



CR950

Application Firmware Read Me

Version 2.6.6

June 2025

Associated firmware file versions	
CR950	
Firmware	2.6.6
Decoder	24.1.28

******* PLEASE NOTE: *******

- This readme file contains information about the latest version of the firmware for the CR950 reader hardware.
- Support for all Code products is available from Code website at: www.codecorp.com or by contacting Code Technical Support at support@codecorp.com.
- More information is available for applications developed by Code at www.codecorp.com/knowledge-database.php.

Table of Contents

1. NEW FEATURES IN THIS RELEASE	4
2. ENHANCEMENTS/IMPROVEMENTS/FIXES.....	4
3. CHANGES TO DEFAULT SETTINGS.....	13
4. OUTSTANDING ISSUES	15
5. CONFIGURATION CODES	15
6. FIRMWARE FILE NAMING CONVENTION	16
7. SOFTWARE/READER TOOL COMPATIBILITY.....	17
8. TECHNICAL SUPPORT INFORMATION	18

1. NEW FEATURES IN THIS RELEASE

Version 2.6.6

- Integration of decoder 24.1.28
 - Fixed bug causing polarity issue in decoding QR Code.
 - Reduced stack memory usage for Low Res 1D algorithm.
 - Fixed Codabar partial decoding when part of Codabar is blocked.
 - Fixed potential divide by 0 for BC412 when using less than the required number of codewords to get a character.
 - Fixed a Data Matrix message decoding bug where FNC1 is at both first and second position.
 - No longer support Security Level 3 as related algorithm has improved.
 - Improved overall decoding speed for linear barcodes.
 - Removed duplicate decoding when decoding multiple PDF417 barcodes in one image.
 - Improved DataBar Stacked decoding speed.
 - Improved index validation for Code 128.
 - Fixed memory allocation in Low Res 1D decoding that causes error in Ubuntu Linux decoder.
 - Fixed PDF/MicroPDF uninitialized symbology modifier value.
 - Fixed a GS1 parsing bug.
 - Reduced QR Code decoding time when the finders were in certain orientations.
 - Fixed a bug in QR finder search when analyzed an area with no quiet zone.
- Added imager connectivity test pixel data to the error log.
- Added a global beep volume setting. See category FB, subcategory IN in the CCD for more details.

2. ENHANCEMENTS/IMPROVEMENTS/FIXES

Please reference the CCD for specifics on the new features added below, including default values and commands for enabling, disabling, and setting associated parameters

Version 2.6.6

- Fixed an issue where settings could get corrupted, preventing new settings from being saved and preventing previously saved settings from being loaded.
- Fixed an issue that could cause a reader to become unresponsive, also due to settings block corruption.
- Improved memory management for prefix and suffix commands.
- Fixed an issue with settings corruption after saving many settings.
- Fixed an issue with rebooting after many scans.
- Changed symbology ID values for Grid Matrix (27->73), Dot Code (74->76), BC412 (27->59), and QR Model 1 (27->41).
- Improved flash memory robustness.
- Fixed an issue with erroneous output when scanning invalid configuration codes.
- Removed Han Xin Polarity and Mirror settings.
- Restored decimated image capture functionality.
- Licenses in the 5000 range are no longer required to access related features.

Version 2.5.3

- Integration of decoder 23.2.2
 - Fixed GS1 DataBar Expanded message decoding error related to ISO/IEC 646.
 - Improved Data Matrix decoding using erasures.
 - Enhanced decoding of QR Code on curved surface.
 - Improved DPM algorithms enabled.
- Added a parameter to allow for skipping formatting on barcodes that only contain CodeXML data
- Added target trigger mode to the reader, which holds the targeting bar on for a specified length of time before flashing the illumination.
- Added Quiet Scanning Mode. Quiet scanning mode will cause the reader to not indicate (both blink and beep) a good read or error indication for a scanned barcode. All other indication sources are still valid and will cause the reader to indicate.
- Performance in lowlight conditions improved.
- Improvements made for exit logging.
- Issue scanning QR Code fixed.
- Added command to suppress invalid command responses.
- Prevent re-saving parameters that have already been saved with the same value, in order to better conserve flash usage.
- Added new output method for Unicode to Shift-JIS.
- Fixed an issue with converting input encodings to Unicode.
- FW with wrong CRC will be failed to program
- Illumination channel can now be specified independently for each AGC mode.
- Power Mode times are now based off of the time since the reader was last active, not the previous power mode. Restrictions are now in place to prevent a mode from having a time lower than a previous mode, if it's enabled.
- Fixed Shift-JS exception when we send command CMHDSIE5
- Created common scene management between different readers.
- Added target trigger mode to the reader, which holds the targeting bar on for a specified length of time before flashing the illumination.
- Vibrate settings that only apply to the "good read" indication have been moved to the FBGR category.
- Improved decode mode handling and interactions with event based triggers
- Fixed an issue with a CFR not restoring baud rate platform settings.
- Deprecated AGTM parameters. Please use CDDT_TL and CDDT_LT to control the time spent decoding.
- Normal AGC curve configuration commands have been deprecated (AGNO subcategory). These commands now affect the Config AGC mode (AGCD).
- Consolidated AGC curves, allowing for dynamic AGC curve initialization at runtime.
- Fixed CFR issue on RS232 mode
- Prevented download of incomplete or corrupted CRVFW files
- PMES now puts the reader to sleep as intended.
- Sleep modes are no longer dependent on each other.
- Fixed an issue with USB communication after sleep.
- Fixed an issue with image capture after sleep.
- Removed unused JS and BT commands in products that don't support these functions
- Fixed an issue with AGC Mode not taking effect after a reboot.
- Fixed an issue with CDDT_TD not taking effect.
- Fixed an issue with flash corruption of qualification data.
- Fixed an issue with RDQD parameters seemingly erased when downgrading firmware.
- DecodePlus modes now can be applied to the trigger mode.
- Changed RDFW_FT to be more accurate

- Fixed an issue with CDC mode printing out invalid characters on connection.
- Improved handling when the reader runs out of memory.
- QuickDecode mode is now supported on non-CR5200 products.
- CDOP_AT now takes effect for motion detection as well as trigger modes.
- Saved settings can overwrite platform settings which are set with a P.
- Improved reader indication handling
- Improved messaging during cleanliness test.
- Fixed a reboot occurring during usb CDC communication with packet mode enabled.
- Fixed an issue with quick red LED indication
- Added a new message verbosity level (RDFBPVB2) that causes the reader to send a response message to the host when scanning a configuration barcode.
- New indication parameters added for more thorough modifications
- Added a parameter to allow for skipping formatting on barcodes that only contain CodeXML data
- Fixed an issue where certain platform settings could not be removed individually.
- Improved focusing verification during focus testing.
- Added new platform command to readers.
- Fixed an issue where the targeting LED would turn off when Sticky Trigger was enabled.
- Improved handling of devices with no imager attached
- Error Beep for packet mode added
- Added a new parameter to get barcode position.
- Generalized input/output handling for extensibility

Version 2.4.19

- Integration of decoder 22.2.6
- Enhanced PDF417 to decode poorly printed Start and Stop patterns.
- Added new aim identifiers (7011, 7230~9, 7240, 4309) for GS1 Validation.
- Added ability to transfer raw JPEG images in CDC mode.
- In the 2.3.5 version of the firmware, the “CDDT_TL” command served to set the decode locate time and decode time limit, using a formula where the decimal input value 9830720 equated to 0x00960140 (0x0096 = 150ms; 0x0140 = 320ms). However, a bug prevented the decode locate time value from taking effect. In the subsequent update, version 2.4.15, the command structure was enhanced by splitting it into two commands, “CDDT_TL” for decode time limit and “CDDT_LT” for decode locate time, and transitioned the input format from decimal to hexadecimal values. In order to further simplify and maintain backward compatibility with firmware version 2.3.5 and earlier, the input format reverted to decimal in version 2.4.19.
- Fixed an issue where platform settings couldn’t be removed using a “^” or settings that were longer than 10 characters.
- Fixed an issue where sending RDCMXEV7 ~600 times caused the reader to become unresponsive.
- Fixed a manufacturing issue where the Quality bits could get corrupted.
- Fixed an issue where RDCMXEV1,P10 would not stop a continuous scan event with timeout (RDCMXEV1,P11,P20,P3500).
- Fixed an issue where RDCMXEV9 would trigger a continuous event if RDCMXEV7 has been issued since boot.
- Fixed an issue where the decode performance took ~20ms longer.
- Updated cleanliness test to allow preferred field selection on dual field lenses instead of running the test on the entire captured image.

Version 2.4.15

- Removed the requirement of a 5014 license for driver's license parsing
- Updated decoder to 21.2.4
- Moved motion detection to DecodePlus architecture to improve performance
- Added support for CT8200 chip revision 2.2
- Allow upgrades to a future firmware version that supports a 3.x CT8200 chip revision
- Added the ability to adjust desired brightness target for decoding and picture capture
- Fixed an issue with the SwissGerman_Win keyboard mode, where some keypresses were incorrect
- Fixed an issue where the reader would get into a bad illumination state when removed from the stand
- Improved illumination handling
- Fixed an issue with incorrect Decode Timeout in image header information
- Fixed an issue where the reader would get stuck and illumination would stay on, when in-stand motion detection mode and alternate cellphone mode was enabled
- Fixed an issue where the reader would freeze when alternate cellphone mode was enabled, and the reader is taken in and out of the stand multiple times
- Fixed an issue when handling invalid configurations in CDC mode
- Fixed an issue where AIM ID wouldn't load properly after reboot or power cycle
- Fixed an issue with raw commands in RS232 mode
- Fixed an issue where platform settings that contained a comma wouldn't save to the reader
- Improved image header information for JPEG and PGM images

Version 2.3.5

- Updated to Cortex Decoder 20.3.10
 - Added optional verification output to support graphic display of error corrected modules
 - Added verification output for print growth and nominal module size
 - Removed Minimum Reflectance Margin from AIM-DPM verification
 - Improved decoded corner estimation for difficult to read 1D, PDF417, and CodablockF images
 - Improved Code128 decoding
 - Fixed verification issue for a certain type of MicroQR Code
 - Improved Dotpeen LD DPM algorithm for image size up to 2560x2048
- Corrected Straight 2Of5 and IATA 2Of5
 - Added category A2O5 for IATA barcode
 - Added straight 2Of5 Checksum parameter
- Corrected Interleaved 2Of5 length value
- Implemented auto detection to facilitate new hardware
- Implemented Japanese Shift JIS
- Added ability to dump non .pgm images in raw mode
- Added support for Codabar checksum
- Added ability to process .crccs files
- Fixed issue where the Illumination was on after an upgrade
- Fixed issue where Post Event commands did not honor the attempt time out
- Fixed issues with attempt time out behavior
- Fixed issue where the reader would re-enumerate when a configuration code was scanned for the same communication mode
- Fixed issue where user could not switch between IBM POS and USB HID Vendor mode
- Fixed issue with serial mode where packet mode was not enabled
- Fixed issue where reader recovery did not clear platform settings

- Fixed issue where turning beep on or off would cause the connection to IBM POS to drop
- Fixed issue where capturing a decimated or median image would cause a reader to reboot
- Fixed issue where, when sending decoded images along with the decode results, the decode results were occasionally split into two sets of characters which showed on separate lines
- Improved ability to set serial number for USB VCOM
- Improved Motion detection decoding performance
- Improved alternate cell phone mode
- Improved USB Enumeration with most zero clients
- Improved PID configurability
- Improved the ability to scan barcodes from a monitor
- Added support for the CT8200 2.2 chip

Version 2.2.1

- Updated to Cortex Decoder 19.1.13
 - Added Codabar 7DR checksum
 - Added priority checking in data manipulation match string mode
 - Improved decoding of blurry Code 128 and Code 39 images
- Fixed issue where barcodes greater than 12 characters returned truncated data
- Fixed issue where the barcode name would not return as a prefix or suffix when configured in a data formatting string
- Fixed issue where the maximum decodes per read CDOP_PR had to be reset on reboot, even if saved
- Fixed issue when uploading an image extraneous characters were returned instead of a picture
- Fixed issue where JPEG images were not consistently uploading
- Updated SwissGerman_Win.xml keyboard
- Added the ability to scan configuration barcodes when QR Code symbology is disabled
- Improved cell phone mode
- Added an alternate cell phone mode which captures two images and compares quality for decoding
- Added ability to set the position of the AIM ID
- Added ability to shift the AGC contrast window around the FOI and draw white lines on its edges for visual inspection, and more control to manipulate image brightness
- Added ability to log AGC information for single image captured in the decoding and picture processes or all images in a picture process sequence, and status information for the decoding process
- Added ability to set preferred FOI and use AGC configurable curves for the picture process
- Improved AGC curve mapping and stability
- Added Configuration Lock
- Added IBM SurePOS

Version 2.1.2

- Updated to Cortex Decoder 18.2.1
 - Added an option in Data Formatting configuration string to allow the output data to be shorter than the specified length. This is achieved by setting bit 1 of the upper byte of ControlBits
 - Added support for decoding QR Code based CR8200 Configuration Code without enabling QR Code
 - Added conditional logic in Match String features of Data Manipulation
 - Added result status item in Data Formatting features of Data Manipulation
- Improved AGC stability
- Added support for Portuguese Keyboard for Windows
- Added support for Italian Keyboard for Windows
- Added ability to load a license from a barcode

- Fixed issue where continuous scan stopped when cell phone mode was enabled
- Fixed issue with case formatting
- Fixed issue where reader would double scan when decode attempt timeout (Sticky Time) was set
- Fixed issue where data formatting configuration string was not saved on reboot
- Fixed issue where CFR[^LC] would clear more than licenses
- Fixed issue where CFR[^PL] would clear more than platform settings

Version 2.0.8

- Added support on the reader to read file type (*.crvfw)
- Added support for revision 5 hardware. The revision is noted on the product label.
- Added support for Italian Keyboard for Windows
- Added support for Portuguese Keyboard for Windows
- Added support for Chinese Barcode decoding in Keyboard mode
- Fixed issue where results for larger files sizes would not return when in serial mode
- Fixed issue with dim illumination when in motion detection mode
- Fixed issue where CFR[^AL] command cleared persistent parameters
- Fixed issue where WD Focus and WD Prescription values were reversed

Version 1.7.5.3

- Fixed an issue where motion detection would not work unless the reader was rebooted
- Fixed an issue where parsing for the Prescription bits were being improperly converted

Version 1.7.5

- Added ability to leave targeting on
- Added ability to suppress a good read beep
- Added new firmware commands to support updated Cortex Decoder
- Added ability to return symbology name with barcode data
- Changed LED color during firmware update from red to amber
- Improved object detection in dimly lit conditions
- Fixed issue where the first image uploaded a rebooted reader failed
- Fixed issue where reader needed a power cycle after an upgrade
- Fixed issue where platform setting could not be saved with parsing
- Updated to Cortex Decoder 17.2.9
 - Updated to Cortex Decoder 17.2.9
 - Added properties to individually enable/disable optional checksum for Matrix 2 of 5, Standard 2 of 5, Hong Kong 2 of 5, NEC 2 of 5, IATA 2 of 5:
 - Improved Data Manipulation
 - Improved decoding of UPC/EAN printed on uneven surface
 - Improved decoding of poorly printed Code 128
 - Enhanced Colombia DL/ID applications
 - Fixed Grid Matrix enabling issue that also requires enabling at least one of these: 1D, PDF417, DataBar, DM, or QR.
 - Fixed Code 49 enabling issues
 - Fixed IATA 2 of 5 string length checking

Version 1.6.1

- Added new command to get saved settings
- Added new command to get platform settings
- Thai keyboard support
- Pre-processing of images to improve reading barcodes with busy backgrounds
- Added ability to gracefully handle imager failures

- Fixed issue with UART flow control
- Corrected byte ordering of the image sensor FuseID
- Improved motion detection sensitivity
- Improved motion detection algorithm
- Added option to change JPEG compression
- Added option to change JPEG smoothing percent
- Increased allowable values for volume control
- Added DL parsing + Data Formatting
- Updated to Cortex Decoder 17.1.28
 - Added new pre-processing feature with P property as P_FILTER_TYPE
 - 0: No preprocessing
 - 1: Low pass filter 1
 - 2: Low pass filter 2
 - 3 and higher: Reserved

Version 1.5.1

- Support for Maxicode Symbology
- Ability to match barcode data and replace matched data
- Improved barcode-in-cellphone reading performance
- Added support for manual hardware flow control mode for serial-based communication, which fixed issue slowing down some registers
- Added ability to get and set match string, DL parsing string, and data-formatting string
- Improved cellphone mode flow
- Improved synchronizing multiple image captures
- Enabled Maxicode Symbology support
- Added extra information string for decoder version
- Added ability to get/set separate Match, DL Parsing, GS1 Parsing, and Data Formatting strings
- Added five new format options that enable
 - Match String + Data Formatting
 - GS1 Validation + Data Formatting
 - UDI Validation + Data Formatting
 - ISO 15434 Validation + Data Formatting
 - ISO 15434/15418 Validation + Data Formatting
- Updated to Cortex Decoder 17.1.22
 - Added ability to strip UPC-A number system char only when it is 0
 - Added decoder based POS terminal emulation
 - Improved decoding of low contrast 1D barcode laser etched on yellow gas pipe
 - Enhanced Match String feature to perform match/replace up to 50 locations
 - Added individual configuration strings for DL and GS1 parsing, Data Formatting, and Match string decoder post-processing
 - Added Data Formatting to be performed on parsed output
 - Match String output can be the decoded data without the matched portion of data
 - Fixed issue that prevented calling formatOutput() when the old configuration string length variable is 0
 - Extended Maxicode time limit

Version 1.4.2

- Improved cellphone AGC mode flow
- Improved multiple image captures

Version 1.4.1

- Simplified cellphone AGC mode flow
- Synchronized multiple image captures

Version 1.3.4

- Update to Cortex Decoder 17.1.3
- Added ability to send AIM ID when in HID POS mode
- Added ability to switch from USB Keyboard to USB HID
- Fixed issue where reader did not return error beeps when Configuration Barcode was successfully decoded but wasn't successfully processed
- Fixed issue where a reboot cancelled motion detection

Version 1.2.1

- Added support for Colombia DL/ID
- Update to Cortex Decoder 16.1.44

Version 1.1.30

- Update to Cortex Decoder 16.1.37
- Improved USB buffer efficiency for HID and VCOM
- Updated Data Manipulation features to be enabled/disable by only two commands
- Improved stand detection
- Added support for processing output reports and outputting decode data according to the HID POS spec
- Fixed issue where beep did not occur after reboot on a firmware upgrade
- Fixed issue where beep enable did not control beep
- Fixed issues with out of stand behavior
- Fixed issues with motion detection
- Fixed issues with illumination feature
- Fixed issue with serial number not terminating properly
- Fixed issues with reset commands
- Created command to disable the targeting LED during decode
- Added parameters to control targeting frequency and brightness
- Added upgrade indication
- Added Codablock F support
- Updated image capture to support uploading PGM images

Version 1.0.2

- Update to Cortex Decoder 16.1.15
 - Enhanced reading poorly printed Data Matrix barcodes
 - Fixed issue in MSI Plessey checksum calculations
 - Improved decode speed and aggressiveness for Code 39, I 2 of 5, and Codabar
 - Improved decoding of multiple QR Codes in the same image.
 - Fixed MaxiCode modifier misreporting
 - Fixed Japan Post misdecoding
- Updated an issue where the settings did not reflect symbology support (CR950 has a unique symbology support profile)
- Fixed an issue where the communication retry timeout was set too short
- Added the ability to set prefixes and suffixes independently.
- Fixed an issue where the handshake of the protocol could get out of order when resetting to factory defaults
- Removed the ability to read barcodes when updating firmware
- Fixed an issue where the decoder could decode multiple barcodes, even when configured not to

- Added ability to timeout and exit upgrade if the reader stops receiving data
- Removed extraneous English.xml language file
- Optimized language support for run-time execution
- Added parameter to configure number of retries from the reader
- Added the ability to add platform-specific settings file support
- Image Transfer Protocol – enable image capture
- CDC VCOM communication mode
- Motion Detection and Continuous Scan
- Duplicate Scan Delay
- Stand Detection
- Configurable inter-character delay for USB Keyboard mode
- Configurable Region of Interest
- Packet Mode (in addition to the existing Raw Mode)
- Cell phone reading enhancement
- Added support to license files that are used to enable features in the reader
- Added support for manufacturer name and part name strings
- Added the ability to store platform-specific default settings

Version 0.1.3

- USB Keyboard intra character delays
- Power management
- USB High Speed vs Full Speed support
- USB alternate OS support
- Support for several languages
 - Belgian French for Windows
 - US English for Windows
 - English for Apple
 - French for Windows
 - French for Apple
 - German for Apple
 - German for Windows
 - Swiss German for Apple
 - Swiss German for Windows
 - Italian for Apple
 - Japanese for Windows
 - Latin American Spanish for Windows
 - Russian for Windows
 - Spanish for Windows
 - Spanish for Apple
 - UK English for Windows
 - Control character support

3. CHANGES TO DEFAULT SETTINGS

Version 2.6.6

Changes to existing setting defaults

- STFS_GC set to 16-bit CRC of previous set file (GC="0xFFFFFFFF" to GC="0xffffffff")
- Changed symbology ID values for Grid Matrix (27->73), Dot Code (74->76), BC412 (27->59), and QR Model 1 (27->41).
- SYHAXN_PO Han Xin Polarity setting has been removed
- SYHAXN_MR Han Xin Mirror setting has been removed
- FBGR_VB Command to enable/disable vibration on a good read has been removed
- FBGR_NV Command to set vibration time on a good read setting has been removed
- FBGR_FV Command to set vibration time off on a good read setting has been removed
- FBGR_VN Command to set the number of pulses on a good read has been removed
- CDOP_SM match string validation setting default was "" is now "000000000000!,,,"
- CDOP_GP standard GS1 validation string default was "" is now "000000000000!,,,"
- CDOP_FP public sector and validation configuration string default was "" is now "000000000000!,,,"
- CDOP_UD UDI standard validation configuration string default was "" is now "000000000000!,,,"
- CDOP_IS ISO15434 standard validation configuration string default was "" is now "000000000000!,,,"
- CDOP_IO ISO15434/15418 standard validation configuration string default was "" is now "000000000000!,,,"

New setting defaults

- SYAZTC_US Aztec ultra small enable setting was added and defaults to 0
- SYC128_E2 C128 enhance method 2 setting was added and defaults to 0
- SYDATM_HD Data Matrix high density enable setting was added and defaults to 0
- SYQRCO_US QR ultra small enable setting was added and defaults to 0
- SYQRCO_HD QR high density enable setting was added and defaults to 0
- FBIN_VO Global Volume Percent setting was added and defaults to 100
- FWIM_DD Disable/enable transferring DPM slice images.

Version 2.5.3

- New feature Target bar trigger mode target time (CDOP_TT) default 1000 ms
- New feature Quiet Scanning Mode (FBIN_QM) default 0
- New command PickList Target Tolerance % (CDVA_PT) default value 150%
- Set cropping width (IMCP_WL) default now -1, this value uses the entire available width
- Set cropping height (IMCP_HL) default now -1, this value uses the entire available height
- Sleep Mode Timer Delay default time changed from 3600 ms to 8600 ms

Version 2.4.19

- None

Version 2.4.15

- CDDT_TL Upper byte access problem fixed old default was 320 new default is 0x00000140
- SCSP_MO changed from NO (Normal AGC mode) to DF (Default AGC Behavior)
- FWHW_RD changed from 25 to 50, button release delay improvement
- FWHW_PD changed from 0 to 25, button release delay

Version 2.3.5

- USB or RS232 auto detect communication connection changed from 0 to 1
- Extra Image capture for AGC analysis and stabilization CDTP_AB, changed from 3 to 4
- Interleaved 2 Of 5 Length SYI2O5_LN, changed from 0 to 2

Version 2.2.1

- Standard Cell phone mode is enabled by default

Version 2.1.2

- None

Version 2.0.8

- None

Version 1.7.5.3

- None

Version 1.7.5

- None

Version 1.6.1

- None

Version 1.5.1

- None

Version 1.4.2

- None

Version 1.4.1

- None

Version 1.3.4

- None

Version 1.2.1

- None

Version 1.1.30

- Updated public release

Version 1.0.2

- Initial public release

4. OUTSTANDING ISSUES

Note: Firmware ENHANCEMENTS and OUTSTANDING ISSUES are categorized as critical and noncritical. Critical updates require the user to upgrade firmware and all reader programming guides and manuals.

***** **CRITICAL** *****

- None

***** **NON-CRITICAL** *****

- AGBY_IS and other IS commands do not default to -1
- IBM POS mode corrupts CFG output.
- When motion detection is enabled sometimes the illumination will stay on significantly longer than expected when motion is detected
- Motion detection may lock the reader when the trigger is pressed, and alternate cellphone mode is enabled
- When alternate cellphone mode is enabled, the reader may freeze when taken in and out of stand multiple times
- Readers with CT8200 chip revisions greater than 2.2 will fail loading older version of firmware
- Deprecated commands AGNO, AGTM, FBVB, RDIL, and RDST all have settings that could be reset unintentionally if using the "C" action.

5. CONFIGURATION CODES

NEW CONFIGURATION CODES: NONE

Code	Ver	Description

EXISTING CONFIGURATION CODES THAT HAVE BEEN MODIFIED: NONE

Code	Ver	Description

EXISTING CONFIGURATION CODES THAT HAVE BEEN REMOVED: NONE

Code	Ver	Description

6. FIRMWARE FILE NAMING CONVENTION

The CR950 firmware BIN file names indicate which firmware runs on what hardware. The following breaks down the information:

Cxxxxxx_<Version>_<Product>_<Sub_product>_<Imager_type>.bin

File name part	Description	Notes	
Cxxxxxx	Unique Code internal tracking number	This number is unique for all Code firmware/hardware but has no other significance	
<Version>	The version number of this firmware in three integers as Major.Minor.Build	Major – A change to this number equates to significant changes such as breaking backwards compatibility	
		Minor – A change to this number equates to a change or addition to functionality	
		Build – A change in this number equates to an issue fix or some minor change. It is updated for every build of the firmware.	
<Product>	The product on which this firmware will run	Currently CR950 only (other values reserved for future use)	
<Sub_product>	Four alphanumeric characters describing product characteristics and sub-assemblies	1 st character	2 = CT8200 Chip Revision 2.xx
		2 nd character	A = CR8200 Optical Head M = CR8000 Optical
		3 rd character	E = Evaluation Adapter board in evaluation units 9 = CR950 Adapter board in production units
		4 th character	0 = Normal firmware (other integers reserved for future use)
<Imager_type>	Designates the optics used	L00	Single-field optics
		L01	Single-field IR-Cut optics
		L02	Dual-field optics

Cxxxxxx_<Version>_<Product>_<Sub_product>_<Imager_type>.crvfw

File name part	Description	Notes	
Cxxxxxx	Unique Code internal tracking number	This number is unique for all Code firmware/hardware but has no other significance	
<Version>	The version number of this firmware in three integers as Major.Minor.Build	Major – A change to this number equates to significant changes such as breaking backwards compatibility	
		Minor – A change to this number equates to a change or addition to functionality	
		Build – A change in this number equates to an issue fix or some minor change. It is updated for every build of the firmware.	
<Product>	The product on which this firmware will run	Currently CR950 only (other values reserved for future use)	
<Sub_product>	Four alphanumeric characters describing product characteristics and sub-assemblies	1 st character	2 = CT8200 Chip Revision 2.xx
		2 nd character	A = CR8200 Optical Head M = CR8000 Optical
		3 rd character	E = Evaluation Adapter board in evaluation units 9 = CR950 Adapter board in production units
		4 th character	0 = Normal firmware (other integers reserved for future use)
<Imager_type>	Designates the optics used	L00	Single-field optics
		L01	Single-field IR-Cut optics
		L02	Dual-field optics

7. SOFTWARE/READER TOOL COMPATIBILITY

Recently upgraded Code software is available for download from Code website at www.codecorp.com/knowledge-database.php or by contacting Code Technical Support.

Software	Version
CortexTools3™	2.1.20.1 or higher

8. TECHNICAL SUPPORT INFORMATION

You may contact Code at:

Code Corporation
434 West Ascension Way
Suite 300
Salt Lake, UT 84123

Voice: 801-495-2200

Fax: 801-495-0280

Technical Support: support@codecorp.com

You can track new product releases, software updates, and technical bulletins by visiting the Code website at www.codecorp.com.

If you have technical questions, visit our website at www.codecorp.com/contact-us for phone numbers and email addresses.

Disclaimer:

Copyright© 2015-2025 Code – All Rights Reserved

The software described in this ReadMe file may only be used in accordance with the terms of its License Agreement. No part of this publication may be reproduced in any form or by any means without written permission from Code Corporation. This includes electronic or mechanical means such as photocopying or recording in information storage and retrieval systems.

NO WARRANTY. This technical documentation is provided AS-IS. Further, the documentation does not represent a commitment on the part of Code Corporation. Code Corporation does not warrant that it is accurate, complete or error free. Any use of the technical documentation is at the risk of the user. Code Corporation reserves the right to make changes in specifications and other information contained in this document without prior notice, and the reader should in all cases consult Code Corporation to determine whether any such changes have been made. Code Corporation shall not be liable for technical or editorial errors or omissions contained herein; nor for incidental or consequential damages resulting from the furnishing, performance, or use of this material. Code Corporation does not assume any product liability arising out of or in connection with the application or use of any product or application described herein.

NO LICENSE. No license is granted, either by implication, estoppels, or otherwise under any intellectual property rights of Code Corporation. Any use of hardware, software and/or technology of Code Corporation is governed by its own agreement.

The following are trademarks or registered trademarks of Code Corporation:

CortexDecoder®, CortexDecoder SDK™, CortexDecoder® for Epic Rover, CortexDecoder® for Cerner, CortexDecoder® for AllScripts Sunrise, CortexDecoder® for Meditech, CortexStudio®, CortexTools®, CortexTools2™, CortexTools3™, CortexRM®, CortexMobile®, CortexRelay®, CortexWedge®, CortexMobile SDK™, CortexScan™, CortexOPOS™, CortexJPOS™, Cortex™, Code®, Code Reader™, CodeDM™, CodeQR™, Code Direct Connect™, GoCode®, BatteryTrak®, JavaScript Reader SDK™, USB Virtual COM Driver™, QuickConnect Codes™, Affinity™

All other product names mentioned in this ReadMe file may be trademarks of their respective companies and are hereby acknowledged. The software and/or products of Code Corporation include inventions that are patented or that are the subject of patents pending.