HP Imaging Barcode Scanner

Product Reference Guide

Product Reference Guide
HP Imaging Barcode Scanner
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Chapter 1
Introduction

About this Manual

This Product Reference Guide (PRG) is provided for users seeking advanced technical information, including connection, programming, maintenance and specifications. The HP Imaging Barcode Scanner User Guide and other publications associated with this product are downloadable free of charge from the HP website.

Overview

Chapter 1, (this chapter) presents information about manual conventions, and an overview of the scanner, its features and operation.

Chapter 2, Setup presents information about unpacking, cable connection information and setting up the scanner.

Chapter 3, Configuration Using Bar Codes provides instructions and bar code labels for customizing the scanner. There are different sections for interface types, general features, data formatting, symbology-specific and model-specific features.

Chapter 4, References provides background information and detailed instructions for more complex programming items.

Appendix A, Technical Specifications lists physical and performance characteristics, as well as environmental and regulatory specifications. It also provides standard cable pin-outs and LED/Beeper functions.

Appendix B, Standard Defaults references common factory default settings for scanner features and options.

Appendix C, Sample Bar Codes offers sample bar codes of several common symbologies.

Appendix D, Keypad includes numeric bar codes to be scanned for certain parameter settings.

Appendix E, Scancode Tables lists control character emulation information for Wedge and USB Keyboard interfaces.

Appendix F, Quick Setup lists control character emulation information for Wedge and USB Keyboard interfaces

Manual Conventions

The following conventions are used in this document:

The symbols listed below are used in this manual to notify the reader of key issues or procedures that must be observed when using the scanner:

Notes contain information necessary for properly diagnosing, repairing and operating the scanner.

CAUTION

The CAUTION symbol advises you of actions that could damage equipment or property.

References

Current versions of this Product Reference Guide (PRG), User Guide, the HP Imaging Scanner Configuration application, and any other manuals, instruction sheets and utilities for this product can be downloaded from the website listed below. Alternatively, printed copies or product support CDs for most products can be purchased through your authorized HP reseller or service provider.

Technical Support

HP Website Support

The HP website (www.hp.com/support) is the complete source for technical support and information for HP products. The site offers product support, product registration, warranty information, product manuals, product tech notes, software updates, demos, and instructions for returning products for repair.

Reseller Technical Support

An excellent source for technical assistance and information is an authorized HP reseller. A reseller is acquainted with specific types of businesses, application software, and computer systems and can provide individualized assistance.

Telephone Technical Support

If you do not have internet or email access, you may contact HP technical support in your region using the telephone numbers document provided with your HP retail point of sale computer.

About the Scanner

Typically, units are factory-programmed for the most common terminal and communications settings. If you need to modify any programmable settings, custom configuration can be accomplished by scanning the programming bar codes within this guide.

The HP bar code scanner is covered in this manual:

Programming can alternatively be performed using the Configuration application that can be installed from the CD included with the scanner. This multi-platform utility program allows device configuration using a PC. It communicates to the device using a serial or USB cable and can also create configuration bar codes to print.

Advancements in the LED technology used in the imager-based scanners significantly improve the illumination of the target field of view, resulting in higher scan efficiency. Whether used in Single Trigger or Continuous Mode, the ergonomic design of the scanner will help to promote comfortable handling during extended periods of use.

Programming the Scanner

Configuration Methods

Programming Bar Codes

The scanner is factory-configured with a standard set of default features. After scanning the interface bar code, you can select other options and customize the scanner through use of the instructions and programming bar code labels available in the corresponding features section for your interface. Customizable settings for many features are found in "Configuration Using Bar Codes" starting on page 17.

Some programming labels, like "Restore Custom Defaults" on page 15, require only the scan of the single label to enact the change. Most, however, require the scanner to be placed in Programming Mode prior to scanning them. Scan an ENTER/EXIT bar code once to enter Programming Mode. Once the scanner is in Programming Mode, scan a number of parameter settings before scanning the ENTER/EXIT bar code a second time, which will then accept your changes, exit Programming Mode and return the scanner to normal operation.

There are some exceptions to the typical programming sequence described above. Please read the description and setting instructions carefully when configuring each programmable feature.

Configuration Software

HP Imaging Scanner Configuration is a multi-platform utility program providing a quick and user-friendly configuration method via the USB-COM interface. The software is available on the CD-ROM provided with your product, and also from the website. It allows you to program the scanner by selecting configuration commands through a user-friendly graphical interface running on a PC. These commands are sent to the scanner over the selected communication interface, or they can be printed as bar codes to be scanned.

The utility also provides the ability to perform a software upgrade for the connected device.

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Chapter 2
Setup

Unpacking

Check carefully to ensure the scanner and any accessories ordered are present and undamaged. If any damage occurred during shipment, contact HP Technical Support. Information is shown on page 8.

KEEP THE PACKAGING. Should the unit ever require service, it should be returned in its original shipping container.

Setting Up the Scanner

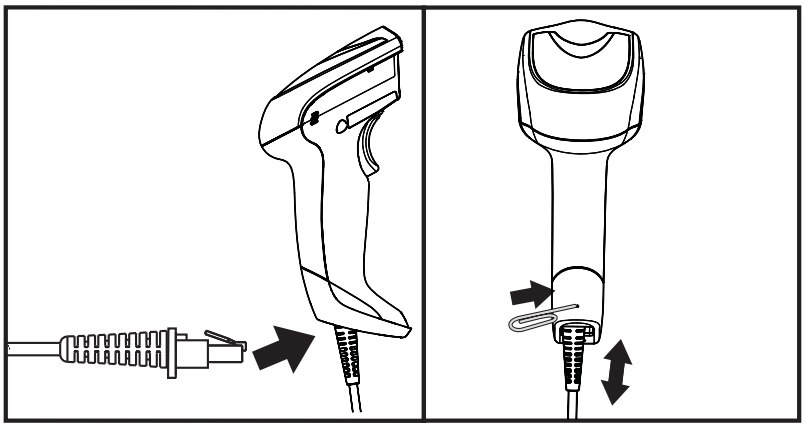
Follow the steps provided in this section to connect and get the scanner up and communicating with its host.

1. Begin by Installing the Interface Cable.
2. Go to Interface Selection and set the desired interface.
3. Configure Interface Settings (only if not using factory settings for that interface)
4. Go to Configuring Other Features (if modifications are needed from factory settings)

Installing the Interface Cable

Connect the scanner cable by inserting the cable into the handle as shown in Figure 1. To remove it, insert a paper clip into the release aperture, then unplug the cable.

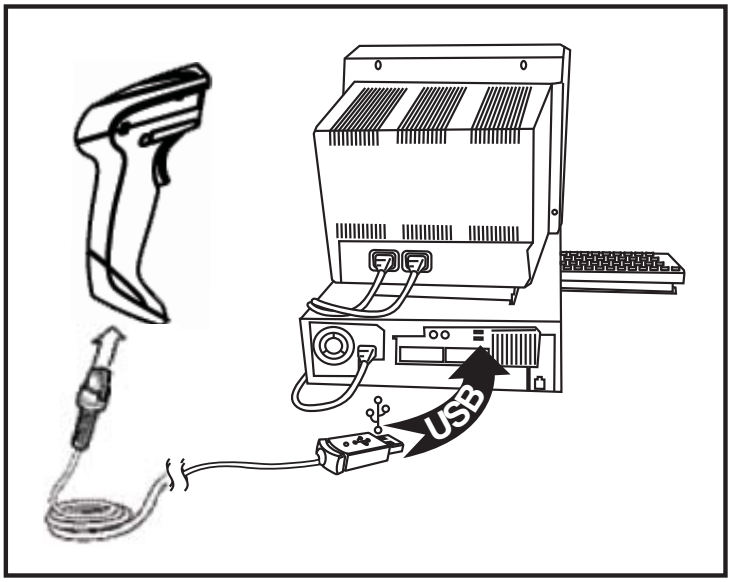
Figure 1. Connect/disconnect the cable



USB Connection

Connect the scanner to a USB port on the terminal/PC using the correct USB cable for the interface type you ordered. Reference Figure 2.

Figure 2. USB connection



Interface Selection

Upon completing the physical connection between the scanner and its host, proceed to Table 1 below to select the interface type the scanner is connected to. Scan the appropriate bar code in that section to configure your system's correct interface type.

The scanner supports the USB host interface.

Setting the Interface

Scan the programming bar code from this section that selects the appropriate interface type matching the system the scanner will be connected to. Next, proceed to the corresponding section in this manual (also listed in Table 1) to configure any desired settings and features associated with that interface.

Unlike some programming features and options, interface selections require that you scan only one programming bar code label. DO NOT scan an ENTER/EXIT bar code prior to scanning an interface selection bar code.

Some interfaces require the scanner to start in the disabled state when powered up. If additional scanner configuration is desired while in this state, pull the trigger and hold it for five seconds. The scanner will change to a state that allows programming with bar codes.

Table 1. USB Interface Options

USB-COM	FEATURES
\$P,HA47,P\r  Select USB-COM-STD[a] USB Com to simulate RS-232 standard interface	Set USB-COM Interface Features starting on page 21
KEYBOARD	**FEATURES**
\$P,HA35,P\r  Select USB Keyboard USB Keyboard with standard key encoding DEFAULT	Set USB Keyboard Interface Features starting on page 29
USB Keyboard with alternate key encoding \$P,HA2B,P\r  Select USB Alternate Keyboard	

a. Download the correct USB Com driver from the HP support and drives download page at www.hp.com

Customizing Configuration Settings

Configure Interface Settings

If after scanning the interface bar code from the previous table, your installation requires you to select options to further customize the scanner, turn to the appropriate section for your interface type in "Configuration Using Bar Codes" starting on page 17.

- "USB-Com Interfaces" on page 21
- "Keyboard SETTINGS" on page 29

Global Interface Features

See "Global Interface Features" on page 19 for settings configurable by all interface types.

Configuring Other Features

If your installation requires different programming than the standard factory default settings, the following sections of this manual allow configuration of non-interface-specific settings you might require:

Reading Parameters**:** Reading Parameters include programming for scanning, beeper and LED indicators and other universal settings.

1D Code Selection**:** Includes options concerning the bar code label types (symbologies). These settings allow you to enable/disable symbologies, set label lengths, require check digit, etc.

Software Version Transmission

The software version of the device can be transmitted over USB-Com and Keyboard interfaces by scanning the following label.

RevA\r

Transmit Software Version

Resetting the Product Configuration to Defaults

Restore Custom Defaults

If you aren't sure what programming options are in the scanner, or you've changed some options and want to restore the Custom Default Configuration that may have been saved in the scanner, scan the Restore Custom Default Configuration bar code below. This will restore the custom configuration for the currently active interface.

Custom defaults are based on the interface type. Configure the scanner for the correct interface before scanning this label.

$P,HA00,P

Restore Custom Default Configuration

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Chapter 3
Configuration Using Bar Codes

This and following sections provide programming bar codes to configure the scanner by changing the default settings. For details about additional methods of programming, see "Configuration Methods" on page 9.

You must first enable the scanner to read bar codes in order to use this section. If you have not done this, go to Setup starting on page 11 and complete the appropriate procedure.

Configuration Parameters

Once the scanner is set up, you can change the default parameters to meet your application needs. Refer to "Standard Defaults" starting on page 229 for initial configuration in order to set the default values and select the interface for your application.

The following configuration parameters are divided into logical groups, making it easy to find the desired function based on its reference group.

Interface Configuration:

- "USB-Com Interfaces" on page 21
- "Keyboard SETTINGS" on page 29

Parameters common to all interface applications:

- "Data Format" on page 37 gives options to control the messages sent to the Host system.
- "Reading Parameters" on page 47 control various operating modes and indicators status functioning.

Symbology-specific parameters:

- "1D Code Selection" on page 67 provides configuration of a personalized mix of 1D codes, code families and their options.
- "2D Symbology Selection" on page 172 provides configuration of a personalized mix of 2D codes, code families and their options.

You must first enable the scanner to read bar codes in order to use this section. If you have not done this, go to Setup starting on page 11 and complete the appropriate procedure.

To program features:

1. Scan the ENTER/EXIT PROGRAMMING bar code, available at the top of each programming page, when applicable.

2. Scan the bar code to set the desired programming feature. You may need to cover unused bar codes on the page, and possibly the facing page, to ensure that the scanner reads only the bar code you intend to scan.

3. If additional input parameters are needed, go to Appendix D, Keypad, and scan the appropriate characters from the keypad.

Additional information about many features can be found in the "References" chapter.

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

4. Complete the programming sequence by scanning the ENTER/EXIT PROGRAMMING bar code to exit Programming Mode.

For more detailed descriptions, programming information and examples for setting selected configuration items, see References starting on page 197.

GLOBAL INTERFACE FEATURES

The following interface features are configurable by all interface types.

Host Commands — Obey/Ignore

This option specifies whether the scanner will obey or ignore host commands. When set to ignore, the scanner will ignore all host commands except for those necessary for:

- service mode
- flash programming mode
- keeping the interface active
- transmission of labels.

DEFAULT	$CIFIH00 Host Commands = Obey
$CIFIH01 Host Commands = Ignore	

USB Suspend Mode

This setting enables/disables the ability of USB interfaces to enter suspend mode.

DEFAULT	$CUSSE00 USB Suspend Mode = Disable
$CUSSE01 USB Suspend Mode = Enable	

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USB-COM INTERFACES

The programming bar codes in this chapter allow modifications to the standard USB-Com interfaces. Reference Appendix B, Standard Defaults for a listing of standard factory settings.

Intercharacter Delay

This parameter specifies the intercharacter delay between the end of one character and the beginning of the next. The delay can be set within a range of zero (0) to 990 milliseconds in 10ms increments. A setting of zero specifies no delay.

See page 197 for more information.

	$CR2IC00 Intercharacter Delay = No Delay
$CR2IC Select Intercharacter Delay Setting	
Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.	~ CANCEL

DEFAULT **00 = No Intercharacter Delay**

Beep On ASCII BEL

When this parameter is enabled, the scanner issues a beep when a <BEL> character is detected on the serial line. <BEL> is issued to gain a user's attention to an illegal entry or other important event.

$CR2BB00 Beep On ASCII BEL = Disable	DEFAULT
	$CR2BB01 Beep On ASCII BEL = Enable

Beep Upon Not on File

This option enables/disables the action of the scanner to sound a three beep sequence upon receiving a Not-On-File (NOF) host command.

$CBPNF00 Beep On Not On File = Disable	
DEFAULT	$CBPNF01 Beep On Not On File = Enable

ACK NAK Options

This enables/disables the ability of the scanner to support the ACK/NAK protocol. See page 198 for more information.

DEFAULT	$CR2AE00 ACK/NAK Protocol = Disable ACK/NAK
$CR2AE01 ACK/NAK Protocol = Enable for label transmission	
	$CR2AE02 ACK/NAK Protocol = Enable for host-command acknowledge
$CR2AE03 ACK/NAK Protocol = Enable for label transmission and host-command acknowledge	

ACK Character

This setting specifies an ASCII character or hex value to be used as the ACK character. ASCII characters or any hex value from 0 to 0xFF can be selected. See page 198 for more information.

$CR2AC  Select ACK Character Setting	

DEFAULT

0x06 'ACK' Character

NAK Character

This setting specifies an ASCII character or hex value to be used as the NAK character. ASCII characters or any hex value from 0 to 0xFF can be selected. See page 199 for more information.

$CR2NA  Select NAK Character Setting	

DEFAULT

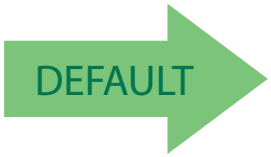
0x15 'NAK' Character

ACK NAK Timeout Value

This option specifies the amount of time the scanner waits for an ACK character from the host following label transmission. The selectable timeout range is 200 milliseconds to 15,000ms (15 seconds) in 200ms increments. A selection of 0 disables the timeout.

See page 200 for more information on setting this feature.

$CR2AT  Select ACK NAK Timeout Value Setting	
Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.	~  CANCEL

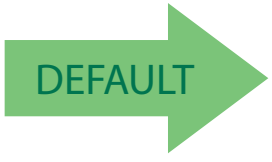


01 ACK NAK Timeout value is 200ms

ACK NAK Retry Count

This feature specifies the number of times the scanner retries a label transmission due to a retry condition. The selectable range is from 1 to 254 retries. A selection of 0 disables the count, and a selection of 255 specifies unlimited retries. See page 201 for more information.

$CR2AR  Select ACK NAK Retry Count Setting	
Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.	~  CANCEL



003 = 3 Retries

ACK NAK Error Handling

This feature specifies the method the scanner uses to handle receive errors detected while waiting for an ACK character from the host.

DEFAULT	$CR2EH00 ACK NAK Error Handling = Ignore Errors Detected
$CR2EH01 ACK NAK Error Handling = Process Error as Valid ACK Character	
	$CR2EH02 ACK NAK Error Handling = Process Error as Valid NAK Character

Indicate Transmission Failure

This option enables/disables the scanner's ability to sound an error beep to indicate a transmission failure while in ACK/NAK mode.

	$CR2TF00 Indicate Transmission Failure = Disable Indication
$CR2TF01 Indicate Transmission Failure = Enable Indication	DEFAULT

Disable Character

Specifies the value of the host command used to disable the scanner. ASCII characters or any hex value from 0 to 0xFF can be selected.

See page 202 for more information on setting this feature.

$CR2DC

Select Disable Character Setting

DEFAULT

0x44 = Disable Character is 'D'

Enable Character

Specifies the value of the host command used to enable the scanner.

ASCII characters or any hex value from 0 to 0xFF can be selected.

See page 203 in "References" for more information on setting this feature.

$CR2EC

Select Enable Character Setting

DEFAULT

0x45 = Enable Character is 'E'

NOTES

KEYBOARD SETTINGS

Use the programming barcodes in this chapter to select options for USB Keyboard and Wedge Interfaces. Reference Appendix B, Standard Defaults for a listing of standard factory settings.

Information about control character emulation which applies to keyboard interfaces is listed in Appendix E, Scancode Tables.

Country Mode

This feature specifies the country/language supported by the USB keyboard.

DEFAULT	$CKBCO00 Country Mode = U.S.
$CKBCO01 Country Mode = Belgium	
	$CKBCO02 Country Mode = Britain
$CKBCO03 Country Mode = Denmark	Supports only the interfaces listed in the Country Mode feature description.
	$CKBCO04 Country Mode = France
$CKBCO05 Country Mode = Germany	
Supports only the interfaces listed in the Country Mode feature description.	$CKBCO0D Country Mode = Hungary

Country Mode (Continued)

$CKBCO06

Country Mode = Italy

Supports only the interfaces listed in the Country Mode feature description.

$CKBCO0C

Country Mode = Japanese 106-key

$CKBCO07

Country Mode = Norway

Supports only the interfaces listed in the Country Mode feature description.

Supports only the interfaces listed in the Country Mode feature description.

$CKBCO08

Country Mode = Portugal

$CKBCO09

Country Mode = Spain

$CKBCO0A

Country Mode = Sweden

$CKBCO0F

Country Mode = Slovakia

Supports only the interfaces listed in the Country Mode feature description.

Send Control Characters

This feature Specifies how the scanner transmits ASCII control characters to the host. Reference Appendix E, Scancode Tables for more information about control characters.

Options are as follows:

Control Character 00 : Characters from 00 to 0x1F are sent as control character Ctrl+Keys, special keys are located from 0x80 to 0xA1.

Control Character 01 : Characters from 00 to 0x1F are sent as control character Ctrl+Capital Key, special keys are located from 0x80 to 0xA1.

Control Character 02 : Special keys are located from 00 to 0x1F and characters from 0x80 to 0xFE are intended as an extended ASCII table (Microsoft Windows Codepage 1252 — see "Microsoft Windows Codepage 1252" on page 252).

DEFAULT	$CKBSC00 Wedge Send Control Characters = 00
$CKBSC01 Wedge Send Control Characters = 01	
	$CKBSC02 Wedge Send Control Characters = 02

Intercode Delay

Specifies the delay between labels transmitted to the host for this interface. The selectable range for this feature is from 0 to 99 seconds.

See page 204 in "References" for detailed information and examples for setting this feature.

$CKBID Set Intercode Delay	
Make a mistake? Scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.	~ CANCEL

DEFAULT

00 = No Wedge Intercode Delay

Caps Lock State

This option specifies the format in which the scanner sends character data. This does not apply when an alternate key encoding keyboard is selected.

DEFAULT	$CKBCL00 Caps Lock State = Caps Lock OFF
$CKBCL01 Caps Lock State = Caps Lock ON	
	$CKBCL02 Caps Lock State = AUTO Caps Lock Enable

USB Keyboard Speed

This option specifies the USB poll rate for a USB keyboard.

This feature applies ONLY to the USB Keyboard interface.

DEFAULT	$CKBSP01 USB Keyboard Speed = 1ms
$CKBSP02 USB Keyboard Speed = 2ms	
	$CKBSP03 USB Keyboard Speed = 3ms
$CKBSP04 USB Keyboard Speed = 4ms	
	$CKBSP05 USB Keyboard Speed = 5ms
$CKBSP06 USB Keyboard Speed = 6ms	

USB Keyboard Speed — continued

	$CKBSP07 USB Keyboard Speed = 7ms
$CKBSP08 USB Keyboard Speed = 8ms	
	$CKBSP09 USB Keyboard Speed = 9ms
$CKBSP0A USB Keyboard Speed = 10ms	

USB Keyboard Numeric Keypad

This option Controls whether numeric characters will be sent using standard keys or the numeric keypad.

DEFAULT	$CKBKP00\r Standard Keys
$CKBKP01\r Numeric Keypad	

NOTES

Data Format

CAUTION

It is not recommended to use these features with IBM interfaces.

The features in this chapter can be used to build specific user-defined data into a message string. See “References” starting on page 206 for more detailed instructions on setting these features.

Global Prefix/Suffix

This option sets up to 20 characters each from the set of ASCII characters or any hex value from 00 to FF. The characters may be added as a prefix (in a position before the bar code data, also called a header) and/or as a suffix (in a position following the bar code data, also called a footer). See page 207 for more detailed instructions on setting this feature.

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above to place the unit in Programming Mode, then the "Set Global Prefix" or "Set Global Suffix," bar code followed by the digits (in hex) from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). If less than the expected string of 20 characters are selected, scan the ENTER/EXIT bar code to terminate the string. Exit programming mode by scanning the ENTER/EXIT bar code again.

	$CLFPR  Set Global Prefix
$CLFSU  Set Global Suffix	

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

~ 
CANCEL

DEFAULT

No Global Prefix
Global Suffix = 0x0D

Global AIM ID

This feature enables/disables addition of AIM IDs for all symbology types.

AIM label identifiers (as opposed to custom characters you select yourself as with label identifiers) can be included with scanned bar code data. AIM label identifiers consist of three characters as follows:

- A close brace character (ASCII ‘]’), followed by...
- A code character (see some samples in the table below), followed by...
- A modifier character (the modifier character is symbol dependent).

SYMBOLOGY	CHAR	SYMBOLOGY	CHAR
UPC/EAN	E[a]	Code 128/GS1-128	C
Code 39 and Code 32	A	DataBar Omnidirectional, DataBar Expanded	e
Codabar	F	Standard 2 of 5	S
Interleaved 2 of 5	I	ISBN	X[b]
Code 93	G	Code 11	H

a. UPC-A and UPC-E labels are converted to EAN 13 when adding AIM IDs.
b. ISBN (X with a 0 modifier character)

DEFAULT

$CAIEN00

Global AIM ID = Disable

$CAIEN01

Global AIM ID = Enable

Label ID

A Label ID is a customizable code of up to three ASCII characters (each can be one of hex 0x01-0xFF), used to identify a bar code (symbology) type. It can be appended previous to or following the transmitted bar code data depending upon how this option is enabled. This feature provides options for configuring custom Label IDs or individually per symbology (see "Individually Set Label ID" on page 40). If you wish to program the scanner to always include an industry standard label identifier for ALL symbology types, see the previous feature "Global AIM ID" on page 39.

See Label ID, starting on page 209 of “References” for more information on setting this feature.

Individually Set Label ID

This feature configures a Label ID individually for a single symbology. To set, first define whether you want it as a prefix or suffix by scanning a label below. Then turn toLabel ID Symbology Selection − 1D Symbologies, starting on page 41 to select the symboloby you want to set, followed by up to 3 characters from the ASCII Chart at the back of this manual. See Label ID: Set Individually Per Symbology, starting on page 211 for detailed instructions on setting this feature.

Label ID Control

This option controls whether a Label ID is disabled, or sent as a prefix or suffix for a given symbology type.

DEFAULT	$CIDCO00 Label ID Transmission = Disable
$CIDCO01 Label ID Transmission = Enable as Prefix	
	$CIDCO02 Label ID Transmission = Enable as Suffix
~ CANCEL	Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

Label ID Symbology Selection – 1D Symbologies

After setting the Label ID Control on the previous page, use the following table to select the symbology for which a Label ID is to be configured. See page 211 in “References” for more detailed instructions.

$CACID Set ABC Codabar Label ID Character(s)	$CP3ID Set Code 32 Pharmacode Label ID Character(s)
$CALID Set Anker Plessey Label ID Character(s)	$CC9ID Set Code 93 Label ID Character(s)
$CCBID Set Codabar Label ID Character(s)	$CI8ID Set Concatenated ISBT 128 Label ID Character(s)
$CC1ID Set Code 11 Label ID Character(s)	$CDPID Set Danish PPT Label ID Character(s)
$CC8ID Set Code 128 Label ID Character(s)	$C3BID Set EAN 13 Label ID Character(s)
$CC3ID Set Code 39 Label ID Character(s)	$C3MID Set EAN 13 Composite Label ID Character(s)
$CCCID Set Code 39 CIP Label ID Character(s)	$C32ID Set EAN 13 P2 Label ID Character(s)
$C8BID Set EAN 8 Label ID Character(s)	$C35ID Set EAN 13 P5 Label ID Character(s)

Label ID Symbology Selection – 1D Symbologies

$C8MID Set EAN 8 Composite Label ID Character(s)	$CXCID Set GS1 DataBar Expanded Composite Label ID Character(s)
$C82ID Set EAN 8 P2 Label ID Character(s)	$CU8ID Set GS1-128 Label ID Character(s)
$C85ID Set EAN 8 P5 Label ID Character(s)	$CUMID Set GS1-128 Composite Label ID Character(s)
$C4BID Set GS1 DataBar 14 Label ID Character(s)	$CLBID Set GSI DataBar Limited Label ID Character(s)
$C4CID Set GS1 DataBar 14 Composite Label ID Character(s)	$CLCID GSI DataBar Limited Composite Label ID Character(s)
$CXBID Set GS1 DataBar Expanded Label ID Character(s)	$CG2ID Set GTIN 2 Label ID Character(s)
$CIAID Set IATA Industrial 2 of 5 Label ID Character(s)	$CG5ID Set GTIN 5 Label ID Character(s)
$CU2ID Set Industrial 2 of 5 Label ID Character(s)	$CGBID Set GTIN 8 Label ID Character(s)

Label ID Symbology Selection – 1D Symbologies (contd.)

$CI2ID  Set Interleaved 2 of 5 Label ID Character(s)	$CMSID  Set MSI Label ID Character(s)
$CISID  Set ISBN Label ID Character(s)	$CPLID  Set Plessey Label ID Character(s)
$CINID  Set ISSN Label ID Character(s)	$CAMID  Set UPC-A Composite Label ID Character(s)
$CPZID  Set PZN Code Label ID Character(s)	$CA2ID  Set UPC-A P2 Label ID Character(s)
$CS2ID  Set Standard 2 of 5 Label ID Character(s)	$CA5ID  Set UPC-A P5 Label ID Character(s)
$CCTID  Set Trioptic Code Label ID Character(s)	$CEBID  Set UPC-E Label ID Character(s)
$CABID  Set UPC-A Code Label ID Character(s)	$CE5ID  Set UPC-E P5 Label ID Character(s)
$CLPID  Set LaPoste Code 39 Label ID Character(s)	

Label ID Symbology Selection – 2D Symbologies

$CAZID Set Aztec Label ID Character(s)	$CMXID Set Maxicode Label ID Character(s)
$CCSID Set China Sensible Label ID Character(s)	$CP4ID Set PDF 417 Label ID Character(s)
$CDMID Set Data Matrix Label ID Character(s)	$CMIID Set Micro PDF 417 Label ID Character(s)
$CPNID Set Postnet Label ID Character(s)	$CQRID Set QR Code Label ID Character(s)
$CPPID Set Planet Postal Code Label ID Character(s)	$CPJID Set Japan Postal Code Label ID Character(s)
$CPRID Set Royal Postal Code Label ID Character(s)	$CPSID Set Swedish Postal Code Label ID Character(s)
$CPKID Set Kix Postal Code Label ID Character(s)	$CPMID Set IMB Postal Code Label ID Character(s)
$CPAID Set Australian Postal Code Label ID Character(s)	$CPGID Set Portugal Postal Code Label ID Character(s)

Case Conversion

This feature allows conversion of the case of all alphabetic characters to upper or lower case.

Case conversion affects ONLY scanned bar code data, and does not affect Label ID, Prefix, Suffix, or other appended data.

DEFAULT	$CLFCA00 Case Conversion = Disable (no case conversion)
$CLFCA01 Case Conversion = Convert to upper case	
	$CLFCA02 Case Conversion = Convert to lower case

Character Conversion

Character conversion is an eight byte configuration item. The eight bytes are 4 character pairs represented in hexadecimal ASCII values. The first character in the pair is the character that will be converted. The second character in the pair is the character to convert to. If the character to convert in a pair is FF, then no conversion is done.

If less than the expected string of 16 characters are selected, scan the ENTER/EXIT bar code twice to accept the selections and exit Programming Mode.

	$CLFCH Configure Character Conversion

DEFAULT

0xFFFFFFFFFFFFFFFF
(No character conversion)

NOTES

READING PARAMETERS

Double Read Timeout

Double Read Timeout prevents a double read of the same label by setting the minimum time allowed between reads of labels of the same symbology and data. If the unit reads a label and sees the same label again within the specified timeout, the second read is ignored. Double Read Timeout does not apply to scan modes that require a trigger pull for each label read.

	$CSNDR0A Double Read Timeout = 0.1 Second
$CSNDR14 Double Read Timeout = 0.2 Second	
	$CSNDR1E Double Read Timeout = 0.3 Second
$CSNDR28 Double Read Timeout = 0.4 Second	DEFAULT
	$CSNDR32 Double Read Timeout = 0.5 Second
$CSNDR3C Double Read Timeout = 0.6 Second	
	$CSNDR46 Double Read Timeout = 0.7 Second

Double Read Timeout — continued

$CSNDR50  Double Read Timeout = 0.8 Second	
	$CSNDR5A  Double Read Timeout = 0.9 Second
$CSNDR64  Double Read Timeout = 1 Second	

Sleep Mode Timeout

This feature sets the amount of time that the scanner will be idle before it enters into a low power Sleep Mode. When in Sleep Mode the scanner can no longer receive commands from the Host until it is awakened again by a trigger pull.

$CSLTO00  Sleep Mode Timeout = Disable	DEFAULT
$CSLTO01  Sleep Mode Timeout = 1 Second	$CSLTO02  Sleep Mode Timeout = 2 Seconds
$CSLTO03  Sleep Mode Timeout = 3 Seconds	$CSLTO04  Sleep Mode Timeout = 4 Seconds
$CSLTO05  Sleep Mode Timeout = 5 Seconds	$CSLTO06  Sleep Mode Timeout = 6 Seconds
$CSLTO07  Sleep Mode Timeout = 7 Seconds	$CSLTO08  Sleep Mode Timeout = 8 Seconds
$CSLTO09  Sleep Mode Timeout = 9 Seconds	$CSLTO0A  Sleep Mode Timeout = 10 Seconds

LED AND BEEPER INDICATORS

Power On Alert

Disables or enables the indication (from the Beeper) that the scanner is receiving power.

	$CBPPU00 Power On Alert = Disable (No Audible Indication)
$CBPPU01 Power On Alert = Four Beeps	DEFAULT

Good Read: When to Indicate

This feature specifies when the scanner will provide indication (beep and/or flash its green LED) upon successfully reading a bar code.

DEFAULT	$CBPIN00 Indicate Good Read = After Decode
$CBPIN01 Indicate Good Read = After Transmit	

Enter/Exit Programming Mode

Good Read Beep Type

Specifies whether the good read beep has a mono or bitonal beep sound.

DEFAULT	$CBPTY00  Good Read Beep Type = Mono
$CBPTY01  Good Read Beep Type = Bitonal	

Good Read Beep Frequency

Adjusts the good read beep to sound at a selectable low, medium or high frequency, selectable from the list below. (Controls the beeper's pitch/tone.)

	$CBPFR00  Good Read Beep Frequency = Low
$CBPFR01  Good Read Beep Frequency = Medium	
DEFAULT	$CBPFR02  Good Read Beep Frequency = High

Good Read Beep Length

	$CBPLE06 Good Read Beep Length = 60 msec
$CBPLE08 Good Read Beep Length = 80 msec	DEFAULT
	$CBPLE0A Good Read Beep Length = 100 msec
$CBPLE0C Good Read Beep Length = 120 msec	
	$CBPLE0E Good Read Beep Length = 140 msec
$CBPLE10 Good Read Beep Length = 160 msec	
	$CBPLE12 Good Read Beep Length = 180 msec
$CBPLE14 Good Read Beep Length = 200 msec	

Good Read Beep Volume

Selects the beeper volume (loudness) upon a good read beep. There are three selectable volume levels.

	$CBPVO00  Good Read Beep Volume = Beeper Off
$CBPVO01  Good Read Beep Volume = Low	
	$CBPVO02  Good Read Beep Volume = Medium
$CBPVO03  Good Read Beep Volume = High	DEFAULT

Good Read LED Duration

This feature specifies the amount of time that the Good Read LED remains on following a good read. The good read LED on time can be set within a range of 10 milliseconds to 2,550 milliseconds (0.001 to 2.55 seconds) in 100ms increments.

See page 214 in "References" for detailed instructions and examples for setting this feature.

$CLAGL Select Good Read LED Duration Setting	
Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.	~ CANCEL

DEFAULT

020 = Good Read LED stays on for 2 seconds.

NOTE

Indicators are dimmed during sleep.

SCANNING FEATURES

Scan Mode

Selects the scanner's scan operating mode. See page 215 in "References" for descriptions.

$CSNRM00  Scan Mode = Trigger Single	DEFAULT
	$CSNRM01  Scan Mode = Trigger Hold Multiple
$CSNRM02  Scan Mode = Trigger Pulse Multiple	
	$CSNRM03  Scan Mode = Flashing
$CSNRM04  Scan Mode = Always On	
	$CSNRM05  Scan Mode = Stand Mode

Stand Mode Triggered Timeout

This feature specifies the time to remain in Trigger Single mode after the trigger is pulled while in Stand Mode.

This timeout is only used when the Scan Mode is configured as Stand Mode.

$CSNOT01  Stand Mode Triggered Timeout = 0.5 Seconds	DEFAULT
	$CSNOT03  Stand Mode Triggered Timeout = 1.5 Seconds
$CSNOT04  Stand Mode Triggered Timeout = 2 Seconds	
	$CSNOT06  Stand Mode Triggered Timeout = 3 Seconds
$CSNOT08  Stand Mode Triggered Timeout = 4 Seconds	

Stand Mode Triggered Timeout — continued

	$CSNOT0C  Stand Mode Triggered Timeout = 6 Seconds
$CSNOT10  Stand Mode Triggered Timeout = 8 Seconds	
	$CSNOT00  Stand Mode Triggered Timeout = Switch back to Trigger Single on trigger pull

Stand Operation

Specifies the behavior of the scanner when placed in a stand that contains autorecognition hardware.

Ignore Autorecognition. Disables mode switching when the scanner is placed in a stand.

Switch to Stand Mode. Automatically switches the scanner to Stand Mode when the scanner is placed in the stand.

Switch to Flashing. Automatically switches the scanner to Flash Mode when the scanner is placed in the stand.

Switch to Always On. Automatically switches the scanner to Always On mode when the scanner is placed in the stand.

	$CSMSD00  Ignore Autorecognition
$CSMSD01  Switch to Stand Mode	DEFAULT
	$CSMSD02  Switch to Always On
$CSMSD03  Switch to Flashing	

Stand Mode Sensitivity

Sets the sensitivity level for stand mode wakeup. Choices are low, medium and high.

	$CSMSE00  Stand Mode Sensitivity = Low
$CSMSE01  Stand Mode Sensitivity = Medium	DEFAULT
	$CSMSE02  Stand Mode Sensitivity = High

Scanning Active Time

This setting specifies the amount of time that the scanner stays in scan ON state once the state is entered. The range for this setting is from 1 to 255 seconds in 1-second increments. See page 216 in “References” for a description of this feature.

	$CSNET03  Scanning Active Time = 3 seconds
$CSNET05  Scanning Active Time = 5 seconds	DEFAULT
	$CSNET08  Scanning Active Time = 8 seconds

$CSNET Select Scanning Active Time Setting	
Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.	~ CANCEL

Flash On Time

This feature specifies the ON time for the indicator LED while in Flash Mode. The selectable range is 100 to 9,900 milliseconds (0.1 to 9.9 seconds), in 100 millisecond increments.See page 217 in “References” for detailed information on setting this feature.

$CSNFN Select Flash ON Time Setting	
Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.	~ CANCEL

DEFAULT

10 = Flash is ON for 1 Second

Enter/Exit Programming Mode

Flash Off Time

This feature specifies the OFF time for the indicator LED while in Flash Mode. The selectable range is 100 to 9,900 milliseconds (0.1 to 9.9 seconds), in 100 millisecond increments. See page 218 in "References" for detailed information on setting this feature.

$CSNFF Select Flash OFF Time Setting	
Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.	~ CANCEL

DEFAULT

06 = Flash is OFF for 600ms

Green Spot Duration

Specifies the duration of the good read pointer beam after a good read.

	$CLSSP00 Green Spot Duration = Disable (Green Spot is Off)
$CLSSP01 Green Spot Duration = Short (300 msec)	DEFAULT
	$CLSSP02 Green Spot Duration = Medium (500 msec)
$CLSSP03 Green Spot Duration = Long (800 msec)	

Mobile Phone Mode

Enables/Disables a shift of illumination pulse when the device calculates a specific level of image saturation.

Other options for this feature can be configured using the Software Configuration tool.

	$CSNPE00  Mobile Phone Mode = Disable
$CSNPE01  Mobile Phone Mode = Enable	DEFAULT

Pick Mode

Specifies the ability of the scanner to decode labels only when they are close to the center of the aiming pattern.

This feature is not compatible with Multiple Labels Reading in a Volume.

DEFAULT	$CSNPM00  PIck Mode = Disable
$CSNPM01  Pick Mode = Enable	

Multiple Label Reading

In standard (default) mode, when the scanner's aiming system is activated (by a trigger pull, motion or other method depending on the mode), it then acquires and processes each image in the area in front of it (the Volume). In this case, the scanner stops processing the image once it decodes a label. If several labels are present in the volume, only the first label encountered is decoded and sent.

When Multiple Reading Mode is enabled, the scanner keeps on processing the image until all the labels present are decoded. The scanner then sorts the data from all the bar codes (if configured to do so) before transmitting it.

Multiple Labels Reading in a Volume

Enables/disables ability of the scanner to decode multiple labels in the same volume, which is the area in front of the scanner. .

This feature is not compatible with Pick Mode.

DEFAULT	$CDEML00 Multiple Labels Reading = Disable
$CDEML01 Multiple Labels Reading = Enable	

Multiple Labels per Frame

Specifies the ability of the scanner to decode and transmit a set of code labels in a specific volume and in a single frame of time. When in Multiple Labels per Frame the scanner beeps and turns on the good read LED indication for each code read in a frame.

When Multiple Labels Mode is enabled, ISBT pairing, ABC Codabar pairing, and composites are not allowed.

DEFAULT	$CSNML00  Multiple Labels per Frame = Disable
$CSNML01  Multiple Labels per Frame = Enable	

Multiple Labels Ordering by Code Symbology

This feature allows you to specify the order multiple labels are transmitted by symbology type, when Multiple Labels per Frame is enabled. See page 219 in “References” for detailed information on setting this feature.

$CSNMS  Select Symbologies for Multiple Labels Ordering	
Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.	~  CANCEL
DEFAULT	**000000000000 = Random order**

Multiple Labels Ordering by Code Length

Specifies the transmission ordering by code length, when Multiple Labels per Frame is enabled.

DEFAULT	$CSNMT00 Multiple Labels Ordering = Disable
$CSNMT01 Transmit Increasing Length Order	$CSNMT02 Transmit Decreasing Length Order

1D Symbologies

1D Code Selection

The scanner supports the following 1D symbologies (bar code types). See "2D Symbology Selection" starting on page 172 for 2D bar codes. Symbology-dependent options are included in each chapter.

Default settings are indicated at each feature/option with a green arrow. Also reference Appendix B, Standard Defaults for a listing of the most widely used set of standard factory settings. That section also provides space to record any custom settings needed or implemented for your system.

To set most features:

1. Scan the ENTER/EXIT PROGRAMMING bar code at the top of applicable programming pages.
2. Scan the correct bar code to set the desired programming feature or parameter. You may need to cover unused bar codes on the page, and possibly the facing page, to ensure that the scanner reads only the bar code you intend to scan.

3. If additional input parameters are needed, go to Appendix D, Keypad, and scan the appropriate characters from the keypad.

Additional information about many features can be found in the "References" chapter.

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

4. Complete the programming sequence by scanning the ENTER/EXIT PROGRAMMING bar code to exit Programming Mode.

DISABLE ALL SYMBOLOGIES

Use this feature to disable all symbologies.

1. Scan the ENTER/EXIT PROGRAMMING bar code below.
2. Scan the Disable All Symbologies bar code.
3. Complete the programming sequence by scanning the ENTER/EXIT PROGRAMMING bar code.

ENTER/EXIT PROGRAMMING MODE

$AD

Disable All Symbologies

This does not disable the reading of programming labels.

CODE EAN/UPC

Coupon Control

This feature is used to control the scanner's method of processing coupon labels.

	$CCPCL00 Coupon Control = Allow all coupon bar codes to be decoded
$CCPCL01 Coupon Control = Enable only UPCA coupon decoding	DEFAULT
	$CCPCL02 Coupon Control = Enable only GS1 DataBar™ coupon decoding

UPC-A

The following options apply to the UPC-A symbology.

UPC-A Enable/Disable

When disabled, the scanner will not read UPC-A bar codes.

	$CABEN00  UPC-A = Disable
$CABEN01  UPC-A = Enable	DEFAULT

UPC-A Check Character Transmission

Enable this option to transmit the check character along with UPC-A bar code data.

	$CABCT00  UPC-A Check Character Transmission = Don't Send
$CABCT01  UPC-A Check Character Transmission = Send	DEFAULT

Expand UPC-A to EAN-13

Expands UPC-A data to the EAN-13 data format. Selecting this feature also changes the symbology ID to match those required for EAN-13.

DEFAULT	$CAB3B00 UPC-A to EAN-13 = Don't Expand
$CAB3B01 UPC-A to EAN-13 = Expand	

UPC-A Number System Character Transmission

This feature enables/disables transmission of the UPC-A number system character.

	$CABNS00 UPC-A Number System Character = Do not transmit
$CABNS01 UPC-A Number System Character = Transmit	DEFAULT

UPC-A 2D Component

This feature enables/disables a requirement that a 2D label component be decoded when a base label of this symbology is decoded.

DEFAULT	$CAB2D00  EAN-13 2D Component = Disable (2D component not required)
$CAB2D01  EAN-13 2D Component = 2D component must be decoded	

UPC-E

The following options apply to the UPC-E symbology.

UPC-E Enable/Disable

When disabled, the scanner will not read UPC-E bar codes.

	$CEBEN00  UPC-E = Disable
$CEBEN01  UPC-E = Enable	DEFAULT

UPC-E Check Character Transmission

Enable this option to transmit the check character along with UPC-E bar code data.

	$CEBCT00 UPC-E Check Character Transmission = Don't Send
$CEBCT01 UPC-E Check Character Transmission = Send	DEFAULT

UPC-E 2D Component

This feature enables/disables a requirement that a 2D label component be decoded when a base label for this symbology is decoded.

DEFAULT	$CEB2D00 UPC-E 2D Component = Disable (2D component not required)
$CEB2D01 UPC-E 2D Component = 2D component must be decoded	

Expand UPC-E to EAN-13

Expands UPC-E data to the EAN-13 data format. Selecting this feature also changes the symbology ID to match those required for EAN-13.

DEFAULT	$CEB3B00 UPC-E to EAN-13 = Don't Expand
$CEB3B01 UPC-E to EAN-13 = Expand	

Expand UPC-E to UPC-A

Expands UPC-E data to the UPC-A data format.

DEFAULT	$CEBAB00 UPC-E to UPC-A = Don't Expand
$CEBAB01 UPC-E to UPC-A = Expand	

UPC-E Number System Character Transmission

This feature enables/disables transmission of the UPC-E system number character.

	$CEBNS00 UPC-E Number System Character = Do not transmit
$CEBNS01 UPC-E Number System Character = Transmit	DEFAULT

GTIN FORMATTING

This feature enables/disables the ability to convert UPC-E, UPC-A, EAN 8, and EAN 13 labels into the GTIN 14-character format.

If add-on information is present on the base label prior to the conversion taking place, the add-on information will be appended to the converted GTIN label.

DEFAULT	$CGBEN00 GTIN Formatting = Disable
$CGBEN01 GTIN Formatting = Enable	

EAN 13 (JAN 13)

The following options apply to the EAN 13 (Jan 13) symbology.

EAN 13 Enable/Disable

When disabled, the scanner will not read EAN 13/JAN 13 bar codes.

	$C3BEN00  EAN 13 = Disable
$C3BEN01  EAN 13 = Enable	DEFAULT

EAN 13 Check Character Transmission

Enable this option to transmit the check character along with EAN 13 bar code data.

	$C3BCT00  EAN 13 Check Character Transmission = Don't Send
$C3BCT01  EAN 13 Check Character Transmission = Send	DEFAULT

EAN-13 Flag 1 Character

Enables/disables transmission of an EAN/JAN13 Flag1 character. The Flag 1 character is the first character of the label.

	$C3BF100  EAN-13 Flag 1 Char= Don't transmit
$C3BF101  EAN-13 Flag 1 Char= Transmit	DEFAULT

EAN-13 ISBN Conversion

This option enables/disables conversion of EAN 13/JAN 13 Bookland labels starting with 978 to ISBN labels.

DEFAULT	$C3BIS00  EAN-13 ISBN Conversion = Disable
$C3BIS01  EAN-13 ISBN Conversion = Convert to ISBN	

EAN-13 2D Component

This feature enables/disables a requirement that a 2D label component be decoded when a base label of this symbology is decoded.

DEFAULT	$C3B2D00 EAN-13 2D Component = Disable (2D component not required)
$C3B2D01 EAN-13 2D Component = 2D component must be decoded	

ISSN

The following options apply to the ISSN symbology.

ISSN Enable/Disable

Enables/disables conversion of EAN/JAN13 Bookland labels starting with 977 to ISSN labels.

DEFAULT	$C3BIN00 ISSN = Disable
$C3BIN01 ISSN = Enable	

EAN 8 (JAN 8)

The following options apply to the EAN 8 (Jan 8) symbology.

EAN 8 Enable/Disable

When disabled, the scanner will not read EAN 8/JAN 8 bar codes.

	$C8BEN00  EAN 8 = Disable
$C8BEN01  EAN 8 = Enable	DEFAULT

EAN 8 Check Character Transmission

Enable this option to transmit the check character along with EAN 8 bar code data.

	$C8BCT00  EAN 8 Check Character Transmission = Don't Send
$C8BCT01  EAN 8 Check Character Transmission = Send	DEFAULT

Expand EAN 8 to EAN 13

Enable this option to expand EAN 8/JAN 8 labels to EAN 13/JAN 13.

DEFAULT	$C8B3B00  Expand EAN 8 to EAN 13 = Disable
$C8B3B01  Expand EAN 8 to EAN 13 = Enable	

EAN 8 2D Component

This feature enables/disables a requirement that a 2D label component be decoded when a base label for this symbology is decoded.

DEFAULT	$C8B2D00  EAN 8 2D Component = Disable (2D component not required)
$C8B2D01  EAN 8 2D Component = 2D component must be decoded	

UPC/EAN GLOBAL SETTINGS

This section provides configuration settings for UPC-A, UPC-E, EAN 13 and EAN 8 symbologies, and affects all of these unless otherwise marked for each feature description.

UPC/EAN Price Weight Check

This feature enables/disables calculation and verification of price/weight check digits.

DEFAULT	$CPWEN00 Price Weight Check = Disabled
$CPWEN01 Price Weight Check = 4-digit price-weight check	
	$CPWEN02 Price Weight Check = 5-digit price-weight check
$CPWEN03 Price Weight Check = European 4-digit price-weight check	
	$CPWEN04 Price Weight Check = European 5-digit price-weight check

ADD-ONS

Contact Customer Support for advanced programming of optional and conditional add-ons.

Optional Add-ons

The scanner can be enabled to optionally read the following add-ons (supplementals):

If a UPC/EAN base label and an add-on are both decoded, the scanner will transmit the base label and add-on. If a UPC/EAN base label is decoded without an add-on, the base label will be transmitted without an add-on. Conditional add-on settings (if enabled) are considered by the scanner before optional add-on settings.

DEFAULT	$CADO200 Optional Add-Ons = Disable P2
$CADO201 Optional Add-Ons = Enable P2	
DEFAULT	$CADO500 Optional Add-Ons = Disable P5
$CADO501 Optional Add-Ons = Enable P5	
DEFAULT	$CADO800 Optional Add-Ons = Disable GS1-128
$CADO801 Optional Add-Ons = Enable GS1-128	

Optional Add-On Timer

This option sets the time the scanner will look for an add-on when an add-on fragment has been seen and optional add-ons are enabled. (Also see "Optional GS1-128 Add-On Timer" on page 86.)

$CADOT01  Optional Add-on Timer = 10ms	
	$CADOT02  Optional Add-on Timer = 20ms
$CADOT03  Optional Add-on Timer = 30ms	
	$CADOT04  Optional Add-on Timer = 40ms
$CADOT05  Optional Add-on Timer = 50ms	

Optional Add-On Timer — cont.

	$CADOT06 Optional Add-on Timer = 60ms
$CADOT07 Optional Add-on Timer = 70ms	DEFAULT
	$CADOT0A Optional Add-on Timer = 100ms
$CADOT0C Optional Add-on Timer = 120ms	
	$CADOT0E Optional Add-on Timer = 140ms
$CADOT10 Optional Add-on Timer = 160ms	

Optional Add-On Timer — cont.

	$CADOT12 Optional Add-on Timer = 180ms
$CADOT14 Optional Add-on Timer = 200ms	
	$CADOT16 Optional Add-on Timer = 220ms
$CADOT18 Optional Add-on Timer = 240ms	
	$CADOT1A Optional Add-on Timer = 260ms
$CADOT1C Optional Add-on Timer = 280ms	
	$CADOT1E Optional Add-on Timer = 300ms

Optional GS1-128 Add-On Timer

This option sets the timer expiration value to read the added part after reading the linear EAN/UPC part. For UPC/EAN add-ons other than those of that type, see "Optional Add-On Timer" on page 83.

DEFAULT	$CADUT00 Optional GS1-128 Add-On Timer = Disable
$CADUT01 Optional GS1-128 Add-On Timer = 10ms	
	$CADUT02 Optional GS1-128 Add-On Timer = 20ms
$CADUT03 Optional GS1-128 Add-On Timer = 30ms	
	$CADUT04 Optional GS1-128 Add-On Timer = 40ms
$CADUT05 Optional GS1-128 Add-On Timer = 50ms	

Optional GS1-128 Add-On Timer — cont.

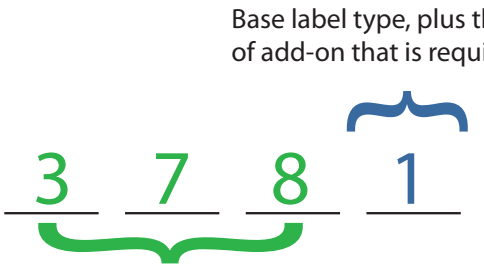
	$CADUT06  Optional GS1-128 Add-On Timer = 60ms
$CADUT07  Optional GS1-128 Add-On Timer = 70ms	
	$CADUT0A  Optional GS1-128 Add-On Timer = 100ms
$CADUT0C  Optional GS1-128 Add-On Timer = 120ms	
	$CADUT0E  Optional GS1-128 Add-On Timer = 140ms
$CADUT10  Optional GS1-128 Add-On Timer = 160ms	

Optional GS1-128 Add-On Timer — cont.

	$CADUT12 Optional GS1-128 Add-On Timer = 180ms
$CADUT14 Optional GS1-128 Add-On Timer = 200ms	
	$CADUT16 Optional GS1-128 Add-On Timer = 220ms
$CADUT18 Optional GS1-128 Add-On Timer = 240ms	
	$CADUT1A Optional GS1-128 Add-On Timer = 260ms
$CADUT1C Optional GS1-128 Add-On Timer = 280ms	
	$CADUT1E Optional GS1-128 Add-On Timer = 300ms

Conditional Add-on Controls (1 through 4)

Conditional Add-on Controls are an advanced programming feature requiring manual entry of four fields (nibbles) representing the first three digits of the base label, followed by base label type as represented in the key below.



0=This Entry Disabled
1=UPCA + P2
2=UPCA + P5
3=UPCA + P8
4=UPCE + P2
5=UPCE + P5
6=UPCE + P8
7=EAN13 + P2
8=EAN13 + P5
9=EAN13 + P8
A=EAN8 + P2
B=EAN8 + P5
C=EAN8 + P8

DEFAULT	$CADC13780 Conditional Add-On Control 1 = Disable
$CADC1 Set Conditional Add-On Control 1	

DEFAULT	$CADC23790 Conditional Add-On Control 2 = Disable
$CADC2 Set Conditional Add-On Control 2	

Conditional Add-on Controls (1 through 4) — continued

DEFAULT	$CADC39770 Conditional Add-On Control 3 = Disable
$CADC3 Set Conditional Add-On Control 3	

DEFAULT	$CADC39770 Conditional Add-On Control 4 = Disable
$CADC4 Set Conditional Add-On Control 4	

CODE 39

The following options apply to the Code 39 symbology.

Code 39 Enable/Disable

	$CC3EN00 Code 39 = Disable
$CC3EN01 Code 39 = Enable	DEFAULT

Code 39 Check Character Calculation

Enable this option to enables/disables calculation and verification of an optional Code 39 check character. When disabled, any check character in the label is treated as a data character

	$CC3CC00 Code 39 Check Character Calculation = Don't Calculate
$CC3CC01 Code 39 Check Character Calculation = Calculate Std Check	DEFAULT
	$CC3CC02 Code 39 Check Character Calculation = Calculate Mod 7 Check

Code 39 Check Character Calculation — cont.

$CC3CC04 Code 39 Check Character Calculation = Enable Italian Post Check	
	$CC3CC08 Code 39 Check Character Calculation = Enable Daimler Chrysler Check

Code 39 Check Character Transmission

Enable this option to transmit the check character along with Code 39 bar code data.

	$CC3CT00 Code 39 Check Character Transmission = Don't Send
$CC3CT01 Code 39 Check Character Transmission = Send	DEFAULT

Code 39 Start/Stop Character Transmission

Enable this option to enable/disable transmission of Code 39 start and stop characters.

DEFAULT	$CC3SS00 Code 39 Start/Stop Character Transmission = Don't Transmit
$CC3SS01 Code 39 Start/Stop Character Transmission = Transmit	

Code 39 Full ASCII

Enables/disables the translation of Code 39 characters to Code 39 full-ASCII characters.

DEFAULT	$CC3FA00 Code 39 Full ASCII = Disable
$CC3FA01 Code 39 Full ASCII = Enable	

Code 39 Length Control

This feature specifies either variable length decoding or fixed length decoding for the Code 39 symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT	$CC3LC00 Code 39 Length Control = Variable Length
$CC3LC01 Code 39 Length Control = Fixed Length	

Code 39 Set Length 1

This feature specifies one of the bar code lengths for Code 39 Length Control. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the bar code's data characters only. The length can be set from 0 to 50 characters.

Table 2 provides examples for setting Length 1. See page 205 for detailed instructions on setting this feature.

Table 2. Code 39 Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	00 Characters	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT CODE 39 LENGTH 1 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '0'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

$CC3L1

Select Code 39 Set Length 1 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

~

CANCEL

DEFAULT

02 = Length 1 is 2 Characters

Code 39 Set Length 2

This feature specifies one of the bar code lengths for Code 39 Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Length includes the bar code's check, data, and full-ASCII shift characters. The length does not include start/stop characters.

Table 3 provides examples for setting Length 2. See page 205 for detailed instructions on setting this feature.

Table 3. Code 39 Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	00 (Ignore This Length)	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT CODE 39 LENGTH 2 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '0'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

$CC3L2

Select Code 39Length 2 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

~

CANCEL

DEFAULT **50 = Length 2 is 50 Characters**

Code 39 Interdigit Ratio

This feature specifies the ratio between an intercharacter space and module for Code 39 labels.

	$CC3IR00  Code 39 Interdigit Ratio = Disable
$CC3IR01  Code 39 Interdigit Ratio = 1	
	$CC3IR02  Code 39 Interdigit Ratio = 2
$CC3IR03  Code 39 Interdigit Ratio = 3	
DEFAULT	$CC3IR04  Code 39 Interdigit Ratio = 4
$CC3IR05  Code 39 Interdigit Ratio = 5	

Code 39 Interdigit Ratio — cont.

	$CC3IR06  Code 39 Interdigit Ratio = 6
$CC3IR07  Code 39 Interdigit Ratio = 7	
	$CC3IR08  Code 39 Interdigit Ratio = 8
$CC3IR09  Code 39 Interdigit Ratio = 9	
	$CC3IR0A  Code 39 Interdigit Ratio = 10

TRIOPTIC CODE

The following options apply to the Trioptic symbology.

Trioptic Code Enable/Disable

DEFAULT	CCTEN00 Trioptic Code = Disable
CCTEN01 Trioptic Code = Enable	

CODE 32 (ITAL PHARMACEUTICAL CODE)

The following options apply to the Code 32 (Italian Pharmaceutical Code) symbology.

Code 32 Enable/Disable

When disabled, the scanner will not read Code 32 bar codes.

DEFAULT	$CP3EN00 Code 32 = Disable
$CP3EN01 Code 32 = Enable	

Code 32 Feature Setting Exceptions

The following features are set for Code 32 by using these Code 39 settings:

"Code 39 Length Control" on page 94
"Code 39 Interdigit Ratio" on page 97

Code 32 Check Char Transmission

Enable this option to transmit the check character along with Code 32 bar code data.

DEFAULT	$CP3CT00 Code 32 Check Character Transmission = Don't Send
$CP3CT01 Code 32 Check Character Transmission = Send	

Code 32 Start/Stop Character Transmission

This option enables/disables transmission of Code 32 start and stop characters.

DEFAULT	$CP3SS00 Code 32 Start/Stop Character Transmission = Don't Transmit
$CP3SS01 Code 32 Start/Stop Character Transmission = Transmit	

CODE 39 CIP (FRENCH PHARMACEUTICAL)

The following options apply to the Code 39 CIP symbology.

Code 39 CIP Enable/Disable

Enables/Disables ability of the scanner to decode Code 39 CIP labels.

DEFAULT	$CCCEN00 Code 39 CIP = Disable
$CCCEN01 Code 39 CIP = Enable	

CODE 39 DANISH PPT

The following options apply to the Code 39 Danish PPT symbology.

Code 39 Danish PPT Enable/Disable

Enables/Disables AIM ID for Code 39 Danish PPT Codes.

DEFAULT	CDPEN00 Code 39 Danish PPT = Disable
CDPEN01 Code 39 Danish PPT = Enable	

CODE 39 LAPOSTE

The following options apply to the Code 39 LaPoste symbology.

Code 39 LaPoste Enable/Disable

Enables/disables the ability of the scanner to decode Code39 La Poste labels.

DEFAULT	CLPEN00 Code 39 LaPoste = Disable
CLPEN01 Code 39 LaPoste = Enable	

CODE 39 PZN

The following options apply to the Code 39 PZN symbology.

Code 39 PZN Enable/Disable

Enables/disables the ability of the scanner to decode Code39 PZN labels.

DEFAULT	CPZEN00 Code 39 PZN = Disable
CPZEN01 Code 39 PZN = Enable	

CODE 128

The following options apply to the Code 128 symbology.

Code 128 Enable/Disable

When disabled, the scanner will not read Code 128 bar codes.

	$CC8EN00 Code 128 = Disable
$CC8EN01 Code 128 = Enable	DEFAULT

Expand Code 128 to Code 39

This feature enables/disables expansion of Code 128 labels to Code 39 labels.

DEFAULT	$CC8C300 Code 128 to Code 39 = Don't Expand
$CC8C301 Code 128 to Code 39 = Expand	

Code 128 Check Character Transmission

Enable this option to transmit the check character along with Code 128 bar code data.

DEFAULT	$CC8CT00 Code 128 Check Character Transmission = Don't Send
$CC8CT01 Code 128 Check Character Transmission = Send	

Code 128 Function Character Transmission

Enables/disables transmission of Code128 function characters 1, 2, 3, and 4.

DEFAULT	$CC8TF00 Code 128 Function Character Transmission = Don't Send
$CC8TF01 Code 128 Function Character Transmission = Send	

Code 128 Sub-Code Exchange Transmission

Enables/disables the transmission of "Sub-Code Exchange" characters (NOT transmitted by standard decoding).

DEFAULT	$CC8SC00 Code 128 Sub-Code Exchange Transmission = Disable
$CC8SC01 Code 128 Sub-Code Exchange Transmission = Enable	

Code 128 Length Control

This feature specifies either variable length decoding or fixed length decoding for the Code 128 symbology. See page 205 for more information..

DEFAULT	$CC8LC00 Code 128 Length Control = Variable Length
$CC8LC01 Code 128 Length Control = Fixed Length	

Code 128 Set Length 1

Specifies one of the bar code lengths for Code 128 Length Control. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the bar code's data characters only. The length can be set from 1 to 80 characters.

Table 4 provides some examples for setting Length 1. See page 205 for detailed instructions on setting this feature.

Table 4. Code 128 Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	01 Character	07 Characters	15 Characters	80 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT CODE 128 LENGTH 1 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '1'	'0' and '7'	'1' and '5'	'8' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

$CC8L1 Select Code 128 Set Length 1 Setting	
Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.	~ CANCEL

DEFAULT **01 = Length 1 is 1 Character**

Code 128 Set Length 2

This feature specifies one of the bar code lengths for Code 128 Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Length includes the bar code's data characters only.

The length can be set from 1 to 80 characters. A setting of 0 specifies to ignore this length (only one fixed length).

Table 5 provides examples for setting Length 2. See page 205 for detailed instructions on setting this feature.

Table 5. Code 128 Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	00 (Ignore This Length)	07 Characters	15 Characters	80 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT CODE 128 LENGTH 2 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '0'	'0' and '7'	'0' and 'F'	'5' AND 0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

.

$CC8L2 Select Code 128 Length 2 Setting	
Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.	~ CANCEL

DEFAULT **80 = Length 2 is 80 Characters**

GS1-128

The following options apply to the GS1-128 symbology. (Also known as USS-128, GS1-128, GTIN-128, UCC-128, EAN-128.)

GS1-128 Enable

This option enables/disables the ability of the scanner to translate GS1-128 labels to the GS1-128 data format. Options are:

- Transmit GS1-128 labels in Code 128 data format.
- Transmit GS1-128 labels in GS1-128 data format.
- Do not transmit GS1-128 labels.

DEFAULT	$CU8EN00  GS1-128 = Transmit in Code 128 data format
$CU8EN01  GS1-128 = Transmit in GS1-128 data format	
	$CU8EN02  GS1-128 = Do not transmit GS1-128 labels

GS1-128 2D Component

This feature enables/disables a requirement that a 2D label component be decoded when a base label of this symbology is decoded.

DEFAULT	CU82D00  GS1-128 2D Component = Disable
CU82D01  GS1-128 2D Component = Enable	

CODE ISBT 128

The following options apply to the ISBT 128 symbology.

ISBT 128 Concatenation

Use this option to enable/disable ISBT128 concatenation of 2 labels.

DEFAULT	$CI8CE00 ISBN 128 Concatenation = Disable
$CI8CE01 ISBN 128 Concatenation = Enable	

ISBT 128 Force Concatenation

When enabled, this feature forces concatenation for ISBT.

This option is only valid when ISBT 128 Concatenation **is enabled .**

DEFAULT	$CI8FC00 ISBT 128 Force Concatenation = Disable
$CI8FC01 ISBT 128 Force Concatenation = Enable	

ISBT 128 Concatenation Mode

Specifies the concatenation mode between Static and Dynamic.

This option is only valid when ISBT 128 Concatenationis enabled (see page <Links>8-110).

DEFAULT	$CI8CM00 ISBT 128 Concatenation Mode = Static
$CI8CM01 ISBT 128 Concatenation Mode = Dynamic	

ISBT 128 Dynamic Concatenation Timeout

Specifies the timeout used by the ISBT 128 Dynamic Concatenation Mode.

	$CI8DT05  ISBT 128 Dynamic Concatenation Timeout = 50 msec
$CI8DT0A  ISBT 128 Dynamic Concatenation Timeout = 100 msec	
DEFAULT	$CI8DT14  ISBT 128 Dynamic Concatenation Timeout = 200 msec
$CI8DT32  ISBT 128 Dynamic Concatenation Timeout = 500 msec	
	$CI8DT4B  ISBT 128 Dynamic Concatenation Timeout = 750 msec
$CI8DT64  ISBT 128 Dynamic Concatenation Timeout = 1 second	

ISBT 128 Advanced Concatenation Options

To set up pairs of label types for concatenation, use the HP Imaging Scanner configuration application or contact HP Technical Support, as described on page 8**.**

INTERLEAVED 2 OF 5 (I 2 OF 5)

The following options apply to the I 2 of 5 symbology.

I 2 of 5 Enable/Disable

When disabled, the scanner will not read I 2 of 5 bar codes.

DEFAULT	$CI2EN00 I 2 of 5 = Disable
$CI2EN01 I 2 of 5 = Enable	

I 2 of 5 Check Character Calculation

This option enables/disables calculation and verification of an optional I 2 of 5 check character. Combinations of these settings are possible via the configuration utility, or contact Technical Support.

DEFAULT	$CI2CC00 I 2 of 5 Check Character Calculation = Disable
$CI2CC01 I 2 of 5 Check Character Calculation = Check Standard (Modulo 10)	
	$CI2CC02 I 2 of 5 Check Character Calculation = Check German Parcel
$CI2CC04 I 2 of 5 Check Character Calculation = Check DHL	
	$CI2CC08 I 2 of 5 Check Character Calculation = Check Daimler Chrysler
$CI2CC10 I 2 of 5 Check Character Calculation = Check Bosch	
	$CI2CC20 I 2 of 5 Check Character Calculation = Italian Post

I 2 of 5 Check Character Transmission

Enable this option to transmit the check character along with I 2 of 5 bar code data.

	$CI2CT00 I 2 of 5 Check Character Transmission = Don't Send
$CI2CT01 I 2 of 5 Check Character Transmission = Send	DEFAULT

I 2 of 5 Length Control

This feature specifies either variable length decoding or fixed length decoding for the I 2 of 5 symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT	$CI2LC00 I 2 of 5 Length Control = Variable Length
$CI2LC01 I 2 of 5 Length Control = Fixed Length	

I 2 of 5 Set Length 1

This feature specifies one of the bar code lengths for I 2 of 5 Length Control. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. The length includes the bar code's check and data characters. The length can be set from 2 to 50 characters in increments of two.

Table 6 provides some examples for setting Length 1. See page 205 for detailed instructions on setting this feature.

Table 6. I 2 of 5 Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	2 Characters	6 Characters	14 Characters	50 Characters
2	**Pad with leading zeroes to yield two digits**	02	06	14	50
3	**Scan ENTER/EXIT PROGRAMMING MODE**				
4	**Scan SELECT I 2 of 5 LENGTH 1 SETTING**				
5	**Scan Two Characters From** Appendix D, Keypad	'0' and '2'	'0' and '6'	'1' and '4'	'5' AND '0'
6	**Scan ENTER/EXIT PROGRAMMING MODE**				

$CI2L1

Select I 2 of 5 Length 1 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

~

CANCEL

DEFAULT

06 = Length 1 is 6 Characters

I 2 of 5 Set Length 2

This feature specifies one of the bar code lengths for I 2 of 5 Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. The length includes the bar code's check and data characters.

The length can be set from 2 to 50 characters. A setting of 0 specifies to ignore this length (only one fixed length).

Table 7 provides examples for setting Length 2. See page 205 for detailed instructions on setting this feature.

Table 7. I 2 of 5 Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	Ignore This Length	4 Characters	14 Characters	50 Characters
2	**Pad with leading zeroes to yield two digits**	00	04	14	50
3	**Scan ENTER/EXIT PROGRAMMING MODE**				
4	**Scan SELECT I 2 OF 5 LENGTH 2 SETTING**				
5	**Scan Two Characters From** Appendix D, Keypad	'0' and '0'	'0' and '4'	'1' and '4'	'5' AND '0'
6	**Scan ENTER/EXIT PROGRAMMING MODE**				

$CI2L2

Select I 2 of 5 Length 2 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

~

CANCEL

DEFAULT

50 = Length 2 is 50 Characters

INTERLEAVED 2 OF 5 CIP HR

The following options apply to the Interleaved 2 of 5 CIP HR symbology.

Interleaved 2 of 5 CIP HR Enable/Disable

Enables/Disables ability of the scanner to decode Interleaved 2 of 5 CIP HR labels.

DEFAULT	$CCHEN00  Interleaved 2 of 5 CIP HR = Disable
$CCHEN01  Interleaved 2 of 5 CIP HR = Enable	

STANDARD 2 OF 5

The following options apply to the Standard 2 of 5 symbology.

Standard 2 of 5 Enable/Disable

When disabled, the scanner will not read Standard 2 of 5 bar codes.

DEFAULT	$CS2EN00 Standard 2 of 5 = Disable
$CS2EN01 Standard 2 of 5 = Enable	

Standard 2 of 5 Check Character Calculation

This option enables/disables calculation and verification of an optional Standard 2 of 5 check character.

DEFAULT	$CS2CC00 Standard 2 of 5 Check Character Calculation = Disable
$CS2CC01 Standard 2 of 5 Check Character Calculation = Enable	

Standard 2 of 5 Check Character Transmission

This feature enables/disables transmission of an optional Standard 2 of 5 check character.

	$CS2CT00  Standard 2 of 5 Check Character Transmission = Don't Send
$CS2CT01  Standard 2 of 5 Check Character Transmission = Send	DEFAULT

Standard 2 of 5 Length Control

This feature specifies either variable length decoding or fixed length decoding for the Standard 2 of 5 symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT	$CS2LC00  Standard 2 of 5 Length Control = Variable Length
$CS2LC01  Standard 2 of 5 Length Control = Fixed Length	

Standard 2 of 5 Set Length 1

This feature specifies one of the bar code lengths for Standard 2 of 5 Length Control. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the bar code's check and data characters. The length can be set from 1 to 50 characters.

Table 8 provides some examples for setting Length 1. See page 205 if you want detailed instructions on setting this feature.

Table 8. Standard 2 of 5 Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	01 Character	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT STANDARD 2 OF 5 LENGTH 1 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '1'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

$CS2L1

Select Standard 2 of 5 Length 1 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

~

CANCEL

DEFAULT

08 = Length 1 is 8 Characters

Standard 2 of 5 Set Length 2

This feature specifies one of the bar code lengths for Standard 2 of 5 Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Length includes the bar code's check and data characters.

The length can be set from 1 to 50 characters. A setting of 0 specifies to ignore this length (only one fixed length).

Table 9 provides examples for setting Length 2. See page 205 for detailed instructions on setting this feature.

Table 9. Standard 2 of 5 Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting (pad with leading zeroes)**	00 (Ignore This Length)	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT STANDARD 2 OF 5 LENGTH 2 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '0'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

$CS2L2

Select Standard 2 of 5 Length 2 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

~

CANCEL

DEFAULT

50 = Length 2 is 50 Characters

INDUSTRIAL 2 OF 5

The following options apply to the Industrial 2 of 5 symbology.

Industrial 2 of 5 Enable/Disable

Enables/Disables ability of the scanner to decode Industrial 2 of 5 labels.

DEFAULT	$CU2EN00 Industrial 2 of 5 = Disable
$CU2EN01 Industrial 2 of 5 = Enable	

Industrial 2 of 5 Check Character Calculation

Enables/Disables calculation and verification of an optional Industrial 2 of 5 check character.

DEFAULT	$CU2CC00 Industrial 2 of 5 Check Character Calculation = Disable
$CU2CC01 Industrial 2 of 5 Check Character Calculation = Enable	

Industrial 2 of 5 Check Character Transmission

Enables/disables transmission of an Industrial 2 of 5 check character.

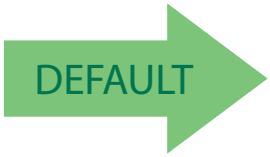
	$CU2CT00  Industrial 2 of 5 Check Character Transmission = Disable
$CU2CT01  Industrial 2 of 5 Check Character Transmission = Enable	

Industrial 2 of 5 Length Control

This feature specifies either variable length decoding or fixed length decoding for the Industrial 2 of 5 symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

	$CU2LC00  Industrial 2 of 5 Length Control = Variable Length
$CU2LC01  Industrial 2 of 5 = Fixed Length	

Industrial 2 of 5 Set Length 1

This feature specifies one of the bar code lengths for Industrial 2 of 5 Length Control. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the bar code's data characters only. The length can be set from 0 to 50 characters.

Table 10 provides some examples for setting Length 1. See page 205 if you want detailed instructions on setting this feature.

Table 10. Industrial 2 of 5 Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	00 Characters	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT INDUSTRIAL 2 OF 5 LENGTH 1 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '0'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

$CU2L1

Select Industrial 2 of 5 Set Length 1 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

~

CANCEL

DEFAULT

01 = Length 1 is 1 Character

Industrial 2 of 5 Set Length 2

This feature specifies one of the bar code lengths for Industrial 2 of 5 Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Length includes the bar code's check, data, and full-ASCII shift characters. The length does not include start/stop characters.

The length can be set from 1 to 50 characters. A setting of 0 specifies to ignore this length (only one fixed length).

Table 11 provides examples for setting Length 2. See page 205 for detailed instructions on setting this feature.

Table 11. Industrial 2 of 5 Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	00 (Ignore This Length)	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT INDUSTRIAL 2 OF 5 LENGTH 2 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '0'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

$CU2L2

Select Industrial 2 of5 Length 2 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

~

CANCEL

DEFAULT

50 = Length 2 is 50 Characters

CODE IATA

The following options apply to the IATA symbology.

IATA Enable/Disable

Enables/Disables the ability of the scanner to decode IATA labels.

DEFAULT	$CIAEN00 IATA = Disable
$CIAEN01 IATA = Enable	

IATA Check Character Transmission

Enables/Disables calculation and verification of an optional Industrial 2 of 5 check character.

	$CIACT00 IATA Check Character Transmission = Disable
$CIACT01 IATA Check Character Transmission = Enable	DEFAULT

CODABAR

The following options apply to the Codabar symbology.

Codabar Enable/Disable

When disabled, the scanner will not read Codabar bar codes.

DEFAULT	$CCBEN00  Codabar = Disable
$CCBEN01  Codabar = Enable	

Codabar Check Character Calculation

Enable this option to enables/disables calculation and verification of an optional Codabar check character. When disabled, any check character in the label is treated as a data character

DEFAULT	$CCBCC00  Codabar Check Character Calculation = Don't Calculate
$CCBCC01  Codabar Check Character Calculation = Enable AIM standard check char.	
	$CCBCC02  Codabar Check Character Calculation = Enable Modulo 10 check char.

Codabar Check Character Transmission

Enable this option to transmit the check character along with Codabar bar code data.

	$CCBCT00 Codabar Check Character Transmission = Don't Send
$CCBCT01 Codabar Check Character Transmission = Send	DEFAULT

Codabar Start/Stop Character Transmission

Enable this option to enable/disable transmission of Codabar start and stop characters.

	$CCBSS00 Codabar Start/Stop Character Transmission = Don't Transmit
$CCBSS01 Codabar Start/Stop Character Transmission = Transmit	DEFAULT

Codabar Start/Stop Character Set

This option specifies the format of transmitted Codabar start/stop characters.

	$CCBSC00  Codabar Check Character Set = ABCD/TN*E
$CCBSC01  Codabar Check Character Set = ABCD/ABCD	
	$CCBSC02  Codabar Check Character Set = abcd/tn*e
$CCBSC03  Codabar Check Character Set = abcd/abcd	DEFAULT

Codabar Start/Stop Character Match

When enabled, this option requires that start and stop characters match.

DEFAULT	$CCBSM00  Codabar Start/Stop Character Match = Don't Require Match
$CCBSM01  Codabar Start/Stop Character Match = Require Match	

Codabar Length Control

This feature specifies either variable length decoding or fixed length decoding for the Codabar symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT	$CCBLC00 Codabar Length Control = Variable Length
$CCBLC01 Codabar Length Control = Fixed Length	

Codabar Set Length 1

This feature specifies one of the bar code lengths for Codabar Length ControlCodabar Length Control. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the bar code's start, stop, check and data characters. The length must include at least one data character. The length can be set from 3 to 50 characters.

Table 12 provides some examples for setting Length 1. See page 205 for detailed instructions on setting this feature.

Table 12. Codabar Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting (and pad with leading zeroes)**	03 Characters	09 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT CODABAR LENGTH 1 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '3'	'0' and '9'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

$CCBL1

Select Codabar Length 1 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

~

CANCEL

DEFAULT

03 = Length 1 is 3 Characters

Codabar Set Length 2

This feature specifies one of the bar code lengths for Codabar Length ControlCodabar Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. The length includes the bar code's start, stop, check and data characters. The length must include at least one data character.

The length can be set from 3 to 50 characters. A setting of 0 specifies to ignore this length (only one fixed length).

Table 13 provides examples for setting Length 2. See page 205 for detailed instructions on setting this feature.

Table 13. Codabar Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting (and pad with leading zeroes)**	00 Ignore This Length	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT CODABAR LENGTH 2 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '0'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

$CCBL2 Select Codabar Length 2 Setting	
Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.	~ CANCEL

DEFAULT **50 = Length 2 is 50 Characters**

Codabar Interdigit Ratio

This feature specifies the ratio between an intercharacter space and module for Codabar labels.

	$CCBIR00 Codabar Interdigit Ratio = Disable
$CCBIR01 Codabar Interdigit Ratio = 1	
	$CCBIR02 Codabar Interdigit Ratio = 2
$CCBIR03 Codabar Interdigit Ratio = 3	
DEFAULT	$CCBIR04 Codabar Interdigit Ratio = 4
$CCBIR05 Codabar Interdigit Ratio = 5	

Codabar Interdigit Ratio — cont.

	$CCB IR06 Codabar Interdigit Ratio = 6
$CCB IR07 Codabar Interdigit Ratio = 7	
	$CCB IR08 Codabar Interdigit Ratio = 8
$CCB IR09 Codabar Interdigit Ratio = 9	
	$CCB IR0A Codabar Interdigit Ratio = 10

ABC CODABAR

The following options apply to the ABC Codabar symbology.

ABC Codabar Enable/Disable

Enables/Disables ability of the scanner to decode ABC Codabar labels.

DEFAULT	$CCBAB00 ABC Codabar = Disable
$CCBAB01 ABC Codabar = Enable	

ABC Codabar Concatenation Mode

Specifies the concatenation mode between Static and Dynamic.

DEFAULT	$CCBCM00 ABC Codabar Concatenation Mode = Static
$CCBCM01 ABC Codabar Concatenation Mode = Dynamic	

ABC Codabar Dynamic Concatenation Timeout

Specifies the timeout in 10-millisecond ticks used by the ABC Codabar Dynamic Concatenation Mode.

	$CCBDT05  ABC Codabar Dynamic Concatenation Timeout = 50 msec
$CCBDT0A  ABC Codabar Dynamic Concatenation Timeout = 100 msec	
DEFAULT	$CCBDT14  ABC Codabar Dynamic Concatenation Timeout = 200 msec
$CCBDT32  ABC Codabar Dynamic Concatenation Timeout = 500 msec	
	$CCBDT4B  ABC Codabar Dynamic Concatenation Timeout = 750 msec
$CCBDT64  ABC Codabar Dynamic Concatenation Timeout = 1 Second	

ABC Codabar Force Concatenation

Forces labels starting or ending with D to be concatenated.

DEFAULT	$CCBFC00  ABC Codabar Force Concatenation = Disable
$CCBFC01  ABC Codabar Force Concatenation = Enable	

CODE 11

The following options apply to the Code 11 symbology.

Code 11 Enable/Disable

When disabled, the scanner will not read Code 11 bar codes.

DEFAULT	$CC1EN00 Code 11 = Disable
$CC1EN01 Code 11 = Enable	

Code 11 Check Character Calculation

This option enables/disables calculation and verification of optional Code 11 check character.

	$CC1CC00 Code 11 Check Character Calculation = Disable
$CC1CC01 Code 11 Check Character Calculation = Check C	

	$CC1CC02 Code 11 Check Character Calculation = Check K
$CC1CC03 Code 11 Check Character Calculation = Check C and K	DEFAULT

Code 11 Check Character Transmission

This feature enables/disables transmission of an optional Code 11 check character.

	$CC1CT00 Code 11 Check Character Transmission = Don't Send
$CC1CT01 Code 11 Check Character Transmission = Send	DEFAULT

Code 11 Length Control

This feature specifies either variable length decoding or fixed length decoding for the Code 11 symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT	$CC1LC00 Code 11 Length Control = Variable Length
$CC1LC01 Code 11 Length Control = Fixed Length	

Code 11 Set Length 1

This feature specifies one of the bar code lengths for Code 11 Length Control. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the bar code's check and data characters. The length can be set from 2 to 50 characters.

Table 14 provides some examples for setting Length 1. See page 205 for detailed instructions on setting this feature.

Table 14. Code 11 Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting (pad with leading zeroes)**	02 Characters	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT CODE 11 LENGTH 1 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '2'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

$CC1L1

Select Code 11 Set Length 1 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

~

CANCEL

DEFAULT

04 = Length 1 is 4 Characters

Code 11 Set Length 2

This feature specifies one of the bar code lengths for Code 11 Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Length includes the bar code's check and data characters.

The length can be set from 2 to 50 characters. A setting of 0 specifies to ignore this length (only one fixed length).

Table 15 provides examples for setting Length 2. See page 205 for detailed instructions on setting this feature.

Table 15. Code 11 Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting (pad with leading zeroes)**	00 (Ignore This Length)	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT CODE 11 LENGTH 2 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '0'	'0' and '7'	'0' and 'F'	'3' AND 2'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

$CC1L2

Select Code 11 Length 2 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

~

CANCEL

DEFAULT

50 = Length 2 is 50 Characters

Code 11 Interdigit Ratio

This feature specifies the ratio between an intercharacter space and module for Code 11 labels.

	$CC1IR00 Code 11 Interdigit Ratio = Disable
$CC1IR01 Code 11 Interdigit Ratio = 1	
	$CC1IR02 Code 11 Interdigit Ratio = 2
$CC1IR03 Code11 Interdigit Ratio = 3	
DEFAULT	$CC1IR04 Code 11 Interdigit Ratio = 4
$CC1IR05 Code 11 Interdigit Ratio = 5	

Code 11 Interdigit Ratio — cont.

	$CC1IR06  Code 11 Interdigit Ratio = 6
$CC1IR07  Code 11 Interdigit Ratio = 7	
	$CC1IR08  Code 11 Interdigit Ratio = 8
$CC1IR09  Code 11 Interdigit Ratio = 9	
	$CC1IR0A  Code 11 Interdigit Ratio = 10

GS1 DATABAR™ OMNIDIRECTIONAL

The following options apply to the GS1 DataBar™ Omnidirectional (formerly RSS-14) symbology.

GS1 DataBar™ Omnidirectional Enable/Disable

When disabled, the scanner will not read GS1 DataBar™ Omnidirectional bar codes.

DEFAULT	$C4BEN00  GS1 DataBar™ Omnidirectional = Disable
$C4BEN01  GS1 DataBar™ Omnidirectional = Enable	

GS1 DataBar™ Omnidirectional GS1-128 Emulation

When enabled, GS1 DataBar™ Omnidirectional bar codes will be translated to the GS1-128 label data format.

DEFAULT	$C4BU800  GS1 DataBar™ Omnidirectional GS1-128 Emulation = Disable
$C4BU801  GS1 DataBar™ Omnidirectional GS1-128 Emulation = Enable	

GS1 DataBar™ Omnidirectional 2D Component

This feature enables/disables a requirement that a 2D label component be decoded when a base label for this symbology is decoded.

DEFAULT	$C4B2D00 GS1 DataBar™ Omnidirectional 2D Component = Disable (2D component not required)
$C4B2D01 GS1 DataBar™ Omnidirectional 2D Component = 2D component must be decoded	

GS1 DATABAR™ EXPANDED

The following options apply to the GS1 DataBar™ Expanded (formerly RSS Expanded) symbology.

GS1 DataBar™ Expanded Enable/Disable

When disabled, the scanner will not read GS1 DataBar™ Expanded bar codes.

DEFAULT	$CXBEN00 GS1 DataBar™ Expanded = Disable
$CXBEN01 GS1 DataBar™ Expanded = Enable	

GS1 DataBar™ Expanded GS1-128 Emulation

When enabled, GS1 DataBar™ Expanded bar codes will be translated to the GS1-128 label data format.

DEFAULT	$CXBU800  GS1 DataBar™ Expanded GS1-128 Emulation = Disable
$CXBU801  GS1 DataBar™ Expanded GS1-128 Emulation = Enable	

GS1 DataBar™ Expanded 2D Component

This feature enables/disables a requirement that a 2D label component be decoded when a base label of this symbology is decoded.

DEFAULT	CXB2D00  GS1 DataBar™ Expanded 2D Component = Disable
CXB2D01  GS1 DataBar™ Expanded 2D Component = Enable	

GS1 DataBar™ Expanded Length Control

This feature specifies either variable length decoding or fixed length decoding for the GS1 DataBar™ Expanded symbology.

Variable Length: For variable-length decoding, a minimum length may be set.

Fixed Length: For fixed-length decoding, two different lengths may be set.

DEFAULT	$CXBLC00 GS1 DataBar™ Expanded Length Control = Variable Length
$CXBLC01 GS1 DataBar™ Expanded Length Control = Fixed Length	

GS1 DataBar™ Expanded Set Length 1

This feature specifies one of the bar code lengths for GS1 DataBar™ Expanded Length Control. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the bar code's data characters only. The length can be set from 1 to 74 characters.

Table 16 provides some examples for setting Length 1. See page 205 for detailed instructions on setting this feature.

Table 16. GS1 DataBar™ Expanded Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	01 Character	07 Characters	52 Characters	74 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT GS1 DataBar™ EXPANDED LENGTH 1SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '1'	'0' and '7'	'5' and '2'	'7' AND '4'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

$CXBL1

Select GS1 DataBar™ Expanded Set Length 1 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

~

CANCEL

DEFAULT

01 = Length 1 is 1 Character

GS1 DataBar™ Expanded Set Length 2

This feature specifies one of the bar code lengths for GS1 DataBar™ Expanded Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Length includes the bar code's data characters only. The length can be set from 1 to 74 characters. A setting of 0 specifies to ignore this length (only one fixed length).

Table 17 provides examples for setting Length 2. See page 205 for detailed instructions on setting this feature.

Table 17. GS1 DataBar™ Expanded Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	00 (ignore second length)	07 Characters	52 Characters	74 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT GS1 DataBar™ EXPANDED LENGTH 2 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '0'	'0' and '7'	'5' and '2'	'7' and '4'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

$CXBL2

Select GS1 DataBar™ Expanded Set Length 2 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

~

CANCEL

DEFAULT

74 = Length 2 is 74 Characters

GS1 DATABAR™ LIMITED

The following options apply to the GS1 DataBar™ Limited (formerly RSS Limited) symbology.

GS1 DataBar™ Limited Enable/Disable

When disabled, the scanner will not read GS1 DataBar™ Limited bar codes.

DEFAULT	$CLBEN00 GS1 DataBar™ Limited = Disable
$CLBEN01 GS1 DataBar™ Limited = Enable	

GS1 DataBar™ Limited GS1-128 Emulation

When enabled, GS1 DataBar™ Limited bar codes will be translated to the GS1-128 label data format.

DEFAULT	$CLBU800 GS1 DataBar™ Limited GS1-128 Emulation = Disable
$CLBU801 GS1 DataBar™ Limited GS1-128 Emulation = Enable	

GS1 DataBar™ Limited 2D Component

This feature enables/disables a requirement that a 2D label component be decoded when a base label of this symbology is decoded.

DEFAULT	$CLB2D00 GS1 DataBar™ Limited 2D Component = Disable (2D component not required)
$CLB2D01 GS1 DataBar™ Limited 2D Component = 2D component must be decoded	

CODE 93

The following options apply to the Code 93 symbology.

Code 93 Enable/Disable

Enables/Disables ability of the scanner to decode Code 93 labels.

DEFAULT	$CC9EN01 Code 93 = Enable
$CC9EN00 Code 93 = Disable	

Code 93 Check Character Calculation

Enables/disables calculation and verification of an optional Code 93 check character.

	$CC9CC00  Code 93 Check Character Calculation = Disable
$CC9CC01  Code 93 Check Character Calculation = Enable Check C	
	$CC9CC02  Code 93 Check Character Calculation = Enable Check K
$CC9CC03  Code 93 Check Character Calculation = Enable Check C and K	DEFAULT

Code 93 Check Character Transmission

Enables/disables transmission of an optional Code 93 check character.

	$CC9CT00  Code 93 Check Character Transmission = Disable
$CC9CT01  Code 93 Check Character Transmission = Enable	DEFAULT

Code 93 Length Control

This feature specifies either variable length decoding or fixed length decoding for the Code 93 symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT	$CC9LC00 Code 93 Length Control = Variable Length
$CC9LC01 Code 93 = Fixed Length	

Code 93 Set Length 1

Specifies one of the bar code lengths for Code 93 Length Control. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the bar code's data characters only. The length can be set from 01 to 50 characters.

Table 18 provides some examples for setting Length 1. See page 205 for detailed instructions on setting this feature.

Table 18. Code 93 Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	01 Characters	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT CODE 93 LENGTH 1 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '1'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

$CC9L1  Select Code 93 Set Length 1 Setting	
Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.	~  CANCEL

DEFAULT

01 = Length 1 is 1 Character

Code 93 Set Length 2

This feature specifies one of the bar code lengths for Code 93 Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Length includes the bar code's check, data, and full-ASCII shift characters. The length does not include start/stop characters. The length can be set from 1 to 50 characters. A setting of 0 specifies to ignore this length (only one fixed length).

Table 19 provides examples for setting Length 2. See page 205 for detailed instructions on setting this feature.

Table 19. CODE 93 Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	00 (Ignore This Length)	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT CODE 93 LENGTH 2 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '0'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

$CC9L2 Select Code 93 Length 2 Setting	
Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.	~ CANCEL

DEFAULT **50 = Length 2 is 50 Characters**

MSI

The following options apply to the MSI symbology.

MSI Enable/Disable

Enables/Disables ability of the scanner to decode MSI labels.

DEFAULT	$CMSEN00 MSI = Disable
$CMSEN01 MSI = Enable	

MSI Check Character Calculation

Enables/Disables calculation and verification of an optional MSI check character.

	$CMSCC00 MSI Check Character Calculation = Disable
$CMSCC01 MSI Check Character Calculation = Enable Mod10	DEFAULT
	$CMSCC02 MSI Check Character Calculation = Enable Mod11/10
$CMSCC03 MSI Check Character Calculation = Enable Mod10/10	

MSI Check Character Transmission

Enables/disables transmission of an MSI check character.

	$CMSCT00  MSI Check Character Transmission = Disable
$CMSCT01  MSI Check Character Transmission = Enable	DEFAULT

MSI Length Control

This feature specifies either variable length decoding or fixed length decoding for the MSI symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT	$CMSLC00  MSI Length Control = Variable Length
$CMSLC01  MSI = Fixed Length	

MSI Set Length 1

This feature specifies one of the bar code lengths for MSI Length Control. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the bar code's data characters only. The length can be set from 01 to 50 characters.

Table 20 provides some examples for setting Length 1. See page 205 for detailed instructions on setting this feature.

Table 20. MSI Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	01 Characters	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT MSI LENGTH 1 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '1'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

$CMSL1 Select MSI Set Length 1 Setting	
Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.	~ CANCEL

DEFAULT **01 = Length 1 is 1 Character**

MSI Set Length 2

This feature specifies one of the bar code lengths for MSI Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Length includes the bar code's check, data, and full-ASCII shift characters. The length does not include start/stop characters.
The length can be set from 1 to 50 characters. A setting of 0 specifies to ignore this length (only one fixed length).

Table 21 provides examples for setting Length 2. See page 205 for detailed instructions on setting this feature.

Table 21. MSI Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	00 (Ignore This Length)	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT MSI LENGTH 2 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '0'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

$CMSL2

Select MSI Length 2 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

~

CANCEL

DEFAULT

50 = Length 2 is 50 Characters

PLESSEY

The following options apply to the Plessey symbology.

Plessey Enable/Disable

Enables/Disables ability of the scanner to decode Plessey labels.

DEFAULT	$CPLEN00  Plessey = Disable
$CPLEN01  Plessey = Enable	

Plessey Check Character Calculation

Enables/Disables calculation and verification of an optional Plessey check character.

	$CPLCC00  Plessey Check Character Calculation = Disable
$CPLCC01  Plessey Check Character Calculation = Enable Plessey std. check char. verification	DEFAULT
	$CPLCC02  Plessey Check Character Calculation = Enable Anker check char. verification
$CPLCC03  Plessey Check Character Calculation = Enable Plessey std. and Anker check char verification	

Plessey Check Character Transmission

Enables/disables transmission of an MSI check character.

	$CPLCT00  Plessey Check Character Transmission = Disable
$CPLCT01  Plessey Check Character Transmission = Enable	DEFAULT

Plessey Length Control

This feature specifies either variable length decoding or fixed length decoding for the Plessey symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT	$CPLLC00 Plessey Length Control = Variable Length
$CPLLC01 Plessey = Fixed Length	

Plessey Set Length 1

This feature specifies one of the bar code lengths for Plessey Length Control. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the bar code's data characters only. The length can be set from 01 to 50 characters.

Table 22 provides some examples for setting Length 1. See page 205 for detailed instructions on setting this feature.

Table 22. Plessey Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	01 Characters	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT Plessey LENGTH 1 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '1'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

$CPLL1

Select Plessey Set Length 1 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

~

CANCEL

DEFAULT

01 = Length 1 is 1 Character

Plessey Set Length 2

This feature specifies one of the bar code lengths for Plessey Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Length includes the bar code's check, data, and full-ASCII shift characters. The length does not include start/stop characters.

The length can be set from 1 to 50 characters. A setting of 0 specifies to ignore this length (only one fixed length).

Table 23 provides examples for setting Length 2. See page 205 for detailed instructions on setting this feature.

Table 23. Plessey Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	00 (Ignore This Length)	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT PLESSEY LENGTH 2 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '0'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

$CPLL2

Select Plessey Length 2 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

~

CANCEL

DEFAULT

50 = Length 2 is 50 Characters

Postal Code Selection

Enables/disables the ability of the scanner to decode labels of a specific postal symbology.

- Disable all Postal Codes
- Postnet
- Planet
- Royal Mail
- Kix
- Australia Post
- Japan Post
- IMB
- Sweden Post
- Portugal Post

DEFAULT	CPOEN00  Postal Code Selection = Disable all Postal Codes
CPOEN01  Postal Code Selection = Enable Postnet	
	CPOEN02  Postal Code Selection = Enable Planet
CPOEN03  Postal Code Selection = Enable Royal Mail	
	CPOEN04  Postal Code Selection = Enable Kix
CPOEN05  Postal Code Selection = Enable Australia Post	

	CPOEN06 Postal Code Selection = Enable Japan Post
CPOEN07 Postal Code Selection = Enable IMB	
	CPOEN08 Postal Code Selection = Enable Sweden Post
CPOEN09 Postal Code Selection = Enable Portugal Post	

Postnet BB Control

Controls the ability of the scanner to decode B and B' fields of Postnet labels.

DEFAULT	CPOBB00 Postnet BB Control = Disable
CPOBB01 Postnet BB Control = Enable	

2D SYMBOLOGIES

2D Global Features

The following features are common to all, or in some cases, most of the available 2D symbologies. Default settings are indicated at each feature/option with a green arrow. Also reference Appendix B, Standard Defaults for a listing of the most widely used set of standard factory settings. That section also provides space to record any custom settings needed or implemented for your system.

To set most features:

1. Scan the ENTER/EXIT PROGRAMMING bar code at the top of applicable programming pages.
2. Scan the correct bar code to set the desired programming feature or parameter. You may need to cover unused bar codes on the page, and possibly the facing page, to ensure that the scanner reads only the bar code you intend to scan.
3. If additional input parameters are needed, go to Appendix D, Keypad, and scan the appropriate characters from the keypad.

Additional information about many features can be found in the "References" chapter.

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

Complete the programming sequence by scanning the ENTER/EXIT PROGRAMMING bar code to exit Programming Mode.

2D Maximum Decoding Time

This feature specifies the maximum amount of time the software will spend attempting to decode a 2D label. The selectable range is 10 milliseconds to 2.55 seconds.

CDETM0A 2D Maximum Decoding Time = 100 msec	
	CDETM32 2D Maximum Decoding Time = 200 msec
CDETM23 2D Maximum Decoding Time = 350 msec	DEFAULT
	CDETM80 2D Maximum Decoding Time = 500 msec
CDETM16 2D Maximum Decoding Time = 1 Second	
	CDETMC8 2D Maximum Decoding Time = 2 Seconds
CDETMFF 2D Maximum Decoding Time = 2.55 Seconds	

2D Normal/Inverse Symbol Control

Specifies the options available for decoding normal/negative printed symbols. This configuration item applies globally to all the symbologies that support that feature according to Standard AIM Specification: Datamatrix, QR, Micro QR, Aztec and Chinese Sensible Code. Options are as follows:

- Normal
- Inverse
- Both Normal and Inverse

DEFAULT	CIPNR00 Normal/Inverse Symbol Control = Normal
CIPNR01 Normal/Inverse Symbol Control = Inverse	
	CIPNR02 Normal/Inverse Symbol Control = Both Normal and Inverse

2D Multiframe Timeout

Specifies the amount of time partially decoded 2D labels are stored by the software before being discarded if a label has not been successfully decoded. The timeout can either be disabled or set from 100 to 6300 msec (01-0x3F) in increments of 100 milliseconds.

DEFAULT	CSNMF00 2D Multiframe Timeout = Timeout Disabled
CSNMF01 2D Multiframe Timeout = 100 msec	

	CSNMF05  2D Multiframe Timeout = 500 msec
CSNMF0A  2D Multiframe Timeout = 1 Second	
	CSNMF14  2D Multiframe Timeout = 2 Seconds
CSNMF19  2D Multiframe Timeout = 2.5 Seconds	
	CSNMF1E  2D Multiframe Timeout = 3 Seconds

2D Symbology Selection

The scanner supports the following 2D symbologies (bar code types). Symbology-dependent options for each symbology are included in this chapter. See "1D Code Selection" starting on page 67 for configuration of 1D bar codes.

Aztec Code

Aztec Code Enable / Disable

Enables/disables the ability of the scanner to decode Aztec Code labels.

DEFAULT	CAZEN00  Aztec Code = Disable
CAZEN01  Aztec Code = Enable	

Aztec Code Length Control

This feature specifies either variable length decoding or fixed length decoding for this symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT	CAZLC00  Aztec Code Length Control = Variable Length
CAZLC01  Aztec Code Length Control = Fixed Length	

Aztec Code Set Length 1

Specifies one of the bar code lengths for Aztec Code Length Control. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Characters can be set from 0001 to 2,000 characters in increments of 0001 (pad with zeroes).

See page 205 for detailed instructions on setting this feature.

CAZL1 Select Aztec Code Length 1 Setting	
Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.	~ CANCEL

DEFAULT **0001 = Length 1 is 1 Character**

Aztec Code Set Length 2

This feature specifies one of the bar code lengths for Aztec Code Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Characters can be set from 0001 to 2,000 characters in increments of 0001 (pad with zeroes).

See page 205 for detailed instructions on setting this feature.

CAZL2 Select Aztec Code Length 2 Setting	
Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.	~ CANCEL

DEFAULT **Length 2 is 2,000 Characters**

China Sensible Code

China Sensible Code Enable / Disable

Enables/disables the ability of the scanner to decode China Sensible Code labels.

DEFAULT	CCSEN00  China Sensible Code = Disable
CCSEN01  China Sensible Code = Enable	

China Sensible Code Length Control

This feature specifies either variable length decoding or fixed length decoding for this symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT	CCSLC00  China Sensible Code Length Control = Variable Length
CCSLC01  China Sensible Code Length Control = Fixed Length	

China Sensible Code Set Length 1

Specifies one of the bar code lengths for China Sensible Code Length Control. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Characters can be set from 0001 to 2,000 characters in increments of 0001 (pad with zeroes).

See page 205 for detailed instructions on setting this feature.

CCSL1  Select China Sensible Code Length 1 Setting	
Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.	~  CANCEL

DEFAULT **0001 = Length 1 is 1 Character**

China Sensible Code Set Length 2

This feature specifies one of the bar code lengths for China Sensible Code Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Characters can be set from 0001 to 2,000 characters in increments of 0001 (pad with zeroes).

See page 205 for detailed instructions on setting this feature.

CCSL2  Select China Sensible Code Length 2 Setting	
Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.	~  CANCEL

DEFAULT

Length 2 is 2,000 Characters

Data Matrix

Data Matrix Enable / Disable

Enables/disables ability of the scanner to decode Data Matrix labels.

	CDMEN00  Data Matrix = Disable
CDMEN01  Data Matrix = Enable	DEFAULT

Data Matrix Small Codes

Enable/Disable the ability to the scanner to decode Data Matrix small codes.

	CDMSC00  Data Matrix Small Codes = Disable
CDMSC01  Data Matrix Small Codes = Enable	DEFAULT

Data Matrix Square/Rectangular Style

Specifies the options available when reading Datamatrix with different form factors. Choices are:

- Square Style
- Rectangular Style
- Both Square and Rectangular Style

The configuration item can also be configured as a bit mask to filter one or more Data Matrix labels with different symbol size AND shape styles.

	CDMDM3FFF0BDF Data Matrix Dimensions Mask = Square Style
CDMDM0000F420 Data Matrix Dimensions Mask = Rectangular Style	
DEFAULT	CDMDM03FFFFFF Data Matrix Dimensions Mask = Both Square and Rectangular Style

Data Matrix Length Control

This feature specifies either variable length decoding or fixed length decoding for this symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT	CDSCC00  Data Matrix Length Control = Variable Length
CDSCC01  Data Matrix Length Control = Fixed Length	

Data Matrix Set Length 1

Specifies one of the bar code lengths for Data Matrix Length Control. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Characters can be set from 0001 to 2,000 characters in increments of 0001 (pad with zeroes).

See page 205 for detailed instructions on setting this feature.

CDML1  Select Data Matrix Length 1 Setting	
Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.	~  CANCEL

DEFAULT **0001 = Length 1 is 1 Character**

Data Matrix Set Length 2

This feature specifies one of the bar code lengths for Data Matrix Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Characters can be set from 0001 to 2,000 characters in increments of 0001 (pad with zeroes).

See page 205 for detailed instructions on setting this feature.

CDML2  Select Data Matrix Length 2 Setting	
Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.	~  CANCEL

DEFAULT **Length 2 is 2,000 Characters**

Maxicode

Maxicode Enable / Disable

Enables/disables ability of the scanner to decode Maxicode labels.

DEFAULT	CMXEN00  Maxicode = Disable
CMXEN01  Maxicode = Enable	

Maxicode Primary Message Transmission

Enables/disables the transmission of only the Primary Message when the Secondary Message is not readable.

DEFAULT	CMXPT00  Maxicode Primary Message Transmission = Disable
CMXPT01  Maxicode Primary Message Transmission = Enable	

Maxicode Length Control

This feature specifies either variable length decoding or fixed length decoding for this symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT	CMXLC00  Maxicode Length Control = Variable Length
CMXLC01  Maxicode Length Control = Fixed Length	

Maxicode Set Length 1

Specifies one of the bar code lengths for Maxicode Length Control. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Characters can be set from 0001 to 2,000 characters in increments of 0001 (pad with zeroes).

See page 205 for detailed instructions on setting this feature.

CMXL1  Select Maxicode Length 1 Setting	
Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.	~  CANCEL

DEFAULT **0001 = Length 1 is 1 Character**

Maxicode Set Length 2

This feature specifies one of the bar code lengths for Maxicode Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Characters can be set from 0001 to 2,000 characters in increments of 0001 (pad with zeroes).

See page 205 for detailed instructions on setting this feature.

CMXL2 Select Maxicode Length 2 Setting	
Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.	~ CANCEL

DEFAULT **Length 2 is 2,000 Characters**

PDF417

PDF417 Enable / Disable

Enables/disables the ability of the scanner to decode PDF417 labels.

	CP4EN00 PDF417 = Disable
CP4EN01 PDF417 = Enable	DEFAULT

Macro PDF417

Enables/disables the ability of the scanner to append multiple PDF417 labels in a structured format also known as Macro PDF417.

DEFAULT	CP4SA00 Macro PDF417 = Disable
CP4SA01 Macro PDF417 = Enable	

PDF417 Length Control

This feature specifies either variable length decoding or fixed length decoding for this symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT

CP4LC00

PDF417 Length Control = Variable Length

CP4LC01

PDF417 Length Control = Fixed Length

PDF417 Set Length 1

Specifies one of the bar code lengths for PDF417 Length Control. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the bar code's data characters only. Characters can be set from 0001 to 1,000 characters (pad with zeroes) in increments of 01. Any value greater than 1,000 will be considered to be 1,000.

See page 205 for detailed instructions on setting this feature.

CP4L1

Select PDF417 Length 1 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

~

CANCEL

DEFAULT

0001 = Length 1 is 1 Character

PDF417 Set Length 2

This feature specifies one of the bar code lengths for PDF417 Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Length includes the bar code's check, data, and full-ASCII shift characters. The length does not include start/stop characters. Characters can be set from 01 to 1,000 characters (pad with zeroes) in increments of 01. Any value greater than 1000 will be considered to be 1,000.

See page 205 for detailed instructions on setting this feature.

CP4L2 Select PDF417 Length 2 Setting	
Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.	~ CANCEL

DEFAULT **Length 2 is 1,000 Characters**

Micro PDF417

Micro PDF417 Enable / Disable

Enables/disables the ability of the scanner to decode Micro PDF417 labels.

DEFAULT	CMIEN00 Micro PDF417 = Disable
CMIEN01 Micro PDF417 = Enable	

Micro PDF417 Code 128 GS-1-128 Emulation

Specifies which AIM Id to use for MicroPDF labels when doing Code 128 or GS1-128 emulation.

Emulation choices are:

- Micro PDF AIM ID and label type
- Code 128 / EAN128 AIM Id and label type

DEFAULT	CMIU800  Micro PDF417 Code 128 GS-1-128 Emulation = Micro PDF AIM ID and label type
CMIU801  Micro PDF417 Code 128 GS-1-128 Emulation = Code 128 / EAN128 AIM ID and label type	

Micro PDF417 Length Control

This feature specifies either variable length decoding or fixed length decoding for this symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT	CMILC00  Micro PDF417 Length Control = Variable Length
CMILC01  Micro PDF417 Length Control = Fixed Length	

Micro PDF417 Set Length 1

Specifies one of the bar code lengths for Micro PDF417 Length Control. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the bar code's data characters only. Characters can be set from 0001 to 0366 characters (pad with zeroes) in increments of 01. Any value greater than 0366 will be considered to be 0366.

See page 205 for detailed instructions on setting this feature.

CMIL1  Select Micro PDF417 Length 1 Setting	
Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.	~  CANCEL

DEFAULT **0001 = Length 1 is 1 Character**

Micro PDF417 Set Length 2

This feature specifies one of the bar code lengths for Micro PDF417 Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length includes the barcode's data characters only. Characters can be set from 0001 to 0366 characters (pad with zeroes) in increments of 01. Any value greater than 0366 will be considered to be 0366.

See page 205 for detailed instructions on setting this feature.

CMIL2  Select Micro PDF417 Length 2 Setting	
Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.	~  CANCEL

DEFAULT **Length 2 is 0366 Characters**

QR Code

QR Code Enable / Disable

Enables/disables the ability of the scanner to decode QR Code labels.

	CQREN00 QR Code = Disable
CQREN01 QR Code = Enable	DEFAULT

QR Code Length Control

This feature specifies either variable length decoding or fixed length decoding for this symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT	CQRLC00  QR Code Length Control = Variable Length
CQRLC01  QR Code Length Control = Fixed Length	

QR Code Set Length 1

Specifies one of the bar code lengths for QR Code Length Control. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Characters can be set from 0001 to 2,000 characters in increments of 0001 (pad with zeroes).

See page 205 for detailed instructions on setting this feature.

CQRL1  Select QR Code Length 1 Setting	
Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.	~  CANCEL

DEFAULT **0001 = Length 1 is 1 Character**

QR Code Set Length 2

This feature specifies one of the bar code lengths for QR Code Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Characters can be set from 0001 to 2,000 characters in increments of 0001 (pad with zeroes).

See page 205 for detailed instructions on setting this feature.

CQRL2 Select QR Code Length 2 Setting	
Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.	~ CANCEL

DEFAULT **Length 2 is 2,000 Characters**

Micro QR

Micro QR Enable / Disable

Enables/disables the ability of the scanner to decode Micro QR labels.

DEFAULT	CMQEN00 Micro QR = Disable
CMQEN01 Micro QR = Enable	

UCC Composite

UCC Composite Enable / Disable

Enables/disables the ability of the scanner to decode the stacked part of a UCC Composite label.

This feature is not effective when Global AIM IDs are enabled (see "Global AIM ID" on page 39).

DEFAULT	CCMEN00 UCC Composite = Disable
CCMEN01 UCC Composite = Enable	

UCC Optional Composite Timer

Specifies the amount of time the system will wait for the stacked part of a UCC Composite label before transmitting the linear label without an add-on.

DEFAULT	CCMOT00  UCC Optional Composite Timer = Timer Disabled
CCMOT01  UCC Optional Composite Timer = 10msec	
	CCMOT02  UCC Optional Composite Timer = 20msec
CCMOT03  UCC Optional Composite Timer = 30msec	
	CCMOT04  UCC Optional Composite Timer = 40msec
CCMOT05  UCC Optional Composite Timer = 50msec	

UCC Optional Composite Timer - continued

	CCMOT08  UCC Optional Composite Timer = 80msec
CCMOT64  UCC Optional Composite Timer = 100msec	
	CCMOT96  UCC Optional Composite Timer =150msec
CCMOTC8  UCC Optional Composite Timer = 200msec	
	CCMOTFA  UCC Optional Composite Timer = 250msec
CCMOT1E  UCC Optional Composite Timer = 300msec	

Chapter 4
References

This section contains explanations and examples of selected bar code features. See the Configuration section for the actual bar code labels used to configure the scanner.

USB COM Parameters

Intercharacter Delay

This parameter specifies the intercharacter delay between the end of one character and the beginning of the next. The delay can be set within a range of zero (0) to 990 milliseconds in 10ms increments. A setting of zero specifies no delay.

To set the delay:

1. Determine the desired setting in milliseconds.
2. Divide the desired setting by 10 (setting is in 10ms increments). Pad the result with leading zeroes to yield two digits. For example: 0 = 00, 5 = 05, 20 = 20, etc.
3. Scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Go to page 22 and scan the bar code: SELECT INTERCHARACTER DELAY SETTING.
5. Scan the appropriate two digits from the keypad in Appendix D, Keypad, that represent the duration which was determined in the steps above. You will hear a two-beep indication after the last character.

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit.

This completes the procedure. See Table 24 for some examples of how to set this feature.

Table 24. Intercharacter Delay Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	50ms	150ms	600ms	850ms
2	**Divide by 10 (pad with leading zeroes to yield two-digits)**	05	15	60	85
3	**Scan ENTER/EXIT PROGRAMMING MODE**				
4	**Scan SELECT INTERCHARACTER DELAY SETTING**				
5	**Scan Two Characters From** Appendix D, Keypad	'0' and '5'	'5' and '0'	'6' and '0'	'8' and '5'
6	**Scan ENTER/EXIT PROGRAMMING MODE**				

ACK NAK Options

This enables/disables the ability of the scanner to support the ACK/NAK protocol. When configured, the scanner and/or host sends an "ACK" when it receives data properly, and sends "NAK" when the data is in error.

Options are:

- Disable
- Enable for label transmission — The scanner expects an ACK/NAK response from the host when a label is sent.
- Enable for host-command acknowledge — The scanner will respond with ACK/NAK when the host sends a command.
- Enable for label transmission and host-command acknowledge

ACK Character

This setting specifies an ASCII character or hex value to be used as the ACK character. ASCII characters or any hex value from 0 to 0xFF can be selected.

1. Determine the desired character or value.
2. Use the ASCII Chart on the inside back cover of this manual to find the hex equivalent for the desired character/value.
3. Go to page 24 and scan ENTER/EXIT PROGRAMMING MODE to enter Programming Mode.
4. Scan the bar code: SELECT ACK CHARACTER SETTING.
5. Scan the appropriate two alpha-numeric characters from the keypad in Appendix D, Keypad, that represent the desired character/value in step 1 above. The second character will cause a two-beep indication.
6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit.

See Table 25 for some examples of how to set this feature.

Table 25. ACK Character Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Character/Value**	ACK	$	@	>
2	**Hex equivalent from** ASCII Chart	0x06	0x24	0x40	0x3E
3	**Scan ENTER/EXIT PROGRAMMING MODE**				
4	**Scan SELECT ACK CHARACTER SETTING**				
5	**Scan Two Characters from** Appendix D, Keypad	'0' and '6'	'2' and '4'	'4' and '0'	'3' AND 'E'
6	**Scan ENTER/EXIT PROGRAMMING MODE**				

NAK Character

This setting specifies an ASCII character or hex value to be used as the NAK character. ASCII characters or any hex value from 0 to 0xFF can be selected.

To set this feature:

1. Determine the desired character or value.
2. Use the ASCII Chart on the inside back cover of this manual to find the hex equivalent for the desired character/value.
3. Go to page 24 and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Scan the bar code: SELECT NAK CHARACTER SETTING.
5. Scan the appropriate two alpha-numeric characters from the keypad in Appendix D, Keypad, that represent the desired character/value in step 1 above. The second character will cause a two-beep indication.
6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See Table 26 for some examples of how to set this feature.

Table 26. NAK Character Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Character/Value**	NAK	$	@	>
2	**Hex equivalent from** ASCII Chart	0x15	0x24	0x40	0x3E
3	**Scan ENTER/EXIT PROGRAMMING MODE**				
4	**Scan SELECT ACK CHARACTER SETTING**				
5	**Scan Two Characters From** Appendix D, Keypad	'1' and '5'	'2' and '4'	'4' and '0'	'3' AND 'E'

STEP	ACTION	EXAMPLES			
1	**Desired Character/Value**	NAK	$	@	>
2	**Hex equivalent from** ASCII Chart	0x15	0x24	0x40	0x3E
6	**Scan ENTER/EXIT PROGRAMMING MODE**				

ACK NAK Timeout Value

This option specifies the amount of time the scanner waits for an ACK character from the host following label transmission. The selectable timeout range is 200 milliseconds to 15,000ms (15 seconds) in 200ms increments. A selection of 0 disables the timeout.

To set this value:

1. Determine the desired setting in milliseconds.
2. Divide the desired setting by 200 (setting is in 200ms increments). Pad the result with leading zeroes to yield two digits. For example: 0 = 00, 5 = 05, 20 = 20, etc.
3. Go to page 25 and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Scan the bar code: SELECT ACK NAK TIMEOUT VALUE SETTING.
5. Scan the appropriate two digits from the keypad in Appendix D, Keypad, that represent the duration which was determined in the steps above. You will hear a two-beep indication after the last character.

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See Table 27 for some examples of how to set this feature.

Table 27. ACK NAK Timeout Value Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	200ms	1,000ms (1 sec.)	5200ms (5.2 sec.)	15,000ms (15 sec.)
2	**Divide by 200**	01	05	26	75
3	**Scan ENTER/EXIT PROGRAMMING MODE**				
4	**Scan SELECT ACK NAK TIMEOUT VALUE SETTING**				
5	**Scan Two Characters From** Appendix D, Keypad	'0' and '1'	'0' and '5'	'2' and '6'	'7' and '5'
6	**Scan ENTER/EXIT PROGRAMMING MODE**				

ACK NAK Retry Count

This feature specifies the number of times the scanner retries a label transmission due to a retry condition. The selectable range is from 1 to 254 retries. A selection of 0 disables the count, and a selection of 255 specifies unlimited retries.

To set this feature:

1. Determine the desired setting.
2. Pad the number with leading zeroes to yield three digits. For example: 0 = 000, 5 = 005, 20 = 020, etc.
3. Go to page 25 and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Scan the bar code: SELECT ACK NAK RETRY COUNT SETTING.
5. Scan the appropriate three digits from the keypad in Appendix D, Keypad, that represent the number which was determined in the steps above. You will hear a two-beep indication after the last character.

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See Table 28 for some examples of how to set this feature.

Table 28. ACK NAK Retry Count Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	Disable Retry Count	3 Retries	54 Retries	Unlimited Retries
2	**Pad with leading zero(es)**	000	003	054	255
3	**Scan ENTER/EXIT PROGRAMMING MODE**				
4	**Scan SELECT ACK NAK RETRY COUNT SETTING**				
5	**Scan Three Characters From** Appendix D, Keypad	'0', '0' and '0'	'0', '0' and '3'	'0', '5' and '4'	'2', '5' and '5'
6	**Scan ENTER/EXIT PROGRAMMING MODE**				

Disable Character

Specifies the value of the host command used to disable the scanner.

ASCII characters or any hex value from 0 to 0xFF can be selected.

To set the value:

1. Determine the desired character or value. A setting of 0xFF indicates the Disable Character is not used (not available).
2. Use the ASCII Chart on the inside back cover of this manual to find the hex equivalent for the desired character/value.
3. Go to page 27 and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Scan the bar code: SELECT DISABLE CHARACTER SETTING.
5. Scan the appropriate two alpha-numeric characters from the keypad in Appendix D, Keypad, that represent the desired character/value in step 1 above. The second character will cause a two-beep indication.
6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See Table 29 for some examples of how to set this feature.

Table 29. Disable Character Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired character/value**	'd'	'}'	'D'	Disable Command Not Used
2	**Hex equivalent from** ASCII Chart	0x64	0x7D	0x44	0xFF
3	**Scan ENTER/EXIT PROGRAMMING MODE**				
4	**Scan SELECT DISABLE CHARACTER VALUE SETTING**				
5	**Scan Two Characters From** Appendix D, Keypad	'6' and '4'	'7' and 'D'	'4' and '4'	'F' AND 'F'
6	**Scan ENTER/EXIT PROGRAMMING MODE**				

Enable Character

Specifies the value of the host command used to enable the scanner.

ASCII characters or any hex value from 0 to 0xFF can be selected.

To set this feature:

Determine the desired character or value. A setting of 0xFF indicates the Enable Character is not used (not available).

1. Determine the desired character or value.
2. Use the ASCII Chart on the inside back cover of this manual to find the hex equivalent for the desired character/value.
3. Go to page 27 and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Scan the bar code: SELECT ENABLE CHARACTER SETTING.
5. Scan the appropriate two alpha-numeric characters from the keypad in Appendix D, Keypad, that represent the desired character/value in step 2 above. The second character will cause a two-beep indication.
6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See Table 30 for some examples of how to set this feature.

Table 30. Enable Character Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired character/value**	'e'	'}'	'E'	Enable Command Not Used
2	**Hex equivalent from** ASCII Chart	0x65	0x7D	0x45	0xFF
3	**Scan ENTER/EXIT PROGRAMMING MODE**				
4	**Scan SELECT DISABLE CHARACTER VALUE SETTING**				
5	**Scan Two Characters From** Appendix D, Keypad	'6' and '5'	'7' and 'D'	'4' and '5'	'F' AND 'F'
6	**Scan ENTER/EXIT PROGRAMMING MODE**				

Intercode Delay

Specifies the delay between labels transmitted to the host for this interface. The selectable range for this feature is from 0 to 99 seconds.

Follow these instructions to set this feature:

1. Determine the desired setting.
2. Pad the number with leading zeroes to yield two digits. For example: 0 = 00, 5 = 05, 20 = 20, etc
3. Go to page 33 and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Scan the bar code: SELECT INTERCODE DELAY SETTING.
5. Scan the appropriate two digits from the keypad in Appendix D, Keypad, that represent the duration which was determined in the steps above. You will hear a two-beep indication after the last character.

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See Table 31 for some examples of how to set this feature.

Table 31. Wedge Intercode Delay Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	No Delay	5 Seconds	60 Seconds	99 Seconds
2	**Pad with leading zero(es)**	00	05	60	99
3	**Scan ENTER/EXIT PROGRAMMING MODE**				
4	**Scan SELECT INTERCODE DELAY SETTING**				
5	**Scan Two Characters From** Appendix D, Keypad	'0' and '0'	'0' and '5'	'6' and '0'	'9' AND '9'
6	**Scan ENTER/EXIT PROGRAMMING MODE**				

Symbologies

Set Length

Length Control allows you to select either variable length decoding or fixed length decoding for the specified symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

Set Length 1

This feature specifies one of the bar code lengths for Length Control. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the bar code's data characters only.

The number of characters that can be set varies, depending on the symbology. Reference the page for your selected symbology to see specific variables.

1. Determine the desired character length (varies depending on symbology). Pad the number with leading zeroes to yield two digits. For example: 0 = 00, 5 = 05, 20 = 20, etc.
2. Go to the Set Length page for your selected symbology and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
3. Scan the bar code to SELECT LENGTH 1 SETTING for your selected symbology.
4. Scan the appropriate two digits from the keypad in Appendix D, Keypad, that represent the length setting which was determined in the steps above. You will hear a two-beep indication after the last character.

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

5. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Prog Mode.

Set Length 2

This feature allows you to set one of the bar code lengths for the specified symbology. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. See the page for the specific symbology for parameters.

The length that can be set varies depending on the symbology. A setting of 0 specifies to ignore this length (only one fixed length).

Follow these instructions to set this feature:

1. Determine the desired character length (from 1 to 50 — or 0 to ignore this length). Pad the number with leading zeroes to yield two digits. For example: 0 = 00, 5 = 05, 20 = 20, etc.
2. Go to the Set Length page for your selected symbology and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.

3. Scan the bar code to SELECT LENGTH 2 SETTING for your selected symbology.
4. Scan the appropriate two digits from the keypad in Appendix D, Keypad that represent the length setting which was determined in the steps above. You will hear a two-beep indication after the last character.

If you make a mistake, before the last character scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

5. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure.

Data Editing

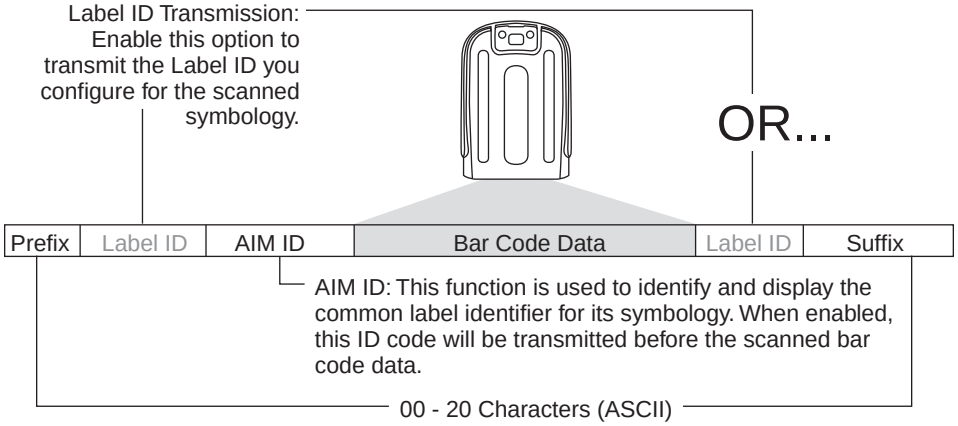
CAUTION

It is not recommended to use these features with IBM interfaces.

When a bar code is scanned, additional information can be sent to the host computer along with the bar code data. This combination of bar code data and supplementary user-defined data is called a "message string." The Data Editing features can be used to build specific user-defined data into a message string.

There are several types of selectable data characters that can be sent before and after scanned data. You can specify if they should be sent with all symbologies, or only with specific symbologies. Figure 5 shows the available elements you can add to a message string:

Figure 5. Breakdown of a Message String



Additional advanced editing is available. See the Advanced formatting features in the HP Imaging Scanner configuration software, or contact Technical Support (described on page 8 for more information.

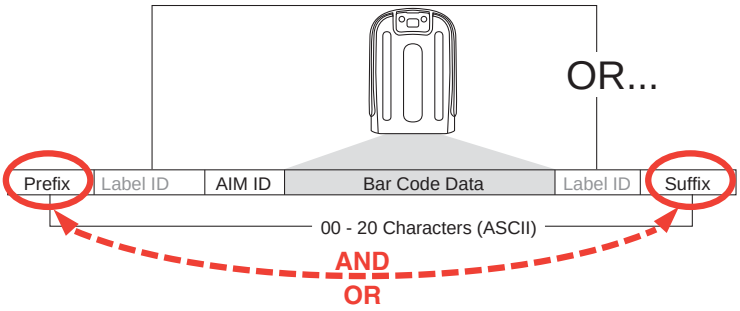
Please Keep In Mind...

- Modifying a message string is not a mandatory requirement. Data editing is a sophisticated feature allowing highly customizable output for advanced users. Factory default settings for data editing is typically set to NONE.
- A prefix or suffix may be applied only to a specified symbology (reference 1D Code Selection, starting on page 67) or across all symbologies (set via the Global features in this chapter).
- You can add any character from the ASCII Chart (from 00-FF) on the inside back cover of this manual as a prefix, suffix or Label ID.
- Enter prefixes and suffixes in the order in which you want them to appear on the output.

Global Prefix/Suffix

Up to 20 ASCII characters may be added as a prefix (in a position before the bar code data) and/or as a suffix (in a position following the bar code data) as indicated in Figure 6.

Figure 6. Prefix and Suffix Positions



Example: Setting a Prefix

In this example, we'll set a prefix for all symbologies.

1. Determine which ASCII character(s) are to be added to scanned bar code data. In this example, we'll add a dollar sign ('$') as a prefix.
2. Go to page 38 and scan the ENTER/EXIT PROGRAMMING MODE bar code.
3. Scan the SET GLOBAL PREFIX bar code.
4. Reference the ASCII Chart on the inside back cover of this manual to find the hex value assigned to the desired character. The corresponding hex number for the '$' character is 24. To enter this selection code, scan the '2' and '4' bar codes from Appendix D, Keypad.

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

5. If less than the expected string of 20 characters are selected, scan the ENTER/EXIT bar code to terminate the string.

6. Scan the ENTER/EXIT bar code once again to exit Programming Mode.
7. The resulting message string would appear as follows:

   Scanned bar code data:**12345**

   Resulting message string output: **$12345**

Global AIM ID

This feature enables/disables addition of AIM IDs for all symbology types.

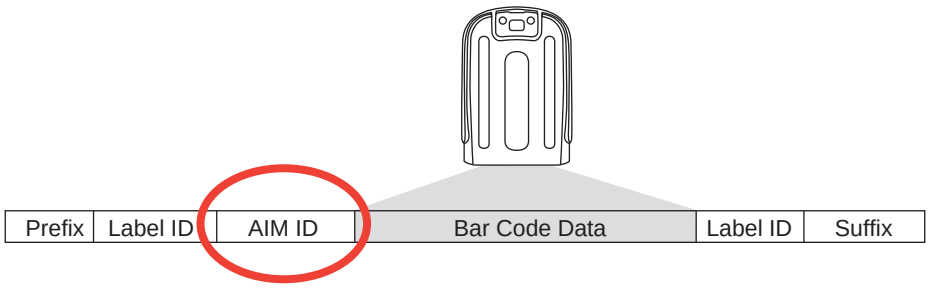
AIM label identifiers (as opposed to custom characters you select yourself as with label identifiers) can be included with scanned bar code data. AIM label identifiers consist of three characters as follows:

- A close brace character (ASCII ‘]’), followed by...
- A code character (see the table below), followed by...
- A modifier character (the modifier character is symbol dependent).

SYMBOLOGY	CHAR	SYMBOLOGY	CHAR
UPC/EAN	E[a]	Code 128/GS1-128	C
Code 39 and Code 32	A	DataBar Omnidirectional, DataBar Expanded	e
Codabar	F	Standard 2 of 5	S
Interleaved 2 of 5	I	ISBN	X[b]
Code 93	G	Code 11	H

a. UPC-A and UPC-E labels are converted to EAN 13 when adding AIM IDs.
b. ISBN (X with a 0 modifier character)

Figure 7. AIM ID



Label ID

A Label ID is a customizable code of up to three ASCII characters (each can be one of hex 0x01-0xFF), used to identify a bar code (symbology) type. It can be appended previous to or following the transmitted bar code data depending upon how this option is enabled. This feature provides options for configuring custom Label IDs as a pre-loaded set (see "Label ID: Pre-loaded Sets" below) or individually per symbology (see "Label ID: Set Individually Per Symbology" on page 211). If you wish to program the scanner to always include an industry standard label identifier for ALL symbology types, see "Global AIM ID" on page 39.

Label ID: Pre-loaded Sets

The scanner supports two pre-loaded sets of Label IDs. Table 32 shows the USA and the EU sets.

CAUTION

When changing from one Label ID set to another, all other scanner configuration settings, including the host interface type, will be erased and set to the standard factory defaults. Any custom configuration or custom defaults will be lost.

Table 32. Label ID Pre-loaded Sets

Symbology	Label ID set	
	ASCII character	Hexadecimal value
ABC Codabar	S	530000
Anker Plessey	o	6F0000
CODABAR	R	520000
CODE11	b	620000
CODE128	T	540000
CODE32	X	580000
CODE39	V	560000
CODE39 CIP	Y	590000
CODE93	U	550000
EAN13	B	420000
EAN13 P2	L	4C0000
EAN13 P5	M	4D0000
EAN13 P8	#	230000
EAN8	A	410000
EAN8 P2	J	4A0000
EAN8 P5	K	4B0000

Symbology	Label ID set	
	ASCII character	Hexadecimal value
EAN8 P8	*	2A0000
GS1 DATABAR EXPANDED	t	740000
GS1 DATABAR LIMITED	v	760000
GS1 DATABAR OMNIDIRECTIONAL	u	750000
GS1-128	k	6B0000
GTIN	$A	244100
GTIN2	$B	244200
GTIN5	$C	244300
GTIN8	$D	244400
IATA	&	260000
Industrial 2 of 5	W	570000
Interleaved 2 of 5	N	4E0000
Interleaved 2 of 5 CIP HR	e	650000
ISBN	@	400000
ISBT128	f	660000
ISSN	n	6E0000
MSI	Z	5A0000
Plessey	a	610000
S25	P	500000
UPCA	C	430000
UPCA P2	F	460000
UPCA P5	G	470000
UPCA P8	Q	510000

Label ID: Set Individually Per Symbology

To configure a Label ID individually for a single symbology:

1. Go to page 40 and scan the ENTER/EXIT bar code.
2. Select Label ID position as either BEFORE (Enable as Prefix) or AFTER (Enable as suffix) by scanning the appropriate bar code in the section "Label ID Control" on page 40. Reference Figure 8 for Label ID positioning options if multiple identification features are enabled.
3. Scan a bar code to select the symbology for which you wish to configure a custom Label ID from the section "Label ID Symbology Selection − 1D Symbologies" on page 41.
4. Determine the desired character(s) (you may choose up to three) which will represent the Label ID for the selected symbology.
5. Turn to the ASCII Chart on the inside back cover of this manual and find the equivalent hex digits associated with your choice of Label ID. For example, if you wish to select an equal sign (=) as a Label ID, the chart indicates its associated hex characters as 3D. Turn to Keypad, starting on page 243 and scan the bar codes representing the hex characters determined. For the example given, the characters '3' and 'D' would be scanned. More examples of Label ID settings are provided in Table 33.

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

6. Scan the ENTER/EXIT bar code to exit Label ID entry.
7. Scan the ENTER/EXIT bar code once again to exit Programming Mode.

This completes the steps to configure a Label ID for a given symbology.

Figure 8. Label ID Position Options

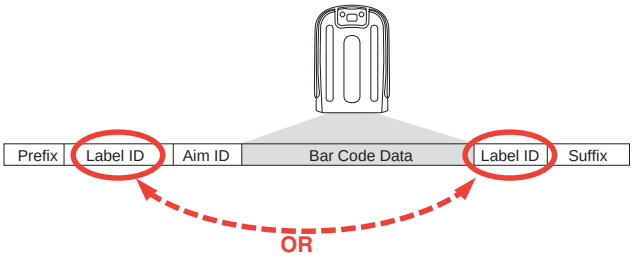


Table 33. Label ID Examples

STEP	ACTION	EXAMPLES			
1.	**Scan the ENTER/EXIT bar code**		(Scanner enters Programming Mode)		
2.	**Determine placement of the Label ID characters BEFORE or AFTER with regard to scanned data using** Label ID Control, starting on page 40	Enable as Prefix	Enable as Suffix	Enable as Prefix	Enable as Suffix
3.	**Scan the bar code selecting the symbology type you wish to designate label ID characters for using** Label ID Symbology Selection − 1D Symbologies, starting on page 41**.**	DataBar Omnidirectional	Code 39	Interleaved 2 of 5	Code 32
4.	**Custom Label ID example (desired characters):**	D B *	= C 3	+	P H
5.	**Find hex equivalents from the** ASCII Chart**(inside back cover), then scan in these digits/characters using the bar codes in the section:** Keypad, starting on page 243**. If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.**	44 42 2A	3D 43 33	2B	50 48
6.	**Scan the ENTER/EXIT bar code**		(Scanner exits Label ID entry)		
7.	**Scan the ENTER/EXIT bar code once again**		(Scanner exits Programming Mode)		
	Result:	DB*[bar code data]	[bar code data]=C3	+[bar code data]	[bar code data]PH

Character Conversion

Character conversion is an eight byte configuration item. The eight bytes are 4 character pairs represented in hexadecimal ASCII values. The first character in the pair is the character that will be converted. The second character in the pair is the character to convert to. If the character to convert in a pair is FF, then no conversion is done.

For example, if you have the character conversion configuration item set to the following: 41423132FFFFFFFF

The first pair is 4142 or AB (41 hex is an ASCII capital A, 42 hex is an ASCII capital B) and the second pair is 3132 or 12 (31 hex is an ASCII 1, 32 is an ASCII 2). The other two pairs are FFFF and FFFF.

With the label, AB12BA21, it would look as follows after the character conversion: BB22BB22.

The A characters were converted to B characters and the 1 characters were converted to 2 characters. Nothing is done with the last two character pairs, since they are all FF.

To set Character Conversion:

1. Go to page 45 and scan the ENTER/EXIT bar code.
2. Scan the “Configure Character Conversion” bar code.
3. Determine the desired string. Sixteen positions must be determined as in the above example. Next, turn to the ASCII Chart on the inside back cover of this manual and find the equivalent hex digits needed to fulfill the string.
4. Turn to Appendix D, Keypad and scan the bar codes representing the hex characters determined in the previous step.
5. Scan the ENTER/EXIT bar code to exit Programming Mode.

If less than the expected string of 16 characters are selected, scan the ENTER/EXIT bar code twice to accept the selections and exit Programming Mode.

Reading Parameters

Good Read LED Duration

This feature specifies the amount of time that the Good Read LED remains on following a good read. The good read LED on time can be set within a range of 10 milliseconds to 2,550 milliseconds (0.001 to 2.55 seconds) in 100ms increments.

Follow these instructions to set this feature:

1. Determine the desired setting in milliseconds. A setting of 0 means that the good read LED stays on until the next time the trigger is pulled.
2. Divide the desired setting by 10 (setting is in 100ms increments). Pad the result with leading zeroes to yield three digits. For example: 0 = 000, 5 = 000, 20 = 020, etc.
3. Go to page 55 and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Scan the bar code: SELECT GOOD READ LED DURATION SETTING.
5. Scan the appropriate three digits from the keypad in Appendix D, Keypad representing the duration which was determined in the steps above. You will hear a two-beep indication after the last character.

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See Table 34 for some examples of how to set this feature.

Table 34. Good Read LED Duration Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	Good Read LED stays on until next trigger pull (00)	20ms	150ms	2550ms (2.55 sec.)
2	**Divide by 10 (and pad with leading zeroes)**	000	002	015	255
3	**Scan ENTER/EXIT PROGRAMMING MODE**				
4	**Scan SELECT LABEL GONE TIMEOUT SETTING**				
5	**Scan Three Characters From** Appendix D, Keypad	'0', '0' and '0'	'0', '0' and '2'	'0', '1' and '5'	'2', '5' and '5'
6	**Scan ENTER/EXIT PROGRAMMING MODE**				

Scanning Features

Scan Mode

This mode is associated with typical handheld scanner operation. Selects the scan operating mode for the scanner. The following selections are valid for all models:

Trigger Single: When the trigger is pulled, scanning is activated until one of the following occurs:

- Scanning Active Time has elapsed
- a label has been read
- the trigger is released

Trigger Hold Multiple: When the trigger is pulled, scanning starts and the product scans until the trigger is released or Scanning Active Time has elapsed. Reading a label does not disable scanning. Double Read Timeout prevents undesired multiple reads of the same label while in this mode.

Trigger Pulse Multiple: When the trigger is pulled, continuous scanning is activated until Scanning Active Time has elapsed or the trigger has been released and pulled again. Double Read Timeout prevents undesired multiple reads of the same label while in this mode.

Flashing: The scanner flashes[1] on and off regardless of the trigger status. Flash rate is controlled by Flash On Time and Flash Off Time. When Flash is ON the scanner reads continuously; when Flash is OFF scanning is deactivated.

Always On: No trigger pull is required to read a bar code. Scanning is continually on. If the trigger is pulled, the scanner acts as if it is in Trigger Single Mode. Double Read Timeout prevents undesired multiple reads of the same label while in this mode.

Stand Mode: No trigger pull is required to read a bar code. Scanning is turned on automatically when an item is placed in the scanner's field of view. If the trigger is pulled, the scanner acts as if it in single read mode. Double Read Timeout prevents undesired multiple reads while in this mode.

1. Controlled by Flash On Time.

Scanning Active Time

This setting specifies the amount of time that the scanner stays in scan ON state once the state is entered. The range for this setting is from 1 to 255 seconds in 1-second increments.

Follow these instructions to set this feature:

1. Determine the desired setting.
2. Pad the result with leading zeroes to yield three digits. For example: 0 = 000, 5 = 005, 20 = 020, etc.
3. Go to page 60 and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Scan the bar code: SELECT SCANNING ACTIVE TIME SETTING.
5. Scan the appropriate three digits from the keypad in Appendix D, Keypad, that represent the duration which was determined in the steps above. You will hear a two-beep indication after the last character.

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See Table 35 for some examples of how to set this feature.

Table 35. Scanning Active Time Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	1 Second	90 Sec. (1.5 min.)	180 Sec. (3 min.)	255 Seconds (4.25 min.)
2	**Pad leading zero(es)**	001	090	180	255
3	**Scan ENTER/EXIT PROGRAMMING MODE**				
4	**Scan SELECT SCANNING ACTIVE TIME SETTING**				
5	**Scan Three Characters From** Appendix D, Keypad	'0', '0' and '1'	'0', '9' and '0'	'1', '8' and '0'	'2', '5' and '5'
6	**Scan ENTER/EXIT PROGRAMMING MODE**				

Flash On Time

This feature specifies the ON time for the indicator LED while in Flash Mode. The selectable range is 100 to 9,900 milliseconds (0.1 to 9.9 seconds), in 100 millisecond increments.

Follow these instructions to set this feature.

1. Determine the desired setting in milliseconds.
2. Divide the desired setting by 100 (setting is in 100ms increments). Pad the result with leading zeroes to yield two digits. For example: 0 = 00, 5 = 05, 20 = 20, etc.
3. Go to page 61 and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Scan the bar code: SELECT FLASH ON TIME SETTING.
5. Scan the appropriate two digits from the keypad in Appendix D, Keypad representing the duration which was determined in the steps above. You will hear a two-beep indication after the last character.

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See Table 36 for some examples of how to set this feature.

Table 36. Flash On Time Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	500ms	1,000ms (1 sec.)	5200ms (5.2 sec.)	9,900ms (9.9 sec.)
2	**Divide by 100 (and pad with leading zeroes to yield two digits)**	05	10	52	99
3	**Scan ENTER/EXIT PROGRAMMING MODE**				
4	**Scan SELECT FLASH OFF TIME SETTING**				
5	**Scan Two Characters From** Appendix D, Keypad	'0' and '5'	'1' and '0'	'5' and '2'	'9' and '9'
6	**Scan ENTER/EXIT PROGRAMMING MODE**				

Flash Off Time

This feature specifies the OFF time for the indicator LED while in Flash Mode. The selectable range is 100 to 9,900 milliseconds (0.1 to 9.9 seconds), in 100 millisecond increments.

Follow these instructions to set this feature.

1. Determine the desired setting in milliseconds.
2. Divide the desired setting by 100 (setting is in 100ms increments). Pad the result with leading zeroes to yield two digits. For example: 0 = 00, 5 = 05, 20 = 20, etc.
3. Go to page 62 and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Scan the bar code: SELECT FLASH OFF TIME SETTING.
5. Scan the appropriate two digits from the keypad in Appendix D, Keypad, that represent the duration which was determined in the steps above. You will hear a two-beep indication after the last character.

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See Table 37 for some examples of how to set this feature.

Table 37. Flash Off Time Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	500ms	1,000ms (1 sec.)	5200ms (5.2 sec.)	9,900ms (9.9 sec.)
2	**Divide by 100 (and pad with leading zeroes to yield two digits)**	05	10	52	99
3	**Scan ENTER/EXIT PROGRAMMING MODE**				
4	**Scan SELECT FLASH OFF TIME SETTING**				
5	**Scan Two Characters From** Appendix D, Keypad	'0' and '5'	'1' and '0'	'5' and '2'	'9' and '9'
6	**Scan ENTER/EXIT PROGRAMMING MODE**				

Multiple Labels Ordering by Code Symbology

This feature Specifies the transmission ordering by symbology type, when Multiple Labels per Frame is enabled.Up to six symbologies can be selected. Zeroes must be added to pad the string to 12 characters if not using all six symbologies.

The labels are ordered first as specified in the output mask. Labels present in the volume but not specified will be transmitted as unspecified symbologies in random order as allowed by the reading time sequence. For each label decoded in the volume the scanner signals the standard beeper and LED indications.

To specify the symbology order:

1. Determine the symbologies and order you want to specify.
2. Use Table 39 on page 220 to find the hex values for up to six symbologies.
3. Go to page 65 and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Scan the bar code: “SELECT SYMBOLOGIES FOR MULTIPLE LABELS ORDERING”.
5. Scan the appropriate two alpha-numeric characters from the keypad in Appendix D, Keypad, that represent the desired character/value in step 2 above.
6. Scan zeroes if needed to make a 12-character string.
7. When finished, scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See Table 38 for some examples of how to set this feature.

Table 38. Multiple Labels Ordering by Code Symbology Examples

STEP	ACTION	EXAMPLES			
1	**Desired symbology**	Code 39	DataMatrix	Code 128	Aztec
2	**Hex equivalent from** Table 39	24	0E	0C	4E
3	**Scan ENTER/EXIT PROGRAMMING MODE**				
4	**Scan SELECT SYMBOLOGIES FOR MULTIPLE LABELS ORDERING**				
5	**Scan Two Characters From** Appendix D, Keypad	‘2’ and ‘4’	‘0’ and ‘E’	‘0’ and ‘C’	‘4’ and ‘E’
	RESULT	**0x240E0C4E0000**			
6	**Scan ENTER/EXIT PROGRAMMING MODE**				

Table 39 shows the hex value associated with each symbology.

Table 39. Symbology Hex Values

Hex Value	Symbology ID	Hex Value	Symbology ID
0	Don't care	2C	GTIN5
1	UPCA	2D	GTIN8
2	UPCE	2E	S2OF5
3	EAN8	2F	PDF417
4	EAN13	30	CODE11
5	UPC2	31	IATA
6	UPC5	32	MICRO_PDF
7	C128_ADDON	33	RSS_LIM_ID
A	EAN128	34	RSS_LIM_COMP
B	C128_PROGRAMMING_LABEL	35	RSS_14_COMP
C	CODE128	36	RSS_EXP_COMP
D	FNC3_C128_LABEL	37	GENERIC_DATA
E	DATAMATRIX	38	CC_A
F	MAXICODE	39	CC_B
10	QRCODE	3A	CC_C
11	CODABLOCK_A	3B	LABELIMAGE
12	CODABLOCK_F	3C	CAPTURE_IMAGE_LABEL
13	CODE49	3D	CODE16K
14	UPCE2	3E	M2OF5
15	UPCE5	3F	D2OF5
16	UPCE8	40	PLESSEY65
17	UPCA2	42	ISSN
18	UPCA5	43	ISBT
19	UPCA8	44	BC412
1A	EAN82	45	TIMER_EXPIRED_EVENT
1B	EAN85	46	FOLLETT_2OF5
1C	EAN88	47	CODE4
1D	EAN132	48	CODE5
1E	EAN135	49	CODE39_CIP
1F	EAN138	4A	ABC_CODABAR
20	ISBN_ID	4B	I2OF5_CIP
21	TWO_LABEL_PAIR	4C	C2OF5
22	I2OF5	4D	IND2OF5
23	CODABAR	4E	AZTEC
24	CODE39	4F	UPCE_COMP
25	PHARMAC39	50	UPCA_COMP
26	MSI_PLESSEY	51	EAN8_COMP
27	CODE93	52	EAN13_COMP
28	RSS_EXP_ID	53	EAN128_COMP

Hex Value	Symbology ID
29	RSS_14_ID
2A	GTIN
2B	GTIN2
54	DATAMATRIX_PROGRAMMING _LABEL
55	LABEL_ID_MAX
FF	INVALID_LABEL_TYPE

NOTES

Appendix A
Technical Specifications

Table 40 contains Physical and Performance Characteristics, User Environment and Regulatory information. Table 41 provides Standard Cable Pinouts.

Table 40. Technical Specifications Standard Cable Pinouts

Item	Description	
Physical Characteristics		
Color	Black	
Dimensions	Height 7.1″/181 mm Length 3.9″/100 mm Width 2.8″/71 mm	
Weight (without cable)	Approximately 6.9 ounces/195.6 g	
Electrical Characteristics		
Voltage & Current	Operating (typical) = 160 ma @ 5 vdc Operating (max) = 350 ma @ 5 vdc Idle/standby = 65 ma @ 5 vdc Input Voltage = 4.75 - 5.25 vdc	
Performance Characteristics		
Light Source	Dual LEDs	
Roll Angle	up to ± 180°	
Pitch Angle	± 40°	
Skew angle	± 40°	
Field of View	10″ (25.4cm) wide at 12.5″ (31.8cm) from the scanner	
Depth of Field (Typical)[a]		
Symbology	**1D Labels Depth of Field**	
Code 39 5 mil:	Typical:3.8 to 19cm	Guaranteed:5.0cm to 16cm
Code 39 10 mil:	Typical: 0.5cm to 30cm	Guaranteed:1.0cm to 25cm

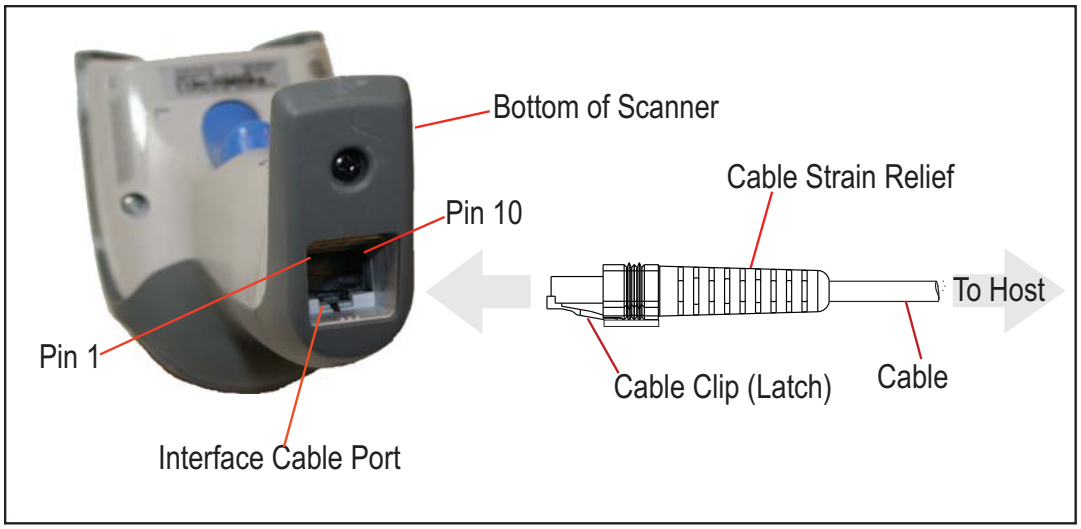
Item	Description	
Code 39 20 mil:	Typical: to 50cm	Guaranteed: to 40cm
UPCA 13 mil	Typical: 1.0 to 40cm Guaranteed: 2.0 to 33cm The FF limit in low ambient illumination (i.e. ~ 0 lux) shall be at least 25cm for a 13mil EAN13 grade A label.	
UPCA 7.5 mil	Typical: 2.0cm to 27cm	Guaranteed: 4.0cm to 21cm
	2D Labels Depth of Field	
PDF-417 6.6 mil:	Typical: 2.5cm to 14.0cm	Guaranteed: 4.0cm to 12.5cm
PDF-417 10 mil:	Typical: 0.5cm to 22cm	Guaranteed: 1.0cm to 21cm
PDF-417 15 mil:	Typical: 1.5cm to 34cm	Guaranteed: 2.0cm to 30cm
Datamatrix 10 mil:	Typical: 1.5cm to 16.0cm	Guaranteed: 1.5cm to 15.0cm
Datamatrix 15 mil:	Typical: 0cm to 15cm	Guaranteed: 0cm to 23.5cm
QR Code 10 mil:	Typical: 3.5cm to 13.0cm	Guaranteed: 4.0cm to 12.5cm
QR Code 15 mil:	Typical: 0cm to 19.5cm	Guaranteed: 0cm to 18.5cm
Min DataMatrix	7 mil	5 mil
Minimum Element Width	4 mil (1D Linear) 5 mil (PDF-417) 6 mil (DataMatrix)	
Print Contrast Minimum	25% minimum reflectance	
Decode Capability	**1D Bar Codes** UPC/EAN/JAN (A, E, 13, 8); UPC/EAN/JAN (including P2 /P5); UPC/EAN/JAN (including; ISBN / Bookland & ISSN); UPC/EAN Coupons; Code 39 (including full ASCII); Code 39 Trioptic; Code39 CIP (French Pharmaceutical); LOGMARS (Code 39 w/ standard check digit enabled); Danish PPT; Code 32 (Italian Pharmacode 39); Code 128; Code 128 ISBT; Interleaved 2 of 5 ; Standard 2 of 5; Interleaved 2 of 5 CIP (HR); Industrial 2 of 5; Discrete 2 of 5; Datalogic 2 of 5 (China Post Code/Chinese 2 of 5); IATA 2of5 Air cargo code; Code 11; Codabar; Codabar (NW7); ABC Codabar; Code 93 ; MSI; PZN; Plessey; Anker Plessey; GS1 DataBar Omnidirectional; GS1 DataBar Limited; GS1 DataBar Expanded; GS1 DataBar Truncated; DATABAR Expanded Coupon.	
	2D / Stacked Codes The HP Imaging barcode scanner is capable of decoding the following symbologies using multiple frames (i.e. Multi-Frame Decoding): PDF-417; QR Code; Aztec; Datamatrix; Inverse Datamatrix; Datamatrix is configurable for the following parameters:; Normal or Inverted; Square or Rectangular Style; Data length (1 - 3600 characters); Maxicode; QR Codes (QR, Micro QR and Multiple QR Codes); Aztec; Postal Codes; Australian Post; Japanese Post; KIX Post; Planet Code; Postnet; Royal Mail Code (RM45CC); Intelligent Mail Barcode (IMB); Sweden Post; Portugal Post; LaPoste A/R 39; 4-State Canada; PDF-417; MacroPDF; Micro PDF417; GS1 Composites (1 - 12); Codablock F; French CIP13[a]; GS1 DataBar Stacked; GS1 DataBar Stacked Omnidirectional; GS1 DataBar Expanded Stacked; GSI Databar Composites; Chinese Sensible Code; Inverted 2D codes[b] . [a]It is acceptable to handle this with ULE [b]The SW can apply the Normal/Reverse Decoding Control to the following symbologies: Datamatrix, QR, Micro QR, Aztec and Chinese Sensible Code.	

Item	Description
Interfaces Supported[b]	USB Com Std., USB Keyboard, USB Alternate Keyboard
User Environment	
Operating Temperature	32° to 131° F (0° to 55° C)
Storage Temperature	-4° to 158° F (-20° to 70° C)
Humidity	Operating: 5% to 90% relative humidity, non-condensing
Drop Specifications	18 drops from 1.8 meters (5.9 feet) to concrete
Ambient Light Immunity	Up to 100,000 Lux
Contaminants Spray/Rain/ Dust/Particulates	IEC 529-IP52
ESD Level	16 KV
Regulatory	
EMI/RFI	Pending
Laser Safety	IEC Class 2

a. 13 mils DOF based on EAN. All other 1D codes are Code 39. All labels grade A, typical environmental light, 20°C, label inclination 10°
b. See "Interface Selection"on page 13 for a listing of available interface sets.

Figure 9 and Table 41 provide standard pinout information for the interface cable.

Figure 9. Standard Cable Pinouts



The signal descriptions in Table 41 apply to the connector on the scanner and are for reference only.

Table 41. Standard Cable Pinouts — Scanner

Pin	USB
1	
2	D+
3	D-
4	GND
5	
6	
7	VCC

LED and Beeper Indications

The scanner's beeper sounds and its LED illuminates to indicate various functions or errors on the scanner. An optional "Green Spot" also performs useful functions. The tables below list these indications. One exception to the behaviors listed in the tables is that the scanner's functions are programmable, and may or may not be turned on. For example, certain indications such as the power-up beep can be disabled using programming bar code labels.

Table 42. LED and Beeper Indications

INDICATION	DESCRIPTION	LED	BEEPER
Power-up Beep	The scanner is in the process of powering-up.		Scanner beeps four times at highest frequency and volume upon power-up.
Good Read Beep	A label has been successfully scanned by the scanner.	LED behavior for this indication is configurable via the feature "Good Read: When to Indicate"	The scanner will beep once at current frequency, volume, mono/bitonal setting and duration upon a successful label scan.
ROM Failure	There is an error in the scanner's software/programming	Flashes	Scanner sounds one error beep at highest volume.
Limited Scanning Label Read	Indicates that a host connection is not established when the IBM or USB interface is enabled.	N/A	Scanner 'chirps' six times at the highest frequency and current volume.
Scanner Active Mode	The scanner is active and ready to scan.	The LED is lit steadily[a]	N/A
Scanner Disabled	The scanner has been disabled by the host.	The LED blinks continuously	N/A
Green Spot[a] flashes momentarily	Upon successful read of a label, the software shall turn the green spot on for the time specified by the configured value.	N/A	N/A
Image Capture	When ready to capture image	Blue light flashes 2 times when updating	N/A

a. Except when in sleep mode or when a Good Read LED Duration other than 00 is selected

Table 43. Programming Mode Indications

Programming Mode - The following indications ONLY occur when the scanner is in Programming Mode.			
Label Programming Mode Entry	A valid programming label has been scanned.	LED blinks continuously	Scanner sounds four low frequency beeps.
Label Programming Mode Rejection of Label	A label has been rejected.	N/A	Scanner sounds three times at lowest frequency & current volume.
Label Programming Mode Acceptance of Partial Label	In cases where multiple labels must be scanned to program one feature, this indication acknowledges each portion as it is successfully scanned.	N/A	Scanner sounds one short beep at highest frequency & current volume.
Label Programming Mode Acceptance of Programming	Configuration option(s) have been successfully programmed via labels and the scanner has exited Programming Mode.	N/A	Scanner sounds one high frequency beep and 4 low frequency beeps followed by reset beeps.
Label Programming Mode Cancel Item Entry	Cancel label has been scanned.	N/A	Scanner sounds two times at low frequency and current volume.

Error Codes

Upon startup, if the scanner sounds a long tone, this means the scanner has not passed its automatic Selftest and has entered FRU (Field Replaceable Unit) isolation mode. If the scanner is reset, the sequence will be repeated. The following table describes the LED flashes/beep codes associated with an error found.

NUMBER OF LED FLASHES/BEEPS	ERROR	CORRECTIVE ACTION
1	Configuration	Contact Helpdesk for assistance
2	Interface PCB	
6	Digital PCB	
11	Imager	

Appendix B
Standard Defaults

The most common configuration settings are listed in the “Default” column of the table below. Page references are also provided for feature descriptions and programming bar codes for each parameter. A column has also been provided for recording of your preferred default settings for these same configurable features.

Table 44. Standard Defaults

Parameter	Default	Your Setting	Page Number
GLOBAL INTERFACE FEATURES			
Host Commands — Obey/Ignore	Obey		19
USB Suspend Mode	Disable		19
USB-Com			
Intercharacter Delay	No Delay		22
Beep On ASCII BEL	Disable		22
Beep Upon Not on File	Enable		23
ACK Character	‘ACK’		24
NAK Character	‘NAK’		24
ACK NAK Timeout Value	600 ms		25
ACK NAK Retry Count	3 Retries		25
ACK NAK Error Handling	Ignore Errors Detected		26
Indicate Transmission Failure	Enable		26
Disable Character	‘D’		27
Enable Character	‘E’		27
Keyboard Settings			
Country Mode	U.S. Keyboard		30
Send Control Characters	Disable		32

Parameter	Default	Your Setting	Page Number
Intercode Delay	100 ms		33
USB Keyboard Speed	1 ms		34
Data Format			
Global Prefix/Suffix	No Global Prefix Global Suffix = 0x0D (CR)		38
Global AIM ID	Disable		39
Label ID Control	Disable		40
Individually Set Label ID	Disable		44
Character Conversion	No Char Conversion		45
READING PARAMETERS			
Double Read Timeout	0.4 Second		47
Sleep Mode Timeout	Disable		50
Power On Alert	4 Beeps		51
Good Read: When to Indicate	After Decode		51
Good Read Beep Type	Mono		52
Good Read Beep Frequency	Medium		52
Good Read Beep Length	80 ms		53
Good Read Beep Volume	High		54
Good Read LED Duration	1.4		55
Scan Mode	Trigger Single		56
Stand Mode Triggered Timeout	0.5 second		57
Stand Operation	Switch to Stand mode		59
Stand Mode Sensitivity	Medium		60
Scanning Active Time	5 Seconds		60
Flash On Time	1 Second		61
Flash Off Time	600 ms		62
Green Spot Duration	300 ms		62
Mobile Phone Mode	Enable		63
Pick Mode	Disable		63
Multiple Labels Reading in a Volume	Disable		64
Multiple Labels per Frame	Disable		65

Parameter	Default	Your Setting	Page Number
Multiple Labels Ordering by Code Symbology	No order		65
Multiple Labels Ordering by Code Length	Disable		66
Code Selection - 1D Bar Codes			
Coupon Control	Enable UPCA coupon decoding		69
UPC-A			
UPC-A Enable/Disable	Enable		70
UPC-A Check Character Transmission	Enable		70
Expand UPC-A to EAN-13	Don't Expand		71
UPC-A Number System Character Transmission	Transmit		71
UPC-E			
UPC-E Enable/Disable	Enable		72
UPC-E Check Character Transmission	Send		73
Expand UPC-E to EAN-13	Don't Expand		74
Expand UPC-E to UPC-A	Don't Expand		74
UPC-E Number System Character Transmission	Transmit		75
GTIN			
GTIN Formatting	Disable		75
EAN 13 (Jan 13)			
EAN 13 Enable/Disable	Enable		76
EAN 13 Check Character Transmission	Send		76
EAN-13 Flag 1 Character	Transmit		77
EAN-13 ISBN Conversion	Disable		77
ISSN			
ISSN Enable/Disable	Disable		78
EAN 8			
EAN 8 Enable/Disable	Enable		79
EAN 8 Check Character Transmission	Send		79
Expand EAN 8 to EAN 13	Disable		80

Parameter	Default	Your Setting	Page Number
UPC/EAN Global Settings			
UPC/EAN Price Weight Check	Disable		81
Add-Ons			
Optional Add-ons	Disable P2, P5 and P8		82
Optional Add-On Timer	70 ms		83
Optional GS1-128 Add-On Timer	Disable		86
Code 39			
Code 39 Enable/Disable	Enable		91
Code 39 Check Character Calculation	Calculate		91
Code 39 Check Character Transmission	Send		92
Code 39 Start/Stop Character Transmission	Don't Transmit		93
Code 39 Full ASCII	Disable		93
Code 39 Length Control	Variable		94
Code 39 Set Length 1	2		95
Code 39 Set Length 2	50		96
Code 39 Interdigit Ratio	4		97
Code 32 (Italian Pharmaceutical Code)			
Code 32 Enable/Disable	Disable		99
Code 32 Feature Setting Exceptions	N/A		100
Code 32 Check Char Transmission	Don't Send		100
Code 32 Start/Stop Character Transmission	Don't Transmit		100
Code 39 CIP (French Pharmaceutical Code)			
Code 39 CIP Enable/Disable	Disable		99
Code 128			
Code 128 Enable/Disable	Enable		103
Expand Code 128 to Code 39	Don't Expand		103
Code 128 Check Character Transmission	Send		104
Code 128 Function Character Transmission	Don't Send		104
Code 128 Sub-Code Exchange Transmission	Disable		105
Code 128 Length Control	Variable		106
Code 128 Set Length 1	1		107
Code 128 Set Length 2	80		108

Parameter	Default	Your Setting	Page Number
GS1-128			
GS1-128 Enable	Transmit in Code 128 Data Format		109
ISBT 128			
ISBT 128 Concatenation	Disable		110
ISBT 128 Force Concatenation	Disable		110
ISBT 128 Concatenation Mode	Static		111
ISBT 128 Dynamic Concatenation Timeout	200 msec		112
ISBT 128 Advanced Concatenation Options	Disable		112
Interleaved 2 of 5			
I 2 of 5 Enable/Disable	Enable		113
I 2 of 5 Check Character Calculation	Disable		114
I 2 of 5 Check Character Transmission	Send		115
I 2 of 5 Length Control	Variable		115
I 2 of 5 Set Length 1	12		116
I 2 of 5 Set Length 2	100		117
Interleaved 2 of 5 CIP HR			
Interleaved 2 of 5 CIP HR Enable/Disable	Disable		118
Standard 2 of 5			
Standard 2 of 5 Enable/Disable	Disable		119
Standard 2 of 5 Check Character Calculation	Disable		119
Standard 2 of 5 Check Character Transmission	Send		120
Standard 2 of 5 Length Control	Variable		120
Standard 2 of 5 Set Length 1	8		121
Standard 2 of 5 Set Length 2	50		122
Industrial 2 of 5			
Industrial 2 of 5 Enable/Disable	Disable		123
Industrial 2 of 5 Check Character Calculation	Disable		123
Industrial 2 of 5 Check Character Transmission	Enable		124
Industrial 2 of 5 Length Control	Variable		124
Industrial 2 of 5 Set Length 1	1		125
Industrial 2 of 5 Set Length 2	50		126

Parameter	Default	Your Setting	Page Number
Code IATA			
IATA Enable/Disable	Disable		127
IATA Check Character Transmission	Enable		127
Codabar			
Codabar Enable/Disable	Disable		128
Codabar Check Character Calculation	Don't Calculate		128
Codabar Check Character Transmission	Send		129
Codabar Start/Stop Character Transmission	Transmit		129
Codabar Start/Stop Character Set	abcd/abcd		130
Codabar Start/Stop Character Match	Don't Require Match		130
Codabar Length ControlCodabar Length Control	Variable		131
Codabar Set Length 1	3		132
Codabar Set Length 2	50		133
Codabar Interdigit Ratio	4		134
ABC Codabar			
ABC Codabar Enable/Disable	Disable		136
ABC Codabar Concatenation Mode	Static		136
ABC Codabar Dynamic Concatenation Timeout	200 msec		137
ABC Codabar Force Concatenation	Disable		138
Code 11			
Code 11 Enable/Disable	Disable		139
Code 11 Check Character Calculation	Check C and K		139
Code 11 Check Character Transmission	Send		140
Code 11 Length Control	Variable		141
Code 11 Set Length 1	4		142
Code 11 Set Length 2	50		143
Code 11 Interdigit Ratio	4		144
GS1 DataBar™ Omnidirectional			
GS1 DataBar™ Omnidirectional Enable/Disable	Disable		146
GS1 DataBar™ Omnidirectional GS1-128 Emulation	Disable		146

Parameter	Default	Your Setting	Page Number
GS1 DataBar™ Expanded			
GS1 DataBar™ Expanded Enable/Disable	Disable		147
GS1 DataBar™ Expanded GS1-128 Emulation	Disable		148
GS1 DataBar™ Expanded Length Control	Variable		149
GS1 DataBar™ Expanded Set Length 1	1		150
GS1 DataBar™ Expanded Set Length 2	74		151
GS1 DataBar™ Limited			
GS1 DataBar™ Limited Enable/Disable	Disable		152
GS1 DataBar™ Limited GS1-128 Emulation	Disable		152
Code 93			
Code 93 Enable/Disable	Enable		153
Code 93 Check Character Calculation	Enable Check C and K		154
Code 93 Check Character Transmission	Enable		154
Code 93 Length Control	Variable		155
Code 93 Set Length 1	1		156
Code 93 Set Length 2	50		157
MSI			
MSI Enable/Disable	Disable		158
MSI Check Character Calculation	Enable Mod10		158
MSI Check Character Transmission	Enable		159
MSI Length Control	Variable		160
MSI Set Length 1	1		160
MSI Set Length 2	50		161
Plessey			
Plessey Enable/Disable	Disable		162
Plessey Check Character Calculation	Enable Plessey std. check char. verification		163
Plessey Check Character Transmission	Enable		163
Plessey Length Control	Variable		164
Plessey Set Length 1	1		165
Plessey Set Length 2	50		166
Postal Code Selection	Disable All Postal Codes		167

Parameter	Default	Your Setting	Page Number
Postnet BB Control	Disable		168
2D Bar Codes			
2D Maximum Decoding Time	350 msec		170
2D Normal/Inverse Symbol Control	Normal		171
2D Multiframe Timeout	Disable		171
Aztec Code			
Aztec Code Enable / Disable	Disable		173
Aztec Code Length Control	Variable		173
Aztec Code Set Length 1	1		173
Aztec Code Set Length 2	65,535		174
China Sensible Code			
China Sensible Code Enable / Disable	Disable		175
China Sensible Code Length Control	Variable		175
China Sensible Code Set Length 1	1		176
China Sensible Code Set Length 2	65,535		177
DataMatrix			
Data Matrix Enable / Disable	Enable		178
Data Matrix Small Codes	Enable		178
Data Matrix Square/Rectangular Style	Both Square and Rectangular Style		179
Data Matrix Length Control	Variable		180
Data Matrix Set Length 1	1		180
Data Matrix Set Length 2	65,535		181
Maxicode			
Maxicode Enable / Disable	Disable		182
Maxicode Primary Message Transmission	Disable		182
Maxicode Length Control	Variable		183
Maxicode Set Length 1	1		183
Maxicode Set Length 2	65,535		184
PDF417			
PDF417 Enable / Disable	Enable		184
Macro PDF417	Disable		185

Parameter	Default	Your Setting	Page Number
PDF417 Length Control	Variable		186
PDF417 Set Length 1	1		186
PDF417 Set Length 2	1,000		187
Micro PDF417			
Micro PDF417 Enable / Disable	Disable		187
Micro PDF417 Code 128 GS-1-128 Emulation	Micro PDF AIM ID and label type		188
Micro PDF417 Length Control	Variable		188
Micro PDF417 Set Length 1	1		189
Micro PDF417 Set Length 2	366		189
QR Code			
QR Code Enable / Disable	Enable		191
QR Code Length Control	Variable		192
QR Code Set Length 1	1		192
QR Code Set Length 2	65,535		193
Micro QR			
Micro QR Enable / Disable	Disable		193
UCC Composite			
UCC Composite Enable / Disable	Disable		194
UCC Optional Composite Timer	Timer Disabled		195

NOTES

Appendix C
Sample Bar Codes

The sample bar codes in this appendix are typical representations for their symbology types.

1D Bar Codes

UPC-A

EAN-13

Code 39

Code 128

Interleaved 2 of 5

Sample Bar Codes — continued

Code 32

Codabar

Code 93

Code 11

GS1 DataBar™

GS1 DataBar™ variants must be enabled to read the bar codes below (see GS1 DataBar™ Omnidirectional on page 146).

(GS1 DataBar™ 14)

(GS1 DataBar™ Expanded)

(GS1 DataBar™ Limited)

(GS1 DataBar™ Truncated)

(GS1 DataBar™ Stacked)
(01)12345678901231

(GS1 DataBar™ Omnidirectional Stacked)
(01)12345678901231

(GS1 DataBar™ Expanded Stacked)

2D Bar Codes

Aztec

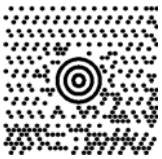
ABCabc

Datmatrix

ABCabc

China Sensible Code

MaxiCode



ABCabc

PDF 417

ABCabc

Micro PDF 417

12345678

QR Code

ABCabc

Micro QR Code

ABCDEF

Composite Codes

DataBar™ Expanded Stacked Composite

GS1-128 Composite

Appendix D
Keypad

Use the bar codes in this appendix to enter numbers as you would select digits/characters from a keypad.

0  0	
	1  1
2  2	
	3  3

4  4	
	5  5
6  6	
	7  7
8  8	
	9  9

A  A	
	B  B
C  C	
	D  D
E  E	
	F  F

NOTES

Appendix E
Scancode Tables

Control Character Emulation

Control character emulation selects from different scancode tables as listed in this appendix. Each of the control character sets below are detailed by interface type in the tables. These apply to Wedge and USB Keyboard platforms.

Control Character 00 . Characters from 00 to 0x1F are sent as control character Ctrl+Keys, special keys are located from 0x80 to 0xA1.

Control Character 01 . Characters from 00 to 0x1F are sent as control character Ctrl+Capital Key, special keys are located from 0x80 to 0xA1.

Control Character 02 . Special keys are located from 00 to 0x1F and characters from 0x80 to 0xFE are intended as an extended ASCII table (Microsoft Windows Codepage 1252 — See page -252.)

Single Press and Release Keys

In the following tables, Ar↓ means Alt right pressed and Ar↑ means Alt right released and so on. Definitions for other keys are Al (Alt left), Cr (Control Right) Cl (Control Left) Sh (shift). This method can be used for combining Alt, Control or Shift with other keys.

Example: Consider a Control character set to 00. If AltRight+A is required before sending a label to the host, it could be done by setting three Prefix keys in this way: 0x99 0x41 0x9A.

Interface Type USB-Keyboard

Table 45. Scancode Set When Control Character is 00 or 01

	x0	x1	x2	x3	x4	x5	X6	x7	x8	x9	xA	xB	xC	xD	xE	xF
0x	NULL C+@	SOH C(S)+A	STX C(S)+B	ETX C(S)+C	EOT C(S)+D	ENQ C(S)+E	ACK C(S)+F	BEL C(S)+G	BS	HT TAB	LF C(S)+J	VT C(S)+K	FF C(S)+L	CR Enter	SO C(S)+N	SI C(S)+O
1x	DLE C(S)+P	DC1 C(S)+Q	DC2 C(S)+R	DC3 C(S)+S	DC4 C(S)+T	NAK C(S)+U	SYN C(S)+V	ETB C(S)+W	CAN C(S)+X	EM C(S)+Y	SUB C(S)+Z	ESC Esc	FS C+\	GS C+]	RS C+^	US C(S)+_
2x	SP	!	"	#	$	%	&	'	(	)	*	+	,	-	.	/
3x	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
4x	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5x	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
6x	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
7x	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	*Del*
8x	€	Sh↓	Sh↑	Ins	Ent (keyp)	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11
9x	F12	Home	End	Pg Up	Pg Dwn	↑	↓	←	→	Ar↓	Ar↑	Al↓	Al ↑	Cl ↓	Cl ↑	Cr ↓
Ax	Cr ↑		‘	*f*	„	…	†	‡	ˆ	‰	Š	‹	Ś	‹	Œ	
Bx	°	±	²	³	´	µ	¶	·	¸	¹	º	»	¼	½	¾	¿
Cx	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï
Dx	Ð		Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß
Ex	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï
Fx	ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ

Extended characters (sky blue) are sent through dedicated keys (when available in the selected country mode) or by using an Alt Mode sequence.

Interface Type USB-Keyboard — cont.

Table 46. Scancode Set When Control Character is 02

	x0	x1	x2	x3	x4	x5	X6	x7	x8	x9	xA	xB	xC	xD	xE	xF
0x	Ar↓	Ar↑	Al↓	Al ↑	Cl ↓	Cl ↑	Cr ↓	Cr ↑	BS	Tab	→	S+ Tab	Enter Keypd	Enter	Ins	Pg Up
1x	Pg Dwn	Home	←	↓	↑	F6	F1	F2	F3	F4	F5	ESC	F7	F8	F9	F10
2x	Space	!	“	#	$	%	&	‘	(	)	*	+	,	-	.	/
3x	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
4x	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5x	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
6x	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
7x	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	*Del*
8x	€		‘	*f*	„	…	†	‡	ˆ	‰	Š	‹	Ś	‹	Œ	
9x		‘	’	“	”	•	–	—	˜	™	š	›	œ		ž	Ÿ
Ax	NBSP	¡	¢	£	¤	¥	¦	§	¨	©	ª	«	¬	-	®	¯
Bx	°	±	²	³	´	µ	¶	·	¸	¹	º	»	¼	½	¾	¿
Cx	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï
Dx	Ð		Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß
Ex	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï
Fx	ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ

Interface type USB-Keyboard Alt Mode

Table 47. Scancode Set When Control Character is 00 or 01

	x0	x1	x2	x3	x4	x5	X6	x7	x8	x9	xA	xB	xC	xD	xE	Xf
0x	Alt+000	Alt+001	Alt+002	Alt+003	Alt+004	Alt+005	Alt+006	Alt+007	BS	HT TAB	Alt+010	Alt+011	Alt+012	CR Enter	Alt+014	Alt+015
1x	Alt+016	Alt+017	Alt+018	Alt+019	Alt+020	Alt+021	Alt+022	Alt+023	Alt+024	Alt+025	Alt+026	ESC Esc	Alt+028	Alt+029	Alt+030	Alt+031
2x	A+032	A+033	A+034	A+035	A+036	A+037	A+038	A+039	A+040	A+041	A+042	A+043	A+044	A+045	A+046	A+047
3x	A+048	A+049	A+050	A+051	A+052	A+053	A+054	A+055	A+056	A+057	A+058	A+059	A+060	A+061	A+062	A+063
4x	A+064	A+065	A+066	A+067	A+068	A+069	A+070	A+071	A+072	A+073	A+074	A+075	A+076	A+077	A+078	A+079
5x	A+080	A+081	A+082	A+083	A+084	A+085	A+086	A+087	A+088	A+089	A+090	A+091	A+092	A+093	A+094	A+095
6x	A+096	A+097	A+098	A+099	A+100	A+101	A+102	A+103	A+104	A+105	A+106	A+107	A+108	A+109	A+110	A+111
7x	A+112	A+113	A+114	A+115	A+116	A+117	A+118	A+119	A+120	A+121	A+122	A+123	A+124	A+125	A+126	A+127
8x	€	Sh↓	Sh↑	Ins	Ent (keyp)	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11
9x	F12	Home	End	Pg Up	Pg Dwn	↑	↓	←	→	Ar↓	Ar↑	Al↓	Al ↑	Cl ↓	Cl ↑	Cr ↓
Ax	Cr ↑	A+0161	A+0162	A+0163	A+0164	A+0165	A+0166	A+0167	A+0168	A+0169	A+0170	A+0171	A+0172	A+0173	A+0174	A+0175
Bx	A+0176	A+0177	A+0178	A+0179	A+0180	A+0181	A+0182	A+0183	A+0184	A+0185	A+0186	A+0187	A+0188	A+0189	A+0190	A+0191
Cx	A+0192	A+0193	A+0194	A+0195	A+0196	A+0197	A+0198	A+0199	A+0200	A+0201	A+0202	A+0203	A+0204	A+0205	A+0206	A+0207
Dx	A+0208	A+0209	A+0210	A+0211	A+0212	A+0213	A+0214	A+0215	A+0216	A+0217	A+0218	A+0219	A+0220	A+0221	A+0222	A+0223
Ex	A+0224	A+0225	A+0226	A+0227	A+0228	A+0229	A+0230	A+0231	A+0232	A+0233	A+0234	A+0235	A+0236	A+0237	A+0238	A+0239
Fx	A+0240	A+0241	A+0242	A+0243	A+0244	A+0245	A+0246	A+0247	A+0248	A+0249	A+0250	A+0251	A+052	A+0253	A+0254	A+0255

Interface type USB-Keyboard Alt Mode — cont.

Table 48. Scancode Set When Control Character is 02

	x0	x1	x2	x3	x4	x5	X6	x7	x8	x9	xA	xB	xC	xD	xE	xF
0x	Ar↓	Ar↑	Al↓	Al ↑	Cl ↓	Cl ↑	Cr ↓	Cr ↑	BS	Tab	→	S+ Tab	Enter Keypd	Enter	Ins	Pg Up
1x	Pg Dwn	Home	←	↓	↑	F6	F1	F2	F3	F4	F5	ESC	F7	F8	F9	F10
2x	A+032	A+033	A+034	A+035	A+036	A+037	A+038	A+039	A+040	A+041	A+042	A+043	A+044	A+045	A+046	A+047
3x	A+048	A+049	A+050	A+051	A+052	A+053	A+054	A+055	A+056	A+057	A+058	A+059	A+060	A+061	A+062	A+063
4x	A+064	A+065	A+066	A+067	A+068	A+069	A+070	A+071	A+072	A+073	A+074	A+075	A+076	A+077	A+078	A+079
5x	A+080	A+081	A+082	A+083	A+084	A+085	A+086	A+087	A+088	A+089	A+090	A+091	A+092	A+093	A+094	A+095
6x	A+096	A+097	A+098	A+099	A+100	A+101	A+102	A+103	A+104	A+105	A+106	A+107	A+108	A+109	A+110	A+111
7x	A+112	A+113	A+114	A+115	A+116	A+117	A+118	A+119	A+120	A+121	A+122	A+123	A+124	A+125	A+126	A+127
8x	A+0128	A+0129	A+0130	A+0131	A+0132	A+0133	A+0134	A+0135	A+0136	A+0137	A+0138	A+0139	A+0140	A+0141	A+0142	A+0143
9x	A+0144	A+0145	A+0146	A+0147	A+0148	A+0149	A+0150	A+0151	A+0152	A+0153	A+0154	A+0155	A+0156	A+0157	A+0158	A+0159
Ax	A+0160	A+0161	A+0162	A+0163	A+0164	A+0165	A+0166	A+0167	A+0168	A+0169	A+0170	A+0171	A+0172	A+0173	A+0174	A+0175
Bx	A+0176	A+0177	A+0178	A+0179	A+0180	A+0181	A+0182	A+0183	A+0184	A+0185	A+0186	A+0187	A+0188	A+0189	A+0190	A+0191
Cx	A+0192	A+0193	A+0194	A+0195	A+0196	A+0197	A+0198	A+0199	A+0200	A+0201	A+0202	A+0203	A+0204	A+0205	A+0206	A+0207
Dx	A+0208	A+0209	A+0210	A+0211	A+0212	A+0213	A+0214	A+0215	A+0216	A+0217	A+0218	A+0219	A+0220	A+0221	A+0222	A+0223
Ex	A+0224	A+0225	A+0226	A+0227	A+0228	A+0229	A+0230	A+0231	A+0232	A+0233	A+0234	A+0235	A+0236	A+0237	A+0238	A+0239
Fx	A+0240	A+0241	A+0242	A+0243	A+0244	A+0245	A+0246	A+0247	A+0248	A+0249	A+0250	A+0251	A+052	A+0253	A+0254	A+0255

Microsoft Windows Codepage 1252

Windows-1252 is a character encoding of the Latin alphabet, used by default in the legacy components of Microsoft Windows in English and some other Western languages.

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
00	NUL 0000	STX 0001	SOT 0002	ETX 0003	EOT 0004	ENQ 0005	ACK 0006	BEL 0007	BS 0008	HT 0009	LF 000A	VT 000B	FF 000C	CR 000D	SO 000E	SI 000F
10	DLE 0010	DC1 0011	DC2 0012	DC3 0013	DC4 0014	NAK 0015	SYN 0016	ETB 0017	CAN 0018	EM 0019	SUB 001A	ESC 001B	FS 001C	GS 001D	RS 001E	US 001F
20	SP 0020	! 0021	" 0022	# 0023	$ 0024	% 0025	& 0026	' 0027	(0028	) 0029	* 002A	+ 002B	, 002C	- 002D	. 002E	/ 002F
30	0 0030	1 0031	2 0032	3 0033	4 0034	5 0035	6 0036	7 0037	8 0038	9 0039	: 003A	; 003B	< 003C	= 003D	> 003E	? 003F
40	@ 0040	A 0041	B 0042	C 0043	D 0044	E 0045	F 0046	G 0047	H 0048	I 0049	J 004A	K 004B	L 004C	M 004D	N 004E	O 004F
50	P 0050	Q 0051	R 0052	S 0053	T 0054	U 0055	V 0056	W 0057	X 0058	Y 0059	Z 005A	[005B	\ 005C	] 005D	^ 005E	_ 005F
60	` 0060	a 0061	b 0062	c 0063	d 0064	e 0065	f 0066	g 0067	h 0068	i 0069	j 006A	k 006B	l 006C	m 006D	n 006E	o 006F
70	p 0070	q 0071	r 0072	s 0073	t 0074	u 0075	v 0076	w 0077	x 0078	y 0079	z 007A	{ 007B	| 007C	} 007D	~ 007E	DEL 007F
80	€ 20AC		‚ 201A	ƒ 0192	„ 201E	… 2026	† 2020	‡ 2021	ˆ 02C6	‰ 2030	Š 0160	‹ 2039	Œ 0152		Ž 017D	
90		' 2018	' 2019	" 201C	" 201D	• 2022	– 2013	— 2014	˜ 02DC	™ 2122	š 0161	› 203A	œ 0153		ž 017E	Ÿ 0178
A0	NBSP 00A0	¡ 00A1	¢ 00A2	£ 00A3	¤ 00A4	¥ 00A5	¦ 00A6	§ 00A7	¨ 00A8	© 00A9	ª 00AA	« 00AB	¬ 00AC	- 00AD	® 00AE	¯ 00AF
B0	° 00B0	± 00B1	² 00B2	³ 00B3	´ 00B4	µ 00B5	¶ 00B6	· 00B7	¸ 00B8	¹ 00B9	º 00BA	» 00BB	¼ 00BC	½ 00BD	¾ 00BE	¿ 00BF
C0	À 00C0	Á 00C1	Â 00C2	Ã 00C3	Ä 00C4	Å 00C5	Æ 00C6	Ç 00C7	È 00C8	É 00C9	Ê 00CA	Ë 00CB	Ì 00CC	Í 00CD	Î 00CE	Ï 00CF
D0	Ð 00D0	Ñ 00D1	Ò 00D2	Ó 00D3	Ô 00D4	Õ 00D5	Ö 00D6	× 00D7	Ø 00D8	Ù 00D9	Ú 00DA	Û 00DB	Ü 00DC	Ý 00DD	Þ 00DE	ß 00DF
E0	à 00E0	á 00E1	â 00E2	ã 00E3	ä 00E4	å 00E5	æ 00E6	ç 00E7	è 00E8	é 00E9	ê 00EA	ë 00EB	ì 00EC	í 00ED	î 00EE	ï 00EF
F0	ð 00F0	ñ 00F1	ò 00F2	ó 00F3	ô 00F4	õ 00F5	ö 00F6	÷ 00F7	ø 00F8	ù 00F9	ú 00FA	û 00FB	ü 00FC	ý 00FD	þ 00FE	ÿ 00FF

Appendix F
Quick Setup

Use the bar codes in this appendix to perform quick setup procedures for common tasks.

Scan the following bar code to set the scanner back to the factory defaults:

Set All Defaults

Note: Scanning the "Set All Defaults" bar code does not change the interface type.

Scan the following bar code (USB HID Keyboard Emulation) in order to put the HP Imaging Barcode Scanner into the default mode of the scanner.

USB HID Keyboard Emulation

When the scanner is changed between HID and USB-COM mode, allow the Windows operating system a little time to reload the native drivers for the scanner.

OPOS Driver

The HP Imaging Barcode Scanner by default is shipped in the human interface device (HID) keyboard emulation mode. In order to use the barcode scanner with OLE for Retail POS (OPOS) drivers the scanner must be put into USB COM (OPOS) mode.

For your convenience the bar code to put the HP Imaging Barcode Scanner into USB COM (OPOS) mode or into HID keyboard emulation are located in this document. Refer to the HP Imaging Barcode Scanner Programming Reference Guide for complete list of barcodes. The document can be found on the HP Point of Sale System Software and Documentation CD that comes with the scanner or the softpaq that is located on the HP support web site.

Scan the following bar code (USB COM OPOS) in order to put the HP Imaging Barcode Scanner into the mode to be used with the OPOS drivers.

USB COM (OPOS)

Carriage Return

Scan the following bar code to set the scanner back to the factory defaults:

Set All Defaults

Note: Scanning the "Set All Defaults" bar code does not change the interface type.

If a carriage return/enter is required after each scanned bar code, scan the following bar codes in order:

Enter Programming Mode

Scan the following barcodes left to right:

Set Global Suffix

0

D

Exit Global Suffix Mode

Exit Programming Mode

Tab

Scan the following bar code to set the scanner back to the factory defaults:

Set All Defaults

Note: Scanning the "Set All Defaults" bar code does not change the interface type.

If a tab is required after each scanned bar code, scan the following bar codes in order:

Enter Programming Mode

Scan the following barcodes left to right:

Set Global Suffix

0

9

Exit Global Suffix Mode

Exit Programming Mode

Volume

Scan the following bar code to set the scanner back to the factory defaults:

Set All Defaults

Scan the following barcode to set the volume of the good read beep on the HP Imaging Scanner:

Enter Programming Mode

Scan one of the four barcodes to set the volume to the desired setting:

Off

Low

Medium

High

Exit Programming Mode

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SYMBOLS

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ASCII Chart

ASCII Char.	Hex No.	ASCII Char.	Hex No.	ASCII Char.	Hex No.	ASCII Char.	Hex No.
NUL	00	SP	20	@	40	‘	60
SOH	01	!	21	A	41	a	61
STX	02	“	22	B	42	b	62
ETX	03	#	23	C	43	c	63
EOT	04	$	24	D	44	d	64
ENQ	05	%	25	E	45	e	65
ACK	06	&	26	F	46	f	66
BEL	07	’	27	G	47	g	67
BS	08	(	28	H	48	h	68
HT	09	)	29	I	49	i	69
LF	0A	*	2A	J	4A	j	6A
VT	0B	+	2B	K	4B	k	6B
FF	0C	,	2C	L	4C	l	6C
CR	0D	-	2D	M	4D	m	6D
SO	0E	.	2E	N	4E	n	6E
SI	0F	/	2F	O	4F	o	6F
DLE	10	0	30	P	50	p	70
DC1	11	1	31	Q	51	q	71
DC2	12	2	32	R	52	r	72
DC3	13	3	33	S	53	s	73
DC4	14	4	34	T	54	t	74
NAK	15	5	35	U	55	u	75
SYN	16	6	36	V	56	v	76
ETB	17	7	37	W	57	w	77
CAN	18	8	38	X	58	x	78
EM	19	9	39	Y	59	y	79
SUB	1A	:	3A	Z	5A	z	7A
ESC	1B	;	3B	[	5B	{	7B
FS	1C	<	3C	\	5C	|	7C
GS	1D	=	3D	]	5D	}	7D
RS	1E	>	3E	^	5E	~	7E
US	1F	?	3F	_	5F	DEL	7F

NOTES