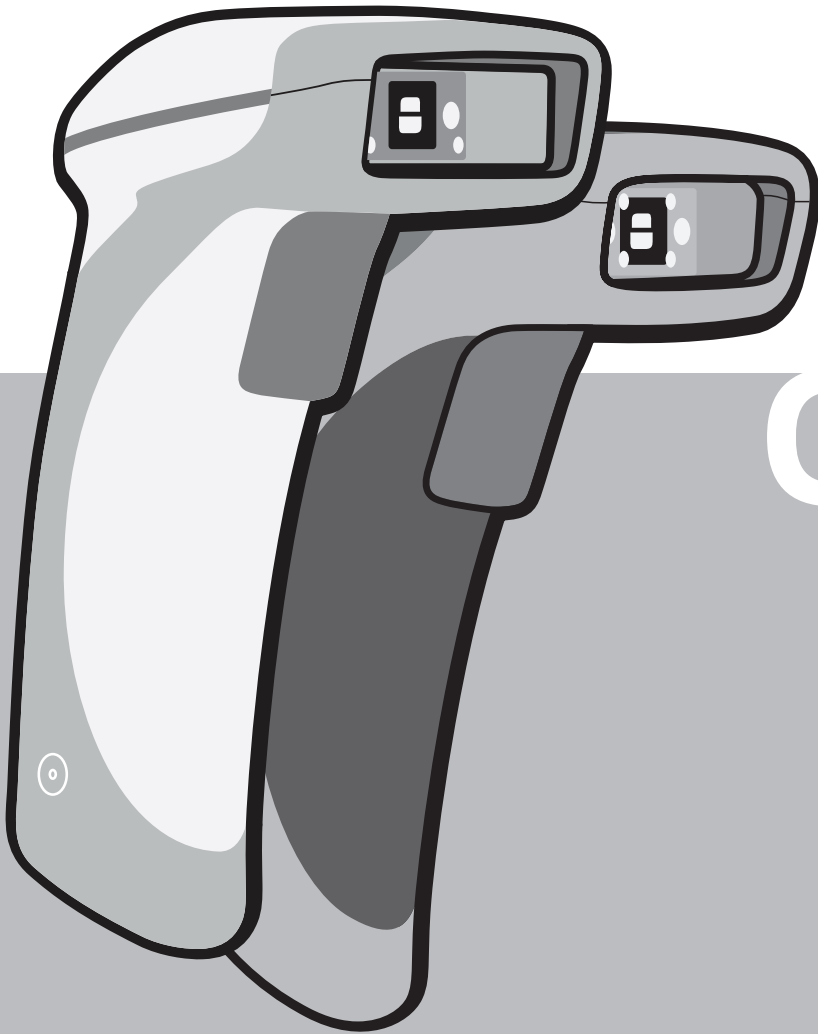# USER MANUAL

CR1500

MANUAL VERSION 06
UPDATED: MAY 2023

code®

Statement of Agency Compliance

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to 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 used in accordance with 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 receiver.
- Connect the equipment into 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.

Industry Canada (IC)

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.

Industrie Canada (IC)

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Code Reader™ 1500 User Manual Legal Disclaimer

Table of Contents

1. CR1500 Readers & Accessories

1.1 Readers

Part Number	Description
CR1500-K10x	Cabled, Light Gray, CodeShield® Level 3
CR1500-K20x	Cabled, Dark Gray, CodeShield Level 2
CR1500-L20x	CPM Reader, Cabled, Dark Gray, CodeShield Level 2
CR1500-M20x	XHD Reader, Cabled, Dark Gray

1.2 Accessories

Part Number	Description
CRA-US2	CR1xxx - Stand, Light Gray
CRA-US3	CR1xxx - Stand, Dark Gray
CRA-MB9	CR1xxx - Vice Clamp Mount
CRA-WMB3	CR1xxx - Wall Mount Bracket (Light Gray)

1.3 Power Supplies

Part Number	Description
CRA-P4	USB Power Adapter for all Cabled Readers
CRA-P5	International Power Supply, USB, with US/EU/UK/AU Adapter Clips
CRA-P6	International Power Supply, Barrel Plug 5V/1A, with US/EU/UK/AU Adapter Clips
CR2AG-P1	US Power Supply for RS232
CR2AG-P2	EU Power Supply for RS232

1.4 Cables

Refer to codecorp.com for a complete list of available cables.

2. Unpacking & Installation

2.1 CR1500 & Cables

CR1500   **USB Cable**   **RS232 Cable**   **5VDC Power Supply**
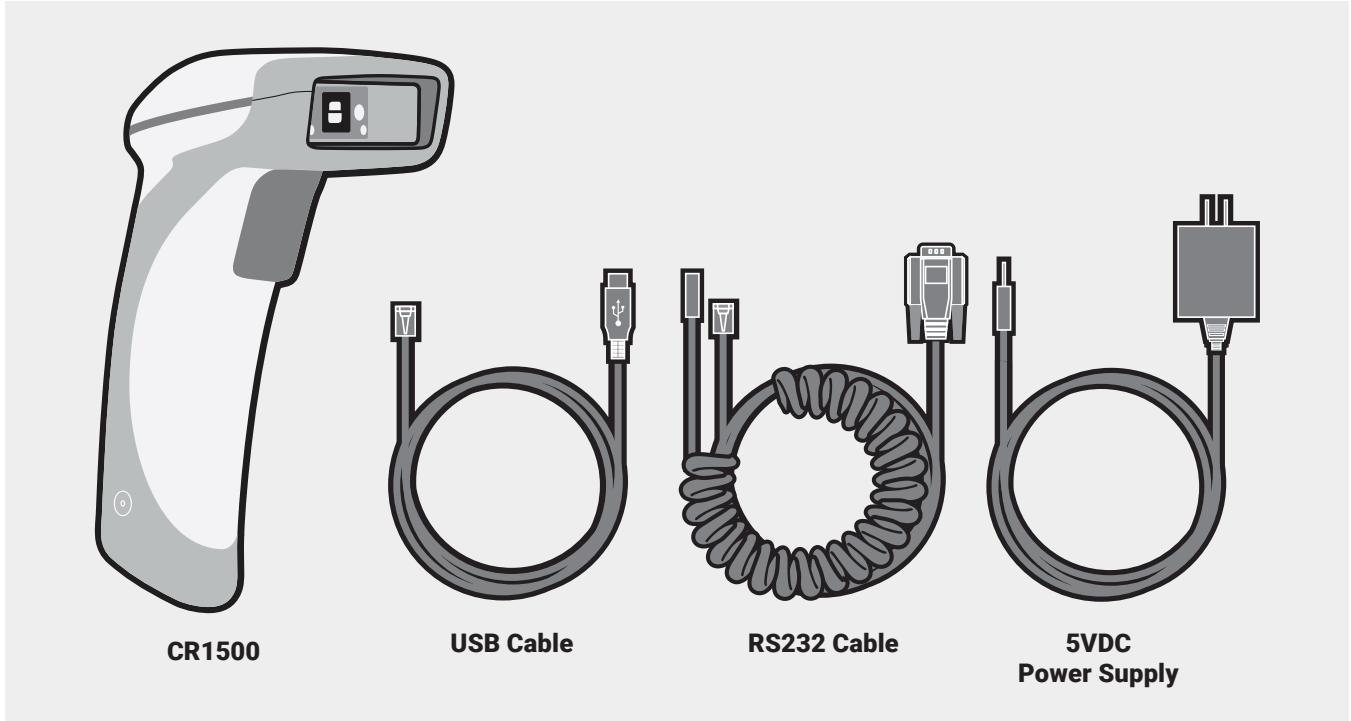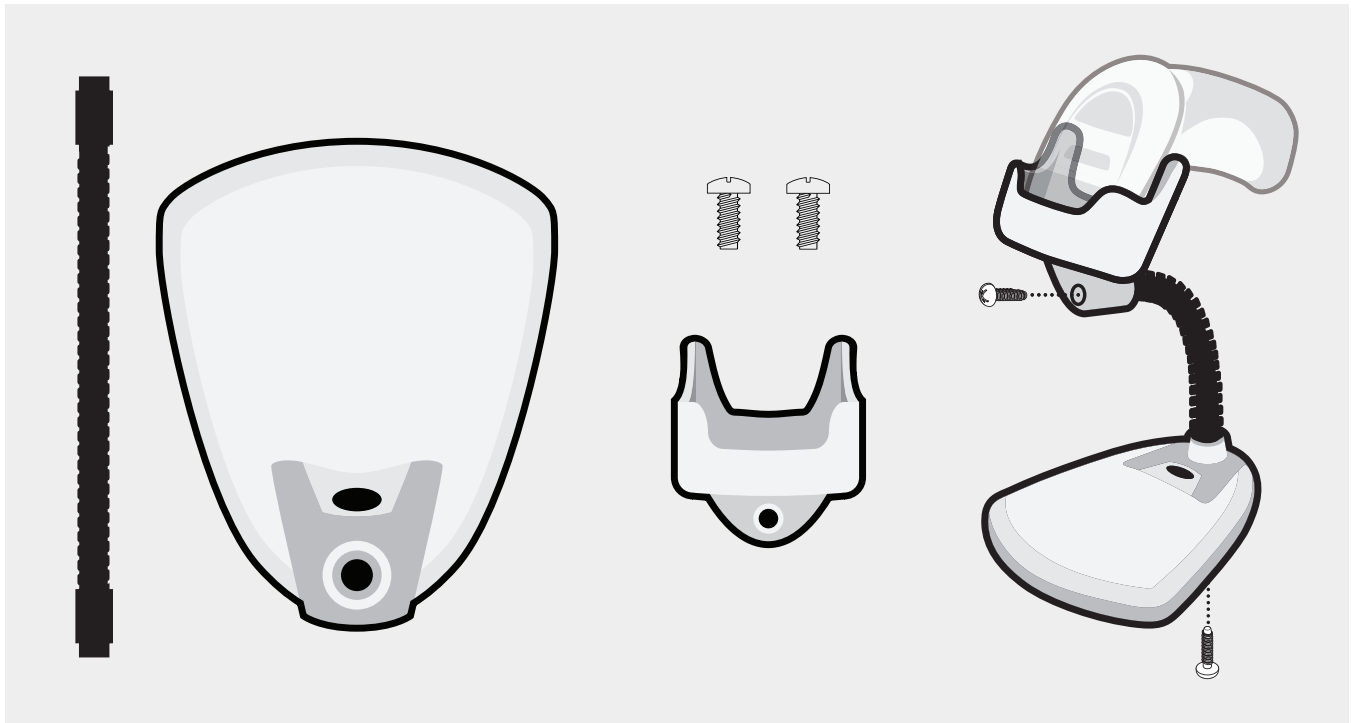
2.2 Universal Stand

3. Attaching & Detaching a Cable
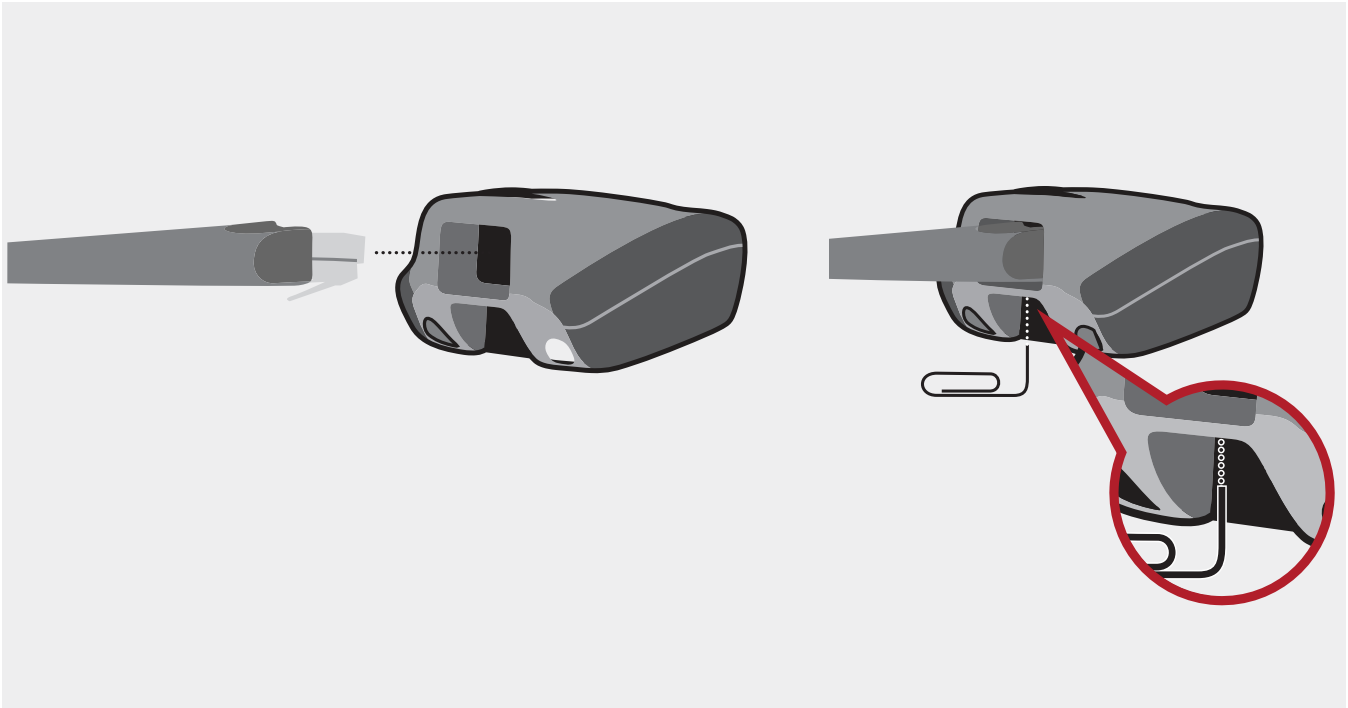
4. Setup
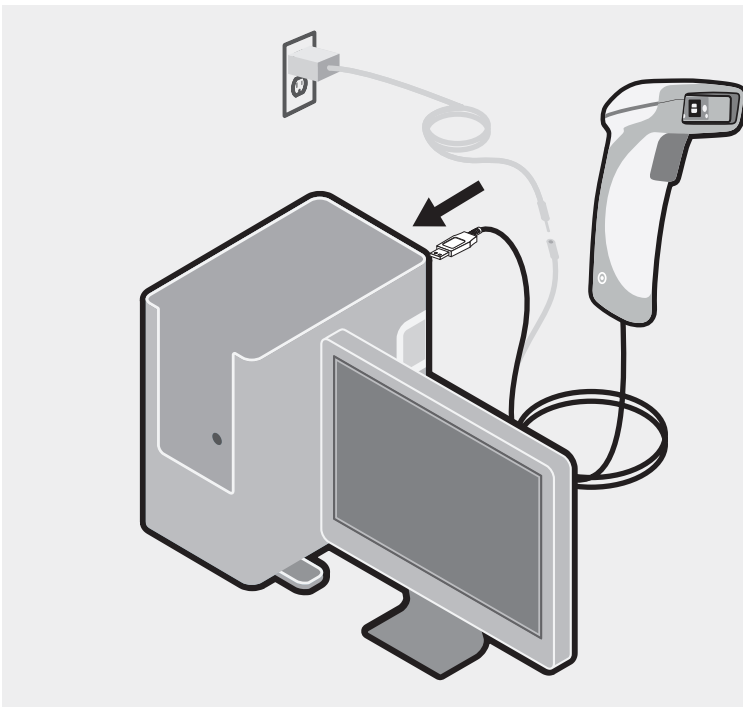
①		**Plug In**
② 2 Sec.		**Wait 2 seconds**
③		**LED will Flash**
④ 2x		**Reader will beep**
⑤		**Reader will vibrate**

5. Using a CR1500 Outside of a Universal Stand

10 cm
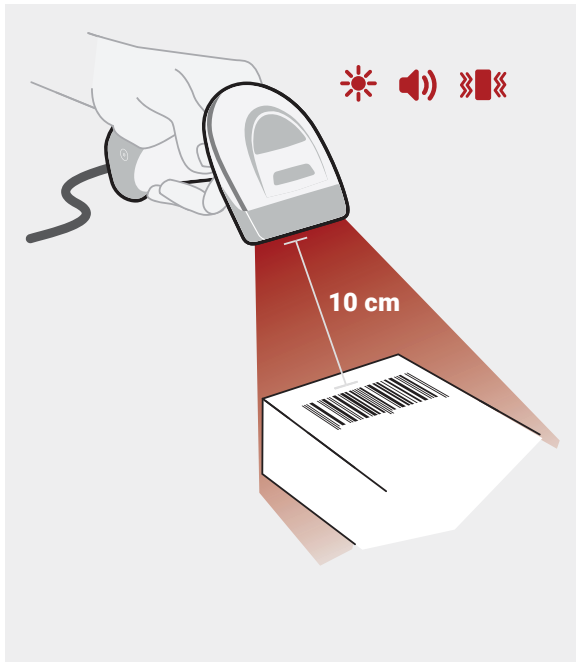
6. Using a CR1500 in a Universal Stand

10 cm

7. Typical Reading Ranges

Test Barcode	CR1500-KXXX (standard) Min/Max Distance	CR1500-LXX Min/Max Distance	CR1500-M2XX Min/Max Distance
3 mil Code 39	3.3" (85 mm)/4.2" (107mm)		0.6" (14 mm) / 1.5" (39 mm)
5.8 mil PDF417			0.4" (9 mm) / 1.7" (44 mm)
7.5 mil Code 39	0.7" (18 mm) / 6.6" (167 mm)	0.9" (24 mm) / 6.7" (170 mm)	1.4" (35 mm) / 2.3" (58 mm)
10.5 mil GS1 DataBar	0.2" (5 mm) / 8.1" (205 mm)	0.2" (5 mm) / 6.1" (155 mm)	0.6" (15 mm) / 2.8" (71 mm)
13 mil UPC	0.5" (13 mm) / 10.4" (265 mm)	0.7" (17 mm) / 9.6" (245 mm)	1.2" (31 mm) / 3.3" (83 mm)
3.3 mil Data Matrix			0.4" (11 mm) / 1.1" (29 mm)
4.2 mil Data Matrix		1.0" (25 mm) / 2.4" (60 mm)	0.4" (9 mm) / 1.2" (31 mm)
5 mil Data Matrix	1.1" (28 mm) / 3.9" (100 mm)	0.8" (20 mm) / 2.8" (70 mm)	0.4" (9 mm) / 1.5" (39 mm)
6.3 mil Data Matrix	0.7" (18 mm) / 5.3" (135 mm)	0.5" (12 mm) / 3.6" (92 mm)	0.3" (7 mm) / 1.6" (41 mm)
10 mil Data Matrix	0.2" (5 mm) / 6.5" (165 mm)	0.2" (5 mm) / 5.9" (150 mm)	0.3" (7 mm) / 2.1" (54 mm)
20.8 mil Data Matrix	0.5" (13 mm) / 12.9" (328 mm)	0.4" (10 mm) / 10.4" (265 mm)	0.3" (7 mm) / 3.6" (92 mm)

Note: *Working ranges are a combination of both the wide and high density fields. All samples were high quality codes and were read along a physical center line at a 10° angle. Default automatic gain control settings were used with regular office lighting. Accuracy= +/- 10%. Testing conditions may affect working ranges. Measured from the front of the device in metric units then converted to Imperial units.*

8. Reader Feedback

Scenario	Top LED Light	Sound	Vibration
CR1500 successfully powers up	Green LED flashes	1 beep	Handle vibrates
CR1500 successfully enumerates with host (via cable)	Once enumerated, the green LED turns off	1 beep	No vibration
Attempting to decode	Green LED light is off	None	No vibration
Successful decode and data transfer	Green LED flashes	1 beep	Handle vibrates
Configuration code successfully decoded and processed	Green LED flashes	2 beeps	Handle vibrates
Configuration code successfully decoded but wasn't successfully processed	Green LED flashes	4 beeps	Handle vibrates
Downloading file/firmware	Amber LED flashes	None	No vibration
Installing file/firmware	Red LED is on	3-4 beeps*	Handle vibrates

Depending on comm port configuration

9. Symbologies Turned On by Default

The following are symbologies that are turned *on* by default. To turn symbologies on or off, scan the symbology barcodes in the CR1500 Configuration Guide—located on the CR1500 product page:
codecorp.com/products/code-reader-1500

- Aztec
- Codabar
- Code 39
- Code 93
- Code 128
- Data Matrix
- Data Matrix Rectangle
- All GS1 DataBar
- Interleaved 2 of 5
- PDF417
- QR Code
- UPC/EAN/JAN

10. Symbologies Turned Off by Default

Code barcode readers can read a number of barcode symbologies that are not enabled by default. To turn symbologies on or off, scan the symbology barcodes in the CR1500 Configuration Guide—located on the CR1500 product page:
codecorp.com/products/code-reader-1500

- Code 11
- Code 32
- Code 49
- Composite
- Grid Matrix
- Han Xin Code
- Hong Kong 2 of 5
- IATA 2 of 5
- Matrix 2 of 5
- Maxicode
- Micro PDF417
- MSI Plessey
- NEC 2 of 5
- Pharmacode
- Plessey
- Postal Codes
- Standard 2 of 5
- Telepen
- Trioptic

11. Reader ID, Firmware Version & License

For device management and obtaining support from Code, reader information will be needed. To find out the Reader ID, firmware version and optional licenses, open a text editor program (e.g., Notepad, Microsoft Word, etc.) and scan the Reader ID and Firmware configuration barcode on the right.

M20361_01

Scan for Reader ID, Firmware, and Licenses

You will see a text string indicating your firmware version and CR1500 ID number.
Example:
<RD><RR MD="CR1500" /></RD><RD><RR SN="1060000003" /></RD><RD><FW VS="1.1.4 " /></RD><RD><LC GL="" /></RD>

Model Number	Serial Number	Firmware Version Number	License Part Number (if there is any)

<RD><RR MD="CR1500" /></RD><RD><RR SN="1060000003" /></RD><RD><FW VS="1.1.4" /></RD><RD><LC GL="" /></RD>

Note: *Code will periodically release new firmware for CR1500 readers. For information on latest firmware please see* **codecorp.com/products/code-reader-1500**.
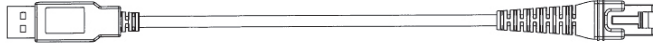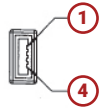
12. CR1500 Overall Dimensions

77 mm (3.0") D

132 mm (5.2") H

52 mm (2.0") W
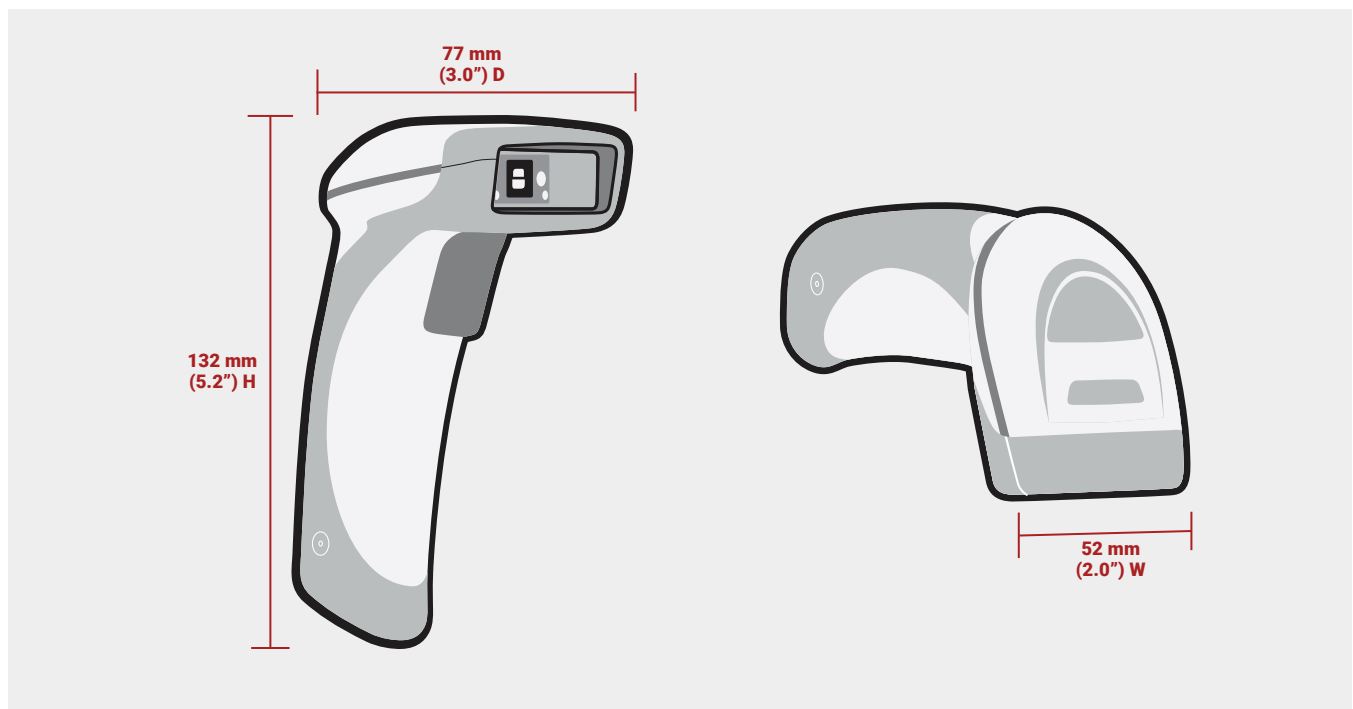
13. USB Cable Example with Pinouts

Notes:

1. Part to be ROHS and Reach compliant.
2. Maximum voltage tolerance = 5V +/- 10%
3. ***Caution***: *Exceeding the maximum voltage will void manufacturer warranty.*

CONNECTOR A	NAME	CONNECTOR B
1	VIN	1
2	D-	2
3	D+	3
4	GND	10
SHELL	-	NC

Connector A   Connector B

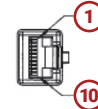## 14. RS232 Cable Example with Pinouts

Notes:

1. Part to be ROHS and Reach compliant.
2. Maximum voltage tolerance = 5V +/- 10%
3. ***Caution***: *Exceeding the maximum voltage will void manufacturer warranty.*

CONN A	NAME	CONN B	COLOR	CONN C
1	VIN	9	RED	TIP
4	TX	2		
5	RTS	8		
6	RX	3		
7	CTS	7		
10	GND	5	BLACK	RING
NC	-	SHIELD		
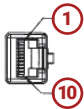
Connector C
6.50 IN ± 0.5 IN
Connector A   Connector B
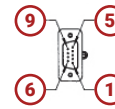
15. Reader Pinouts

The connector on the CR1500 is an RJ-50 (10P-10C). Pinouts:

Pin 1	+VIN (5v)
Pin 2	USB_D-
Pin 3	USB_D+
Pin 4	RS232 TX (output from reader)
Pin 5	RS232 RTS (output from reader)
Pin 6	RS232 RX (input to reader)
Pin 7	RS232 CTS (input to reader)
Pin 8	External Trigger (active low input to reader)
Pin 9	N/C
Pin 10	Ground

16. CR1500 Maintenance

The CR1500 device needs only a minimum of maintenance to operate. A few tips are given below for maintenance suggestions.

Cleaning the CR1500 Window

CR1500 window should be clean to allow the best performance of the device. The window is the clear plastic piece inside the head of the reader. Do not touch the window. Your CR1500 uses CMOS technology that is much like a digital camera. A dirty window may stop the CR1500 from reading barcodes. If the window becomes dirty, clean it with a soft, non-abrasive cloth or a facial tissue (no lotions or additives) that has been moistened with water. A mild detergent may be used to clean the window, but the window should be wiped with a water moistened cloth or tissue after using the detergent.

Technical Support and Returns

For returns or technical support visit **codecorp.com**.

17. Online Resources for the CR1500

Please visit codecorp.com for resources to set up and manage the CR1500. On the CR1500 product page, you will find various information about the product.

The Firmware and Software tabs contain downloads for the device. They include:

- The latest device firmware
- CortexTools3, a Windows utility program to configure your code Reader, create configuration barcodes, update reader firmware, set data parsing rules, load custom JavaScript applications, upload images to your PC and much more
- Various Drivers (OPOS, JPOS, Virtual COM, etc.)

To configure the CR1500, go to "Support" and select "Device Configuration" to view the manual configuration codes.

18. Contact Code for Support

If any problem is encountered when using a Code device, contact your facility's technical support first. If they determine the problem lies with the Code device, they should contact the Code Support department at codecorp.com. To obtain support, please provide the following information:

- Device model number
- Device serial number
- Firmware version

Code Support will respond by telephone or email.

If it is deemed necessary to return the device to Code for repair, Code Support will provide a Return Authorization (RMA) Number and shipping instructions. Packaging or shipping improperly may result in damage to the device and void the warranty.

19. Warranty

For complete Warranty and RMA information, go to codecorp.com.