code

Code Reader 1200™
Code Reader 1210™

Manual Version 6
Release Date: 3/16/09

C003525_06_CR1200_User Manual

Statement of Agency Compliance

The CR1200 has been tested for compliance with FCC regulations and was found to be compliant with all applicable FCC Rules and Regulations.

IMPORTANT NOTE: To comply with FCC RF exposure compliance requirements, this device must not be co-located or operate in conjunction with any other antenna or transmitter.

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The CR1200 has been tested for compliance to CE standards and guidelines and was found to conform to applicable CE standards, specifically the EMC requirements EN 55022 Class BRadiated Emissions and Class B Conducted Emissions.

NOTE: This equipment has been tested and found to comply with the limits or 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

Code Reader 1200 / Code Reader User Manual

Table of Contents

Chapter 1 - Introduction

1.1 - Introduction

Simple, affordable and fast, the Code Reader 1200™ (CR1200) provides two-dimensional CMOS imaging at a new low cost. Built for cabled applications, the CR1200 is Code Corporation's (Code's) low-cost addition to its family of the highest performing hand-held bar code readers available. The CR1200 is bar code reading simplicity redefined. It is rugged, lightweight, and flexible making it the ideal reader for all linear and two-dimensional bar code reading applications.

CR1200's wide angle lens captures and decodes all bar code types and symbologies. Working range and decode performance is increased with Code's Dynamic Optimization Technology (DOT). The CR1200 non-laser targeting function utilizes two converging LEDs that intersect to help the user quickly determine target range. Revolutionary audible, tactile and visual user feedback systems include an advanced speaker, a vibration motor, and LEDs for targeting and status. The CR1200 may be ordered with cables for USB, RS232, and PS2 host communications.

Code's software development kits provide programming tools that help you prepare decoded data to meet the requirements of existing software programs. While simple in design and function, the CR1200 is singularly adept in data capture and decoding performance.

The CR1200 includes the following features and benefits:

- Affordability—it is Code's least expensive bar code reader.
- Durable over-molded housing and secured cable improves drop-shock survivability.
- An exceptionally "smooth feel" trigger—good for more than 3 million activations.
- A vibration motor that provides tactile feedback in noisy or silent environments.
- A ruggedized design with a permanent lanyard hook.
- The ability to read and decode all symbologies.
- "Good read" feedback with vibration, audible tones and LED indicators.
- Field-upgradeable firmware; can be remotely managed from single location.
- DOT continuously improves reader performance by evaluation of reading environment.
- The JavaScript Application Development Suite, which allows program development to prepare captured data for integration with enterprise software.
- The Linux Kernel 2.6.11, which allows vast OEM application possibilities.

1.2 - Operational Overview

The CR1200 code-reading system consists of a 1.3-megapixel imager and 400-MHz processor. It communicates with the host computer via USB, RS232, and PS2 cables and protocols. It is preconfigured with Code's own DOT technology, which continuously adapts the resolution and illumination. Because of DOT, CR1200 units achieve decoding speeds with two-dimensional (2D) codes similar to speeds usually seen only in one-dimensional (1D) readers. CR1200 units can read all symbology types and sizes, as well as a variety of printed media, within a wide range of environmental factors including light (natural or ambient lighting). The CR1200 can be optimized further for higher performance in applications with more specific needs and consistent environments.

In response to capturing data after reading a bar code, the CR1200 imaging firmware analyzes the bar code image, decodes the image resulting in data, and encodes that data into USB, RS232, and PS2 protocol packets. It then writes that data to the output port of the CR1200 to which the cable is attached. A host computer application receives and processes the data packets.

In normal operation, the CR1200 is designed as a lightweight, rugged, hand-held device with a trigger and operator feedback operation. The CR1200 can be reconfigured to other operational modes to support other applications—for example, continuous read mode where a non-triggered device provides a better solution.

1.3 - About This Document

This document provides the IT professional the information required to install and configure the CR1200 for use in the workplace. Additional information required by System Engineering to integrate the CR1200 with enterprise software may be found in other documents provided by Code at: http://www.codecorp.com/support/manuals.htm.

This document is divided into the following sections:

1.   Introduction (current section)
2.   Getting Started—how to unpack, install, and configure the CR1200
3.   Reading Bar Codes—techniques for using the CR1200
4 .   Optimizing the Read—performance optimization in unique environments
5 .   Setting Symbology—configuration codes for symbology specification
6 .   Setting Operational Features—configuration codes for specifying CR1200 features
7 .   Maintenance and Troubleshooting—maintenance of the CR1200 hardware and software

Throughout this document you will find codes that you can read with the CR1200 to configure it and to turn various features on or off.

Cautions: and **Notes:** provide important information about the use of CR1200 features.
Since any configuration changes are not saved when the CR1200 is powered down, a Save Settings code is provided at the bottom of each page.

Chapter 2 - Getting Started

2.1 - Unpacking

Remove the CR1200 from its package and inspect it for damage. If the unit was damaged during shipping, call Code at (801) 495-2200.

The standard CR1200 was ordered and shipped with your choice of USB, RS232, or PS2 cable interface. The USB version is available in 6 foot or 12 foot cable lengths. RS232 cabled units include a power supply (US/Europe/SA/UK/Asia) designated at ordering. The connector to the power supply is integrated into the RS232 cable.

The CR1200 is shipped in an approved shipping container. Please keep your packing materials and use them if you need to return your equipment to Code for servicing.

2.2 - Installing

Figure 2.1 shows the connectors for the CR1200 cables. Cables are connected to the CR1200 with an 8-pin DIN connector. This section tells you how to attach the CR1200 to a host and configure the reader based on options available for each cable type.

After installation, the CR1200 will be ready to operate in the Dynamic Optimization Technology (DOT) mode described in Section 4.1.

USB   **RS232**   **PS/2**
Figure 2.1
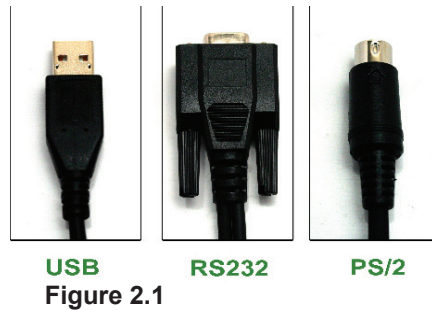
2.2.1 - USB Cable Connection and Settings

The USB Cabled CR1200 communicates with the host computer over a USB cable using the USB communications protocol.

2.2.1.2 - USB Cable Instructions

To connect the CR1200 to your host computer via USB interface:

Figure 2.2

1. Attach the USB cable to CR1200.

2. There is no need to power of the computer. Connect the USB cable to a USB port on the computer (Figure 2.2).

3. Once properly connected, the CR1200 will power on and beep.

4. Scan the below code (M049_03) for USB Keyboard Mode:
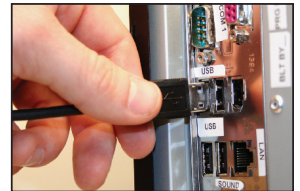
USB Keyboard Factory Reset

M049_03

Save Settings

M188_02

5. Scan the Save Settings Code (M188_02)

 Save Settings

M188_02

2.2.1.2 - Addional USB Communication Settings

USB Keyboard Mode - Data is sent from the Reader and interpreted by the host just as if a USB keyboard was being used to enter data.

USB Downloader - This mode is used when downloading firmware.

USB Native Two Way Mode - This mode is utilized when there is a need for error-corrected communication between the CR1200 and an application through the USB port.

USB Virtual COM 1 Way Mode - This mode allows a USB-cabled CR1200 to function as a virtual COM port. To use the CR1200 in this mode, download the driver at **www.codecorp.com/downloads.php**.

USB HID POS (Terminal ID 131) - This mode allows a USB-cabled CR1200 to communicate as a USB HID POS (Terminal ID 131) device.

Scan the following codes to set the appropriate USB communication setting:

USB Keyboard

M134_02

USB Downloader

M133_01

USB Native Two Way Mode

M135_04

USB Virtual COM 1 Way Mode

M668_01

USB HID POS (Terminal ID 131)

M736_01

2.2.1.3 - Keyboard Support

Scan the following codes to set appropriate keyboard mapping:

US English (Default)
No Leading 0
for non-printable characters

M172_01

US English - Leading 0
for non-printable characters

M602_01

US English - ctrl + char
for non-printable characters

M606_01

French

M603_01

German

M604_01

Japanese

M605_01

Universal Keyboard

M173_01

Custom Keyboard

Requests map to be installed

M171_01

Alternative OS
(Windows CE/MAC/Unix/Linux)
Enable

M585_02

Alternative OS Disable

M584_02

Save Settings

M188_02

2.2.2 - PS/2 Cable Installation Guide

CR1200 must have a serial number greater than 10050561 and a firmware version greater than 4126 to use a PS/2 cable.

1. Power off the computer. If you disconnect the computer's keyboard while it is powered on, your computer will lock up.

2. Attach the the PS/2 cable to the CR1200.

3. If you have a cabled keyboard, detach the keyboard cable from the computer and connect that same connector to the female connection on the CR1200 PS/2 cable (Figure 1.17).

4. Now connect the male CR1200 PS/2 connector into the keyboard port on the computer (Figure 1.18).

5. Power on the computer. The CR1200 is powered by the PS/2 port and does not require a power supply.

Figure 1.17

Figure 1.18

PS/2 Factory Reset

M060_03

Save Settings

M188_02

Code does not guarantee compatibility with all models of computers.

2.2.3 - RS-232 (Serial) Cable Installation Guide

1. Attach the RS-232 (Serial) cable to the CR1200.

2. Connect the RS-232 (Serial) cable to a serial port on the computer (Figure 1.19). There is no need to power off the computer.

3. The RS-232 (Serial) interface has an optional 5V/1.5A power supply (Figure 1.20). If you have a power supply, plug the power supply adapter into the RS-232 (Serial) cable and then plug the power adapter into a wall socket (Figure 1.21).

Figure 1.19

Figure 1.20

Figure 1.21

4. Once properly connected, the CR1200 will power on and beep.

5. For RS-232 (Serial) mode scan M418_02 (below). If the power supply is not connected scan M074_02 (below).

6. Scan the Save Settings Code (M188_02).

RS-232 (Serial)
Factory Reset
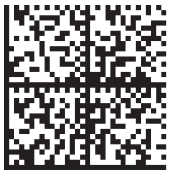
M418_02

RS-232 (Serial) Mode
No Power Supply

M074_02

Save Settings

M188_02

RS-232 Factory Default Settings
Mode: RS-232 One Way Mode
Baud Rate: 57600
Stop Bits: 2
Data Bits: 8
Parity: None

Warning: Code Corporation approved power adapter must be used. Reader failure due to use of incorrect power adapter will void warranties.

 Save Settings

M188_02

2.2.3.1 - Additional RS-232 (Serial) Communication Data Bit Settings

Scan the following codes to set the appropriate data bit:

7 Data Bits

M100_01

8 Data Bits (Default)

M101_01

2.2.3.2 - Additional RS-232 (Serial) Communication Baud Rate Settings

Scan the following codes to set the appropriate baud rate:

1200	**2400**	**4800**	**9600**
M092_01	M093_01	M094_01	M095_01

19200	**38400**	**57600 (Default)**	**115200**
M096_01	M097_01	M098_01	M099_01

2.2.3.3 - Additional RS-232 (Serial) Communication Parity Settings

Scan the following codes to set parity:

Even	**Odd**	**None (Default)**
M102_01	M104_01	M103_01

2.3.1 - Cabled Reader - Time Out Settings

Scan one of the codes below to set the amount of time a cabled CR1200 will be enumerated before entering sleep mode.

Note: These settings will only work in versions 2098 and above.

Cabled Reader Time Out: 2 hours

M136_01

Cabled Reader Time Out: Never (Default)

M137_01

 Save Settings
M188_02

Chapter 3 - Optimization and Trigger Programming

M188_02

3.1 - Specifying Feedback

The CR1200 features one LED on the top of the unit. The LED gives visual feedback based on the operation of the CR1200 (see Table 3.1). The LED may display Red, Amber, or Green. Configurable sound and vibration features provide audible and tactile feedback.

Figure 3.1

Condition	Sound/Vibration	LED
Successful Power Up	1 Beep/Vibration	Sequence: Amber Green Amber
Successful connection with the host via USB cable	1 Beep/Vibration	None
Sucessful decode and data transfer to the host	1 Beep/Vibration	Flash Green
Configuration Code suffessfully decoded and processed	2 Beeps/Vibrations separated by a slight pause	Flash Green

Table 3.1 LED Feedback Conditions

Read the following codes to set the beep and vibration modes:

Vibration On / Beep On (Default)

M107_01

Vibrate On / Beep Off

M109_01

Vibrate Off / Beep On

M108_01

 Save Settings

M188_02

3.2 - Targeting

The CR1200 targeting implementation projects two LED-generated images to aid you in properly positioning and focusing the reading operation.

Figure 3.2 graphically displays the field of view of the CR1200 reader and shows the areas of that field of view where various codes can be read. Targeting the code becomes more important as the size of the code decreases and the density increases.

The optimal distance to read a code is 3.8" (9.7 centimeters). The LED targeting guides projected by the CR1200 help to detect this optimal reading distance.
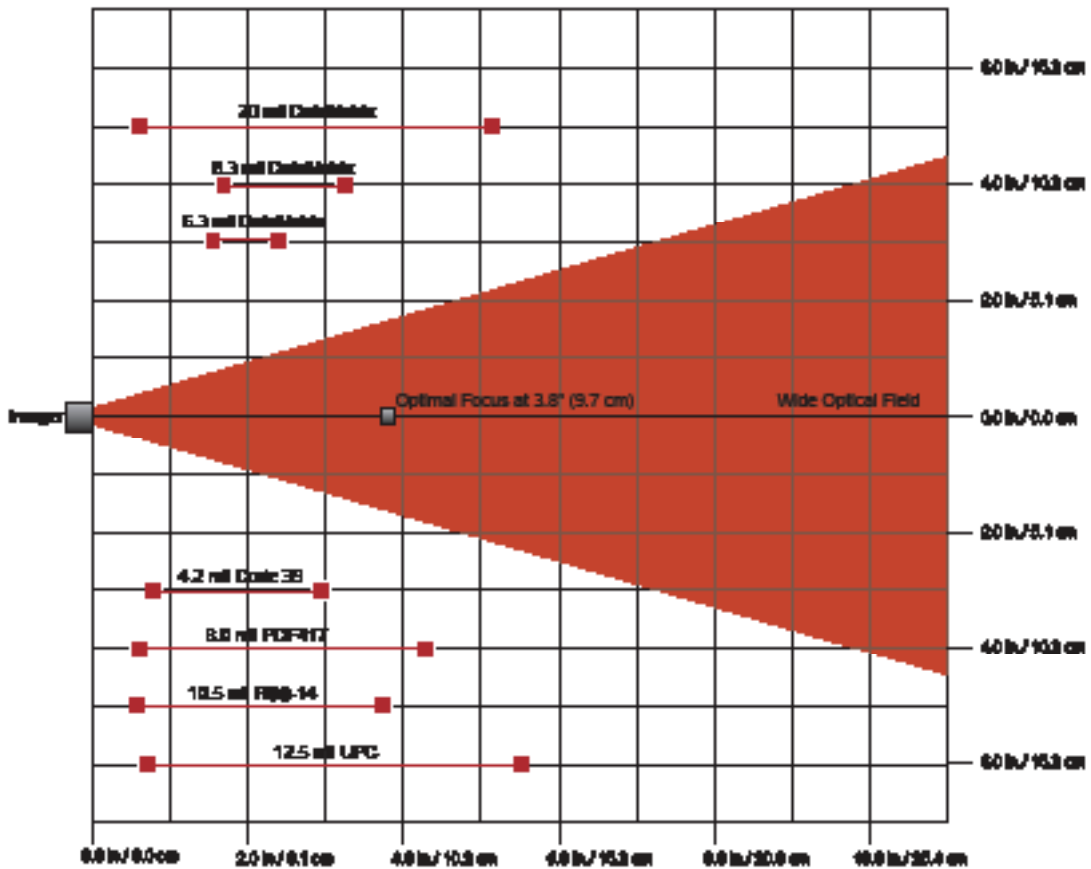
Figure 3.2

M188_02

The CR1210 targeting implementation projects two LED-generated images to aid you in properly positioning and focusing the reading operation.

Figure 3.3 graphically displays the field of view of the CR1210 reader and shows the areas of that field of view where various codes can be read. Targeting the code becomes more important as the size of the code decreases and the density increases.

The optimal distance to read a code is 2.3." (5.8 centimeters). The LED targeting guides projected by the CR1210 help to detect this optimal reading distance.

Figure 3.3

M188_02
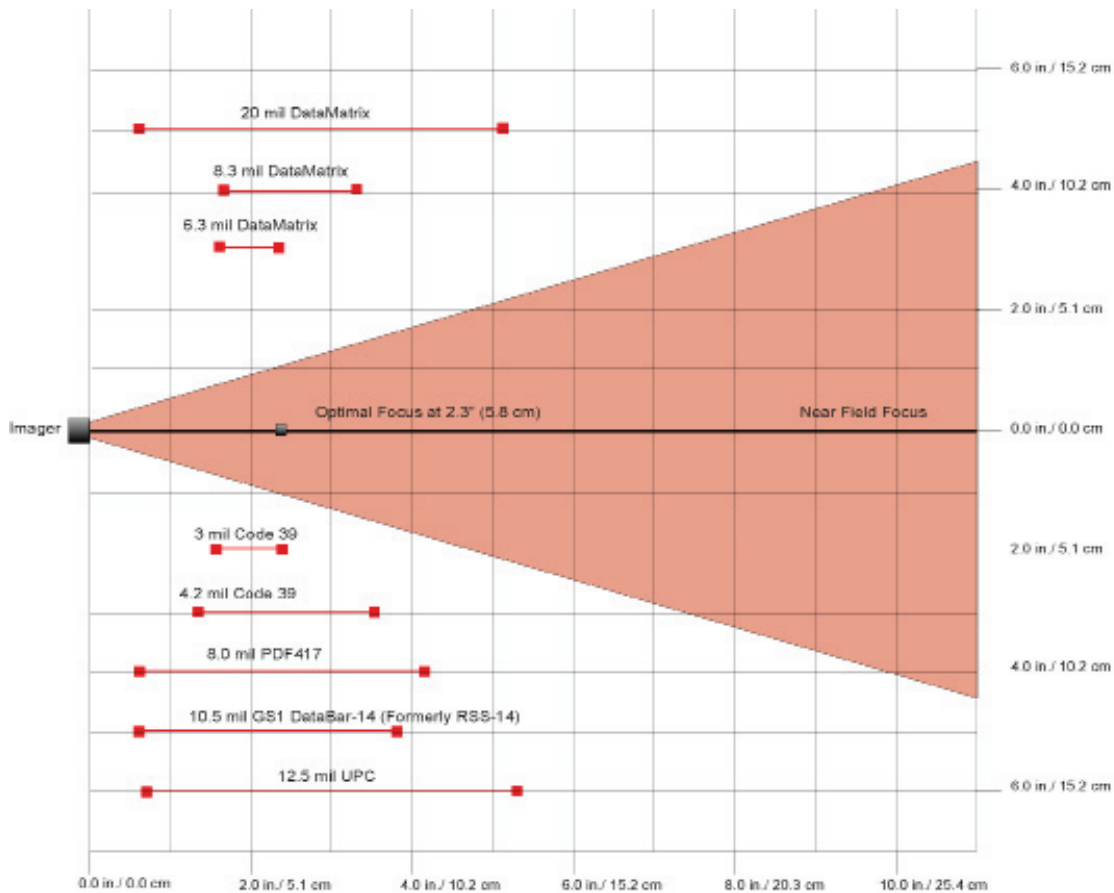
3.2 - Targeting

As shown in Figure 3.4, the red targeting LED identifies the center of the reading operation and aids in centering a code in the reader's field of view. The green LED provides focusing assistance to aid in positioning the CR1200 at the optimum distance for a read. Center the CR1200's red LED display on the code and then move the unit closer to or farther away from the bar code until the green LED image merges with the red LED image.

Correct positioning of the CR1200 is essential to reduce reading time. For optimal reading conditions, the red and green LED images must converge at the center of the code.

Too far from code

Too close to code

Optimal distance from code is 3.8" (9.7 cm) for the CR1200. Optimal from code is 2.3" (5.8 cm) for the CR 1210.
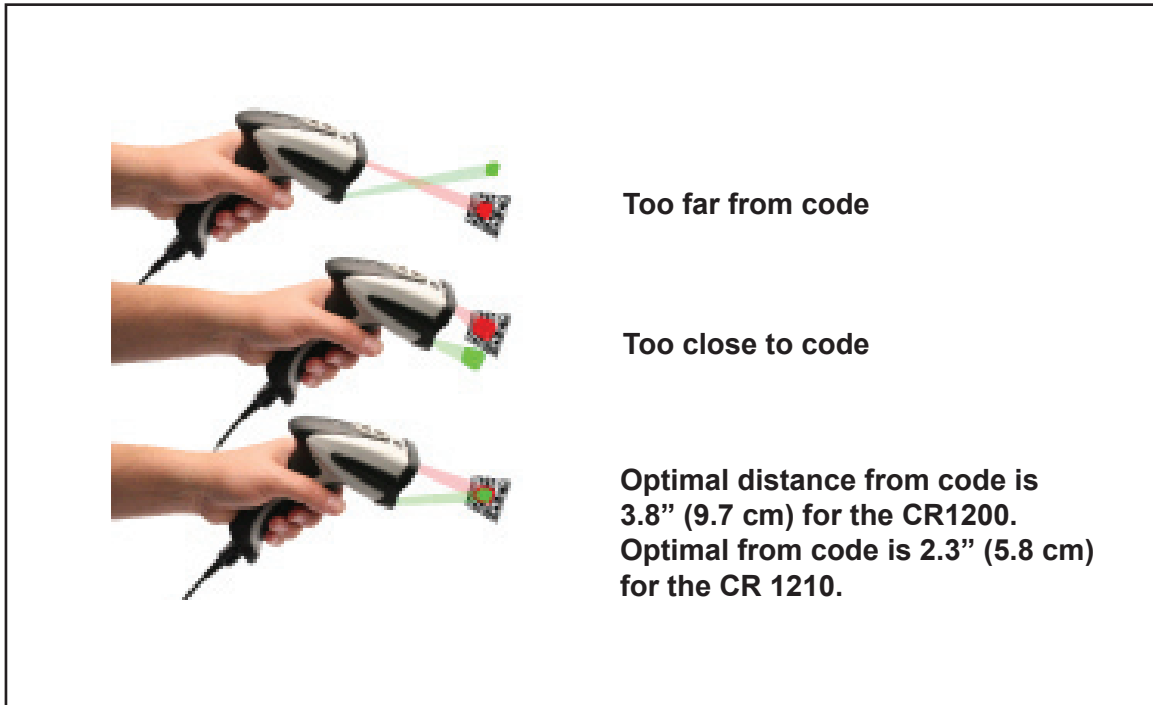
Figure 3.4

Read the appropriate code below to turn the targeting features on/off for Red and Green LEDs:

Red Targeting LED On

M732_01

Red Targeting LED Off

M733_01

Green Targeting LED On

M734_01

Green Targeting LED Off

M735_01

3.3 - Reading Techniques

The CR1200 uses digital imaging technology to take a picture of a symbol. Once an image is captured, the CR1200 uses advanced decoding algorithms to extract data from the captured image.

To read a symbol with the CR1200:

1. Target the CR1200 on the center of the code. (See section 3.2).
2. Hold the CR1200 still. Do not swipe or move the reader.
3. Press the trigger until the CR1200 beeps and vibrates, indicating the code has been successfully read.

Save Settings
M188_02

Chapter 4 - Optimization and Trigger Programming

M188_02

4.1 - Operational Modes

The CR1200 can operate in either of two modes:

- Triggered (default mode)
- Continuous Read

In Triggered mode, the CR1200 reads a code in response to a trigger press. In Continuous Read mode the CR1200 continuously attempts to read a code without operator intervention. Continuous Read mode includes options to specify delays between attempts to read and to limit the duplicate readings of the same code.

4.2.1 - Continuous Read Mode

Read the following codes to turn continuous reading on or off:

Continous Scan - On

M140_01

Continous Scan Off (Default)

M141_02

4.2.1.1 - Read Delays

Read the following codes to set delay time between reads:

0 Seconds (Default)

M142_01

1 Second

M143_01

3 Seconds

M144_01

4.2.1.2 - Duplicate Rejection Period

The Duplicate Rejection Period defines a time interval. If a read during this interval duplicates the immediately preceding code, the read will be rejected. Read the following codes to set the delay time before the reader accepts a duplicate code:

0 Seconds (Default)

M222_01

1 Second

M223_01

3 Seconds

M224_01

Chapter 5 - Setting Symbology

This section describes how to change the symbology settings on the CR1200. Use the codes in this section to specify the set of symbologies that you want the CR1200 to check for during a code read. Careful selection of your symbology set improves CR1200 performance.

5.1 - Aztec Symbology

Scan the following codes to enable/disable Aztec symbology settings:

Aztec On

M273_01

Aztec Off (Default)

M272_01

Sample Aztec Code

5.2 - Codabar Symbology

Scan the following codes to enable/disable Codabar symbology settings:

Codabar On (Default)

M275_01

Codabar Off

M274_01

Sample Codabar

A123456789A

5.3 - Codablock F Symbology

Scan the following codes to enable/disable Codablock F symbology settings:

Codablock F On

M277_01

Codablock F Off (Default)

M276_01

Sample Codablock F Code

Note: When Codablock F and Code 128 decoding are enabled, there is some risk of mistakenly decoding a damaged Codablock F symbol as a Code 128 symbol. Therefore, Code 128 decoding should be disabled when Codablock F decoding is enabled.

5.4 - Code 11 Symbology

Scan the following codes to enable/disable Code 11 symbology settings:

Code 11 On (Default)

M394_01

Code 11 Off

M393_01

Code 11 Checksum 1 digit

M395_01

Code 11 Checksum 2 Digit & Stripped from Result

M396_01

Code 11 Checksum 1 Digit & Stripped from Result

M397_01

Code 11 Sample

5.5 - Code 39 Symbology

Scan the following codes to enable/disable Code 39 symbology settings:

Code 39 On (Default)

M235_01

Code 39 Off

M234_01

Enable Checksum

M237_01

Disable Checksum (Default)

M236_01

Enable Checksum and Strip From Result

M238_01

Code 39 Extended Full ASCII On

M233_01

Code 39 Extended Full ASCII Off (Default)

M232_01

Sample Code 39 Code

12345678

Code 39 Short Margin On (Default)

M390_01

Code 39 Short Margin Off

M389_01

Code 39 Trioptic On

M671_01

Code 39 Trioptic Off

M670_01

Sample Trioptic Code 39

123456

5.6 - Code 93 Symbology

Scan the following codes to enable/disable Code 93 symbology settings:

Code 93 On (Default)

M281_02

Code 93 Off

M280_01

Sample Code 93 Code

123456789

5.7 - Code 128 Symbology

Scan the following codes to enable/disable Code 128 symbology settings:

Code 128 On (Default)

M283_01

Code 128 Off

M282_01

Code 128 Short Margin On (Default)

M392_01

Code 128 Short Margin Off

M391_01

Sample Code 128 Code

12345678912345

Note: When Codablock F and Code 128 decoding are enabled, there is some danger of mistakenly decoding a damaged Codablock F symbol as a Code 128 symbol. Therefore, Code 128 decoding should be disabled when Codablock F decoding is enabled.

5.8 - Composite Symbologies

Scan the following codes to enable/disable Composite symbology settings:

Composite On

M285_02

Composite Off (Default)

M284_02

5.9 - Data Matrix Symbology

Scan the following codes to enable/disable Data Matrix symbology settings:

Rectanglular Data Matrix On

M242_01

Rectangular Data Matrix Off (Default)

M241_01

Data Matrix Inverse On

M239_01

Data Matrix Inverse Off (Default)

M240_01

Enable improved reading capability for hard to decode datamatrix symbols.

M744_01

Disable improved reading capability for hard to decode datamatrix symbols. (Default)

M745_01

Sample Data Matrix Code

Sample Rectangular Data Matrix Code

5.10 - GoCode Symbology

GoCode is a miniature, two-dimensional (2-D) symbol. Developed to fit within a line of text, GoCode features a multi-dimensional, adaptable matrix pattern that may be reproduced on virtually any surface. GoCode is a private symbology and may be utilized by purchasing a runtime license through Code. GoCode has many significant advantages over all common linear barcodes and 2-D symbols. Please contact Code for more information on the benefits of utilizing a private symbology.

Sample GoCode

5.11 - Interleaved 2 of 5 Symbology

Scan the following codes to enable/disable Interleaved 2 of 5 symbology settings:

Int 2 of 5 On (Default)

M244_01

Int 2 of 5 Off

M243_01

Int 2 of 5 Two Digits On

M246_01

Int 2 of 5 Two Digits Off

M245_02

Int 2 of 5 Four Digits On

M248_01

Int 2 of 5 Four Digits Off

M247_01

Sample Int 2 of 5 Code

123456789

Save Settings
M188_02

5.12 - Maxicode Symbology

Scan the following codes to enable/disable Maxicode symbology settings:

Maxicode On

M289_04

Maxicode Off (Default)

M288_01

Sample Maxicode
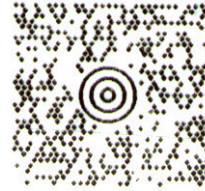
5.13 - Matrix 2 of 5 Symbology

Scan the following codes to enable/disable Matrix 2 of 5 symbology settings:

Matrix 2 of 5 On (Default)

M675_01

Matrix 2 of 5 Off

M674_01

Matrix 2 of 5 Sample

0 1 2 3 4 5 6 7 8 9

5.14 - Micro PDF417 Symbology

Scan the following codes to enable/disable micro PDF 417 symbology settings:

MicroPDF417 On

M301_01

MicroPDF417 Off (Default)

M300_01

Sample MicroPDF417

5.15 - MSI Plessy Symbology

Scan the following codes to enable/disable MSI Plessy symbology settings:

MSI Plessy On

M291_01

MSI Plessy Off   (Default)

M290_01

Sample MSI Plessy

123456789

5.16 - NEC 2 of 5 Symbology

Scan the following codes to enable/disable NEC 2 of 5 symbology settings:

NEC 2 of 5 On

M673_01

NEC 2 of 5 Off   (Default)

M672_01

 Save Settings

M188_02

5.17 - Optical Character Recognition (OCR)

The Code Reader can read Optical Character Recognition (OCR) texts. The following codes can be used to enable/disable this feature. Fonts supported include Passport, ISBN, Price, MICR13, and a user defined template:

Disable OCR (Default)

M712_01

Enable OCR

M713_01

Purchase of OCR license required.

5.18 - PDF 417 Symbology

Scan the following codes to enable/disable PDF 417 symbology settings:

PDF 417 On (Default)

M293_01

PDF417 Off

M292_01

Macro PDF 417 On

M287_01

Macro PDF 417 Off (Default)

M286_01

Sample PDF 417 Code

5.19 - Pharmacode

For an explanation of Pharmacode settings and all programming codes please refer to Appendix G of the CR1200 User Manual. You may download Appendix G at: **http://www.codecorp.com/manuals.php**

5.20 - Postal Symbologies

All postal code default settings are OFF. Scan the following codes to enable the appropriate Postal symbology:

Australian Post On

M252_01

Japan Post On

M253_01

KIX On

M254_01

Planet On

M256_01

Postnet On

M257_01

Postnet and Planet On

M255_01

Royal Mail On

M258_01

Disable All Postal Codes (Default)

M259_01

Sample Postnet Code

4-State CB On (Intelligent Mail)

M748_01

5.21 - QR Code Symbology

Scan the following codes to enable/disable QR Code symbology settings:

QR Code On

M261_01

QR Code Off (Default)

M260_01

Enable Checksum

M265_01

Disable Checksum (Default)

M264_01

QR Code Inverse On

M262_01

Both Inverse and Standard On

M263_01

All QR On (includes Micro QR)

M609_03

Inverse QR and Micro QR On

M687_03

Sample QR Code

Sample Micro QR

5.22 - GS1 data bar (formerly RSS) Symbology

Scan the following codes to enable/disable GS1 data bar (formerly RSS) symbology settings:

GS1 data bar Limited On

M268_01

Truncated On

M271_01

GS1 data bar 14 Stacked On

M270_01

GS1 data bar Expanded On (Default)

M269_01

All GS1 data bar On

M267_01

All GS1 data bar Off

M266_01

Sample GS1 data bar Limited Code

Sample GS1 data bar 14 Code

Sample GS1 data bar 14 Truncated Code

Sample GS1 data bar 14 Stacked Code

5.23 - Telepen Symbology

Scan the following codes to enable/disable Telepen symbology settings:

Telepen On - Default

M677_01

Telepen Off

M676_01

Sample Telepen

23456781

5.24 - UPC/EAN/JAN

Scan the following codes to enable/disable UPC/EAN/JAN symbology settings:

UPC On (Default)

M295_01

UPC Off

M294_01

UPC Short Margin Enabled (Default)

M299_01

UPC Short Margin Disabled

M298_01

UPC Extension On

M297_01

UPC Extension Off

M296_01

Sample UPC A Code

1 23456 78912 8

Chapter 6 - Setting Operational Features

This section discusses the configuration of various operational features of the CR1200 including:

- Settings Lock—Lock the CR1200 to prevent inadvertent changes to the current configuration.
- Mirror Decoding—Set the CR1200 to read mirror images of codes.
- Adding Prefixes or Suffixes—Add prefix or suffix strings to the communications packet sent to the host application.
- Text Commands—Set the CR1200 to accept text commands from the host application.

6.1 - Settings Lock

To lock or unlock the current settings on your reader, read the codes below:

Reader Settings Locked

M429_01

Reader Settings Unlocked

M428_01

Note: This feature does not lock the following commands:
- **Prefix and Suffix programming codes**
  Clear All CodeXML Rules
- **Suffix Erase/None commands**

6.2 - Set Targeting Tolerances

The targeting tolerance is the zone around the laser which is eligible for decoding. The values of each of the following codes are the percent tolerance based on the size of the barcode. As the targeting tolerance becomes smaller the targeting laser must be more centered in the symbol being read. Conversely, as the targeting tolerance gets larger there is less precision needed with the targeting laser. If there is more than one decodable code in the field of the, the symbol closest to the targeting laser will be decoded.
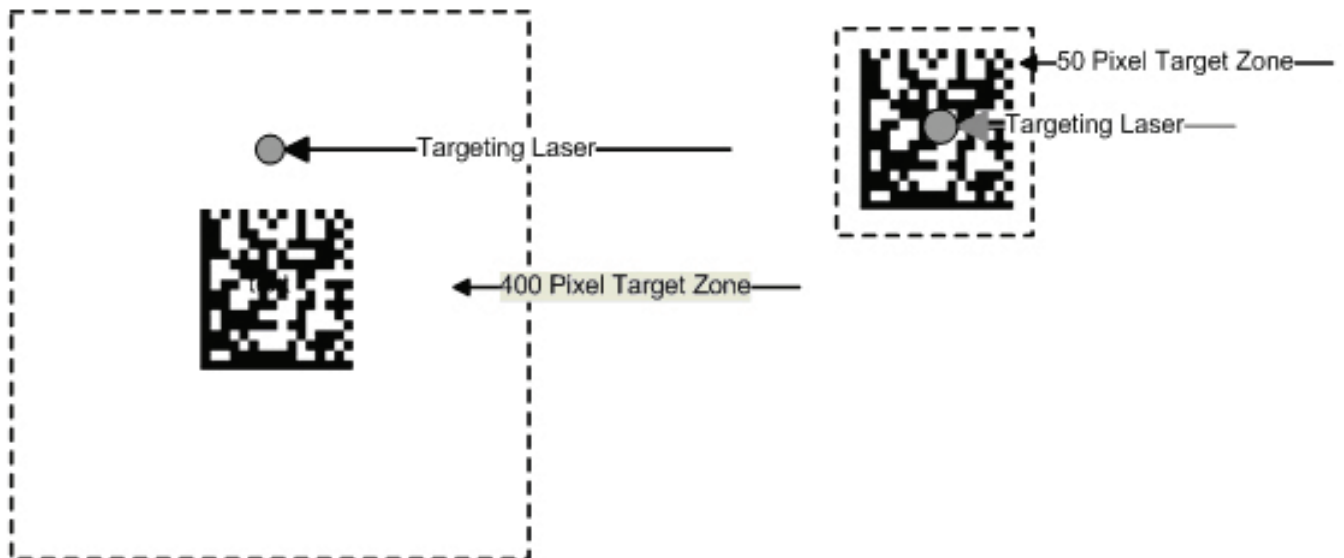
50 Most Accurate	75	100	125
M189_01	M190_01	M191_01	M192_01

			1600 (Default)
150	200	400	Least Accurate
M193_01	M195_01	M194_01	M196_01

6.3 - Mirror Decoding

Scan the following codes to enable/disable the mirroring feature:

Mirroring On

M182_01

Mirroring Off   (Default)

M181_02

Note: The Mirroring feature allows the CR1200 to read codes as they are seen through a mirror (inversed 180°). If the Mirroring feature is enabled, non-mirrored reading ability will be disabled.

6.4 - Adding Prefix Settings

Some applications may require specific characters be present at the front or back of decode packets sent to the host. The Add Prefix and Add Suffix options allow you to add the characters required by the host application.

6.4.1 - Prefix Settings

If you scan the following codes, you will lose any unsaved settings. Make sure to save settings on your reader before scanning the prefix codes. If you scan more than one prefix you will receive each scanned prefix in your scanned data; (i.e., if you scan comma prefix twice, you will get two comma prefixes). Scan the following codes to set appropriate prefix:

Prefix - Comma
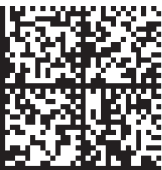
M159_02

Prefix - Space

M164_02

Prefix - Tab (USB Keyboard Mode)

 Use only with keyboard applications
M166_01

Prefix - Tab (RS-232)

 Use only with serial applications
M218_02

Prefix - Erase

M404_01

Prefix - Carriage Return Line Feed (RS-232)

 Use only with serial applications
M214_02

Note: If you require a special configuration, please contact Code at (801) 495-2200.

 Save Settings
M188_02

6.4.2 - Suffix Settings

If you scan the following codes, you may lose your current settings. Make sure to save settings on your reader before scanning the Suffix codes. If you s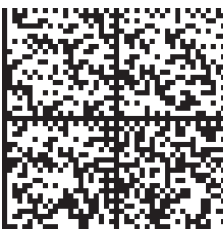can more than one suffix you will receive each scanned suffix in your scanned data; (i.e., if you scan comma suffix twice, you will get two comma suffixes). Scan the following codes to set appropriate suffix:

Suffix - Carriage Return (RS-232)

M168_04

Suffix - Comma

M160_04

Suffix - Line Feed

Use only with serial applications
M169_04

Suffix - Carriage Return Line Feed (RS-232)

Use only with serial applications
M170_04

Suffix - Space

M165_04

Suffix - Enter (USB Keyboard Mode)

Use only with keyboard applications
M161_04

Suffix - Tab (Keyboard Mode)

Use only with keyboard applications
M167_04

Suffix - Tab (Serial)

Use only with serial applications
M219_04

Suffix - Erase

M405_02

6.5 - Erase Prefix and Suffix Settings

Scan the following codes to erase all prefix and suffix data.

Erase Prefix & Suffix Data

M406_02

6.6 - Reader Text Commands

Enabling Reader Text Commands allows the CR1200 to accept text commands via serial communications. Scan the following codes to enable/disable reader text commands:

Reader Text Commands On

M198_01

Reader Text Commands Off - Default

M197_02

Note: Text commands can only be sent to the reader when it is active. Refer to Reader-Host Interface Control Document for more information. www.codecorp.com/readericd.php.

Save Settings
M188_02

Chapter 7 - Maintenance and Troubleshooting

7.1 - Reset Reader to Factory Defaults

Scan the following codes to reset reader:

Reset to USB Factory Default Settings

M049_03

Reset to PS/2 Factory Default Settings

M060_03

Reset to RS232 Factory Default Settings

M418_02

Clear All CodeXML Rules Prefix & Suffix

M052_01

Note: If you read this Code you will lose any unsaved settings. Make sure to save the settings on your reader before reading the codes.

Save Settings

M188_02

7.2 - General Safety Information

Repairs and Adjustments—Only those individuals authorized by Code should attempt to make repairs or adjustments to CR1200 equipment. If the reader casing is opened the warranty is voided.

Power Supply—Use only the power supply provided for use with each specific unit when operating Code equipment.

Accessories—Only those accessories approved by Code should be utilized with Code equipment. Non-compliance with any of the above may result in:
- **Injury to individuals handling the equipment;**
- **Damage to the equipment; or**
- **Voiding of the maintenance contract.**

7.3 - Reader ID and Firmware Version

To find out the Reader ID and firmware version, open a text editor program (i.e., Notepad, Microsoft Word, etc.) and read the following code:

Reader ID and Firmware

M153_01

You will see a text string indicating your firmware version and CR1200500 ID number (see below):

Xap/iVVVVWWWWXXXXSSSSSSSSSSPXX-XX+XXX

Xap/i - Code Internal ID (not applicable)

VVVV is the application firmware version number

WWWW is the bootloader firmware version number

XXXX is the radio firmware version number

SSSSSSSSSS Reader's serial number (ten digits)

P is "A" if running firmware is the application, "B" if BootLoader

XXX-XX+XX - Internal ID (not applicable)

Example: Xap/i3000300006040010002363A06D-SD+SQ

Note: Code will periodically release new firmware for CR1200 readers. For information on latest firmware versions, call Code at (801) 495-2200. To upgrade firmware, please visit our website at **http://www.codecorp.com/codesupport/html** and follow instructions provided.

7.4 - Downloading to the CR1200

Firmware and other files can be downloaded using a USB or RS232 cable. You cannot download to the CR1200 over a PS2 cable because of the limitations in PS2 technology. Firmware updates may be found on the Code website at:

http://www.codecorp.com/downloads.php

Download files include PDF documents detailing the download process.

7.5 - Warranty

Code Corporation's Code Reader 1200 carries a three-year limited warranty as described herein.

Customers may purchase an extension to this warranty. Contact a Code representative for more information.

Limited Warranty

Code manufactures its hardware products in accordance with industry-standard practices. Code warrants its products will be free from defects in materials and workmanship, provided that the products are used under normal operating condition intended by the Manufacturer. This warranty is provided to the original owner only and is not transferable to any third party. This warranty is subject to any and all accompanying disclaimers, limitations and other terms of this section.   Non-serialized items, such as but not limited to cables, stands will carry a 90-day limited warranty.

Exclusions

No warranty herein contained or set out shall apply to any product (i) which has been repaired, altered or tampered with unless done or approved by Code, (ii) which has not been maintained in accordance with any operating or handling instructions supplied by Code, (iii) which has been subjected to unusual physical or electrical stress, immersion in fluids, puncture, crushing, misuse, abuse, power shortage, improper power supply such as incorrect voltage or wrong polarity, negligence or accident, or (iv) which has been used other than in accordance with the product operating and handling instructions. Preventive maintenance is the responsibility of the customer and is not covered under this warranty.

Warranty Coverage and Procedure

During the warranty period, Code will repair or replace defective products returned to Code's service center in the US. For worldwide warranty service call Code Warranty Support at 1-801-495-2200.

If warranty service is required, Code will issue a Return Material Authorization Number. Products must be shipped in the original or comparable packaging, with shipping and insurance charges prepaid. Code will pay for shipping and insurance of repaired or replacement products worldwide. Code will use new or refurbished parts at its discretion and will own all parts removed from repaired products. Customer will pay for any pre-shipped replacement product in case it does not return the replaced product to Code within 7 days of receipt of the replacement product. The process for return and customer's charges will be in accordance with Code's Exchange Policy in effect at the time of the exchange.

Customer accepts full responsibility for its software and data including the appropriate backup thereof. Repair or replacement of a product during warranty will not extend the original warranty term. Code's Customer Service organization offers an array of service plans, such as on-site, depot, or phone support, that can be implemented to meet customer's special operational requirements and are available at a substantial discount during warranty period.

General

EXCEPT FOR THE WARRANTIES STATED ABOVE, CODE DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, ON PRODUCTS FURNISHED HEREUNDER, INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. The stated express warranties are in lieu of all obligations or liabilities on part of Code for damages, including without limitation, special, indirect, or consequential damages arising out of or in connection with the use or performance of the product. Seller's liability for damages to buyer or others (regardless of the form of action, whether by contract, warranty, tort, malpractice, and/or otherwise) resulting from the use of any product, shall in no way exceed the purchase price of said product. In no event shall Code be liable for any consequential, special, indirect, incidental or punitive damages, or for any loss of profits, revenue or data, even if Code has been advised of the possibility thereof.

7.6 - CR1200 Accessories

Please visit **www.codecorp.com** for more information on Code accessories.

7.7 - Frequently Asked Questions

For a complete list of Frequently Asked Questions, please visit: **http://www.codecorp.com/faq.php**

7.8 - CR1200 Maintenance

The CR1200 device operates efficiently and reliably and needs only a minimum of maintenance to operate.
A few tips are given below for maintenance suggestions.

Cleaning the CR1200 Window

The CR1200 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 CR1200 uses CMOS technology that is much like a digital camera. A dirty window may stop the CR1200 from reading codes.

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.

The CR1200 display screen and housing may be cleaned in the same way.
For applications that require cleaning with disinfectant, please use products with the following ingredients:

- Isopropyl Alcohol
- Ethyl Alcohol (Denatured Grade)

Note: Code does not recommend using bleach.

Technical Support and Returns

For returns or technical support call Code Technical Support at (801) 495-2200; or email support@codecorp.com

For all returns Code will issue an RMA number which must be placed on the packing slip when the reader is returned.