this device must be operated in the hand with a minimum separation distance of 20 cm or more from a person's body. Other operating configurations should be avoided.

Radiation Exposure Statement
This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body.
NOTE IMPORTANTE: (Pour l'utilisation de dispositifs mobiles)

 **Laser Devices**

LED Devices
For LED devices that have been evaluated to IEC 62471 and comply with the Exempt Risk Group, no product labeling requirements apply. However, the following statement is required to comply with US and international regulations:

LED Compliance Statement
Classified as "EXEMPT RISK GROUP" according to IEC 62471:2006 and EN 62471:2008

Batteries

 **Taiwan – Recycling**
EPA (Environmental Protection Administration) requires dry battery producing or importing firms in accordance with Article 15 of the Waste Disposal Act are required to indicate the recycling marks on the batteries used in sales, giveaway or promotion. Contact a qualified Taiwanese recycler for proper battery disposal.

Battery Information

 **CAUTION** R: Risk of explosion if battery is replaced by an incorrect type. Dispose of batteries according to instructions. Use only ZZebra-approved batteries. Accessories that have battery charging capability are approved for use with the following battery models:

Zebra 83-97300-01 (3.7 Vdc, 950 mAh)
Zebra 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 actual life cycle of a battery pack, such as heat, cold, harsh environmental conditions and severe drops.
When batteries are stored for over six (6) months, some irreversible deterioration in overall battery quality may occur. Store batteries at half of full charge in a dry, cool place, removed from the equipment to prevent loss of capacity, rusting of metallic parts and electrolyte leakage. When storing batteries for one year or longer, the charge level should be verified at least once a year and charged to half of full charge.

Replace the battery when a significant loss of run time is detected. Standard warranty period for all Zebra batteries is 30 days, regardless if the battery was purchased separately or included as part of the mobile computer or bar code scanner. For more information on Zebra batteries, please visit: **http://www.zebra.com/batterybasics**.

Battery Safety Guidelines

- The area in which the units are charged should be clear of debris and combustible materials, or chemicals. Particular care should be taken where the device is charged ina noncommercial environment.

- Follow battery usage, storage, and charging guidelines found in the user's guide.
- Improper battery use may result in a fire, explosion, or other hazard.
- To charge the mobile device battery, the battery and charger temperatures must be between +32 ºF and +104 ºF (0 ºC and +40 ºC).
- Do not use incompatible batteries and chargers. Use of an incompatible battery or charger may present a risk of fire, explosion, leakage, or other hazard.
- If you have any questions about the compatibility of a battery or a charger, contact the Global Customer Support Center.
- For devices that utilize a USB port as a charging source, the device shall only be connected to products that bear the USB-IF logo or have completed the USB-IF compliance program.
- Do not disassemble or open, crush, bend or deform, puncture, or shred.
- Severe impact from dropping any battery-operated device on a hard surface could cause the battery to overheat.
- Do not short-circuit a battery or allow metallic or conductive objects to contact the battery terminals.
- Do not modify or remanufacture, attempt to insert foreign objects into the battery, immerse or expose to water or other liquids, or expose to fire, explosion, or other hazard.
- Do not leave or store the equipment in or near areas that might get very hot, such as in a parked vehicle or near a radiator or other heat source. Do not place battery into a microwave oven or dryer.
- Battery usage by children should be supervised.
- Please follow local regulations to promptly dispose of used rechargeable batteries.
- Do not dispose of batteries in a fire.
- Seek medical advice immediately if a battery has been swallowed.
- In the event of a battery leak, do not allow the liquid to come in contact with the skin or eyes. If contact has been made, wash the affected area with large amounts of water and seek medical advice.
- If you suspect damage to your equipment or battery, contact the Global Customer Support Center to arrange for inspection.

Radio Frequency Interference Requirements- FCC
Note: This equipment has been tested and found to comply with the limits for a Class B digital device, under Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and usedbyh the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this 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:

- Reorient or relocate the receiving antenna

- Increase the separation between the equipment and the receiver
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help.

Radio Transmitters (Part 15)
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Radio Frequency Interference

Requirements- Canada
This Class B digital apparatus complies with Canadian ICES-003.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

1. This device may not cause interference, and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

CE Marking and the European Economic Area (EEA)
Bluetooth® Wireless Technology for use through the EEA has the following restrictions:

- Maximum radiated transmit power of 100 mW EIRP in the frequency range 2.400 – 2.4835 GHz

Statement of Compliance
Zebra hereby declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 1995/5/EC and 2011/65/EU. A Declaration of Conformity may be obtained from **http://www.zebra.com/doc**.

Japan (VCCI) – Voluntary Control
Council for Interference

Class B ITE
Korea Warning Statement for Class B ITE

Other Countries
Brazil (UNWANTED EMISSIONS – ALL

PRODUCTS)
Regulatory declarations for CS4070 – BRAZIL. For more information, consult the website **www.anatel.gov.br**

Mexico
Restrict Frequency Range to: 2.450 – 2.4835 GHz.

Korea
For radio equipment using 2400~2483.5MHz or 5725~5825MHz, the following two expressions should be displayed:

Waste Electrical and Electronic Equipment (WEEE)
For EU Customers: All products at the end of their life must be returned to Zebra for recycling. For information on how tto returnn product, please go to: **http://www.zebra.com/weee**. This table was created to comply with China RoHS requirements.

China RoHS

(Parts)	(Pb)	(Hg)	(Cd)	(Cr(VI))	(PBB)	(PBDE)
(Metal Parts)	0	0	0	0	0	0
(Circuit Modules)	X	0	0	0	0	0
(Cables and Cable Assemblies)	0	0	0	0	0	0
(Plastic and Polymeric Parts)	0	0	0	0	0	0
(Optics and Optical Components)	0	0	0	0	0	0
(Batteries)	0	0	0	0	0	0

Service Information
If you have a problem using the equipment, contact your facility's technical or systems support. If there is a problem with the equipment, they will contact the Zebra Global Customer Support Center at:
http://www.zebra.com/support

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

Warranty
For the complete Zebra hardware product warranty statement, go to: **http://www.zebra.com/warranty**.

For Australia Only
This warranty is given by Zebra Technologies Asia Pacific Pte. Ltd., 71 Robinson Road, #05-02/03, Singapore 068895, Singapore. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law.

You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Zebra Technologies Corporation Australia's limited warranty above is in addition to any rights and remedies you may have under the Australian Consumer Law. If you have any queries, please call Zebra Technologies Corporation at +65 6858 0722. You may also visit our website: **http://www.zebra.com** for the most updated warranty terms.

Zebra Technologies Corporation
Lincolnshire, IL, U.S.A.
http://www.zebra.com

MN000763A02 Revision A – March 2015

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References

- **User Manual**