Honeywell

Voyager™ 1250g

Single-Line Laser Scanner

User Guide

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Web Address: sps.honeywell.com

For patent information, refer to www.hsmpats.com.

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Customer Support

Technical Assistance

Go to honeywell.com/PSStechnicalsupport to search our knowledge base for a solution or to log into the Technical Support portal.

For our latest contact information, see honeywell.com/PSSlocations.

Product Service and Repair

Honeywell International Inc. provides service for all of its products through service centers throughout the world. Go to sps.honeywell.com and select **Support** to find a service center near you or to get a Return Material Authorization number (RMA #) before returning a product.

Limited Warranty

For warranty information, go to sps.honeywell.com and click **Support** > **Warranties**.

CHAPTER

1 GET STARTED

About This Manual

This User Guide provides installation and programming instructions for the Voyager 1250g single-line laser scanner. Product specifications, dimensions, warranty, and customer support information are also included.

Honeywell barcode scanners are factory programmed for the most common terminal and communications settings. If you need to change these settings, programming is accomplished by scanning the barcodes in this guide.

An asterisk (*) next to an option indicates the default setting.

Unpack Your Device

After you open the shipping carton containing the product, take the following steps:

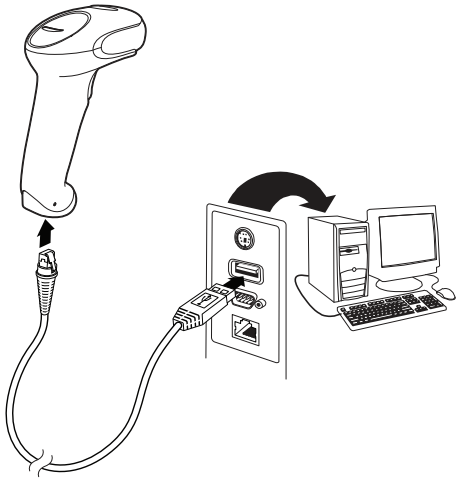
- Check for damage during shipment. Report damage immediately to the carrier who delivered the carton.
- Make sure the items in the carton match your order.
- Save the shipping container for later storage or shipping.

Connect the Device

Connect with USB

A scanner can be connected to the USB port of a computer.

1. Connect the appropriate interface cable to the scanner first, then to the computer.



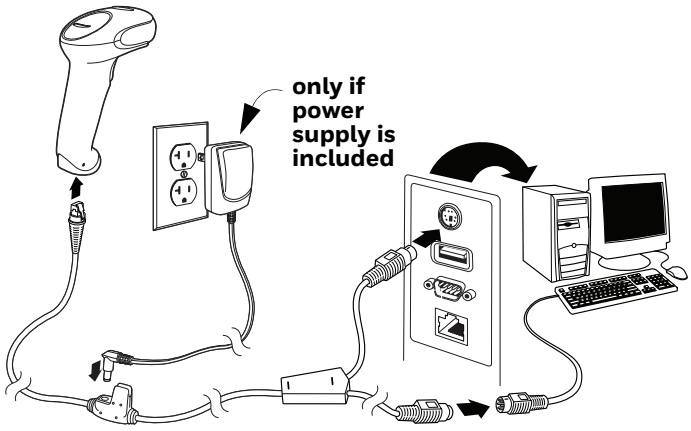
2. The scanner beeps.
3. Verify the scanner operation by scanning a barcode from the Sample Symbols on page 201.

The unit defaults to a USB PC Keyboard. Refer to page 11 for other USB terminal settings.

Connect with Keyboard Wedge

A scanner can be connected between the keyboard and PC as a “keyboard wedge,” plugged into the serial port, or connected to a portable data terminal in wand emulation or non decoded output mode. The following is an example of a keyboard wedge connection:

1. Turn off power and disconnect the keyboard cable from the back of the terminal/computer.
2. Connect the appropriate interface cable to the scanner and to the terminal/computer.



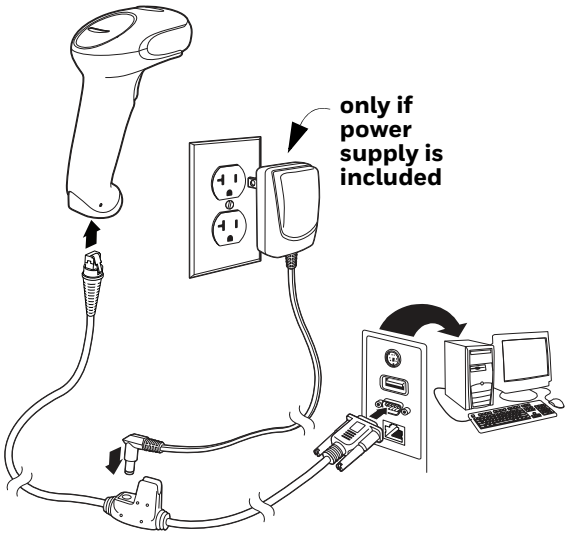
3. Turn the terminal/computer power back on. The scanner beeps.

4. Verify the scanner operation by scanning a barcode from the Sample Symbols on page 201. The scanner beeps once.

The unit defaults to an IBM PC AT and compatibles keyboard wedge interface with a USA keyboard. A carriage return (CR) suffix is added to barcode data.

Connect with RS232 Serial Port

1. Turn off power to the terminal/computer.
2. Connect the appropriate interface cable to the scanner.



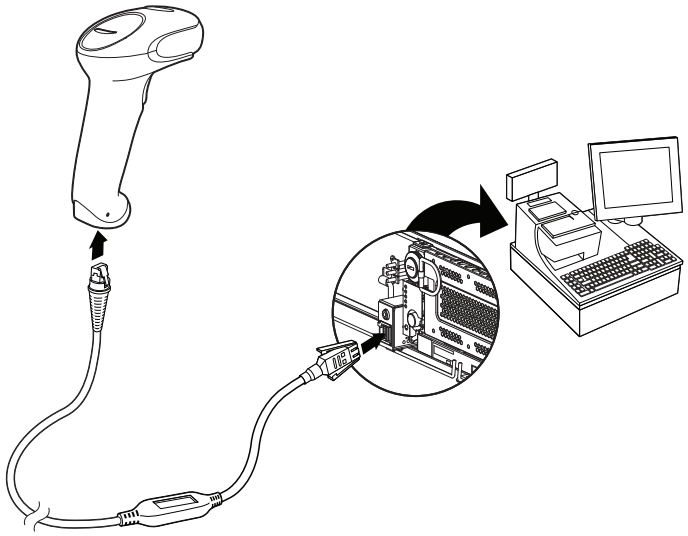
3. Plug the serial connector into the serial port on your computer. Tighten the two screws to secure the connector to the port.
4. Once the scanner has been fully connected, power up the computer.

This interface programs 9600 baud, 8 data bits, no parity, and 1 stop bit.

Connect with RS485

A scanner can be connected for an IBM POS terminal interface.

1. Connect the appropriate interface cable to the device, then to the computer.

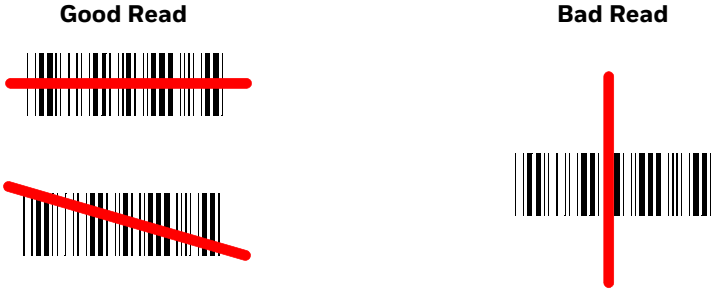


2. Turn the terminal/computer power back on. The scanner beeps.
3. Verify the scanner operation by scanning a barcode from the Sample Symbols on page 201. The scanner beeps once.

For further RS485 settings, refer to RS485, page 8.

Reading Techniques

The scanner has a view finder that projects a bright red aiming beam that corresponds to the scanner's horizontal field of view. The aiming beam should be centered horizontally over the barcode and must highlight all the vertical bars of the barcode. It will not read if the aiming beam is in any other direction.



The aiming beam is smaller when the scanner is closer to the code and larger when it is farther from the code. Symbologies with smaller bars or elements (mil size) should be read closer to the unit. Symbologies with larger bars or elements (mil size) should be read farther from the unit. To read single or multiple symbols (on a page or on an object), hold the scanner at an appropriate distance from the target, pull the trigger, and center the aiming beam on the symbol. If the code being scanned is highly reflective (e.g., laminated), it may be necessary to tilt the code up 15° to 18° to prevent unwanted reflection.

Menu Barcode Security Settings

Honeywell scanners are programmed by scanning menu barcodes or by sending serial commands to the scanner. If you want to restrict the ability to scan menu codes, you can use the Menu Barcode Security settings. Please contact the nearest technical support office (see Customer Support on page xiii) for further information.

Set Custom Defaults

You have the ability to create a set of menu commands as your own, custom defaults. To do so, scan the **Set Custom Defaults** barcode below before each menu command or sequence you want saved. If your command requires scanning numeric codes from the Programming Chart on page 202, then a Save code, that entire sequence will be saved to your custom defaults. Scan the **Set Custom Defaults** code again before the next command you want saved to your custom defaults.

When you have entered all the commands you want to save for your custom defaults, scan the **Save Custom Defaults** barcode.

Set Custom Defaults

Save Custom Defaults

You may have a series of custom settings and want to correct a single setting. To do so, just scan the new setting to overwrite the old one. For example, if you had previously saved the setting for Beeper Volume at Low to your custom defaults, and decide you want the beeper volume set to High, scan the **Set Custom Defaults** barcode, then scan the **Beeper Volume High** menu code, and then **Save Custom Defaults**. The rest of the custom defaults will remain, but the beeper volume setting will be updated.

Reset the Custom Defaults

If you want the custom default settings restored to your scanner, scan the **Activate Custom Defaults** barcode below. This resets the scanner to the custom default settings. If there are no custom defaults, it will reset the scanner to the factory default settings. Any settings that have not been specified through the custom defaults will be defaulted to the factory default settings.

Activate Custom Defaults

CHAPTER

2 PROGRAM THE INTERFACE

Introduction

This chapter describes how to program your system for the desired interface.

Program the Interface – Plug and Play

Plug and Play barcodes provide instant scanner set up for commonly used interfaces.

Note: *After you scan one of the codes, power cycle the host terminal to have the interface in effect.*

Keyboard Wedge

If you want your system programmed for an IBM PC AT and compatibles keyboard wedge interface with a USA keyboard, scan the barcode below. Keyboard wedge is the default interface.

Note: *The following barcode also programs a carriage return (CR) suffix.*

IBM PC AT and Compatibles with CR Suffix

IBM PS2 Keyboard

The following barcode programs your scanner for an IBM PS2 keyboard wedge interface with a USA keyboard.

Note: *The following barcode also programs a carriage return (CR) suffix.*

IBM PS2 with CR Suffix

RS232 Serial Port

The **RS232 Interface** barcode is used when connecting to the serial port of a PC or terminal. The following RS232 Interface barcode also programs a carriage return (CR) and a line feed (LF) suffix, baud rate, and data format as indicated below.

Option	Setting
Baud Rate	9600 bps
Data Format	8 data bits, no parity bit, 1 stop bit

RS232 Interface

Note: *To reset the scanner factory default baud rate of 9600 bps, see* *Reset the Custom Defaults on page 155.*

RS485

Scan one of the following “Plug and Play” codes to program the scanner for an IBM POS terminal interface.

Note: *After scanning one of these codes, you must power cycle the cash register*

IBM Port 5B Interface

IBM Port 9B
HHBCR-1 Interface

IBM Port 17 Interface

IBM Port 9B HHBCR-2 Interface

Each barcode above also programs the following suffixes for each symbology:

Symbology	Suffix	Symbology	Suffix
EAN 8	0C	Code 39	00 0A 0B
EAN 13	16	Interleaved 2 of 5	00 0D 0B
UPC A	0D	Code 128 *	00 0A 0B
UPC E	0A	Code 128 **	00 18 0B

* Suffixes programmed for Code 128 with IBM 4683 Port 5B, IBM 4683 Port 9B HHBCR-1, and IBM 4683 Port 17 Interfaces

**Suffixes programmed for Code 128 with IBM 4683 Port 9 HHBCR-2 Interface

OPOS Mode

The following barcode configures your scanner for OPOS (OLE for Retail Point of Sale) by modifying the following OPOS-related settings:

Option	Setting
Interface	RS232
Baud Rate	38400
RS232 Handshaking	Flow Control, No Timeout
	XON/XOFF Off
	ACK/NAK Off
Data Bits, Stop Bits, and Parity	8 Data, 1 Stop, Parity None
Prefix/Suffix	Clear All Prefixes and Suffixes
	Add Code ID and AIM ID Prefix
	Add CR Suffix
Intercharacter Delay	Off
Symbologies	Enable UPC-A with check digit and number system
	Enable UPC-E0 with check digit
	Enable EAN/JAN-8 with check digit
	Enable EAN/JAN-13 with check digit
	Enable Code 128
	Enable Code 39
	Enable OPOS with automatic disable off

OPOS Mode

USB IBM SurePos

Scan one of the following “Plug and Play” codes to program the scanner for an IBM SurePos (USB handheld scanner) or IBM SurePos (USB tabletop scanner) interface.

Note: *After scanning one of these codes, you must power cycle the cash register.*

USB IBM SurePos (USB Handheld Scanner) Interface

USB IBM SurePos (USB Tabletop Scanner) Interface

Each barcode above also programs the following suffixes for each symbology:

Symbology	Suffix	Symbology	Suffix
EAN 8	0C	Code 39	00 0A 0B
EAN 13	16	Interleaved 2 of 5	00 0D 0B
UPC A	0D	Code 128	00 18 0B
UPC E	0A	Code 39	00 0A 0B

IBM Secondary Interface

On some older IBM cash registers, it may be necessary to disable the secondary or management interface. In particular, it has been found necessary on IBM registers using the 4690 V2R4 operating system. The following barcodes are used for this purpose. *Default = Enable Secondary Interface.*

***Enable Secondary Interface**

Disable Secondary Interface

USB PC or Macintosh Keyboard

Scan one of the following codes to program the scanner for USB PC Keyboard or USB Macintosh Keyboard. Scanning these codes also adds a CR and LF.

USB Keyboard (PC)

USB Keyboard (Mac)

USB Japanese Keyboard (PC)

USB HID

Scan the following code to program the scanner for a USB HID barcode scanner.

USB HID Barcode Scanner

HID Fallback Mode

If you attempt to set a USB interface for your scanner, but the setup fails on the host system, you can program the scanner to fall back to a HID keyboard interface after a set length of time. For example, if the scanner is configured for Serial Emulation Mode, but the host system does not have the correct driver, the scanner would fail. If you set the HID Fallback Mode for a set length of time, for example, 5 minutes, the scanner would change to a HID keyboard interface after 5 minutes of trying to configure as serial emulation.

A unique beep sequence indicates that this mode has been entered. While in HID Fallback Mode, the scanner will not scan normal barcodes and sounds a unique beep sequence that indicates the scanner is in Fallback Mode. Menu codes can still be scanned while in HID Fallback Mode, allowing you to change the scanner's programming.

Scan the barcode below, then set the length for the HID Fallback (from 0-60 minutes) by scanning digits from the Programming Chart on page 202, then scanning the Save code. *Default = 5 minutes.*

USBFTO.

HID Fallback Mode

USB Serial Commands

USB Serial Emulation

Scan one of the following codes to program the scanner to emulate a regular RS232-based COM Port. If you are using a Microsoft® Windows® PC, you will need to download the USB serial driver from the Honeywell website (sps.honeywell.com). The driver will use the next available COM Port number. Apple® Macintosh computers recognize the scanner as a USB CDC class device and automatically use a class driver.

Scanning either of these codes also adds a CR and LF.

PAP130.

USB Serial Emulation for Windows XP, Windows Server 2003, and later

PAP130;REMIFC0.

USB Serial Emulation for Windows 2000

Note: *No extra configuration (e.g., baud rate) is necessary.*

CTS/RTS Emulation

USBCTS1.

CTS/RTS Emulation On

USBCTS0.

*** CTS/RTS Emulation Off**

ACK/NAK Mode

USBACK1.
ACK/NAK Mode On

USBACK0.
*** ACK/NAK Mode Off**

Communication Timeout

This allows you to set the length (in milliseconds) for a timeout for the host ACK/NAK response. Scan the barcode below, then set the timeout (from 0-65535 milliseconds) by scanning digits from the Programming Chart on page 202, then scanning Save. *Default = 2000 ms.*

232DLK.
Communication Timeout

Timeout Retries

This setting limits the number of Communication Timeout retries. If the **Timeout Retries** is set to **0**, the transmission is terminated after the initial Communication Timeout. Scan the barcode below, then set the number of retries (from 0-255) by scanning digits from the Programming Chart on page 202, then scanning Save. (5 is the recommended setting.) *Default = 0.*

HSTRTY.
Timeout Retries

Communication Timeout Beeper

This selection programs the scanner to issue an error beep when a communication timeout has occurred. The error beep sound is programmed using Number of Beeps – Error (page 44). *Default = On.*

HSTTOA0.
Off

HSTTOA1.
*** On**

NAK Retries

This selection limits the number of NAK retries that can occur in ACK/NAK mode. Scan the barcode below, then set the number of retries (from 0-255) by scanning digits from the Programming Chart on page 202, then scanning Save. (5 is the recommended setting.) *Default = 0, or disabled.*

NAK Retries

Support BEL/CAN in ACK/NAK

This protocol responds to <BEL> and <CAN> commands when in ACK/NAK mode. The scanner sounds an error tone when a <BEL> command is sent from the host. <CAN> terminates the transmission. *Default = BEL/CAN Off*.

BEL/CAN On

*** BEL/CAN Off**

Verifone® Ruby Terminal Default Settings

Scan the following Plug and Play code to program the scanner for a Verifone Ruby terminal. This barcode sets the baud rate to 1200 bps and the data format to 8 data bits, Mark parity, 1 stop bit and RTS/CTS no timeout. It also adds a line feed (LF) suffix and programs the following prefixes for each symbology:

Symbology	Prefix
UPC-A	A
UPC-E	A
EAN-8	FF
EAN-13	F

Verifone Ruby Settings

Note: *If you are having unexpected results with this programming code, scan the* ***Activate Defaults*** *barcode on page 149 first, then scan the programming barcode above.*

Gilbarco® Terminal Default Settings

Scan the following Plug and Play code to program the scanner for a Gilbarco terminal. This barcode sets the baud rate to 2400 bps and the data format to 7 data bits, even parity, 2 stop bits. It also adds a carriage return (CR) suffix and programs the following prefixes for each symbology:

Symbology	Prefix
UPC-A	A
UPC-E	E0
EAN-8	FF
EAN-13	F

Gilbarco Settings

Note: *If you are having unexpected results with this programming code, scan the* ***Activate Defaults*** *barcode on page 149 first, then scan the programming barcode above.*

Honeywell Bioptic Aux Port Configuration

Scan the following Plug and Play code to program the scanner for a Honeywell bioptic scanner auxiliary port configuration. This barcode sets the baud rate to 38400 bps and the data format to 8 data bits, no parity, 1 stop bit. Character RTS/CTS with timeout and 232 ACK/NAK are also enabled.

Honeywell Bioptic Settings

Note: *If you are having unexpected results with this programming code, scan the* ***Activate Defaults*** *barcode on page 149 first, then scan the programming barcodebarcode above.*

Datalogic™ Magellan© Bioptic Aux Port Configuration

Scan the following Plug and Play code to program the scanner for a Datalogic Magellan bioptic scanner auxiliary port configuration. This barcode sets the baud rate to 9600 bps and the data format to 8 data bits, no parity, 1 stop bit.

Datalogic Magellan Bioptic Settings

Note: *If you are having unexpected results with this programming code, scan the* ***Activate Defaults*** *barcode on page 149 first, then scan the programming barcode above.*

NCR Bioptic Aux Port Configuration

Scan the following Plug and Play code to program the scanner for an NCR bioptic scanner auxiliary port configuration. This barcode sets the baud rate to 9600 bps and the data format to 7 data bits, Even parity, 1 stop bit and Message RTS/CTS with timeout. The following prefixes are programmed for each symbology:

Symbology	Prefix	Symbology	Prefix
UPC-A	A	Interleaved 2 of 5	b
UPC-E	E0	Code 128	f
EAN-8	FF	GS1 DataBar Omnidirectional	r
EAN-13	F	GS1 DataBar Expanded	r
Code 39	a	Codabar	N
		Code 32 Pharmaceutical (PARAF)	a

NCR Bioptic Settings

Note: *If you are having unexpected results with this programming code, scan the* ***Activate Defaults*** *barcode on page 149 first, then scan the programming barcode above.*

Wincor Nixdorf Terminal Default Settings

Scan the following Plug and Play code to program the scanner for a Wincor Nixdorf terminal. This barcode sets the baud rate to 9600 bps and the data format to 8 data bits, no parity, 1 stop bit.

Wincor Nixdorf Terminal Settings

Note: *If you are having unexpected results with this programming code, scan the* ***Activate Defaults*** *barcode on page 149 first, then scan the programming barcode above.*

Wincor Nixdorf Beetle™ Terminal Default Settings

Scan the following Plug and Play code to program the scanner for a Wincor Nixdorf Beetle terminal. The following prefixes are programmed for each symbology:

Symbology	Prefix	Symbology	Prefix
Aztec Code	V	Interleaved 2 of 5	I
Codabar	N	MaxiCode	T
Code 93	L	MicroPDF417	S
Code 128	K	PDF417	Q
Data Matrix	R	QR Code	U
EAN-8	B	Straight 2 of 5 IATA	H
EAN-13	A	UPC-A	A0
GS1 DataBar	E	UPC-E	C
GS1-128	P	All other barcodes	M

Wincor Nixdorf Beetle Settings

Note: *If you are having unexpected results with this programming code, scan the* ***Activate Defaults*** *barcode on page 149 first, then scan the programming barcode above.*

Wincor Nixdorf RS232 Mode A

Scan the following Plug and Play code to program the scanner for a Wincor Nixdorf RS232 Mode A terminal. The following prefixes are programmed for each symbology:

Symbology	Prefix	Symbology	Prefix
Code 128	K	EAN-13	A
Code 93	L	GS1-128	K
Codabar	N	Interleaved 2 of 5	I
UPC-A	A0	Plessey	O
UPC-E	C	Straight 2 of 5 IATA	H
EAN-8	B	GS1 DataBar	E
All other barcodes	M		

Wincor Nixdorf RS232 Mode A Settings

Keyboard Country Layout

If your interface is USB Keyboard or Keyboard Wedge, your keyboard layout default is a US keyboard. To change this layout, scan the appropriate Keyboard Country barcode below. By default, national character replacements are used for the following characters: @ | $ # { } [ ] = / ‘ \ < > ~ Refer to the ISO 2022/ISO 646 Character Replacements on page 196 to view the character replacements for each country.

Keyboard Countries

*** United States**

Albania

Arabic

Azeri (Cyrillic)

Keyboard Countries (Continued)


KBDCTY80.
Azeri (Latin)


KBDCTY82.
Belarus


KBDCTY1.
Belgium


KBDCTY33.
Bosnia


KBDCTY16.
Brazil


KBDCTY59.
Brazil (MS)


KBDCTY52.
Bulgaria (Cyrillic)


KBDCTY53.
Bulgaria (Latin)


KBDCTY54.
Canada (French legacy)


KBDCTY18.
Canada (French)


KBDCTY55.
Canada (Multilingual)


KBDCTY92.
China

Keyboard Countries (Continued)


KBDCTY32.
Croatia


KBDCTY15.
Czech


KBDCTY40.
Czech (Programmers)


KBDCTY39.
Czech (QWERTY)


KBDCTY38.
Czech (QWERTZ)


KBDCTY8.
Denmark


KBDCTY11.
Dutch (Netherlands)


KBDCTY41.
Estonia


KBDCTY83.
Faroese


KBDCTY2.
Finland


KBDCTY3.
France


KBDCTY84.
Gaelic

Keyboard Countries (Continued)


KBDCTY4.
Germany


KBDCTY17.
Greek


KBDCTY64.
Greek (220 Latin)


KBDCTY61.
Greek (220)


KBDCTY65.
Greek (319 Latin)


KBDCTY62.
Greek (319)


KBDCTY63.
Greek (Latin)


KBDCTY66.
Greek (MS)


KBDCTY60.
Greek (Polytonic)


KBDCTY12.
Hebrew


KBDCTY50.
Hungarian (101 key)


KBDCTY19.
Hungary

Keyboard Countries (Continued)


KBDCTY75.
Iceland


KBDCTY73.
Irish


KBDCTY56.
Italian (142)


KBDCTY5.
Italy


KBDCTY28.
Japan ASCII


KBDCTY93.
Korea


KBDCTY78.
Kazakh


KBDCTY79.
Kyrgyz (Cyrillic)


KBDCTY14.
Latin America


KBDCTY42.
Latvia


KBDCTY43.
Latvia (QWERTY)


KBDCTY44.
Lithuania

Keyboard Countries (Continued)


KBDCTY45.
Lithuania (IBM)


KBDCTY34.
Macedonia


KBDCTY74.
Malta


KBDCTY86.
Mongolian (Cyrillic)


KBDCTY9.
Norway


KBDCTY20.
Poland


KBDCTY57.
Polish (214)


KBDCTY58.
Polish (Programmers)


KBDCTY13.
Portugal


KBDCTY25.
Romania


KBDCTY26.
Russia


KBDCTY67.
Russian (MS)

Keyboard Countries (Continued)


KBDCTY68.
Russian (Typewriter)


KBDCTY21.
SCS


KBDCTY37.
Serbia (Cyrillic)


KBDCTY36.
Serbia (Latin)


KBDCTY22.
Slovakia


KBDCTY49.
Slovakia (QWERTY)


KBDCTY48.
Slovakia (QWERTZ)


KBDCTY31.
Slovenia


KBDCTY10.
Spain


KBDCTY51.
Spanish variation


KBDCTY23.
Sweden


KBDCTY29.
Switzerland (French)

Keyboard Countries (Continued)


KBDCTY6.
Switzerland (German)


KBDCTY85.
Tatar


KBDCTY94.
Thailand


KBDCTY27.
Turkey F


KBDCTY24.
Turkey Q


KBDCTY76.
Ukrainian


KBDCTY7.
United Kingdom


KBDCTY87.
United States (Dvorak)


KBDCTY88.
United States (Dvorak left)


KBDCTY89.
United Stated (Dvorak right)


KBDCTY30.
United States (International)


KBDCTY77.
Uzbek (Cyrillic)

Keyboard Countries (Continued)

KBDCTY95.

Vietnam

Keyboard Wedge Modifiers

ALT Mode

If your barcode contains special characters from the extended ASCII chart for example, an e with an accent grave (è), you will use ALT Mode. (See Extended ASCII Characters on page 193.)

Note: *Scan the ALT mode barcode after scanning the appropriate Keyboard Country code.*

If your keystrokes require using the ALT key and 3 characters, scan the **3 Characters** barcode. If your keystrokes require the ALT key and 4 characters, scan the **4 Characters** barcode. The data is then output with the special character(s). *Default = Off.*

KBDALT0.

*** Off**

KBDALT6.

3 Characters

KBDALT7.

4 Characters

Keyboard Style

This programs keyboard styles, such as Caps Lock and Shift Lock. If you have used Keyboard Conversion settings, they will override any of the following Keyboard Style settings. *Default = Regular.*

Regular is used when you normally have the Caps Lock key off.

KBDSTY0.

*** Regular**

Caps Lock is used when you normally have the Caps Lock key on.

Caps Lock

Shift Lock is used when you normally have the Shift Lock key on (not common to U.S. keyboards).

Shift Lock

Autocaps via NumLock barcode should be scanned in countries (e.g., Germany, France) where the Caps Lock key cannot be used to toggle Caps Lock. The Num-Lock option works similarly to the regular Autocaps, but uses the NumLock key to retrieve the current state of the Caps Lock.

Autocaps via NumLock

Emulate External Keyboard should be scanned if you do not have an external keyboard (IBM AT or equivalent).

Emulate External Keyboard

Note: *After scanning the **Emulate External Keyboard** barcode, you must power cycle your computer.*

Keyboard Conversion

Alphabetic keyboard characters can be forced to be all upper case or all lowercase. So if you have the following barcode: “abc569GK,” you can make the output “ABC569GK” by scanning **Convert All Characters to Upper Case**, or to “abc569gk” by scanning **Convert All Characters to Lower Case**. These settings override Keyboard Style selections. *Default = Keyboard Conversion Off*.

*** Keyboard Conversion Off**

Convert All Characters to Upper Case

Convert All Characters to Lower Case

Keyboard Modifiers

This modifies special keyboard features, such as CTRL+ ASCII codes and Turbo Mode.

Control + X (Control + ASCII) Mode On: The scanner sends key combinations for ASCII control characters for values 00-1F. Windows is the preferred mode. All keyboard country codes are supported. DOS mode is a legacy mode, and it does not support all keyboard country codes. New users should use the Windows mode. Refer to ASCII Conversion Chart (Code Page 1252), page 192 for CTRL+ X Values.

Windows Mode Prefix/Suffix Off: The scanner sends key combinations for ASCII control characters for values 00-1F, but it does not translate prefix or suffix information.

Default = Control + X Mode Off.

Windows Mode Control + X Mode On

*** Control + X Mode Off**

DOS Mode Control + X Mode On

Windows Mode Prefix/Suffix

Numeric Keypad Mode: Sends numeric characters as if entered from a numeric keypad. *Default = Off.*

Numeric Keypad Mode On

*** Numeric Keypad Mode Off**

Inter-Scan Code Delay

When your keyboard detects that any key is being pressed, released, or held down, the keyboard sends a packet of information known as a “scan code” to your computer. This selection allows you to adjust the delay between scan codes. Set the length (in milliseconds) for a delay by scanning the barcode below, then setting the delay (from 1-30) by scanning digits from the Programming Chart on page 202, then scanning Save. *Default = 0 (800 µs)*.

Inter-Scan Code Delay

<F0> Break Character

When your keyboard detects that any key is being pressed, released, or held down, the keyboard sends a packet of information known as a “scan code” to your computer. There are two different types of scan codes: “make codes” and “break codes.” A make code is sent when a key is pressed or held down. A break code is sent when a key is released. The following selections allow you to suppress or transmit the character sequence of the break code. *Default = Transmit.*

Suppress

*** Transmit**

Keyboard Wedge Defaults

If you want the custom keyboard wedge default settings restored to your scanner, scan the **Keyboard Wedge Defaults** barcode below. This resets the scanner to the custom default settings (see Set Custom Defaults on page 5). If there are no custom defaults, it will reset the scanner to the factory default settings. Any settings that have not been specified through the custom defaults will be defaulted to the factory default settings.

Keyboard Wedge Defaults

RS232 Modifiers

RS232 Baud Rate

Baud Rate sends the data from the scanner to the terminal at the specified rate. The host terminal must be set for the same baud rate as the scanner. *Default = 9600.*


232BAD0.
300


232BAD1.
600


232BAD2.
1200


232BAD3.
2400


232BAD4.
4800


232BAD5.
*** 9600**


232BAD6.
19,200


232BAD7.
38,400


232BAD8.
57,600


232BAD9.
115,200

RS232 Word Length: Data Bits, Stop Bits, and Parity

Data Bits sets the word length at 7 or 8 bits of data per character. If an application requires only ASCII Hex characters 0 through 7F decimal (text, digits, and punctuation), select 7 data bits. For applications that require use of the full ASCII set, select 8 data bits per character. *Default = 8.*

Stop Bits sets the stop bits at 1 or 2. *Default = 1.*

Parity provides a means of checking character bit patterns for validity. *Default = None.*


232WRD3.
7 Data, 1 Stop, Parity Even


232WRD0.
7 Data, 1 Stop, Parity None


232WRD6.
7 Data, 1 Stop, Parity Odd


232WRD4.
7 Data, 2 Stop, Parity Even


232WRD1.
7 Data, 2 Stop Parity None


232WRD7.
7 Data, 2 Stop, Parity Odd


232WRD5.
8 Data, 1 Stop, Parity Even


232WRD2.
*** 8 Data, 1 Stop, Parity None**

8 Data, 1 Stop, Parity Odd

7 Data, 1 Stop, Parity Space

7 Data, 2 Stop, Parity Space

8 Data, 1 Stop, Parity Space

7 Data, 1 Stop, Parity Mark

7 Data, 2 Stop, Parity Mark

8 Data, 1 Stop Parity Mark

RS232 Handshaking

RS232 Handshaking allows control of data transmission from the scanner using software commands from the host device. When RTS/CTS is turned Off, no data flow control is used.

Flow Control, No Timeout: The scanner asserts RTS when it has data to send, and will wait indefinitely for CTS to be asserted by the host.

Character-Based Flow Control, No Timeout: The scanner asserts RTS when it has a character to send, and will wait indefinitely for CTS to be asserted by the host

Two-Direction Flow Control: The scanner asserts RTS when it is OK for the host to transmit. The host asserts CTS when it is OK for the device to transmit.

Flow Control with Timeout: The scanner asserts RTS when it has data to send and waits for a delay (see RS232 Timeout on page 33) for CTS to be asserted by the host. If the delay time expires and CTS is not asserted, the device transmit buffer is cleared and scanning may resume.

Character-Based Flow Control with Timeout: The scanner asserts RTS when it has a character to send and waits for a delay (see RS232 Timeout on page 33) for CTS to be asserted by the host. If the delay time expires and CTS is not asserted, the device transmit buffer is cleared and scanning may resume.
Default = RTS/CTS Off.

Flow Control, No Timeout

Character-Based Flow Control, No Timeout

Two-Direction Flow Control

Flow Control with Timeout

Character-Based Flow Control with Timeout

*** RTS/CTS Off**

RS232 Timeout

When using **Flow Control with Timeout**, you must program the length of the delay you want to wait for CTS from the host. Set the length (in milliseconds) for a time-out by scanning the barcode below, then setting the timeout (from 1-5100 milli-seconds) by scanning digits from the Programming Chart on page 202, then scanning Save. *Default = 1000 ms (1 second).*

RS232 Timeout

XON/XOFF

Standard ASCII control characters can be used to tell the scanner to start sending data (XON/XOFF On) or to stop sending data (XON/XOFF Off). When the host sends the XOFF character (DC3, hex 13) to the scanner, data transmission stops. To resume transmission, the host sends the XON character (DC1, hex 11). Data transmission continues where it left off when XOFF was sent. *Default = XON/XOFF Off*.

XON/XOFF On

*** XON/XOFF Off**

ACK/NAK

After transmitting data, the scanner waits for an ACK character (hex 06) or a NAK character (hex 15) response from the host. If ACK is received, the communications cycle is completed and the scanner looks for more barcodes. If NAK is received, the last set of barcode data is retransmitted and the scanner waits for ACK/NAK again. Turn on the ACK/NAK protocol by scanning the **ACK/NAK On** barcode below. To turn off the protocol, scan **ACK/NAK Off**. *Default = ACK/NAK Off*.

ACK/NAK On

*** ACK/NAK Off**

Communication Timeout

This allows you to set the length (in milliseconds) for a timeout for the host ACK/NAK response. Scan the barcode below, then set the timeout (from 1-65535 milliseconds) by scanning digits from the Programming Chart on page 202, then scanning Save. *Default = 2000 ms.*

Communication Timeout

Timeout Retries

This setting limits the number of Communication Timeout retries. If the Timeout Retries is set to 0, the transmission is terminated after the initial Communication Timeout. Scan the barcode below, then set the number of retries (from 0-255) by scanning digits from the Programming Chart on page 202, then scanning Save. (5 is the recommended setting.) *Default = 0.*

Timeout Retries

Communication Timeout Beeper

This selection programs the scanner to issue an error beep when a communication timeout has occurred. The error beep sound is programmed using Number of Beeps – Error (page 44). *Default = On.*

Off

*** On**

NAK Retries

This selection limits the number of NAK retries that can occur in ACK/NAK mode. Scan the barcode below, then set the number of retries (from 0-255) by scanning digits from the Programming Chart on page 202, then scanning Save. (5 is the recommended setting.) *Default = 0, or disabled.*

NAK Retries

Support BEL/CAN in ACK/NAK

This protocol responds to <BEL> and <CAN> commands when in ACK/NAK mode. The scanner sounds an error tone when a <BEL> command is sent from the host. <CAN> terminates the transmission. *Default = BEL/CAN Off.*

BEL/CAN On

*** BEL/CAN Off**

RS232 Defaults

If you want the custom RS232 default settings restored to your scanner, scan the **RS232 Defaults** barcode below. This resets the scanner to the custom default settings (see Set Custom Defaults on page 5). If there are no custom defaults, it will reset the scanner to the factory default settings. Any settings that have not been specified through the custom defaults will be restored to the factory default settings.

RS232 Defaults

NCR Modifiers

NCR ACK/NAK

This is an NCR communication protocol for ACK/NAK processing. *Default = NCR ACK/NAK Off*.

*** NCR ACK/NAK Off**

NCR ACK/NAK On

Block Check Character

When this selection is set to **Transmit**, the NCR Block Check Character (BCC) is expected with incoming messages and transmitted with outgoing messages. *Default = Transmit*.

*** Transmit**

NCRBCC0.
Don't Transmit

NCR Prefix

This selection allows you to program an NCR-specific prefix. Refer to the ASCII Conversion Chart (Code Page 1252) on page 192 to find the hex equivalent for the characters you want for the NCR prefix (typically, 02 for STX). Scan the barcode below, then set the hex number (from 0-FF) by scanning digits from the Programming Chart on page 202, then scanning Save. *Default = 0.*

NCRPR2.
NCR Prefix

NCR Suffix

This selection allows you to program an NCR-specific suffix. Refer to the ASCII Conversion Chart (Code Page 1252) on page 192 to find the hex equivalent for the characters you want for the NCR suffix (typically, 03 for ETX). Scan the barcode below, then set the hex number (from 0-FF) by scanning digits from the Programming Chart on page 202, then scanning Save. *Default = 0.*

NCRSF2.
NCR Suffix

NCR Prefix/Suffix

When set to **Transmit**, both the NCR prefix and suffix are transmitted with bar-codes. Usually, prefixes and suffixes are programmed using the Data Editing selections (see Data Edit beginning on page 61), however, the following commands override any other prefix/suffix settings. *Default = Don't Transmit.*

NCRBCP1.
Transmit

NCRBCP0.
*** Don't Transmit**

NCR NOF (Not-on-File) Error

A scanner receives an NOF (Not on File) command from the POS whenever it cannot cross-reference the barcode to a price parameter. When set to **On**, the error tone sounds (set via Number of Beeps – Error, page 3-44) for an NOF, and disables the scanner while the cashier looks up the price manually. When set to **Off**, no sound is emitted for an NOF. *Default = Off.*

On

*** Off**

Scanner to Bioptic Communication

The following settings are used to set up communication between Honeywell scanners and bioptic scanners.

Note: *The scanner's baud rate must be set to 38400 and the RS232 Timeout must be set to 3000 in order to communicate with a bioptic scanner. See RS232 Modifiers on page 30, and RS232 Timeout on page 33 for further information.*

Scanner-Bioptic Packet Mode

Packet Mode On must be scanned to set the scanner's format so it is compatible with a bioptic scanner. *Default = Packet Mode Off.*

*** Packet Mode Off**

Packet Mode On

ACK/NAK

After transmitting data, the scanner waits for an ACK character (hex 06) or a NAK character (hex 15) response from the host. If ACK is received, the communications cycle is completed and the scanner looks for more barcodes. If NAK is received, the

last set of barcode data is retransmitted and the scanner waits for ACK/NAK again. Turn on the ACK/NAK protocol by scanning the **ACK/NAK On** barcode below. To turn off the protocol, scan **ACK/NAK Off**. *Default = ACK/NAK Off*.

ACK/NAK On

*** ACK/NAK Off**

Communication Timeout

This allows you to set the length (in milliseconds) for a timeout for the host ACK/NAK response. Scan the barcode below, then set the timeout (from 1-65535 milliseconds) by scanning digits from the Programming Chart on page 202, then scanning Save. *Default = 2000 ms.*

Communication Timeout

CHAPTER

3 INPUT/OUTPUT SETTINGS

Power Up Beeper

The scanner can be programmed to beep when it's powered up. Scan the **Off** barcode(s) if you don't want a power up beep. *Default = Power Up Beeper On - Scanner.*

Power Up Beeper Off - Scanner

*** Power Up Beeper On - Scanner**

Beep on BEL Character

You may wish to force the scanner to beep upon a command sent from the host. If you scan the **Beep on BEL On** barcode below, the scanner will beep every time a BEL character is received from the host. *Default = Beep on BEL Off.*

***Beep on BEL Off**

Beep on BEL On

Good Read and Error Indicators

Beeper – Good Read

The beeper may be programmed **On** or **Off** in response to a good read. Turning this option off, only turns off the beeper response to a good read indication. All error and menu beeps are still audible. *Default = Beeper - Good Read On.*


BEPBEP0.
Beeper - Good Read Off


BEPBEP1.
*** Beeper - Good Read On**

Beeper Volume – Good Read

The beeper volume codes modify the volume of the beep the scanner emits on a good read. *Default = High.*


BEPLVL1.
Low


BEPLVL2.
Medium


BEPLVL3.
*** High**


BEPLVL0.
Off

Beeper Pitch – Good Read

The beeper pitch codes modify the pitch (frequency) of the beep the scanner emits on a good read. *Default = Medium.*


BEPFQ11600.
Low (1600 Hz)

*** Medium (2350 Hz)**

High (4200 Hz)

Beeper – Transmit Order

The beeper transmit order determines when the good read beep occurs. The scanner can be set to emit the good read beep either before or after data transmission. *Default = Before Transmission.*

Before Transmission

After Transmission

Beeper Pitch – Error

The beeper pitch codes modify the pitch (frequency) of the sound the scanner emits when there is a bad read or error. *Default = Razz.*

*** Razz (100 Hz)**

Medium (2000 Hz)

High (4200 Hz)

Beeper Duration – Good Read

The beeper duration codes modify the length of the beep the scanner emits on a good read. *Default = Normal.*

*** Normal Beep**

Short Beep

Number of Beeps – Good Read

The number of beeps of a good read can be programmed from 1 - 9. The same number of beeps will be applied to the beeper and LED in response to a good read. For example, if you program this option to have five beeps, there will be five beeps and five LED flashes in response to a good read. The beeps and LED flashes are in sync with one another.

Note: *The LEDs can also be programmed separately. See LED Settings on page 45.*

To change the number of beeps, scan the barcode below and then scan a digit (1-9) barcode from the Programming Chart on page 202, then scan Save. *Default = 1.*

Number of Good Read Beeps/LED Flashes

Number of Beeps – Error

The number of beeps and LED flashes emitted by the scanner for a bad read or error can be programmed from 1 - 9. For example, if you program this option to have five error beeps, there will be five error beeps and five LED flashes in response to an error.

Note: *The LEDs can also be programmed separately. See LED Settings on page 45.*

To change the number of error beeps, scan the barcode below and then scan a digit (1-9) barcode from the Programming Chart on page 202, then scan Save. *Default = 1.*

Number of Error Beeps/LED Flashes

LED Indicators

The green and red LEDs can be programmed to be **On** or **Off** and at different brightness levels to indicate various scanner states. Use the following barcodes to program the LED indicators.

LED Settings

Default = Red LED Off, Green LED On with Good Scan.


LEDFN10.
*** Red LED Off**


LEDFN20.
Green LED Off


LEDFN11.
Red LED On with Good Scan


LEDFN21.
*** Green LED On with Good Scan**


LEDFN12.
Red LED On with Laser


LEDFN22.
Green LED On with Laser


LEDFN14.
Red LED On when CodeGate Disabled


LEDFN24.
Green LED On when CodeGate Disabled


LEDFN18.
Red LED On when In-Stand


LEDFN28.
Green LED On when In-Stand


LEDFN1128.
Red LED On with CTS


LEDFN2128.
Green LED On with CTS

LED Brightness

Default = Red High, Green High.


LEDIN10.
Red Off


LEDIN20.
Green Off


LEDIN11.
Red Low


LEDIN21.
Green Low


LEDIN12.
Red Medium


LEDIN22.
Green Medium


LEDIN13.
*** Red High**


LEDIN23.
*** Green High**

In-Stand and Out-Of-Stand Settings

The following settings program the scanner's behavior when it is either in the stand, or out of the stand (hand-held).

Caution: When working with In-Stand and Out-of-Stand settings, enable the settings you want before disabling those you do not want to use. If you disable settings first, you may program the scanner so it is unable to read barcodes. if this happens, power cycle the scanner and scan the defaults barcode on page 6.

In-Stand and Out-of-Stand Defaults

If you want the In-Stand or Out-of-Stand default settings restored to your scanner, scan the appropriate **Defaults** barcode below. They reset the scanner to the custom default settings (see Set Custom Defaults on page 5). If there are no custom defaults, it will reset the scanner to the factory default settings. Any settings that have not been specified through the custom defaults will be defaulted to the factory default settings.

In-Stand Defaults

Out-of-Stand Defaults

Presentation Modes

When the scanner is in the stand, by default, barcodes are automatically read when they are detected in the scanner's field of view. When the scanner is out of the stand, by default you must pull the trigger to read a barcode. Use the following commands to adjust how the scanner behaves when it is out of the stand.

Presentation Mode Out-of-Stand: When the scanner is not in the stand, it automatically detects barcodes, then scans and transmits the data. The laser turns off afterward. (If you are accustomed to a Voyager 9520, this setting is the same as the 9520's default.)

Presentation Mode with CodeGate® Out-of-Stand: When the scanner is not in the stand, it automatically detects barcodes and decodes them. However, the data is not transmitted until you pull the trigger. The laser remains on briefly after the transmission. (If you are accustomed to a Voyager 9540, this setting is the same as the 9540's default.)

Presentation Mode Out-of-Stand

Presentation Mode with CodeGate Out-of-Stand

Manual Activation Mode

In Manual Activation Mode, you must pull the trigger to scan a barcode. The scanner scans until a barcode is read, or until the trigger is released. *Default = Manual Activation Mode On In-Stand, Manual Activation On Out-of-Stand.*

Manual Activation Mode Off In-Stand

*** Manual Activation Mode On In-Stand**

Manual Activation Mode Off Out-of-Stand

*** Manual Activation Mode On Out-of-Stand**

End Manual Activation After Good Read

After a barcode is successfully read, the laser can be programmed either to remain on and scanning, or to turn off. When **End Manual Activation After Good Read** is enabled, the laser turns off and stops scanning after a good read. If you scan **Do Not End Manual Activation After Good Read**, the laser remains on after a good read, but the trigger must be pressed to scan the next barcode. *Default = End Manual Activation After Good Read.*

Do Not End Manual Activation After Good Read In-Stand

*** End Manual Activation After Good Read In-Stand**

Do Not End Manual Activation After Good Read Out-of-Stand

*** End Manual Activation After Good Read Out-of-Stand**

Manual Activation Laser Timeout - Trigger Settings

You can set a timeout for the length of time the laser remains on and attempting to decode barcodes when the trigger is held down, and after it is released. Set the length (in milliseconds) for a timeout by scanning one of the barcodes below, then setting the timeout (from 1-65535 milliseconds) by scanning digits from the Programming Chart on page 202, then Save. *Default = Trigger Hold In-Stand 5000 ms, Trigger Hold Out-of-Stand 30000 ms, Trigger Release In or Out-of-Stand 0.*

Laser Timeout - Trigger Hold In-Stand

Laser Timeout - Trigger Release In-Stand

Laser Timeout - Trigger Hold Out-of-Stand

Laser Timeout - Trigger Release Out-of-Stand

CodeGate®

When CodeGate is **On**, the trigger is used to allow decoded data to be transmitted to the host system. The scanner remains on, scanning and decoding barcodes, but the barcode data is not transmitted until the trigger is pressed. When CodeGate is **Off**, barcode data is transmitted when it is decoded. *Default = CodeGate Off in-Stand, CodeGate On Out-of-Stand.*

*** CodeGate Off In-Stand**

CodeGate On In-Stand

CodeGate Off Out-of-Stand

*** CodeGate On Out-of-Stand**

Object Detection Mode

Object Detection Mode uses an LED to detect when an object is in the scanner's field of view. When an object is detected, the laser turns on and the scanner attempts to scan the barcode. *Default = Object Detection Mode On In-Stand, Object Detection Mode Off Out-of-Stand.*

Object Detection Mode Off In-Stand

*** Object Detection Mode On In-Stand**

*** Object Detection Mode Off Out-of-Stand**

Object Detection Mode On Out-of-Stand

End Object Detection After Good Read

After a barcode is successfully detected and read from the scanner, the laser can be programmed either to remain on and scanning, or to turn off. When **End Object Detection After Good Read** is enabled, the laser turns off and stops scanning after a good read. If you scan **Do Not End Object Detection After Good Read**, the laser remains on after a good read. *Default = End Object Detection After Good Read.*

Do Not End Object Detection After Good Read In-Stand

*** End Object Detection After Good Read In-Stand**

Do Not End Object Detection After Good Read Out-of-Stand

*** End Object Detection After Good Read Out-of-Stand**

Object Detection Laser Timeout

You can set a timeout for the length of time the laser remains on and attempting to decode barcodes after an object is detected. Set the length (in milliseconds) for a timeout by scanning the barcode below, then setting the timeout (from 1-65535 milliseconds) by scanning digits from the from the Programming Chart on page 202, then Save. *Default = 5000 ms.*

Object Detection Laser Timeout In-Stand

Object Detection Laser Timeout Out-of-Stand

Object Detection Distance

When the scanner is in the stand and you are using Object Detection Mode, you can set the distance range for detecting objects. Short sets the scanner to detect objects approximately 5 inches (12.7cm) away from the nose. Long sets it to detect objects approximately 10 inches (25.4cm) away. *Default = Short In-Stand, Long Out-of-Stand.*

*** Short In-Stand**

Long In-Stand

Short Out-of-Stand

*** Long Out-of-Stand**

Character Activation Mode

You may use a character sent from the host to trigger the scanner to begin scanning. When the activation character is received, the scanner continues scanning until either the Character Activation Laser Timeout (page 3-53) is reached, the deactivation character is received (see Deactivation Character on page 54), or a barcode is transmitted. Scan the **On** barcode below to use character activation, then use Activation Character (following) to select the character you will send from the host to start scanning. *Default = Off.*

*** Off**

On

Activation Character

This sets the character used to trigger scanning when using Character Activation Mode. On the ASCII Conversion Chart (Code Page 1252) on page 192, find the hex value that represents the character you want to use to trigger scanning. Scan the barcode below, then use the Programming Chart on page 202 to read the alphanumeric combination that represents that ASCII character. Scan Save to finish.

Activation Character

End Character Activation After Good Read

After a barcode is successfully detected and read from the scanner, the laser can be programmed either to remain on and scanning, or to turn off. When **End Character Activation After Good Read** is enabled, the laser turns off and stops scanning after a good read. If you scan **Do Not End Character Activation After Good Read**, the laser remains on after a good read. *Default = End Character Activation After Good Read.*

Do Not End Character Activation After Good Read

*** End Character Activation After Good Read**

Character Activation Laser Timeout

You can set a timeout for the length of time the laser remains on and attempting to decode barcodes when using Character Activation Mode. Set the length (in milliseconds) for a timeout by scanning the barcode below, then setting the timeout (from 1-65535 milliseconds) by scanning digits from the Programming Chart on page 202, then Save. *Default = 5000 ms.*

Character Activation Laser Timeout

Character Deactivation Mode

If you have sent a character from the host to trigger the scanner to begin scanning, you can also send a deactivation character to stop scanning. Scan the **On** barcode below to use character deactivation, then use **Deactivation Character** (following) to select the character you will send from the host to terminate scanning. *Default = Off.*


HSTDEN0.
*** Off**


HSTDEN1.
On

Deactivation Character

This sets the character used to terminate scanning when using Character Deactivation Mode. On the ASCII Conversion Chart (Code Page 1252) on page 192, find the hex value that represents the character you want to use to terminate scanning. Scan the barcode below, then use the Programming Chart on page 202 to read the alphanumeric combination that represents that ASCII character. Scan Save to finish.


HSTDCH.
Deactivation Character

Reread Delay

This sets the time period before the scanner can read the *same* barcode a second time. Setting a reread delay protects against accidental rereads of the same barcode. Longer delays are effective in minimizing accidental rereads. Use shorter delays in applications where repetitive barcode scanning is required. *Default = Medium.*


DLYRRD500.
Short (500 ms)


DLYRRD750.
*** Medium (750 ms)**

Long (1000 ms)

Extra Long (2000 ms)

User-Specified Reread Delay

If you want to set your own length for the reread delay, scan the barcode below, then set the delay (from 0-30,000 milliseconds) by scanning digits from the Programming Chart on page 202, then Save.

User-Specified Reread Delay

Output Sequence Overview

Output Sequence Editor

This programming selection allows you to program the scanner to output data (when scanning more than one symbol) in whatever order your application requires, regardless of the order in which the barcodes are scanned. Reading the **Default Sequence** symbol programs the scanner to the Universal values, shown below. These are the defaults. Be certain you want to delete or clear all formats before you read the **Default Sequence** symbol.

Note: *To make Output Sequence Editor selections, you'll need to know the code I.D., code length, and character match(es) your application requires. Use the Alphanumeric symbols from the Programming Chart, beginning on page 202. You must hold the trigger while reading each barcode in the sequence.*

To Add an Output Sequence

1. Scan the *Enter Sequence* symbol (see Require Output Sequence, page 59).
2. **Code I.D.**
   On the Symbology Charts on page 189, find the symbology to which you want to apply the output sequence format. Locate the Hex value for that symbology and scan the 2 digit hex value from the Programming Chart on page 202.
3. **Length**
   Specify what length (up to 9999 characters) of data output will be acceptable

for this symbology. Scan the 4 digit data length from the Programming Chart on page 202. (Note: 50 characters is entered as 0050. 9999 is a universal number, indicating all lengths.) When calculating the length, you must count any programmed prefixes, suffixes, or formatted characters as part of the length (unless using 9999).

4. **Character Match Sequences**
   On the ASCII Conversion Chart (Code Page 1252) on page 192, find the Hex value that represents the character(s) you want to match. Use the Programming Chart on page 202 to read the alphanumeric combination that represents the ASCII characters. (99 is the Universal number, indicating all characters.)
5. **End Output Sequence Editor**
   Scan **FF** to enter an Output Sequence for an additional symbology, or Save to save your entries.

Other Programming Selections

Discard exits without saving any Output Sequence changes.

Output Sequence Example

In this example, you are scanning Code 93, Code 128, and Code 39 barcodes, but you want the scanner to output Code 39 1st, Code 128 2nd, and Code 93 3rd, as shown below.

Note: *Code 93 must be enabled to use this example.*


A - Code 39


B - Code 128


C - Code 93

You would set up the sequence editor with the following command line:

SEQBLK62999941FF6A999942FF69999943FF

The breakdown of the command line is shown below:

SEQBLK sequence editor start command

62 code identifier for **Code 39**

9999code length that must match for Code 39, 9999 = all lengths

41start character match for Code 39, 41h = “A”

FFtermination string for first code

6Acode identifier for **Code 128**

9999code length that must match for Code 128, 9999 = all lengths

42start character match for Code 128, 42h = “B”

FFtermination string for second code

69code identifier for **Code 93**

9999code length that must match for Code 93, 9999 = all lengths

43start character match for Code 93, 43h = “C”

FFtermination string for third code

To program the previous example using specific lengths, you would have to count any programmed prefixes, suffixes, or formatted characters as part of the length. If you use the example on page 56, but assume a <CR> suffix and specific code lengths, you would use the following command line:

SEQBLK62001241FF6A001342FF69001243FF

The breakdown of the command line is shown below:

SEQBLKsequence editor start command

62code identifier for **Code 39**

0012A - Code 39 sample length (11) plus CR suffix (1) = 12

41start character match for Code 39, 41h = “A”

FFtermination string for first code

6Acode identifier for **Code 128**

0013B - Code 128 sample length (12) plus CR suffix (1) = 13

42start character match for Code 128, 42h = “B”

FFtermination string for second code

69code identifier for **Code 93**

0012C - Code 93 sample length (11) plus CR suffix (1) = 12

43start character match for Code 93, 43h = “C”

FFtermination string for third code

Output Sequence Editor

Enter Sequence

Default Sequence

Sequence Timeout

You may wish to set the maximum time between barcode scans in an output sequence. If that maximum time is not met, the output sequence operation is terminated. Set the length (in milliseconds) for a timeout by scanning the barcode below, then setting the timeout (from 1-65535 milliseconds) by scanning digits from the Programming Chart on page 202, then Save. *Default = 5000 msec.*

Sequence Timeout

Sequence Match Beeper

By default, the scanner beeps when a sequence match is found. If you want the scanner to remain silent, scan the **Sequence Match Beeper Off** barcode below. *Default = Sequence Match Beeper On.*

Sequence Match Beeper Off

*** Sequence Match Beeper On**

Partial Sequence

If an output sequence operation is terminated before all your output sequence criteria are met, the barcode data acquired to that point is a “partial sequence.”

Scan **Discard Partial Sequence** to discard partial sequences when the output sequence operation is terminated before completion.

Scan **Transmit Partial Sequence** to transmit partial sequences. (Any fields in the sequence where no data match occurred will be skipped in the output.) If you have programmed a Sequence Timeout (page 58) and the timeout is reached, the partial sequence is transmitted. *Default = Discard Partial Sequence.*

SEQTTS1.
Transmit Partial Sequence

SEQTTS0.
*** Discard Partial Sequence**

Require Output Sequence

When an output sequence is **Required**, all output data must conform to an edited sequence or the scanner will not transmit the output data to the host device. When it's **On/Not Required**, the scanner will attempt to get the output data to conform to an edited sequence but, if it cannot, the scanner transmits all output data to the host device as is.

When the output sequence is **Off**, the barcode data is output to the host as the scanner decodes it. *Default = Off.*

SEQ_EN2.
Required

SEQ_EN1.
On/Not Required

SEQ_EN0.
***Off**

No Read

With No Read turned **On**, the scanner notifies you if a code cannot be read. If using an EZConfig-Scanning Tool Scan Data Window (see page 148), an "NR" appears when a code cannot be read. If No Read is turned **Off**, the "NR" will not appear. *Default = Off.*

SHWNRD1.
On

*** Off**

If you want a different notation than “NR,” for example, “Error,” or “Bad Code,” you can edit the output message (see Data Format beginning on page 5-69). The hex code for the No Read symbol is **9C**.

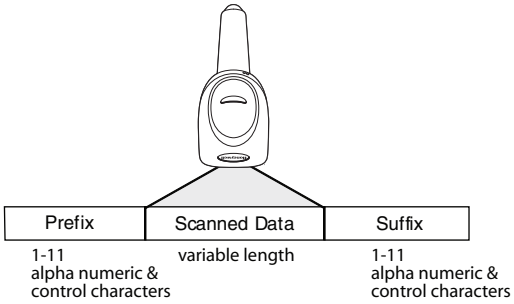
CHAPTER

4 DATA EDIT

Prefix/Suffix Overview

When a barcode is scanned, additional information is sent to the host computer along with the barcode data. This group of barcode data and additional, user-defined data is called a “message string.” The selections in this section are used to build the user-defined data into the message string.

Prefix and Suffix characters are 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. The following illustration shows the breakdown of a message string:



Points to Keep In Mind

- It is not necessary to build a message string. The selections in this chapter are only used if you wish to alter the default settings. *Default prefix = None. Default suffix is dependent on interface*.
- A prefix or suffix may be added or cleared from one symbology or all symbologies.
- You can add any prefix or suffix from the ASCII Conversion Chart (Code Page 1252), beginning on page 192, plus Code I.D. and AIM I.D.
- You can string together several entries for several symbologies at one time.
- Enter prefixes and suffixes in the order in which you want them to appear on the output.

- When setting up for specific symbologies (as opposed to all symbologies), the specific symbology ID value counts as an added prefix or suffix character.
- The maximum size of a prefix or suffix configuration is 32 characters, which includes header information.

Add a Prefix or Suffix:

Step 1. Scan the **Add Prefix** or **Add Suffix** symbol (page 63).

Step 2. Determine the 2 digit hex value from the Symbology Charts (beginning on page A-189) for the symbology to which you want to apply the prefix or suffix. For example, for Code 128, Code ID is “j” and Hex ID is “6A”.

Step 3. Scan the 2 hex digits from the Programming Chart, beginning on page 202, or scan **9, 9** for all symbologies.

To add the Code I.D., scan **5, C, 8, 0**.
To add the AIM I.D., scan **5, C, 8, 1**.
To add the serial number, scan **5, C, 8, 8**.
To add a backslash (\), scan **5, C, 5, C**.

Note: *When adding a backslash (\), you must scan 5C twice – once to create the leading backslash and then to create the backslash itself.*

Step 4. Repeat Steps 2 and 3 for every prefix or suffix character.

Step 5. Scan **Save** to exit and save, or scan **Discard** to exit without saving.

Repeat the steps above to add a prefix or suffix for another symbology.

Example: Add a Tab Suffix to All Symbologies

Step 1. Scan **Add Suffix**.

Step 2. Scan **9, 9** from the Programming Chart, beginning on page 202 to apply this suffix to all symbologies.

Step 3. Scan **0, 9** from the Programming Chart, beginning on page 202. This corresponds with the hex value for a horizontal tab, shown in the ASCII Conversion Chart (Code Page 1252), beginning on page 192.

Step 4. Scan **Save**, or scan **Discard** to exit without saving.

Clear One or All Prefixes or Suffixes

You can clear a single prefix or suffix, or clear all prefixes/suffixes for a symbology. If you have been entering prefixes and suffixes for single symbologies, you can use **Clear One Prefix** (**Suffix**) to delete a specific character from a symbology. When you **Clear All Prefixes** (**Suffixes**), all the prefixes or suffixes for a symbology are deleted.

Step 1. Scan the **Clear One Prefix** or **Clear One Suffix** symbol.

Step 2. Determine the 2 digit Hex value from the Symbology Chart (included in the Symbology Charts, beginning on page 189) for the symbology from which you want to clear the prefix or suffix.

Step 3. Scan the 2 digit hex value from the Programming Chart, beginning on page 202 or scan **9, 9** for all symbologies.

Your change is automatically saved.

Add a Carriage Return Suffix to All Symbologies

Scan the following barcode if you wish to add a carriage return suffix to all symbologies at once. This action first clears all current suffixes, then programs a carriage return suffix for all symbologies.

Add CR Suffix
All Symbologies

Prefix Selections

Add Prefix

Clear One Prefix

Clear All Prefixes

Suffix Selections

Add Suffix

Clear One Suffix

SUFCA2.
Clear All Suffixes

Transmit Alternate Extended ASCII Characters

You may need to emulate special keyboard functions, such as up or down arrows, Alt/Make or Alt/Break commands, that are not supported in the Extended ASCII Character table. Refer to Alternate Extended ASCII Characters (page 64) for a range of keyboard function keys and corresponding decimal and hex characters. If you scan the **Transmit Alternate Extended ASCII** code, any hex entries in a prefix or suffix will result in the corresponding Keyboard Function output.

Example: **Transmit Alternate Extended ASCII** is enabled, and you scan **Add Suffix**, then scan **9 9 8 9**. All symbologies (99) would have a suffix of a Page Down (hex 89) added to them.

When **Transmit Normal Extended ASCII** is selected, the normal extended ASCII character is transmitted ASCII Conversion Chart (Code Page 1252) on page 192.

Example: **Transmit Normal Extended ASCII** is enabled, and you scan **Add Suffix**, then scan **9 9 8 9**. All symbologies (99) would have a suffix of a ‰ character added to them.

Default = Transmit Alternate Extended ASCII.

KBDEXT0.
*** Transmit Alternate Extended ASCII**

KBDEXT1.
Transmit Normal Extended ASCII

Alternate Extended ASCII Characters					
DEC	**HEX**	**Keyboard Function**	**DEC**	**HEX**	**Keyboard Function**
128	80	up arrow ↑	152	98	F9
129	81	down arrow ↓	153	99	F10
130	82	right arrow →	154	9A	F11
131	83	left arrow ←	155	9B	F12
132	84	Insert	156	9C	Numeric Keypad +
133	85	Delete	157	9D	Numeric Keypad -
134	86	Home	158	9E	Numeric Keypad *

Alternate Extended ASCII Characters (Continued)					
DEC	**HEX**	**Keyboard Function**	**DEC**	**HEX**	**Keyboard Function**
135	87	End	159	9F	Caps Lock
136	88	Page Up	160	A0	Num Lock
137	89	Page Down	161	A1	Left Alt
138	8A	Right ALT	162	A2	Left Ctrl
139	8B	Right CTRL	163	A3	Left Shift
140	8C	Reserved	164	A4	Right Shift
141	8D	Reserved	165	A5	Print Screen
142	8E	Numeric Keypad Enter	166	A6	Tab
143	8F	Numeric Keypad /	167	A7	Shift Tab
144	90	F1	168	A8	Enter
145	91	F2	169	A9	Esc
146	92	F3	170	AA	Alt Make
147	93	F4	171	AB	Alt Break
148	94	F5	172	AC	Control Make
149	95	F6	173	AD	Control Break
150	96	F7	174	AE	Alt Sequence with 1 Character
151	97	F8	175	AF	Ctrl Sequence with 1 Character

Function Code Transmit

By default, all ASCII control characters are transmitted with barcode data. These non-printable characters are translated into predefined key strokes, or CTRL+X functions (see ASCII Conversion Chart (Code Page 1252) on page 192). If these key strokes interfere with your host's software application, scan **Disable** to keep these ASCII control characters from being transmitted. *Default = Enable.*

*** Enable**

Disable

Note: *You can also use a custom data format (see Data Format on page 69) to translate these characters into a more meaningful output.*

Communication Check Character

To enhance security, you can specify the transmission type of a check character; either LRC where the calculation starts on the first transmitted character, LRC where the calculation starts on the second transmitted character, or CRC.

Note: *This option adds a check character to the barcode data for all symbologies. If you need to enable or disable check characters for individual symbologies, see* *Symbologies beginning on page 89*.

Scan the barcode below to set the communication check character type. *Default = None.*

*** None**

LRC Starts on 1st Character

LRC Starts on 2nd Character

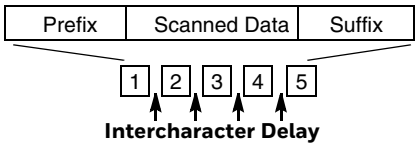
CRC

Intercharacter, Interfunction, and Intermessage Delays

Some terminals drop information (characters) if data comes through too quickly. Intercharacter, interfunction, and intermessage delays slow the transmission of data, increasing data integrity.

Intercharacter Delay

An intercharacter delay of up to 5000 milliseconds (in 5ms increments) may be placed between the transmission of each character of scanned data. Scan the **Intercharacter Delay** barcode below, then scan the number of 5ms delays, and the Save barcode using the Programming Chart on page 202.



Intercharacter Delay

To remove this delay, scan the **Intercharacter Delay** barcode, then set the number of delays to **0**. Scan the Save barcode using the Programming Chart on page 202.

Note: *Intercharacter delays are not supported in USB serial emulation.*

User Specified Intercharacter Delay

An intercharacter delay of up to 5000 milliseconds (in 5ms increments) may be placed after the transmission of a particular character of scanned data. Scan the **Delay Length** barcode below, then scan the number of 5ms delays, and the Save barcode using the Programming Chart on page 202.

Next, scan the **Character to Trigger Delay** barcode, then the 2-digit hex value for a printable character to trigger the delay (see Lower ASCII Reference Table on page 193).

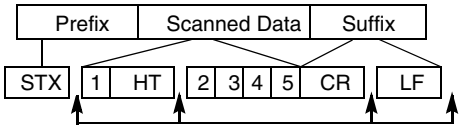
Delay Length

Character to Trigger Delay

To remove this delay, scan the **Delay Length** barcode, and set the number of delays to **0**. Scan the Save barcode using the Programming Chart on page 202.

Interfunction Delay

An interfunction delay of up to 5000 milliseconds (in 5ms increments) may be placed between the transmission of each segment of the message string. Scan the **Interfunction Delay** barcode below, then scan the number of 5ms delays, and the Save barcode using the Programming Chart on page 202.

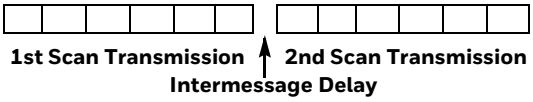


Interfunction Delay

To remove this delay, scan the **Interfunction Delay** barcode, then set the number of delays to **0**. Scan the Save barcode using the Programming Chart on page 202.

Intermessage Delay

An intermessage delay of up to 5000 milliseconds (in 5ms increments) may be placed between each scan transmission. Scan the **Intermessage Delay** barcode below, then scan the number of 5ms delays, and the Save barcode using the Programming Chart on page 202.



Intermessage Delay

To remove this delay, scan the **Intermessage Delay** barcode, then set the number of delays to **0**. Scan the Save barcode using the Programming Chart on page 202.

CHAPTER

5 DATA FORMAT

Data Format Editor Introduction

You may use the Data Format Editor to change the scanner's output. For example, you can use the Data Format Editor to insert characters at certain points in barcode data as it is scanned. The selections in the following pages are used only if you wish to alter the output. *Default Data Format setting = None.*

Normally, when you scan a barcode, it is output automatically. However, when you create a format, you must use a "send" command (see Send Commands on page 72) within the format program to output data.

Multiple formats may be programmed into the scanner. They are stacked in the order in which they are entered. However, the following list presents the order in which formats are applied:

1. Specific Terminal ID, Actual Code ID, Actual Length
2. Specific Terminal ID, Actual Code ID, Universal Length
3. Specific Terminal ID, Universal Code ID, Actual Length
4. Specific Terminal ID, Universal Code ID, Universal Length
5. Universal Terminal ID, Actual Code ID, Actual Length
6. Universal Terminal ID, Actual Code ID, Universal Length
7. Universal Terminal ID, Universal Code ID, Actual Length
8. Universal Terminal ID, Universal Code ID, Universal Length

The maximum size of a data format configuration is 2000 bytes, which includes header information.

If a barcode is read that fails the first data format, the next data format, if there is one, will be used on the barcode data. If there is no other data format, the raw data is output.

If you have changed data format settings, and wish to clear all formats and return to the factory defaults, scan the **Default Data Format** code below.

DFMDF3.

*** Default Data Format**

Show Data Format

Scan the barcode below to show current data format settings.

DFMBK3?.

Data Format Settings

Add a Data Format

Step 1. Scan the **Enter Data Format** symbol (page 71).

Step 2. Select **Primary/Alternate Format**
Determine if this will be your primary data format, or one of 3 alternate formats. This allows you to save a total of 4 different data formats. To program your primary format, scan **0** from the Programming Chart, beginning on page 202. If you are programming an alternate format, scan **1, 2**, or **3**, depending on which alternate format you are programming. (See Primary/Alternate Data Formats on page 87 for further information.)

Step 3. **Terminal Type**
Refer to Terminal ID Table (page 72) and locate the Terminal ID number for your PC. Scan three numeric barcodes from the Programming Chart, beginning on page 202, to program the scanner for your terminal ID (you must enter 3 digits). For example, scan **0 0 3** for an AT wedge.

Note: ***099*** *indicates all terminal types.*

Step 4. **Code I.D.**
In the Symbology Charts, beginning on page 189, find the symbology to which you want to apply the data format. Locate the Hex value for that symbology and scan the 2 digit hex value from the Programming Chart, beginning on page 202.

If you wish to create a data format for all symbologies, with the exception of some specific symbologies, refer to B8 (page 85).

If you are creating a data format for Batch Mode Quantity, use **35** for the Code I.D.

Note: ***99*** *indicates all symbologies.*

Step 5. **Length**
Specify what length (up to 9999 characters) of data will be acceptable for this symbology. Scan the four digit data length from the Programming

Chart, beginning on page 202. For example, 50 characters is entered as **0050**.

Note: ***9999*** *indicates all lengths.*

Step 6. **Editor Commands**
Refer to Data Format Editor Commands (page 72). Scan the symbols that represent the command you want to enter.

Step 7. Scan **Save** to save your data format, or **Discard** to exit without saving your changes.

Enter Data Format

Save

Discard

Other Programming Selections

- **Clear One Data Format**
  This deletes one data format for one symbology. If you are clearing the primary format, scan **0** from the Programming Chart, beginning on page 202. If you are clearing an alternate format, scan **1, 2**, or **3**, depending on the format you are clearing. Scan the Terminal Type and Code I.D. (see Symbology Charts on page 189), and the barcode data length for the specific data format that you want to delete. All other formats remain unaffected.
- **Clear all Data Formats**
  This clears all data formats.
- **Save**
  Exit and save your data format changes.
- **Discard**
  Exit without saving any data format changes.

Clear One Data Format

Clear All Data Formats

Save

Discard

Terminal ID Table

Terminal	Model(s)	Terminal ID
USB	PC keyboard (HID)	124
	Mac Keyboard	125
	PC Keyboard (Japanese)	134
	Serial (COM driver required)	130
	HID POS	131
	USB SurePOS Handheld	128
	USB SurePOS Tabletop	129
Serial	RS232 TTL	000
	RS232 True	000
	RS485 (IBM-HHBCR 1+2, 46xx)	051
Keyboard	PS2 compatibles	003
	AT compatibles	002

Data Format Editor Commands

When working with the Data Format Editor, a virtual cursor is moved along your input data string. The following commands are used to both move this cursor to different positions, and to select, replace, and insert data into the final output.

Send Commands

Send all characters

F1 Include in the output message all of the characters from the input message, starting from current cursor position, followed by an insert character. *Syntax = F1xx* where xx stands for the insert character's hex value for its ASCII code. Refer to the ASCII Conversion Chart (Code Page 1252), beginning on page 192 for decimal, hex and character codes.

Send a number of characters

F2 Include in the output message a number of characters followed by an insert character. Start from the current cursor position and continue for "nn" characters or through the last character in the input message, followed by character "xx." *Syntax = F2nnxx* where nn stands for the numeric value (00-99) for the number of characters, and xx stands for the insert character's hex value for its ASCII code. Refer to the ASCII Conversion Chart (Code Page 1252), beginning on page 192 for decimal, hex and character codes.

F2 Example: Send a number of characters

Send the first 10 characters from the barcode above, followed by a carriage return. Command string: F2100D

F2 is the "Send a number of characters" command

10 is the number of characters to send

0D is the hex value for a CR

The data is output as: **1234567890**

F2 and F1 Example: Split characters into 2 lines

Send the first 10 characters from the barcode above, followed by a carriage return, followed by the rest of the characters.

Command string: **F2100DF10D**

F2 is the "Send a number of characters" command

10 is the number of characters to send for the first line

0D is the hex value for a CR

F1 is the "Send all characters" command

0D is the hex value for a CR

The data is output as:
1234567890
ABCDEFGHIJ
<CR>

Send all characters up to a particular character

F3 Include in the output message all characters from the input message, starting with the character at the current cursor position and continuing to, but not including, the search character “ss,” followed by an insert character. The cursor is moved forward to the “ss” character. *Syntax = F3ssxx* where ss stands for the search character’s hex value for its ASCII code, and xx stands for the insert character’s hex value for its ASCII code.
Refer to the ASCII Conversion Chart (Code Page 1252), beginning on page 192 for decimal, hex and character codes.

F3 Example: Send all characters up to a particular character

Using the barcode above, send all characters up to but not including “D,” followed by a carriage return.

Command string: **F3440D**

F3 is the “Send all characters up to a particular character” command

44 is the hex value for a 'D”

0D is the hex value for a CR

The data is output as:
1234567890ABC
<CR>

Send all characters up to a string

B9 Include in the output message all characters from the input message, starting with the character at the current cursor position and continuing to, but not including, the search string “s...s.” The cursor is moved forward to the beginning of the “s...s” string. *Syntax = B9nnnns...s* where nnnn stands for the length of the string, and s...s stands for the string to be matched. The string is made up of hex values for the characters in the string. Refer to the ASCII Conversion Chart (Code Page 1252), beginning on page 192 for decimal, hex and character codes.

B9 Example: Send all characters up to a defined string

Using the barcode above, send all characters up to but not including “AB.”

Command string: **B900024142**

B9 is the “Send all characters up to a string” command

0002 is the length of the string (2 characters)

41 is the hex value for A

42 is the hex value for B

The data is output as: **1234567890**

Send all but the last characters

E9 Include in the output message all but the last “nn” characters, starting from the current cursor position. The cursor is moved forward to one position past the last input message character included. *Syntax = E9nn* where nn stands for the numeric value (00-99) for the number of characters that will not be sent at the end of the message.

Insert a character multiple times

F4 Send “xx” character “nn” times in the output message, leaving the cursor in the current position. *Syntax = F4xxnn* where xx stands for the insert character’s hex value for its ASCII code, and nn is the numeric value (00-99) for the number of times it should be sent. Refer to the ASCII Conversion Chart (Code Page 1252), beginning on page 192 for decimal, hex and character codes.

E9 and F4 Example: Send all but the last characters, followed by 2 tabs

Send all characters except for the last 8 from the barcode above, followed by 2 tabs.

Command string: **E908F40902**

E9 is the “Send all but the last characters” command

08 is the number of characters at the end to ignore

F4 is the “Insert a character multiple times” command

09 is the hex value for a horizontal tab

02 is the number of times the tab character is sent

The data is output as: **1234567890AB <tab><tab>**

Insert a string

BA Send “ss” string of “nn” length in the output message, leaving the cursor in the current position. *Syntax = BAnnnns...s* where nnnn stands for the length of the string, and s...s stands for the string. The string is made up of hex values for the characters in the string. Refer to the ASCII Conversion Chart (Code Page 1252), beginning on page 192 for decimal, hex and character codes.

B9 and BA Example: Look for the string “AB” and insert 2 asterisks (**)

Using the barcode above, send all characters up to but not including “AB.” Insert 2 asterisks at that point, and send the rest of the data with a carriage return after.

Command string: **B900024142BA00022A2AF10D**

B9 is the “Send all characters up to a string” command

0002 is the length of the string (2 characters)

41 is the hex value for A

42 is the hex value for B

BA is the “Insert a string” command

0002 is the length of the string to be added (2 characters)

2A is the hex value for an asterisk (*)

2A is the hex value for an asterisk (*)

F1 is the “Send all characters” command

0D is the hex value for a CR

The data is output as:
1234567890ABCDEFGHIJ**
<CR>

Insert symbology name

B3 Insert the name of the barcode’s symbology in the output message, without moving the cursor. Only symbologies with a Honeywell ID are included (see Symbology Charts on page 189). Refer to the ASCII Conversion Chart (Code Page 1252), beginning on page 192 for decimal, hex and character codes.

Insert barcode length

B4 Insert the barcode’s length in the output message, without moving the cursor. The length is expressed as a numeric string and does not include leading zeros.

B3 and B4 Example: Insert the symbology name and length

Send the symbology name and length before the barcode data from the barcode above. Break up these insertions with spaces. End with a carriage return.

Command string: **B3F42001B4F42001F10D**

B3 is the “Insert symbology name” command

F4 is the “Insert a character multiple times” command

20 is the hex value for a space

01 is the number of times the space character is sent

B4 is the “Insert barcode length” command

F4 is the “Insert a character multiple times” command

20 is the hex value for a space

01 is the number of times the space character is sent

F1 is the “Send all characters” command

0D is the hex value for a CR

The data is output as:
Code128 20 1234567890ABCDEFGHIJ
<CR>

Insert key strokes

B5 Insert a key stroke or combination of key strokes. Key strokes are dependent on your keyboard (see Keyboard Key References on page 199). Any key can be inserted, including arrows and functions. *Syntax = 5CB5xxssnn* where xx is the number of keys pressed (without key modifiers), ss is the key modifier from the table below, and nn is the key number from the Keyboard Key References, page 199.

Key Modifiers	Hex
No Key Modifier	00
Shift Left	01
Shift Right	02
Alt Left	04
Alt Right	08
Control Left	10
Control Right	20

For example, B501021F inserts an “A” on a 104 key, U.S. style keyboard. B5 = the command, 01 = number of key press events (without the key modifier), 02 is the key modifier for Shift Right, and 1F is the “a” key. If a lower case “a” were to be inserted, B501001F would be entered.

If there are three keystrokes, the syntax would change from B5xxssnn for one keystroke to B5xxssnnssnnssnn. An example that would insert "abc" is as follows: B503001F00320030F833.

Note: *Key modifiers can be added together when needed. The sum is converted to hexadecimals.*

Example: Control Left+Shift Left = 17, converted to hexadecimal = 11.

Move Commands

Move the cursor forward a number of characters

F5 Move the cursor ahead “nn” characters from current cursor position. *Syntax = F5nn* where nn is the numeric value (00-99) for the number of characters the cursor should be moved ahead.

F5 Example: Move the cursor forward and send the data

Move the cursor forward 3 characters, then send the rest of the barcode data from the barcode above. End with a carriage return.

Command string: **F503F10D**

F5 is the “Move the cursor forward a number of characters” command

03 is the number of characters to move the cursor

F1 is the “Send all characters” command

0D is the hex value for a CR

The data is output as:
4567890ABCDEFGHIJ
<CR>

Move the cursor backward a number of characters

F6 Move the cursor back “nn” characters from current cursor position. *Syntax = F6nn* where nn is the numeric value (00-99) for the number of characters the cursor should be moved back.

Move the cursor to the beginning

F7 Move the cursor to the first character in the input message. *Syntax = F7.*

FE and F7 Example: Manipulate barcodes that begin with a 1

Search for barcodes that begin with a 1. If a barcode matches, move the cursor back to the beginning of the data and send 6 characters followed by a carriage return. Using the barcode above:

Command string: **FE31F7F2060D**

FE is the “Compare characters” command

31 is the hex value for 1

F7 is the “Move the cursor to the beginning” command

F2 is the “Send a number of characters” command

06 is the number of characters to send

0D is the hex value for a CR

The data is output as:
123456
<CR>

Move the cursor to the end

EA Move the cursor to the last character in the input message. *Syntax = EA.*

Search Commands

Search forward for a character

F8 Search the input message forward for “xx” character from the current cursor position, leaving the cursor pointing to the “xx” character. *Syntax = F8xx* where xx stands for the search character’s hex value for its ASCII code.
Refer to the ASCII Conversion Chart (Code Page 1252), beginning on page 192 for decimal, hex and character codes.

F8 Example: Send barcode data that starts after a particular character

Search for the letter “D” in barcodes and send all the data that follows, including the “D.” Using the barcode above:

Command string: **F844F10D**

F8 is the “Search forward for a character” command

44 is the hex value for “D”

F1 is the “Send all characters” command

0D is the hex value for a CR

The data is output as:
DEFGHIJ
<CR>

Search backward for a character

F9 Search the input message backward for “xx” character from the current cursor position, leaving the cursor pointing to the “xx” character. *Syntax = F9xx* where xx stands for the search character’s hex value for its ASCII code.
Refer to the ASCII Conversion Chart (Code Page 1252), beginning on page 192 for decimal, hex and character codes.

Search forward for a string

B0 Search forward for “s” string from the current cursor position, leaving cursor pointing to “s” string. Syntax = B0nnnnS where nnnn is the string length (up to 9999), and S consists of the ASCII hex value of each character in the match string. For example, B0000454657374 will search forward for the first occurrence of the 4 character string “Test.”
Refer to the ASCII Conversion Chart (Code Page 1252), beginning on page 192 for decimal, hex and character codes.

B0 Example: Send barcode data that starts after a string of characters

Search for the letters “FGH” in barcodes and send all the data that follows, including “FGH.” Using the barcode above:

Command string: **B00003464748F10D**

B0 is the “Search forward for a string” command

0003 is the string length (3 characters)

46 is the hex value for “F”

47 is the hex value for “G”

48 is the hex value for “H”

F1 is the “Send all characters” command

0D is the hex value for a CR

The data is output as:
FGHIJ
<CR>

Search backward for a string

B1 Search backward for “s” string from the current cursor position, leaving cursor pointing to “s” string. Syntax = B1nnnnS where nnnn is the string length (up to 9999), and S consists of the ASCII hex value of each character in the match string. For example, B1000454657374 will search backward for the first occurrence of the 4 character string “Test.”
Refer to the ASCII Conversion Chart (Code Page 1252), beginning on page 192 for decimal, hex and character codes.

Search forward for a non-matching character

E6 Search the input message forward for the first non-“xx” character from the current cursor position, leaving the cursor pointing to the non-“xx” character. *Syntax = E6xx* where xx stands for the search character’s hex value for its ASCII code. Refer to the ASCII Conversion Chart (Code Page 1252), beginning on page 192 for decimal, hex and character codes.

E6 Example: Remove zeros at the beginning of barcode data

This example shows a barcode that has been zero filled. You may want to ignore the zeros and send all the data that follows. E6 searches forward for the first character that is not zero, then sends all the data after, followed by a carriage return. Using the barcode above:

Command string: **E630F10D**

E6 is the “Search forward for a non-matching character” command

30 is the hex value for 0

F1 is the “Send all characters” command

0D is the hex value for a CR

The data is output as:
37692
<CR>

Search backward for a non-matching character

E7 Search the input message backward for the first non-“xx” character from the current cursor position, leaving the cursor pointing to the non-“xx” character. *Syntax = E7xx* where xx stands for the search character’s hex value for its ASCII code. Refer to the ASCII Conversion Chart (Code Page 1252), beginning on page 192 for decimal, hex and character codes.

Miscellaneous Commands

Suppress characters

FB Suppress all occurrences of up to 15 different characters, starting at the current cursor position, as the cursor is advanced by other commands. When the FC command is encountered, the suppress function is terminated. The cursor is not moved by the FB command.
Syntax = FBnnxxyy . .zz where nn is a count of the number of suppressed characters in the list, and xxyy .. zz is the list of characters to be suppressed.

FB Example: Remove spaces in barcode data

This example shows a barcode that has spaces in the data. You may want to remove the spaces before sending the data. Using the barcode above:

Command string: **FB0120F10D**

FB is the “Suppress characters” command

01 is the number of character types to be suppressed

20 is the hex value for a space

F1 is the “Send all characters” command

0D is the hex value for a CR

The data is output as:
34567890
<CR>

Stop suppressing characters

FC Disables suppress filter and clear all suppressed characters. *Syntax = FC.*

Replace characters

E4 Replaces up to 15 characters in the output message, without moving the cursor. Replacement continues until the E5 command is encountered. *Syntax = E4nnxx$_1$xx$_2$yy$_1$yy$_2$...zz$_1$zz$_2$* where nn is the total count of the number of characters in the list (characters to be replaced plus replacement characters); xx$_1$ defines characters to be replaced and xx$_2$ defines replacement characters, continuing through zz$_1$ and zz$_2$.

E4 Example: Replace zeros with CRs in barcode data

If the barcode has characters that the host application does not want included, you can use the E4 command to replace those characters with something else. In this example, you will replace the zeros in the barcode above with carriage returns.

Command string: **E402300DF10D**

E4 is the “Replace characters” command

02 is the total count of characters to be replaced, plus the replacement characters (0 is replaced by CR, so total characters = 2)

30 is the hex value for 0

0D is the hex value for a CR (the character that will replace the 0)

F1 is the “Send all characters” command

0D is the hex value for a CR

The data is output as:
1234
5678
ABC
<CR>

Stop replacing characters

E5 Terminates character replacement. *Syntax = E5.*

Compare characters

FE Compare the character in the current cursor position to the character “xx.” If characters are equal, move the cursor forward one position. *Syntax = FExx* where xx stands for the comparison character’s hex value for its ASCII code.
Refer to the ASCII Conversion Chart (Code Page 1252), beginning on page 192 for decimal, hex and character codes.

Compare string

B2 Compare the string in the input message to the string “s.” If the strings are equal, move the cursor forward past the end of the string. Syntax = B2nnnnS where nnnn is the string length (up to 9999), and S consists of the ASCII hex value of each character in the match string. For example, B2000454657374 will compare the string at the current cursor position with the 4 character string “Test.”
Refer to the ASCII Conversion Chart (Code Page 1252), beginning on page 192 for decimal, hex and character codes.

Check for a number

EC Check to make sure there is an ASCII number at the current cursor position. The format is aborted if the character is not numeric.

EC Example: Only output the data if the barcode begins with a number

If you want only data from barcodes that begin with a number, you can use EC to check for the number.

Command string: **ECF10D**

EC is the “Check for a number” command

F1 is the “Send all characters” command

0D is the hex value for a CR

If this barcode is read, 

the next data format, if there is one, will be used on the data. If there is no other format, the format fails and the raw data is output as **AB1234**.

If this barcode is read: 

the data is output as:

1234AB
<CR>

Check for non-numeric character

ED Check to make sure there is a non-numeric ASCII character at the current cursor position. The format is aborted if the character is numeric.

ED Example: Only output the data if the barcode begins with a letter

If you want only data from barcodes that begin with a letter, you can use ED to check for the letter.

Command string: **EDF10D**

ED is the “Check for a non-numeric character” command

F1 is the “Send all characters” command

0D is the hex value for a CR

If this barcode is read, 

the next data format, if there is one, will be used on this data. If there is no other format, the format fails and the raw data is output as **1234AB**.

If this barcode is read: 

the data is output as:

AB1234
<CR>

Insert a delay

EF Inserts a delay of up to 49,995 milliseconds (in multiples of 5), starting from the current cursor position. Syntax = EFnnnn where nnnn stands for the delay in 5ms increments, up to 9999. This command can only be used with keyboard emulation.

Discard Data

B8 Discards types of data. For example, you may want to discard Code 128 barcodes that begin with the letter A. In step 4 (page 70), select 6A (for Code 128), and in step 5, select 9999 (for all lengths). Enter FE41B8 to compare and discard Code 128 barcodes that begin with the letter A. *Syntax = B8.*

Note: *The B8 command must be entered after all other commands.*
*The Data Format must be **Required** (see page 85) in order for the B8 command to work.*
If Data Format is On, but Not Required (page 86), barcode data that meets the B8 format is scanned and output as usual.
*Because the data format needs to be **On** and **Required** (page 86) for the B8 command, you must input data formats for all barcodes you wish to discard as well as all barcodes you wish to output.*
Other data format settings impact the B8 command. If Data Format Non-Match Error Tone is On (page 86), the scanner emits an error tone. If Data format Non-Match Error Tone is Off, the code is disabled for reading and no tone is sounded.

Data Formatter

When Data Formatter is turned Off, the barcode data is output to the host as read, including prefixes and suffixes.

Data Formatter Off

You may wish to require the data to conform to a data format you have created and saved. The following settings can be applied to your data format:

- **Data Formatter On, Not Required, Keep Prefix/Suffix**
  Scanned data is modified according to your data format, and prefixes and suffixes are transmitted.
- **Data Formatter On, Not Required, Drop Prefix/Suffix**
  Scanned data is modified according to your data format. If a data format is found for a particular symbol, those prefixes and suffixes are not transmitted. If a data format is *not* found for that symbol, the prefixes and suffixes *are* transmitted.
- **Data Format Required, Keep Prefix/Suffix**
  Scanned data is modified according to your data format, and prefixes and suffixes are transmitted. Any data that does not match your data format

requirements generates an error tone and the data in that barcode is not transmitted. If you wish to process this type of barcode without generating an error tone, see Data Format Non-Match Error Tone.

- **Data Format Required, Drop Prefix/Suffix**
  Scanned data is modified according to your data format. If a data format is found for a particular symbol, those prefixes and suffixes are not transmitted. Any data that does not match your data format requirements generates an error tone. If you wish to process this type of barcode without generating an error tone, see Data Format Non-Match Error Tone.

Choose one of the following options. *Default = Data Formatter On, Not Required, Keep Prefix/Suffix.*


DFM_EN1.
*** Data Formatter On, Not Required, Keep Prefix/Suffix**


DFM_EN3.
Data Formatter On, Not Required, Drop Prefix/Suffix


DFM_EN2.
Data Format Required, Keep Prefix/Suffix


DFM_EN4.
Data Format Required, Drop Prefix/Suffix

Data Format Non-Match Error Tone

When a barcode is encountered that doesn't match your required data format, the scanner normally generates an error tone. However, you may want to continue scanning barcodes without hearing the error tone. If you scan the **Data Format Non-Match Error Tone Off** barcode, data that doesn't conform to your data format is not transmitted, and no error tone will sound. If you wish to hear the error tone when a non-matching barcode is found, scan the **Data Format Non-Match Error Tone On** barcode. *Default = Data Format Non-Match Error Tone On.*


DFMDEC0.
*** Data Format Non-Match Error Tone On**

Data Format Non-Match Error Tone Off

Primary/Alternate Data Formats

You can save up to four data formats, and switch between these formats. Your primary data format is saved under **0**. Your other three formats are saved under **1, 2**, and **3**. To set your device to use one of these formats, scan one of the barcodes below.

Primary Data Format

Data Format 1

Data Format 2

Data Format 3

Single Scan Data Format Change

You can also switch between data formats for a single scan. The next barcode is scanned using an alternate data format, then reverts to the format you have selected above (either Primary, 1, 2, or 3).

For example, you may have set your device to the data format you saved as Data Format 3. You can switch to Data Format 1 for a single trigger pull by scanning the **Single Scan-Data Format 1** barcode below. The next barcode that is scanned uses Data Format 1, then reverts back to Data Format 3.

Single Scan-Primary Data Format

Single Scan-Data Format 1

Single Scan-Data Format 2

Single Scan-Data Format 3

CHAPTER

6 SYMBOLOGIES

This programming section contains the following menu selections. Refer to Chapter 8 for settings and defaults.

- All Symbologies Off
- Straight 2 of 5 IATA (two-bar start/stop)
- China Post (Hong Kong 2 of 5)
- Codabar
- Code 11
- Code 128
- Code 32 Pharmaceutical (PARAF)
- Code 39
- Code 93
- EAN/JAN-13
- EAN/JAN-8
- GS1 DataBar Expanded
- GS1 DataBar Limited
- GS1 DataBar Omnidirectional
- GS1 Emulation
- GS1-128
- Interleaved 2 of 5
- ISBT 128
- Matrix 2 of 5
- MSI
- NEC 2 of 5
- Plessey Code
- Postal Codes
- Straight 2 of 5 IATA (two-bar start/stop)
- Straight 2 of 5 Industrial (three-bar start/stop)
- Telepen
- Trioptic Code
- UPC-A
- UPC-A/EAN-13 with Extended Coupon Code
- UPC-E0

All Symbologies Off

For best scanner performance, we recommend you only enable the symbologies that you need. Scan **All Symbologies Off** to disable all symbologies, then enable the symbologies you need by scanning the **On** barcode for each symbology.

ALLENA0.
All Symbologies Off

Message Length Description

You are able to set the valid reading length of some of the barcode symbologies. You may wish to set the same value for minimum and maximum length to force the scanner to read fixed length barcode data. This helps reduce the chances of a mis-read.

Example: Decode only those barcodes with a count of 9-20 characters.
Min. length = 09
Max. length = 20

Example: Decode only those barcodes with a count of 15 characters.
Min. length = 15
Max. length = 15

For a value other than the minimum and maximum message length defaults, scan the barcodes included in the explanation of the symbology, then scan the digit value of the message length and Save barcodes on the Programming Chart on page 202. The minimum and maximum lengths and the defaults are included with the respective symbologies.

Codabar

<Default All Codabar Settings>

CBRDFT.

Codabar On/Off

CBRENA1.
*** On**

CBRENA0.
Off

Codabar Start / Stop Characters

Start/Stop characters identify the leading and trailing ends of the barcode. You may either transmit, or not transmit Start/Stop characters.
Default = Don't Transmit.

CBRSSX1.
Transmit

CBRSSX0.
*** Don't Transmit**

Codabar Check Character

Codabar check characters are created using different "modulos." You can program the scanner to read only Codabar barcodes with Modulo 16, Modulo 7 CD, or CLSI check characters. *Default = No Check Character.*

No Check Character indicates that the scanner reads and transmits barcode data with or without a check character.

When Check Character is set to **Validate and Transmit**, the scanner will only read Codabar barcodes printed with a check character, and will transmit this character at the end of the scanned data.

When Check Character is set to **Validate, but Don't Transmit**, the unit will only read Codabar barcodes printed *with* a check character, but will not transmit the check character with the scanned data.

CBRCK20.
*** No Check Character**

CBRCK21.
Validate Modulo 16, but Don't Transmit

CBRCK22.
Validate Modulo 16 and Transmit

Validate Modulo 7 CD, but Don't Transmit

Validate Modulo 7 CD and Transmit

Validate CLSI, but Don't Transmit

Validate CLSI and Transmit

Codabar Concatenation

Codabar supports symbol concatenation. When you enable concatenation, the scanner looks for a Codabar symbol having a "D" start character, adjacent to a symbol having a "D" stop character. In this case the two messages are concatenated into one with the "D" characters omitted.

Select **Require** to prevent the scanner from decoding a single "D" Codabar symbol without its companion. This selection has no effect on Codabar symbols without Stop/Start D characters.

On

*** Off**

Require

Concatenation Timeout

When searching for barcodes during concatenation, you may wish to set a delay used to find the next barcode. Set the length (in milliseconds) for this delay by scanning the barcode below, then setting the timeout (from 1-65535 milliseconds) by scanning digits from the Programming Chart, then scanning Save. *Default = 750.*

Concatenation Timeout

Codabar Redundancy

If you are encountering errors when reading Codabar barcodes, you may want to adjust the redundancy count. Redundancy adjusts the number of times a barcode is decoded before transmission, which may reduce the number of errors. Note that the higher the redundancy count, the longer it will take to decode the barcode. To adjust the redundancy, scan the **Codabar Redundancy** barcode below, then scan a redundancy count between 0 and 10 on the Programming Chart on page 202. Then scan the Save barcode. *Default = 0.*

Codabar Redundancy

Codabar Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 90) for additional information. Minimum and Maximum lengths = 1-80. *Minimum Default = 3, Maximum Default = 80.*

Minimum Message Length

Maximum Message Length

Code 39

< Default All Code 39 Settings >


C39DFT.

Code 39 On/Off


C39ENA1.
*** On**


C39ENA0.
Off

Code 39 Start / Stop Characters

Start/Stop characters identify the leading and trailing ends of the barcode. You may either transmit, or not transmit Start/Stop characters. *Default = Don't Transmit.*


C39SSX1.
Transmit


C39SSX0.
*** Don't Transmit**

Code 39 Check Character

No Check Character indicates that the scanner reads and transmits barcode data with or without a check character.

When Check Character is set to **Validate, but Don't Transmit**, the unit only reads Code 39 barcodes printed with a check character, but will not transmit the check character with the scanned data.

When Check Character is set to **Validate and Transmit**, the scanner only reads Code 39 barcodes printed with a check character, and will transmit this character at the end of the scanned data. *Default = No Check Character.*

C39CK20.
*** No Check Character**

C39CK21.
Validate, but Don't Transmit

C39CK22.
Validate and Transmit

Code 39 Redundancy

If you are encountering errors when reading Code 39 barcodes, you may want to adjust the redundancy count. Redundancy adjusts the number of times a barcode is decoded before transmission, which may reduce the number of errors. Note that the higher the redundancy count, the longer it will take to decode the barcode. To adjust the redundancy, scan the **Code 39 Redundancy** barcode below, then scan a redundancy count between 0 and 10 on the Programming Chart on page 202. Then scan the Save barcode. *Default = 0.*

C39VOT.
Code 39 Redundancy

Code 39 Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 90) for additional information. Minimum and Maximum lengths = 1-80. *Minimum Default = 3, Maximum Default = 80.*

C39MIN.
Minimum Message Length

C39MAX.
Maximum Message Length

Code 32 Pharmaceutical (PARAF)

Code 32 Pharmaceutical is a form of the Code 39 symbology used by Italian pharmacies. This symbology is also known as PARAF.

C39B321.
On

C39B320.
*** Off**

Full ASCII

If Full ASCII Code 39 decoding is enabled, certain character pairs within the bar-code symbol will be interpreted as a single character. For example: $V will be decoded as the ASCII character SYN, and /C will be decoded as the ASCII character #. *Default = Off*.

Full ASCII Table

NUL	%U	DLE	$P	SP	SPACE	0	0	@	%V	P	P	‘	%W	p	+P
SOH	$A	DC1	$Q	!	/A	1	1	A	A	Q	Q	a	+A	q	+Q
STX	$B	DC2	$R	“	/B	2	2	B	B	R	R	b	+B	r	+R
ETX	$C	DC3	$S	#	/C	3	3	C	C	S	S	c	+C	s	+S
EOT	$D	DC4	$T	$	/D	4	4	D	D	T	T	d	+D	t	+T
ENQ	$E	NAK	$U	%	/E	5	5	E	E	U	U	e	+E	u	+U
ACK	$F	SYN	$V	&	/F	6	6	F	F	V	V	f	+F	v	+V
BEL	$G	ETB	$W	‘	/G	7	7	G	G	W	W	g	+G	w	+W
BS	$H	CAN	$X	(	/H	8	8	H	H	X	X	h	+H	x	+X
HT	$I	EM	$Y	)	/I	9	9	I	I	Y	Y	i	+I	y	+Y
LF	$J	SUB	$Z	*	/J	:	/Z	J	J	Z	Z	j	+J	z	+Z
VT	$K	ESC	%A	+	/K	;	%F	K	K	[	%K	k	+K	{	%P
FF	$L	FS	%B	,	/L	<	%G	L	L	\	%L	l	+L	|	%Q
CR	$M	GS	%C	-	-	=	%H	M	M	]	%M	m	+M	}	%R
SO	$N	RS	%D	.	.	>	%I	N	N	^	%N	n	+N	~	%S
SI	$O	US	%E	/	/O	?	%J	O	O	_	%O	o	+O	DEL	%T

Character pairs /M and /N decode as a minus sign and period respectively. Character pairs /P through /Y decode as 0 through 9.

C39ASC1.
Full ASCII On

C39ASC0.
*** Full ASCII Off**

Interleaved 2 of 5

< Default All Interleaved 2 of 5 Settings >


I25DFT.

Interleaved 2 of 5 On/Off


I25ENA1.
*** On**


I25ENA0.
Off

NULL Characters

Interleaved 2 of 5 requires an even number of characters. When an odd number of characters is present, it is due to NULL characters embedded in the barcode. Scan the **On** barcode below to decode this type of Interleaved 2 of 5 barcode. *Default = Off.*


I25NUL0.
*** Off**


I25NUL1.
On

Check Digit

No Check Digit indicates that the scanner reads and transmits barcode data with or without a check digit.

When Check Digit is set to **Validate, but Don't Transmit**, the unit only reads Interleaved 2 of 5 barcodes printed with a check digit, but will not transmit the check digit with the scanned data.

When Check Digit is set to **Validate and Transmit**, the scanner only reads Interleaved 2 of 5 barcodes printed with a check digit, and will transmit this digit at the end of the scanned data. *Default* = **No Check Digit**.


I25CK20.
*** No Check Digit**


I25CK21.
Validate, but Don't Transmit


I25CK22.
Validate and Transmit

Interleaved 2 of 5 Redundancy

If you are encountering errors when reading Interleaved 2 of 5 barcodes, you may want to adjust the redundancy count. Redundancy adjusts the number of times a barcode is decoded before transmission, which may reduce the number of errors. Note that the higher the redundancy count, the longer it will take to decode the barcode. To adjust the redundancy, scan the **Interleaved 2 of 5 Redundancy** barcode below, then scan a redundancy count between 0 and 10 on the Programming Chart on page 202. Then scan the Save barcode. *Default = 0.*


I25VOT.
Interleaved 2 of 5

Interleaved 2 of 5 Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 90) for additional information. Minimum and Maximum lengths = 2-80. *Minimum Default = 6, Maximum Default = 80.*


I25MIN.
Minimum Message Length


I25MAX.
Maximum Message Length

NEC 2 of 5

< Default All NEC 2 of 5 Settings >

N25DFT.

NEC 2 of 5 On/Off

N25ENA1.
On

N25ENA0.
*** Off**

Check Digit

No Check Digit indicates that the scanner reads and transmits barcode data with or without a check digit.

When Check Digit is set to **Validate, but Don't Transmit**, the unit only reads NEC 2 of 5 barcodes printed with a check digit, but will not transmit the check digit with the scanned data.

When Check Digit is set to **Validate and Transmit**, the scanner only reads NEC 2 of 5 barcodes printed with a check digit, and will transmit this digit at the end of the scanned data. *Default = No Check Digit.*

N25CK20.
*** No Check Digit**

N25CK21.
Validate, but Don't Transmit

N25CK22.
Validate and Transmit

NEC 2 of 5 Redundancy

If you are encountering errors when reading NEC 2 of 5 barcodes, you may want to adjust the redundancy count. Redundancy adjusts the number of times a barcode is decoded before transmission, which may reduce the number of errors. Note that the higher the redundancy count, the longer it will take to decode the barcode. To adjust the redundancy, scan the **NEC 2 of 5 Redundancy** barcode below, then scan a redundancy count between 0 and 10 on the **Programming Chart** on page 202. Then scan the Save barcode. *Default = 0.*

NEC 2 of 5 Redundancy

NEC 2 of 5 Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 90) for additional information. Minimum and Maximum lengths = 1-80. *Minimum Default = 3, Maximum Default = 80.*

Minimum Message Length

Maximum Message Length

Code 93

< Default All Code 93 Settings >

Code 93 On/Off

*** On**

Off

Code 93 Redundancy

If you are encountering errors when reading Code 93 barcodes, you may want to adjust the redundancy count. Redundancy adjusts the number of times a barcode is decoded before transmission, which may reduce the number of errors. Note that the higher the redundancy count, the longer it will take to decode the barcode. To adjust the redundancy, scan the **Code 93 Redundancy** barcode below, then scan a redundancy count between 0 and 10 on the Programming Chart on page 202. Then scan the Save barcode. *Default = 0.*

Code 93 Redundancy

Code 93 Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 90) for additional information. Minimum and Maximum lengths = 1-80. *Minimum Default = 3, Maximum Default = 80.*

Minimum Message Length

Maximum Message Length

Straight 2 of 5 Industrial (three-bar start/stop)

<Default All Straight 2 of 5 Industrial Settings>

Straight 2 of 5 Industrial On/Off

On

*** Off**

Straight 2 of 5 Industrial Redundancy

If you are encountering errors when reading Straight 2 of 5 Industrial barcodes, you may want to adjust the redundancy count. Redundancy adjusts the number of times a barcode is decoded before transmission, which may reduce the number of errors. Note that the higher the redundancy count, the longer it will take to decode the barcode. To adjust the redundancy, scan the **Straight 2 of 5 Industrial Redundancy** barcode below, then scan a redundancy count between 0 and 10 on the Programming Chart on page 202. Then scan the Save barcode. *Default = 0.*

Straight 2 of 5 Industrial Redundancy

Straight 2 of 5 Industrial Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 90) for additional information. Minimum and Maximum lengths = 1-80. *Minimum Default = 3, Maximum Default = 80.*

Minimum Message Length

Maximum Message Length

Straight 2 of 5 IATA (two-bar start/stop)

Note: *This symbology is also known as Airline Code 5.*

<Default All Straight 2 of 5 IATA Settings>

Straight 2 of 5 IATA On/Off

On

*** Off**

Straight 2 of 5 IATA Redundancy

If you are encountering errors when reading Straight 2 of 5 IATA barcodes, you may want to adjust the redundancy count. Redundancy adjusts the number of times a barcode is decoded before transmission, which may reduce the number of errors. Note that the higher the redundancy count, the longer it will take to decode the barcode. To adjust the redundancy, scan the **Straight 2 of 5 IATA Redundancy** barcode below, then scan a redundancy count between 0 and 10 on the Programming Chart on page 202. Then scan the Save barcode. *Default = 0.*

Straight 2 of 5 IATA Redundancy

Straight 2 of 5 IATA Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 90) for additional information. Minimum and Maximum lengths = 1-80. *Minimum Default = 13, Maximum Default = 15.*

Minimum Message Length

Maximum Message Length

Matrix 2 of 5

<Default All Matrix 2 of 5 Settings>

X25DFT.

Matrix 2 of 5 On/Off

X25ENA1.
On

X25ENA0.
*** Off**

Matrix 2 of 5 Check Character

No Check Character indicates that the scanner reads and transmits barcode data with or without a check character.

When Check Character is set to **Validate, but Don't Transmit**, the unit only reads Matrix 2 of 5 barcodes printed with a check character, but will not transmit the check character with the scanned data.

When Check Character is set to **Validate and Transmit**, the scanner only reads Matrix 2 of 5 barcodes printed with a check character, and will transmit this character at the end of the scanned data. *Default = No Check Character.*

X25CK20.
*** No Check Character**

X25CK21.
Validate, but Don't Transmit

X25CK22.
Validate and Transmit

Matrix 2 of 5 Redundancy

If you are encountering errors when reading Matrix 2 of 5 barcodes, you may want to adjust the redundancy count. Redundancy adjusts the number of times a barcode is decoded before transmission, which may reduce the number of errors. Note

that the higher the redundancy count, the longer it will take to decode the barcode. To adjust the redundancy, scan the **Matrix 2 of 5 Redundancy** barcode below, then scan a redundancy count between 0 and 10 on the Programming Chart on page 202. Then scan the Save barcode. *Default = 0*.

X25VOT.
Matrix 2 of 5 Redundancy

Matrix 2 of 5 Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 90) for additional information. Minimum and Maximum lengths = 1-80. *Minimum Default = 3, Maximum Default = 80*.

X25MIN.
Minimum Message Length

X25MAX.
Maximum Message Length

Code 11

<Default All Code 11 Settings>

C11DFT.

Code 11 On/Off

C11ENA1.
On

C11ENA0.
*** Off**

Check Digits Required

These options set whether 1 or 2 check digits are required with Code 11 barcodes. **Auto Select Check Digits** determines the number of check digits based on the length of the barcode. If the barcode is 10 digits or more, 2 check digits are required. If it is 9 digits or less, 1 check digit is required. The check digit data is only transmitted if you program that feature (see Check Digit Validation on page 106). *Default = Two Check Digits Required.*

C11CK20.
One Check Digit Required

C11CK21.
*** Two Check Digits Required**

C11CK22.
Auto Select Check Digits Required

Check Digit Validation

When Check Character is set to **Validate and Transmit**, the scanner will only read Code 11 barcodes printed with the specified type check character(s), and will transmit the character(s) at the end of the scanned data.

C11CK23.
Validate and Transmit One Check Digit

C11CK24.
Validate and Transmit Two Check Digits

C11CK25.
Validate and Transmit Auto Select Check Digits

Code 11 Redundancy

If you are encountering errors when reading Code 11 barcodes, you may want to adjust the redundancy count. Redundancy adjusts the number of times a barcode is decoded before transmission, which may reduce the number of errors. Note that the higher the redundancy count, the longer it will take to decode the barcode. To

adjust the redundancy, scan the **Code 11 Redundancy** barcode below, then scan a redundancy count between 0 and 10 on the Programming Chart on page 202. Then scan the Save barcode. *Default = 0.*

C11VOT.
Code 11 Redundancy

Code 11 Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 90) for additional information. Minimum and Maximum lengths = 1-80. *Minimum Default = 3, Maximum Default = 80.*

C11MIN.
Minimum Message Length

C11MAX.
Maximum Message Length

Code 128

<Default All Code 128 Settings>

128DFT.

Code 128 On/Off

128ENA1.
*** On**

128ENA0.
Off

128 Group Separator Output

If you wish to transmit the group separator characters “GS” (0x1D hex) with your Code 128 barcode output, scan the **On** barcode. When **Off** is scanned, the group separator is not output. *Default =Off.*

128GSE1.
On

128GSE0.
*** Off**

Code 128 Redundancy

If you are encountering errors when reading Code 128 barcodes, you may want to adjust the redundancy count. Redundancy adjusts the number of times a barcode is decoded before transmission, which may reduce the number of errors. Note that the higher the redundancy count, the longer it will take to decode the barcode. To adjust the redundancy, scan the Code 128 Redundancy barcode below, then scan a redundancy count between 0 and 10 on the Programming Chart on page 202. Then scan the Save barcode. *Default = 0.*

128VOT.
Code 128 Redundancy

Code 128 Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 90) for additional information. Minimum and Maximum lengths = 1-80. *Minimum Default = 1, Maximum Default = 80.*

128MIN.
Minimum Message Length

128MAX.
Maximum Message Length

ISBT 128

ISBT is a variation of Code 128 that supports concatenation of neighboring symbols on a blood product label. Use the barcodes below to turn ISBT 128 concatenation on or off. *Default =Off.*

On

*** Off**

Concatenation Timeout

When searching for barcodes during concatenation, you may wish to set a delay used to find the next barcode. Set the length (in milliseconds) for this delay by scanning the barcode below, then setting the timeout (from 1-65535 milliseconds) by scanning digits from the Programming Chart, then scanning Save. *Default = 750.*

Concatenation Timeout

ISBT 128 Predefined Concatenation Sequences

Note: *You must enable Code 128 and ISBT 128 to use this feature.*

The following barcodes are used to select the pre-defined ISBT 128 Concatenation Sequence you wish to use. Once you have selected the concatenation sequence, use ISBT 128 Predefined Concatenation Sequences On/Off to enable this feature. *Default = Donation ID Number (001) and ABO/RhD Blood Groups (002).*

*** Donation ID Number (001) and ABO/RhD Blood Groups (002)**

Donation ID Number (001) and Donor ID Number (019)

Donation ID Number (001) and Confidential Unit Exclusion Status

Product Code (003) and Expiration Date (Form 1)

Product Code (003) and Expiration Date (Form 2)

Product Code (003) and Expiration Date (Form 3)

Product Code (003) and Expiration Date (Form 4)

ISBT 128 Predefined Concatenation Sequences On/Off

The following selections allow you to enable or require the Predefined ISBT 128 Concatenation Sequences.

If you scan **Off**, the predefined concatenation sequences are disabled.

If you scan the **Allow Predefined Sequence** code, then the scanner will output only the data combination specified in the predefined concatenation sequence you selected.

If you scan the **Require Predefined Sequence** code, the data combination specified in the predefined concatenation sequence you selected is required to transmit the data. No data is output unless the sequence is read.

Default = Off.

*** Off**

Allow Predefined Sequence

Require Predefined Sequence

ISBT 128 User-Defined Concatenation Sequences

Note: *You must enable Code 128 and ISBT 128 to use this feature.*

The following barcodes are used to create a custom ISBT 128 Concatenation Sequence. Select the identifiers you want to transmit in the 1st and 2nd positions, both left and right. Refer to the ISBT 128 Standard Technical Specification for the list of data identifiers.

Use the ASCII Conversion Chart (Code Page 1252), beginning on page 192, to find the characters needed for the identifier. Locate the hex value for each character and scan that 2 digit/character value from the Programming Chart on page 202.

Example: You want to create a concatenation sequence that has the Donation Identification Number (001) as the left identifier, and Product Code (003) as the right identifier. The ISBT Index of Data Structures shows that for the Donation Identification Number, the first character is "=" and the second character can be from A-N; P-Z; 1-9. For this example, use "G." The Product Code first character is "=" and the second character is "<."

Step 1. Scan the **1st Left Identifier** barcode, below.

Step 2. Use the Programming Chart to scan 3, D (hex for "=").

Step 3. Scan Save.

Step 4. Scan the **2nd Left Identifier** barcode, below.

Step 5. Use the Programming Chart to scan 4, 7 (hex for "G").

Step 6. Scan Save.

Step 7. Scan the **1st Right Identifier** barcode, below.

Step 8. Use the Programming Chart to scan 3, D (hex for "=").

Step 9. Scan Save.

Step 10. Scan the **2nd Right Identifier** barcode, below.

Step 11. Use the Programming Chart to scan 3, C (hex for "<").

Step 12. Scan Save.

Once you have programmed the concatenation sequence, use ISBT 128 User-Defined Concatenation Sequences to enable this feature. *Default = 0.*

1st Left Identifier

2nd Left Identifier

1st Right Identifier

2nd Right Identifier

ISBT 128 User-Defined Concatenation Sequences On/Off

The following selections allow you to enable or require the User-Defined ISBT 128 Concatenation Sequences.

If you scan **Off**, the User-Defined concatenation sequences are disabled.

If you scan the **Allow User-Defined Sequence** code, then the scanner will output only the data combination specified in the User-Defined concatenation sequence you created.

If you scan the **Require User-Defined Sequence** code, the data combination specified in the User-Defined concatenation sequence is required to transmit the data. No data is output unless the sequence is read.

Default = Off.

*** Off**

Allow User-Defined Sequence

Require User-Defined Sequence

Content Verification

When the **On** barcode is scanned, the check character values are output along with the barcode data, thus allowing you to verify that the check character is in agreement with that calculated for the data stream. *Default = Off.*

ISBXM01.
On

ISBXM00.
*** Off**

Transmit Identifiers

You may disable the transmission of the ISBT Code 128 data identifiers by scanning **Off**. When this selection is Off, the first 2 data (ID) characters are removed from the data stream unless the ISBT code contains the Donation Identification Number identifiers. If the code contains the Donation Identification Number identifiers, only the first ID character is removed from the Donation Identification Number. The second character is transmitted as normal data. *Default = On.*

ISBXM11.
*** On**

ISBXM10.
Off

Flag Digit Conversion

Type 3 flag digits are a part of the Donation Identification Number in an ISBT 128 barcode. If you select **On**, the flag data is converted into a single MOD (37, 2) character and transmitted with the barcode data. Scan **Off** if you do not want the flag digits transmitted. *Default = Off.*

ISBXM21.
On

ISBXM20.
*** Off**

GS1-128

<Default All GS1-128 Settings>

GS1DFT.

GS1-128 On/Off

GS1ENA1.
*** On**

GS1ENA0.
Off

GS1-128 Application Identifier Parsing

This allows a single GS1-128 barcode to be broken into multiple transmissions based on the presence of application identifiers (AI) embedded in the barcode. Scan **Transmit Without Identifiers** if you want the barcode broken into packets and stripped of the AI. If you want the AI included, scan **Transmit With Identifiers**. *Default = Off.*

GS1EMU0.
*** Off**

GS1EMU1.
Transmit Without Identifiers

GS1EMU2.
Transmit With Identifiers

GS1-128 Redundancy

If you are encountering errors when reading GS1-128 barcodes, you may want to adjust the redundancy count. Redundancy adjusts the number of times a barcode is decoded before transmission, which may reduce the number of errors. Note that the higher the redundancy count, the longer it will take to decode the barcode. To

adjust the redundancy, scan the **GS1-128 Redundancy** barcode below, then scan a redundancy count between 0 and 10 on the Programming Chart on page 202. Then scan the Save barcode. *Default = 0.*

GS1VOT.
GS1-128 Redundancy

GS1-128 Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 90) for additional information. Minimum and Maximum lengths = 1-80. *Minimum Default = 3, Maximum Default = 80.*

GS1MIN.
Minimum Message Length

GS1MAX.
Maximum Message Length

Telepen

<Default All Telepen Settings>

TELDFT.

Telepen On/Off

TELENA1.
On

TELENA0.
*** Off**

Telepen Output

Using **AIM Telepen Output**, the scanner reads symbols with start/stop pattern 1 and decodes them as standard full ASCII (start/stop pattern 1). When **Original Telepen Output** is selected, the scanner reads symbols with start/stop pattern 1 and decodes them as compressed numeric with optional full ASCII (start/stop pattern 2). *Default = AIM Telepen Output.*

*** AIM Telepen Output**

Original Telepen Output

Telepen Redundancy

If you are encountering errors when reading Telepen barcodes, you may want to adjust the redundancy count. Redundancy adjusts the number of times a barcode is decoded before transmission, which may reduce the number of errors. Note that the higher the redundancy count, the longer it will take to decode the barcode. To adjust the redundancy, scan the **Telepen Redundancy** barcode below, then scan a redundancy count between 0 and 10 on the Programming Chart on page 202. Then scan the Save barcode. *Default = 0.*

Telepen Redundancy

Telepen Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 90) for additional information. Minimum and Maximum lengths = 1-80. *Minimum Default = 3, Maximum Default = 80.*

Minimum Message Length

Maximum Message Length

UPC-A

<Default All UPC-A Settings>

UPADFT.

UPC-A On/Off

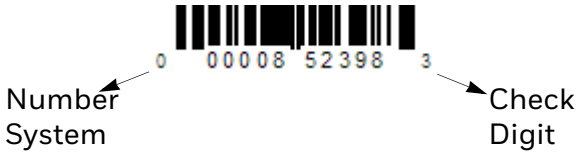
UPBENA1.
*** On**

UPBENA0.
Off

Note: *To convert UPC-A barcodes to EAN-13, see Convert UPC-A to EAN-13 on page 126.*

UPC-A Number System and Check Digit

UPC-A sample showing the number system and check digit:



UPC-A Number System

The numeric system digit of a U.P.C. symbol is normally transmitted at the beginning of the scanned data, but can be programmed so it is not transmitted (**Off**). *Default = On.*

UPANSX1.
*** On**

UPANSX0.
Off

UPC-A Check Digit

This selection allows you to specify whether or not the check digit should be transmitted at the end of the scanned data. *Default = On*.

UPACKX1.
*** On**

UPACKX0.
Off

UPC-A Addenda

This selection adds 2 or 5 digits to the end of all scanned UPC-A data. *Default = Off for both 2 Digit and 5 Digit Addenda.*

UPAAD21.
2 Digit Addenda On

UPAAD20.
*** 2 Digit Addenda Off**

UPAAD51.
5 Digit Addenda On

UPAAD50.
*** 5 Digit Addenda Off**

UPC-A Addenda Required

When **Required** is scanned, the scanner will only read UPC-A barcodes that have addenda. You must then turn on a 2 or 5 digit addenda listed on page 118. *Default = Not Required.*

UPAARQ1.
Required

UPAARQ0.
*** Not Required**

Addenda Timeout

You can set a time during which the scanner looks for an addenda. If an addenda is not found within this time period, the data can be either transmitted or discarded, based on the setting you are using for UPC-A Addenda Required (see page 118). Set the length (in milliseconds) for this timeout by scanning the barcode below, then setting the timeout (from 0-65535 milliseconds) by scanning digits from the Programming Chart, then scanning Save. *Default = 100.*

Note: *The Addenda Timeout setting is applied to all addenda and coupon code searches.*

Addenda Timeout

UPC-A Addenda Separator

When this feature is **On**, there is a space between the data from the barcode and the data from the addenda. When turned **Off**, there is no space. *Default = On.*

*** On**

Off

UPC-A Redundancy

If you are encountering errors when reading UPC-A barcodes, you may want to adjust the redundancy count. Redundancy adjusts the number of times a barcode is decoded before transmission, which may reduce the number of errors. Note that the higher the redundancy count, the longer it will take to decode the barcode. To adjust the redundancy, scan the **UPC-A Redundancy** barcode below, then scan a redundancy count between 0 and 10 on the Programming Chart on page 202. Then scan the Save barcode. *Default = 0.*

UPC-A Redundancy

UPC-A/EAN-13 with Extended Coupon Code

Use the following codes to enable or disable UPC-A and EAN-13 with Extended Coupon Code. When left on the default setting (**Off**), the scanner treats Coupon Codes and Extended Coupon Codes as single barcodes.

If you scan the **Allow Concatenation** code, when the scanner sees the coupon code and the extended coupon code in a single scan, it transmits both as one symbology. Otherwise, it transmits the first coupon code it reads.

If you scan the **Require Concatenation** code, the scanner must see and read the coupon code and extended coupon code in a single read to transmit the data. No data is output unless both codes are read. *Default = Off.*

CPNENA0.
*** Off**

CPNENA1.
Allow Concatenation

CPNENA2.
Require Concatenation

UPC-A Number System 4 Addenda Required

This setting programs the scanner to require a coupon code only on UPC-A barcodes that begin with a "4." The following settings can be programmed:

Require Coupon Code: All UPC-A barcodes that begin with a "4" must have a coupon code. The UPC-A barcode with the coupon code is then transmitted as a single, concatenated barcode. If a coupon code is not found within the Addenda Timeout period, the UPC-A barcode is discarded.

Don't Require Coupon Code: If you have selected **Require Coupon Code**, and you want to disable this feature, scan **Don't Require Coupon Code**. UPC-A barcodes are transmitted, depending on the setting you are using for UPC-A/EAN-13 with Extended Coupon Code. *Default = Don't Require Coupon Code.*

ARQSY40.
*** Don't Require Coupon Code**

ARQSY41.
Require Coupon Code

UPC-A Number System 5 Addenda Required

This setting programs the scanner to require any combination of a coupon code, a 2 digit addenda, or a 5 digit addenda on UPC-A barcodes that begin with a “5.” The following settings can be programmed:

Require Coupon Code/Addenda: All UPC-A barcodes that begin with a “5” must have a coupon code, a 2 digit addenda, a 5 digit addenda, or a combination of these addenda. The UPC-A barcode with the coupon code and/or addenda is then transmitted as a single, concatenated barcode. If a coupon code and/or required addenda is not found within the Addenda Timeout period, the UPC-A barcode is discarded.

Don’t Require Coupon Code/Addenda: If you have selected **Require Coupon Code/Addenda**, and you want to disable this feature, scan **Don’t Require Coupon Code/Addenda**. UPC-A barcodes are transmitted, depending on the setting you are using for UPC-A/EAN-13 with Extended Coupon Code. *Default = Don’t Require Coupon Code/Addenda*.

*** Don’t Require Coupon Code/ Addenda**

Require 2 Digit Addenda

Require 5 Digit Addenda

Require 2 or 5 Digit Addenda

Require Coupon Code

Require Coupon Code or 2 Digit Addenda

Require Coupon Code or 5 Digit Addenda

ARQSY57.

Require Coupon Code, 2 Digit Addenda, or 5 Digit Addenda

Addenda Timeout

You can set a time during which the scanner looks for a coupon code. If a coupon code is not found within this time period, the data can be either transmitted or discarded, based on the setting you are using for UPC-A/EAN-13 with Extended Coupon Code or UPC-A Number System 4 Addenda Required. Set the length (in milliseconds) for this timeout by scanning the barcode below, then setting the timeout (from 0-65535 milliseconds) by scanning digits from the Programming Chart, then scanning Save. *Default = 100.*

Note: *The Addenda Timeout setting is applied to all addenda and coupon code searches.*

DLYADD.

Addenda Timeout

UPC-E0

<Default All UPC-E Settings>

UPEDFT.

UPC-E0 On/Off

Most U.P.C. barcodes lead with the 0 number system. To read these codes, use the UPC-E0 On selection. If you need to read codes that lead with the 1 number system, use EAN/JAN-13 (page 126). *Default = On.*

UPEEN01.

*** UPC-E0 On**

UPEEN00.

UPC-E0 Off

UPC-E0 Expand

UPC-E Expand expands the UPC-E code to the 12 digit, UPC-A format. *Default = Off.*

UPEEXP1.
On

UPEEXP0.
*** Off**

UPC-E0 Number System

The numeric system digit of a UPC-A symbol is normally transmitted at the beginning of scanned data. When using UPC-E Expand, the unit can be programmed so it will not transmit it. *Default = On.*

UPEEXN1.
*** On**

UPEEXN0.
Off

UPC-E0 Number System and Check Digit

UPC-E0 sample showing the number system and check digit:

UPC-E0 Check Digit

Check Digit specifies whether the check digit should be transmitted at the end of the scanned data or not. *Default = Off.*

UPECKX1.
On

*** Off**

UPC-E0 Leading Zero

This feature allows the transmission of a leading zero (0) at the beginning of scanned data. To prevent transmission, scan **Off**. *Default = On.*

*** On**

Off

UPC-E0 Addenda

This selection adds 2 or 5 digits to the end of all scanned UPC-E data. *Default = Off for both 2 Digit and 5 Digit Addenda.*

2 Digit Addenda On

*** 2 Digit Addenda Off**

5 Digit Addenda On

*** 5 Digit Addenda Off**

UPC-E0 Addenda Required

When **Required** is scanned, the scanner will only read UPC-E barcodes that have addenda. *Default = Not Required.*

UPEARQ1.
Required

UPEARQ0.
*** Not Required**

Addenda Timeout

You can set a time during which the scanner looks for an addenda. If an addenda is not found within this time period, the data can be either transmitted or discarded, based on the setting you are using for UPC-E0 Addenda Required (page 125). Set the length (in milliseconds) for this timeout by scanning the barcode below, then setting the timeout (from 0-65535 milliseconds) by scanning digits from the Programming Chart, then scanning Save. *Default = 100.*

Note: *The Addenda Timeout setting is applied to all addenda and coupon code searches.*

DLYADD.
Addenda Timeout

UPC-E0 Addenda Separator

When this feature is **On**, there is a space between the data from the barcode and the data from the addenda. When turned **Off**, there is no space. *Default = Off.*

UPEADS1.
On

UPEADS0.
*** Off**

UPC-E0 Redundancy

If you are encountering errors when reading UPC-E0 barcodes, you may want to adjust the redundancy count. Redundancy adjusts the number of times a barcode is decoded before transmission, which may reduce the number of errors. Note that the higher the redundancy count, the longer it will take to decode the barcode. To

adjust the redundancy, scan the **UPC-E0 Redundancy** barcode below, then scan a redundancy count between 0 and 10 on the Programming Chart on page 202. Then scan the Save barcode. *Default = 1*.

UPEVOT.
UPC-E0 Redundancy

EAN/JAN-13

<Default All EAN/JAN Settings>

E13DFT.

EAN/JAN-13 On/Off

E13ENA1.
*** On**

E13ENA0.
Off

Convert UPC-A to EAN-13

When **UPC-A Converted to EAN-13** is selected, UPC-A barcodes are converted to 13 digit EAN-13 codes by adding a zero to the front. When **Do not Convert UPC-A** is selected, UPC-A codes are read as UPC-A. *Default = Do not convert UPC-A*.

UPAENA0.
UPC-A Converted to EAN-13

UPAENA1.
*** Do not Convert UPC-A**

EAN/JAN-13 Check Digit

This selection allows you to specify whether the check digit should be transmitted at the end of the scanned data or not. *Default = On.*

E13CKX1.
*** On**

E13CKX0.
Off

EAN/JAN-13 Addenda

This selection adds 2 or 5 digits to the end of all scanned EAN/JAN-13 data. *Default = Off for both 2 Digit and 5 Digit Addenda.*

E13AD21.
2 Digit Addenda On

E13AD20.
*** 2 Digit Addenda Off**

E13AD51.
5 Digit Addenda On

E13AD50.
*** 5 Digit Addenda Off**

EAN/JAN-13 Addenda Required

When **Required** is scanned, the scanner will only read EAN/JAN-13 barcodes that have addenda. *Default = Not Required.*

E13ARQ1.
Required

E13ARQ0.
*** Not Required**

EAN-13 Beginning with 2 Addenda Required

This setting programs the scanner to require a 2 digit addenda only on EAN-13 barcodes that begin with a “2.” The following settings can be programmed:

Require 2 Digit Addenda: All EAN-13 barcodes that begin with a “2” must have a 2 digit addendum. The EAN-13 barcode with the 2 digit addendum is then transmitted as a single, concatenated barcode. If a 2 digit addendum is not found within the Addenda Timeout period, the EAN-13 barcode is discarded.

Note: *if you are using EAN-13 Beginning with 290 Addenda Required (page 128), that setting will take precedence over this one.*

Don’t Require 2 Digit Addenda: If you have selected **Require 2 Digit Addenda**, and you want to disable this feature, scan **Don’t Require 2 Digit Addenda**. EAN-13 barcodes are transmitted, depending on the setting you are using for EAN/JAN-13 Addenda Required. *Default = Don’t Require 2 Digit Addenda.*

*** Don’t Require 2 Digit Addenda**

Require 2 Digit Addenda

EAN-13 Beginning with 290 Addenda Required

This setting programs the scanner to require a 5 digit addenda only on EAN-13 barcodes that begin with “290.” The following settings can be programmed:

Require 5 Digit Addenda: All EAN-13 barcodes that begin with “290” must have a 5 digit addendum. The EAN-13 barcode with the 5 digit addendum is then transmitted as a single, concatenated barcode. If a 5 digit addendum is not found within the Addenda Timeout period, the EAN-13 barcode is discarded.

Note: *if you are using EAN-13 Beginning with 2 Addenda Required (page 128), this setting will take precedence.*

Don’t Require 5 Digit Addenda: If you have selected **Require 5 Digit Addenda**, and you want to disable this feature, scan **Don’t Require 5 Digit Addenda**. EAN-13 barcodes are transmitted, depending on the setting you are using for EAN/JAN-13 Addenda Required. *Default = Don’t Require 5 Digit Addenda.*

*** Don’t Require 5 Digit Addenda**

Require 5 Digit Addenda

EAN-13 Beginning with 378/379 Addenda Required

This setting programs the scanner to require any combination of a 2 digit addenda or a 5 digit addenda on EAN-13 barcodes that begin with a “378” or “379.” The following settings can be programmed:

Require Addenda: All EAN-13 barcodes that begin with a “378” or “379” must have a 2 digit addenda, a 5 digit addenda, or a combination of these addenda. The EAN-13 barcode with the addenda is then transmitted as a single, concatenated barcode. If the required addenda is not found within the Addenda Timeout period, the EAN-13 barcode is discarded.

Don’t Require Addenda: If you have selected **Require Addenda**, and you want to disable this feature, scan **Don’t Require Addenda**. EAN-13 barcodes are transmitted, depending on the setting you are using for EAN/JAN-13 Addenda Required. *Default = Don’t Require Addenda.*

*** Don’t Require Addenda**

Require 2 Digit Addenda

Require 5 Digit Addenda

Require 2 or 5 Digit Addenda

EAN-13 Beginning with 414/419 Addenda Required

This setting programs the scanner to require any combination of a 2 digit addenda or a 5 digit addenda on EAN-13 barcodes that begin with a “414” or “419.” The following settings can be programmed:

Require Addenda: All EAN-13 barcodes that begin with a “414” or “419” must have a 2 digit addenda, a 5 digit addenda, or a combination of these addenda. The EAN-13 barcode with the addenda is then transmitted as a single, concatenated barcode. If the required addenda is not found within the Addenda Timeout period, the EAN-13 barcode is discarded.

Don't Require Addenda: If you have selected **Require Addenda**, and you want to disable this feature, scan **Don't Require Addenda**. EAN-13 barcodes are transmitted, depending on the setting you are using for EAN/JAN-13 Addenda Required. *Default = Don't Require Addenda.*

*** Don't Require Addenda**

Require 2 Digit Addenda

Require 5 Digit Addenda

Require 2 or 5 Digit Addenda

EAN-13 Beginning with 434/439 Addenda Required

This setting programs the scanner to require any combination of a 2 digit addenda or a 5 digit addenda on EAN-13 barcodes that begin with a "434" or "439." The following settings can be programmed:

Require Addenda: All EAN-13 barcodes that begin with a "434" or "439" must have a 2 digit addenda, a 5 digit addenda, or a combination of these addenda. The EAN-13 barcode with the addenda is then transmitted as a single, concatenated barcode. If the required addenda is not found within the Addenda Timeout period, the EAN-13 barcode is discarded.

Don't Require Addenda: If you have selected **Require Addenda**, and you want to disable this feature, scan **Don't Require Addenda**. EAN-13 barcodes are transmitted, depending on the setting you are using for EAN/JAN-13 Addenda Required. *Default = Don't Require Addenda.*

*** Don't Require Addenda**

Require 2 Digit Addenda

Require 5 Digit Addenda

ARQ4343.

Require 2 or 5 Digit Addenda

EAN-13 Beginning with 977 Addenda Required

This setting programs the scanner to require a 2 digit addenda only on EAN-13 barcodes that begin with “977.” The following settings can be programmed:

Require 2 Digit Addenda: All EAN-13 barcodes that begin with “977” must have a 2 digit addendum. The EAN-13 barcode with the 2 digit addendum is then transmitted as a single, concatenated barcode. If a 2 digit addendum is not found within the Addenda Timeout period, the EAN-13 barcode is discarded.

Don’t Require 2 Digit Addenda: If you have selected **Require 2 Digit Addenda**, and you want to disable this feature, scan **Don’t Require 2 Digit Addenda**. EAN-13 barcodes are transmitted, depending on the setting you are using for EAN/JAN-13 Addenda Required. *Default = Don’t Require 2 Digit Addenda.*

ARQ9770.

*** Don’t Require 2 Digit Addenda**

ARQ9771.

Require 2 Digit Addenda

EAN-13 Beginning with 978 Addenda Required

These settings program the scanner to require a 5 digit addenda only on EAN-13 barcodes that begin with “978.” The following settings can be programmed:

Require 5 Digit Addenda: All EAN-13 barcodes that begin with “978” must have a 5 digit addendum. The EAN-13 barcode with the 5 digit addendum is then transmitted as a single, concatenated barcode. If a 5 digit addendum is not found within the Addenda Timeout period, the EAN-13 barcode is discarded.

Don’t Require 5 Digit Addenda: If you have selected **Require 5 Digit Addenda**, and you want to disable this feature, scan **Don’t Require 5 Digit Addenda**. EAN-13 barcodes are transmitted, depending on the setting you are using for EAN/JAN-13 Addenda Required. *Default = Don’t Require 5 Digit Addenda.*

ARQ9780.

*** Don’t Require 5 Digit Addenda**

Require 5 Digit Addenda

EAN-13 Beginning with 979 Addenda Required

These settings program the scanner to require a 5 digit addenda only on EAN-13 barcodes that begin with "979." The following settings can be programmed:

Require 5 Digit Addenda: All EAN-13 barcodes that begin with "979" must have a 5 digit addendum. The EAN-13 barcode with the 5 digit addendum is then transmitted as a single, concatenated barcode. If a 5 digit addendum is not found within the Addenda Timeout period, the EAN-13 barcode is discarded.

Don't Require 5 Digit Addenda: If you have selected **Require 5 Digit Addenda**, and you want to disable this feature, scan **Don't Require 5 Digit Addenda**. EAN-13 barcodes are transmitted, depending on the setting you are using for EAN/JAN-13 Addenda Required. *Default = Don't Require 5 Digit Addenda.*

*** Don't Require 5 Digit Addenda**

Require 5 Digit Addenda

Addenda Timeout

You can set a time during which the scanner looks for an addenda. If an addenda is not found within this time period, the data can be either transmitted or discarded, based on the setting you are using for EAN/JAN-13 Addenda Required. Set the length (in milliseconds) for this timeout by scanning the barcode below, then setting the timeout (from 0-65535 milliseconds) by scanning digits from the Programming Chart, then scanning Save. *Default = 100.*

Note: *The Addenda Timeout setting is applied to all addenda and coupon code searches.*

Addenda Timeout

EAN/JAN-13 Addenda Separator

When this feature is On, there is a space between the data from the barcode and the data from the addenda. When turned Off, there is no space.
Default = Off.

E13ADS1.
On

E13ADS0.
*** Off**

Note: *If you want to enable or disable EAN13 with Extended Coupon Code, refer to UPC-A/ EAN-13 with Extended Coupon Code (page 120).*

EAN/JAN-13 Redundancy

If you are encountering errors when reading EAN/JAN-13 barcodes, you may want to adjust the redundancy count. Redundancy adjusts the number of times a bar-code is decoded before transmission, which may reduce the number of errors. Note that the higher the redundancy count, the longer it will take to decode the barcode. To adjust the redundancy, scan the EAN/JAN-13 Redundancy barcode below, then scan a redundancy count between 0 and 10 on the Programming Chart on page 202. Then scan the Save barcode. *Default = 0.*

E13VOT.
EAN/JAN-13 Redundancy

ISBN Translate

When **On** is scanned, EAN-13 Bookland symbols are translated into their equiva-lent ISBN number format. *Default = Off.*

E13ISB1.
On

E13ISB0.
*** Off**

Convert ISBN to 13-Digit

When translating EAN-13 codes to the ISBN format, you can convert the barcode to a 13 digit format by scanning the **Convert to 13-Digit On** barcode below. *Default = Convert to 13-Digit Off.*


E13I131.
Convert to 13-Digit On


E13I130.
***Convert to 13-Digit Off**

ISBN Reformat

In normal use, the first two or three digits of an EAN-13 barcode identify the country of origin. The country prefixes are 978 and 979. To reformat ISBN codes so the country prefix is dropped out, scan the **Reformat On** barcode below. *Default = Reformat Off.*


E13IBR1.
Reformat On


E13IBR0.
***Reformat Off**

ISSN Translate

When **On** is scanned, EAN-13 977 Bookland symbols are translated into their equivalent 8-digit ISSN number format. For example, 9770123456787 will be transmitted as 01234560. *Default = Off.*


E13ISS1.
On


E13ISS0.
***Off**

ISSN Reformat

When **Reformat On** is scanned, EAN-13 977 Bookland symbols are translated into their equivalent 8-digit ISSN number format, with hyphens added to the output. For example, 9770123456787 will be transmitted as 0123-456-0. (You must first scan ISSN On (page 134) before scanning **Reformat On**.) *Default = Reformat Off.*

E13ISR1.
Reformat On

E13ISR0.
*** Reformat Off**

EAN/JAN-8

<Default All EAN/JAN-8 Settings>

EA8DFT.

EAN/JAN-8 On/Off

EA8ENA1.
*** On**

EA8ENA0.
Off

EAN/JAN-8 Check Digit

This selection allows you to specify whether or not the check digit should be transmitted at the end of the scanned data. *Default = On.*

EA8CKX1.
*** On**


EA8CKX0.
Off

EAN/JAN-8 Addenda

This selection adds 2 or 5 digits to the end of all scanned EAN/JAN-8 data. *Default = Off for both 2 Digit and 5 Digit Addenda.*


EA8AD21.
2 Digit Addenda On


EA8AD20.
*** 2 Digit Addenda Off**


EA8AD51.
5 Digit Addenda On


EA8AD50.
*** 5 Digit Addenda Off**

EAN/JAN-8 Addenda Required

When **Required** is scanned, the scanner will only read EAN/JAN-8 barcodes that have addenda. *Default = Not Required.*


EA8ARQ1.
Required


EA8ARQ0.
*** Not Required**

Addenda Timeout

You can set a time during which the scanner looks for an addenda. If an addenda is not found within this time period, the data can be either transmitted or discarded, based on the setting you are using for EAN/JAN-8 Addenda Required. Set the

length (in milliseconds) for this timeout by scanning the barcode below, then setting the timeout (from 0-65535 milliseconds) by scanning digits from the Programming Chart, then scanning Save. *Default = 100.*

Note: *The Addenda Timeout setting is applied to all addenda and coupon code searches.*

Addenda Timeout

EAN/JAN-8 Addenda Separator

When this feature is **On**, there is a space between the data from the barcode and the data from the addenda. When turned **Off**, there is no space. *Default = Off.*

On

*** Off**

EAN/JAN-8 Redundancy

If you are encountering errors when reading EAN/JAN-8 barcodes, you may want to adjust the redundancy count. Redundancy adjusts the number of times a barcode is decoded before transmission, which may reduce the number of errors. Note that the higher the redundancy count, the longer it will take to decode the barcode. To adjust the redundancy, scan the **EAN/JAN-8 Redundancy** barcode below, then scan a redundancy count between 0 and 10 on the Programming Chart on page 202. Then scan the Save barcode. *Default = 0.*

EAN/JAN-8 Redundancy

MSI

<Default All MSI Settings>


MSIDFT.

MSI On/Off


MSIENA1.
On


MSIENA0.
*** Off**

MSI Check Character

Different types of check characters are used with MSI barcodes. You can program the scanner to read MSI barcodes with Type 10 check characters. *Default = Validate Type 10, but Don't Transmit.*

When Check Character is set to **Validate Type 10/11 and Transmit**, the scanner will only read MSI barcodes printed with the specified type check character(s), and will transmit the character(s) at the end of the scanned data.

When Check Character is set to **Validate Type 10/11, but Don't Transmit,** the unit will only read MSI barcodes printed with the specified type check character(s), but will not transmit the check character(s) with the scanned data.


MSICHK0.
*** Validate Type 10, but Don't Transmit**


MSICHK1.
Validate Type 10 and Transmit


MSICHK2.
Validate 2 Type 10 Characters, but Don't Transmit

MSICHK3.
Validate 2 Type 10 Characters and Transmit

MSICHK4.
Validate Type 11 then Type 10 Character, but Don't Transmit

MSICHK5.
Validate Type 11 then Type 10 Character and Transmit

MSICHK6.
Disable MSI Check Characters

MSI Redundancy

If you are encountering errors when reading MSI barcodes, you may want to adjust the redundancy count. Redundancy adjusts the number of times a barcode is decoded before transmission, which may reduce the number of errors. Note that the higher the redundancy count, the longer it will take to decode the barcode. To adjust the redundancy, scan the **MSI Redundancy** barcode below, then scan a redundancy count between 0 and 10 on the Programming Chart on page 202. Then scan the Save barcode. *Default = 0*.

MSIVOT.
MSI Redundancy

MSI Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 90) for additional information. Minimum and Maximum lengths = 1-80. Minimum Default = 3, Maximum Default = 80.

MSIMIN.
Minimum Message Length

MSIMAX.
Maximum Message Length

Plessey Code

< Default All Plessey Code Settings >


PLSDFT.

Plessey Code On/Off


PLSENA1.
On


PLSENA0.
*** Off**

Plessey Check Character

No Check Character indicates that the scanner reads and transmits barcode data with or without a check character.

When Check Character is set to **Validate, but Don't Transmit**, the unit only reads Plessey barcodes printed with a check character, but will not transmit the check character with the scanned data.

When Check Character is set to **Validate and Transmit**, the scanner only reads Plessey barcodes printed with a check character, and will transmit this character at the end of the scanned data. *Default = No Check Character.*


PLSCHK0.
*** No Check Character**


PLSCHK1.
Validate, but Don't Transmit


PLSCHK2.
Validate and Transmit

Plessey Redundancy

If you are encountering errors when reading Plessey barcodes, you may want to adjust the redundancy count. Redundancy adjusts the number of times a barcode is decoded before transmission, which may reduce the number of errors. Note that

the higher the redundancy count, the longer it will take to decode the barcode. To adjust the redundancy, scan the **Plessey Redundancy** barcode below, then scan a redundancy count between 0 and 10 on the Programming Chart on page 202. Then scan the Save barcode. *Default = 0*.


PLSVOT.
Plessey Redundancy

Plessey Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 90) for additional information. Minimum and Maximum lengths = 1-80. *Minimum Default = 3, Maximum Default = 80*.


PLSMIN.
Minimum Message Length


PLSMAX.
Maximum Message Length

GS1 DataBar Omnidirectional

< Default All GS1 DataBar Omnidirectional Settings >


RSSDFT.

GS1 DataBar Omnidirectional On/Off


RSSENA1.
*** On**


RSSENA0.
Off

GS1 DataBar Omnidirectional Redundancy

If you are encountering errors when reading GS1 DataBar Omnidirectional barcodes, you may want to adjust the redundancy count. Redundancy adjusts the number of times a barcode is decoded before transmission, which may reduce the number of errors. Note that the higher the redundancy count, the longer it will take to decode the barcode. To adjust the redundancy, scan the **GS1 DataBar Omnidirectional Redundancy** barcode below, then scan a redundancy count between 0 and 10 on the Programming Chart on page 202. Then scan the Save barcode. *Default = 0.*

GS1 DataBar Omnidirectional Redundancy

GS1 DataBar Limited

< Default All GS1 DataBar Limited Settings >

GS1 DataBar Limited On/Off

*** On**

Off

GS1 DataBar Limited Redundancy

If you are encountering errors when reading GS1 DataBar Limited barcodes, you may want to adjust the redundancy count. Redundancy adjusts the number of times a barcode is decoded before transmission, which may reduce the number of errors. Note that the higher the redundancy count, the longer it will take to decode the barcode. To adjust the redundancy, scan the **GS1 DataBar Limited Redundancy** barcode below, then scan a redundancy count between 0 and 10 on the Programming Chart on page 202. Then scan the Save barcode. *Default = 0.*

GS1 DataBar Limited Redundancy

GS1 DataBar Expanded

< Default All GS1 DataBar Expanded Settings >

RSEDFT.

GS1 DataBar Expanded On/Off

RSEENA1.
*** On**

RSEENA0.
Off

GS1 DataBar Expanded Redundancy

If you are encountering errors when reading GS1 DataBar Expanded barcodes, you may want to adjust the redundancy count. Redundancy adjusts the number of times a barcode is decoded before transmission, which may reduce the number of errors. Note that the higher the redundancy count, the longer it will take to decode the barcode. To adjust the redundancy, scan the **GS1 DataBar Expanded Redundancy** barcode below, then scan a redundancy count between 0 and 10 on the Programming Chart on page 202. Then scan the Save barcode. *Default = 0.*

RSEVOT.
GS1 DataBar Expanded Redundancy

GS1 DataBar Expanded Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 90) for additional information. Minimum and Maximum lengths = 1-80. *Minimum Default = 3, Maximum Default = 80.*

RSEMIN.
Minimum Message Length

RSEMAX.
Maximum Message Length

Trioptic Code

Trioptic Code is used for labeling magnetic storage media.

TRIENA1.
On

TRIENA0.
*** Off**

GS1 Emulation

The scanner can automatically format the output from any GS1 data carrier to emulate what would be encoded in an equivalent GS1-128 or GS1 DataBar symbol. GS1 data carriers include UPC-A and UPC-E, EAN-13 and EAN-8, ITF-14, GS1-128, and GS1-128 DataBar and GS1 Composites. (Any application that accepts GS1 data can be simplified since it only needs to recognize one data carrier type.)

If **GS1-128 Emulation** is scanned, all retail codes (U.P.C., UPC-E, EAN8, EAN13) are expanded out to 16 digits. If the AIM ID is enabled, the value will be the GS1-128 AIM ID,]C1 (see Symbology Charts on page 189).

If **GS1 DataBar Emulation** is scanned, all retail codes (U.P.C., UPC-E, EAN8, EAN13) are expanded out to 16 digits. If the AIM ID is enabled, the value will be the GS1-DataBar AIM ID,]e*m* (see Symbology Charts on page 189).

If **GS1 Code Expansion Off** is scanned, retail code expansion is disabled, and UPC-E expansion is controlled by the UPC-E0 Expand (page 123) setting. If the AIM ID is enabled, the value will be the GS1-128 AIM ID,]C1 (see Symbology Charts on page 189).

If **EAN8 to EAN13 Conversion** is scanned, all EAN8 barcodes are converted to EAN13 format. *Default = GS1 Emulation Off*.

EANEMU1.
GS1-128 Emulation

EANEMU2.
GS1 DataBar Emulation

EANEMU3.
GS1 Code Expansion Off

EAN8 to EAN13 Conversion

*** GS1 Emulation Off**

Postal Codes

The following lists linear postal codes. Any combination of linear postal code selections can be active at a time.

China Post (Hong Kong 2 of 5)

<Default All China Post (Hong Kong 2 of 5) Settings>

China Post (Hong Kong 2 of 5) On/Off

On

*** Off**

China Post (Hong Kong 2 of 5) Redundancy

If you are encountering errors when reading China Post (Hong Kong 2 of 5) barcodes, you may want to adjust the redundancy count. Redundancy adjusts the number of times a barcode is decoded before transmission, which may reduce the number of errors. Note that the higher the redundancy count, the longer it will take to decode the barcode. To adjust the redundancy, scan the **China Post (Hong Kong 2 of 5) Redundancy** barcode below, then scan a redundancy count between 0 and 10 on the Programming Chart on page 202. Then scan the Save barcode. *Default = 0.*

China Post (Hong Kong 2 of 5) Redundancy

China Post (Hong Kong 2 of 5) Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 90) for additional information. Minimum and Maximum lengths = 1-80. *Minimum Default = 3*, *Maximum Default = 80*.

Minimum Message Length

Maximum Message Length

CHAPTER

7 UTILITIES

Add a Test Code I.D. Prefix to All Symbologies

This selection allows you to turn on transmission of a Code I.D. before the decoded symbology. (See the Symbology Charts, beginning on page 189) for the single character code that identifies each symbology.) This action first clears all current prefixes, then programs a Code I.D. prefix for all symbologies. This is a temporary setting that will be removed when the unit is power cycled.

Add Code I.D. Prefix to All Symbologies (Temporary)

Show Software Revision

Scan the barcode below to output the current software revision, unit serial number, and other product information for both the scanner and base.

Show Revision

Show Data Format

Scan the barcode below to show current data format settings.

Data Format Settings

Test Menu

When you scan the **Test Menu On** code, then scan a programming code in this manual, the scanner displays the content of a programming code. The programming function will still occur, but in addition, the content of that programming code is output to the terminal.

Note: *This feature should not be used during normal scanner operation.*

On

*** Off**

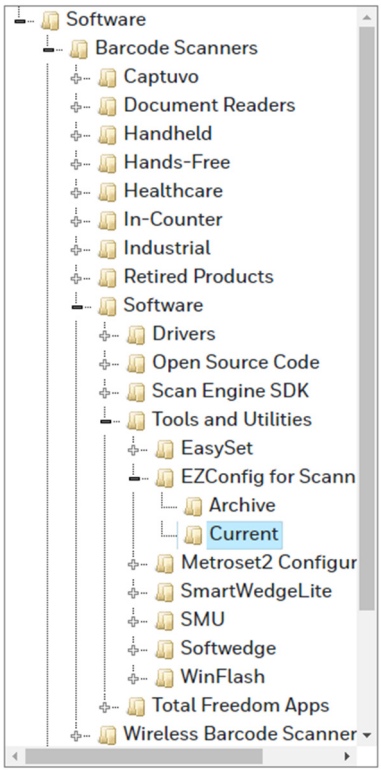
EZConfig for Scanning Introduction

EZConfig for Scanning provides a wide range of PC-based programming functions that can be performed on the scanner connected to your PC. EZConfig for Scanning allows you to download upgrades to the scanner's firmware, change programmed parameters, and create and print programming barcodes. Using EZConfig for Scanning, you can even save/open the programming parameters. This saved file can be e-mailed or, if required, you can create a single barcode that contains all the customized programming parameters and mail or fax that barcode to any location. Users in other locations can scan the barcode to load in the customized programming.

Configure with EZConfig for Scanning

Use the EZConfig for Scanning tool to configure your scanner online:

1. Access the Honeywell Technical Support Downloads Portal at honeywell.com/PSSsoftware-downloads.
2. Go to **Software** > **Barcode Scanners** > **Software** > **Tools and Utilities** > **EZConfig for Scanning** > **Current**.



3. Download the **Setup** version of EZConfig for Scanning.
4. Open EZConfig to configure your scanner.

Reset the Factory Defaults

Caution: *This selection erases all your settings and resets the scanner to the original factory defaults. It also disables all plugins.*

If you aren't sure what programming options are in your scanner, or you've changed some options and want to restore the scanner to factory default settings, first scan the **Remove Custom Defaults** barcode, then scan **Activate Defaults**. This resets the scanner to the factory default settings.

DEFOVR.
Remove Custom Defaults

DEFALT.
Activate Defaults

The Serial Programming Commands, beginning on page 151 list the factory default settings for each of the commands (indicated by an asterisk (*) on the programming pages).

CHAPTER

8 SERIAL PROGRAMMING COMMANDS

The serial programming commands can be used in place of the programming barcodes. Both the serial commands and the programming barcodes will program the scanner. For complete descriptions and examples of each serial programming command, refer to the corresponding programming barcode in this manual.

The device must be set to an RS232 interface (see page 8). The following commands can be sent via a PC COM port using terminal emulation software.

parameter	A label representing the actual value you should send as part of a command.
[*option*]	An optional part of a command.
{Data}	Alternatives in a command.
bold	Names of menus, menu commands, buttons, dialog boxes, and windows that appear on the screen.

Menu Command Syntax

Menu commands have the following syntax (spaces have been used for clarity only):

Prefix [:Name:] Tag SubTag {Data} [, SubTag {Data}] [; Tag SubTag {Data}] [...] Storage

Prefix	Three ASCII characters: SYN M CR (ASCII 22,77,13).
:Name:	To send information to the scanner (with the base connected to host), use :Voyager: The default factory setting for a Voyager scanner is Voyager scanner. If the name is not known, a wildcard (*) can be used :*

Note: *Since the base stores all work group settings and transfers to them to scanner once they are linked, changes are typically done to the base and not to the scanner.*

Tag	A 3 character case-insensitive field that identifies the desired menu command group. For example, all RS232 configuration settings are identified with a Tag of **232**.

SubTag	A 3 character case-insensitive field that identifies the desired menu command within the tag group. For example, the SubTag for the RS232 baud rate is **BAD**.
Data	The new value for a menu setting, identified by the Tag and SubTag.
Storage	A single character that specifies the storage table to which the command is applied. An exclamation point (!) performs the command's operation on the device's volatile menu configuration table. A period (.) performs the command's operation on the device's non-volatile menu configuration table. Use the non-volatile table only for semi-permanent changes you want saved through a power cycle.

Query Commands

Several special characters can be used to query the device about its settings.

^	What is the default value for the setting(s).
?	What is the device's current value for the setting(s).
*****	What is the range of possible values for the setting(s). (The device's response uses a dash (-) to indicate a continuous range of values. A pipe (|) separates items in a list of non-continuous values.)

:Name: Field Usage (Optional)

This command returns the query information from the scanner.

Tag Field Usage

When a query is used in place of a Tag field, the query applies to the *entire* set of commands available for the particular storage table indicated by the Storage field of the command. In this case, the SubTag and Data fields should not be used because they are ignored by the device.

SubTag Field Usage

When a query is used in place of a SubTag field, the query applies only to the subset of commands available that match the Tag field. In this case, the Data field should not be used because it is ignored by the device.

Data Field Usage

When a query is used in place of the Data field, the query applies only to the specific command identified by the Tag and SubTag fields.

Concatenation of Multiple Commands

Multiple commands can be issued within one Prefix/Storage sequence. Only the Tag, SubTag, and Data fields must be repeated for each command in the sequence. If additional commands are to be applied to the same Tag, then the new command sequence is separated with a comma (,) and only the SubTag and Data fields of the additional command are issued. If the additional command requires a different Tag field, the command is separated from previous commands by a semicolon (;).

Responses

The device responds to serial commands with one of three responses:

ACK Indicates a good command which has been processed.

ENQ Indicates an invalid Tag or SubTag command.

NAK Indicates the command was good, but the Data field entry was out of the allowable range for this Tag and SubTag combination, e.g., an entry for a minimum message length of 100 when the field will only accept 2 characters.

When responding, the device echoes back the command sequence with the status character inserted directly before each of the punctuation marks (the period, exclamation point, comma, or semicolon) in the command.

Examples of Query Commands

In the following examples, a bracketed notation [ ] depicts a non-displayable response.

Example: What is the range of possible values for Codabar Coding Enable?

Enter: **cbrena*.**

Response: **CBRENA0-1[ACK]**

This response indicates that Codabar Coding Enable (CBRENA) has a range of values from 0 to 1 (off and on).

Example: What is the default value for Codabar Coding Enable?

Enter: **cbrena^.**

Response: **CBRENA1[ACK]**

This response indicates that the default setting for Codabar Coding Enable (CBRENA) is 1, or on.

Example: What is the device's current setting for Codabar Coding Enable?

Enter: **cbrena?.**

Response: **CBRENA1[ACK]**

This response indicates that the device's Codabar Coding Enable (CBRENA) is set to 1, or on.

Example: What are the device's settings for all Codabar selections?

Enter: **cbr?.**

Response: **CBRENA1[ACK],**
SSX0[ACK],
CK20[ACK],
CCT1[ACK],
MIN2[ACK],
MAX60[ACK],
DFT[ACK].

This response indicates that the device's Codabar Coding Enable (CBRENA) is set to 1, or on;
the Start/Stop Character (SSX) is set to 0, or Don't Transmit;
the Check Character (CK2) is set to 0, or Not Required;
concatenation (CCT) is set to 1, or Enabled;
the Minimum Message Length (MIN) is set to 2 characters;
the Maximum Message Length (MAX) is set to 60 characters;
and the Default setting (DFT) has no value.

Trigger Commands

You can activate and deactivate the scanner with serial trigger commands. The trigger is activated and deactivated by sending the following commands:

Activate: **SYN T CR**

Deactivate: **SYN U CR**

The scanner scans until a barcode has been read or until the deactivate command is sent. The scanner can also be set to turn itself off after a specified time has elapsed (see Read Time-Out, which follows).

Read Time-Out

Use this selection to set a time-out (in milliseconds) of the scanner's trigger when using serial commands to trigger the scanner. Once the scanner has timed out, you can activate the scanner either by pressing the trigger or using a serial trigger

command. After scanning the **Read Time-Out** barcode, set the time-out duration (from 0-300,000 milliseconds) by scanning digits on the Programming Chart on page 202, then scanning Save. *Default = 30,000 ms.*

Read Time-Out

Reset the Custom Defaults

If you want the custom default settings restored to your scanner, scan the **Activate Custom Defaults** barcode below. This resets the scanner to the custom default settings. If there are no custom defaults, it will reset the scanner to the factory default settings. Any settings that have not been specified through the custom defaults will be defaulted to the factory default settings.

Activate Custom Defaults

The charts on the following pages list the factory default settings for each of the commands (indicated by an asterisk (*) on the programming pages).

Menu Commands

Selection	Setting * Indicates default	Serial Command # Indicates a numeric entry	Page
Product Default Settings			
Setting Custom Defaults	Set Custom Defaults	MNUCDF	5
	Save Custom Defaults	DEFALT	5
Resetting the Custom Defaults	Activate Custom Defaults	DEFALT	6
Program the Interface			
Plug and Play Codes	Keyboard Wedge: IBM PC AT and Compatibles with CR suffix	PAP_AT	7
	IBM PS2 Keyboard	PAPPS2	8
	RS232 Serial Port	PAP232	8
Plug and Play Codes: RS485	IBM Port 5B Interface	PAPP5B	8
	IBM Port 9B HHBCR-1 Interface	PAP9B1	8
	IBM Port 17 Interface	PAPP17	9
	IBM Port 9B HHBCR-2 Interface	PAP9B2	9
OPOS Mode	OPOS Mode	PAPOPS	10
Plug and Play Codes: IBM SurePos	USB IBM SurePos Handheld	PAPSPH	10
	USB IBM SurePos Tabletop	PAPSPT	10
IBM Secondary Interface	* Enable Secondary Interface	REMIFC1	10
	Disable Secondary Interface	REMIFC0	10
Plug and Play Codes: USB	USB Keyboard (PC)	PAP124	11
	USB Keyboard (Mac)	PAP125	11
	USB Japanese Keyboard (PC)	PAP134	11
	USB HID	PAP131	11
HID Fallback Mode	HID Fallback Mode (Range 0-60 *5 minutes	USBFTO	12

Selection	Setting * Indicates default	Serial Command # Indicates a numeric entry	Page
USB Serial Commands	USB Serial Emulation for Windows XP, Windows Server 2003, and later	PAP130	12
	USB Serial Emulation for Windows 2000	PAP130;REMIFCO	12
	CTS/RTS Emulation On	USBCTS1	12
	*CTS/RTS Emulation Off	USBCTS0	12
	ACK/NAK Mode On	USBACK1	13
	*ACK/NAK Mode Off	USBACK0	13
	Communication Timeout (Range 0-65535) *2000 ms	232DLK#####	13
	Timeout Retries	HSTRTY	13
	Communication Timeout Beeper - Off	HSTTOA0	13
	*Communication Timeout Beeper - On	HSTTOA1	13
	NAK Retries (Range 0-255) *0	HSTRTN###	14
	BEL/CAN Mode On	BELCAN1	14
	*BEL/CAN Mode Off	BELCAN0	14
Plug and Play Codes	Verifone Ruby Terminal	PAPRBY	14
	Gilbarco Terminal	PAPGLB	15
	Honeywell Bioptic Aux Port	PAPBIO	15
	Datalogic Magellan Bioptic Aux Port	PAPMAG	16
	NCR Bioptic Aux Port	PAPNCR	16
	Wincor Nixdorf Terminal	PAPWNX	17
	Wincor Nixdorf Beetle	PAPBTL	17
	Wincor Nixdorf RS232 Mode A	PAPWMA	18
Program Keyboard Country	*U.S.A.	KBDCTY0	18
	Albania	KBDCTY35	18
	Arabic	KBDCTY91	18
	Azeri (Cyrillic)	KBDCTY81	18
	Azeri (Latin)	KBDCTY80	19
	Belarus	KBDCTY82	19
	Belgium	KBDCTY1	19
	Bosnia	KBDCTY33	19
	Brazil	KBDCTY16	19
	Brazil (MS)	KBDCTY59	19
	Bulgaria (Cyrillic)	KBDCTY52	19
	Bulgaria (Latin)	KBDCTY53	19

Selection	Setting * Indicates default	Serial Command # Indicates a numeric entry	Page
	Canada (French legacy)	KBDCTY54	19
	Canada (French)	KBDCTY18	19
	Canada (Multilingual)	KBDCTY55	19
	China	KBDCTY92	19
	Croatia	KBDCTY32	20
	Czech	KBDCTY15	20
	Czech (Programmers)	KBDCTY40	20
	Czech (QWERTY)	KBDCTY39	20
	Czech (QWERTZ)	KBDCTY38	20
	Denmark	KBDCTY8	20
	Dutch (Netherlands)	KBDCTY11	20
	Estonia	KBDCTY41	20
	Faroese	KBDCTY83	20
	Finland	KBDCTY2	20
	France	KBDCTY3	20
	Gaelic	KBDCTY84	20
	Germany	KBDCTY4	21
	Greek	KBDCTY17	21
	Greek (220 Latin)	KBDCTY64	21
	Greek (220)	KBDCTY61	21
	Greek (319 Latin)	KBDCTY65	21
	Greek (319)	KBDCTY62	21
	Greek (Latin)	KBDCTY63	21
	Greek (MS)	KBDCTY66	21
	Greek (Polytonic)	KBDCTY60	21
	Hebrew	KBDCTY12	21
	Hungarian (101 key)	KBDCTY50	21
	Hungary	KBDCTY19	21
	Iceland	KBDCTY75	22
	Irish	KBDCTY73	22
	Italian (142)	KBDCTY56	22
	Italy	KBDCTY5	22
	Japan ASCII	KBDCTY28	22
	Kazakh	KBDCTY78	22
	Korea	KBDCTY93	22
	Kyrgyz (Cyrillic)	KBDCTY79	22
	Latin America	KBDCTY14	22

Selection	Setting * Indicates default	Serial Command # Indicates a numeric entry	Page
	Latvia	KBDCTY42	22
	Latvia (QWERTY)	KBDCTY43	22
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Selection	Setting * Indicates default	Serial Command # Indicates a numeric entry	Page
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Code 93 Redundancy	Range (0 - 10) *0	C93VOT##	101
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Straight 2 of 5 IATA	Default All Straight 2 of 5 IATA Settings	A25DFT	102
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Straight 2 of 5 IATA Message Length	Minimum (1 - 80) *13	A25MIN##	103
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Matrix 2 of 5 Message Length	Minimum (1 - 80) *3	X25MIN##	105
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128 Group Separator Output	*Off	128GSE0	108
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Code 128 Message Length	Minimum (1 - 80) *1	128MIN##	108
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ISBT 128 Predefined Concatenation Sequences On/Off	*Off	ISBPCE0	110
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GS1-128 Redundancy	Range (0 - 10) *0	GS1VOT##	115
GS1-128 Message Length	Minimum (1 - 80) *3	GS1MIN	115
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Telepen Message Length	Minimum (1 - 80) *3	TELMIN##	116
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Selection	Setting * Indicates default	Serial Command # Indicates a numeric entry	Page
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	Require Coupon Code or 2 Digit Addenda	ARQSY55	121
	Require Coupon Code or 5 Digit Addenda	ARQSY56	121
	Require Coupon Code, 2 Digit Addenda, or 5 Digit Addenda	ARQSY57	122
Addenda Timeout	Range (0 - 65535) *100	DLYADD#####	122
UPC-E0	Default All UPC-E Settings	UPEDFT	122
	Off	UPEEN00	122
	*On	UPEEN01	122
UPC-E0 Expand	*Off	UPEEXP0	123
	On	UPEEXP1	123
UPC-E0 Number System	*On	UPEEXN1	123
	Off	UPEEXN0	123
UPC-E0 Check Digit	*Off	UPECKX0	124
	On	UPECKX1	123
UPC-E0 Leading Zero	Off	UPENSX0	124
	*On	UPENSX1	124
UPC-E0 Addenda	2 Digit Addenda On	UPEAD21	124
	*2 Digit Addenda Off	UPEAD20	124
	5 Digit Addenda On	UPEAD51	124
	*5 Digit Addenda Off	UPEAD50	124

Selection	Setting * Indicates default	Serial Command # Indicates a numeric entry	Page
UPC-E0 Addenda Required	Required	UPEARQ1	125
	*Not Required	UPEARQ0	125
Addenda Timeout	Range (0 - 65535) *100	DLYADD#####	125
UPC-E0 Addenda Separator	On	UPEADS1	125
	*Off	UPEADS0	125
UPC-E0 Redundancy	Range (0 - 10) *1	UPEVOT##	126
EAN/JAN-13	Default All EAN/ JAN Settings	E13DFT	126
	Off	E13ENA0	126
	*On	E13ENA1	126
Convert UPC-A to EAN-13	Convert UPC-A to EAN-13	UPAENA0	126
	*Do Not Convert UPC-A	UPAENA1	126
EAN/JAN-13 Check Digit	Off	E13CKX0	127
	*On	E13CKX1	127
EAN/JAN-13 2 Digit Addenda	2 Digit Addenda On	E13AD21	127
	*2 Digit Addenda Off	E13AD20	127
	5 Digit Addenda On	E13AD51	127
	*5 Digit Addenda Off	E13AD50	127
EAN/JAN-13 Addenda Required	*Not Required	E13ARQ0	127
	Required	E13ARQ1	127
EAN-13 Beginning with 2 Addenda Required	* Don't Require 2 Digit Addenda	ARQSY20	128
	Require 2 Digit Addenda	ARQSY21	129
EAN-13 Beginning with 290 Addenda Required	* Don't Require 5 Digit Addenda	ARQ2900	128
	Require 5 Digit Addenda	ARQ2901	129
EAN-13 Beginning with 378/379 Addenda Required	* Don't Require Addenda	ARQ3780	129
	Require 2 Digit Addenda	ARQ3781	129
	Require 5 Digit Addenda	ARQ3782	129
	Require 2 or 5 Digit Addenda	ARQ3783	129
EAN-13 Beginning with 414/419 Addenda Required	* Don't Require Addenda	ARQ4140	130
	Require 2 Digit Addenda	ARQ4141	130
	Require 5 Digit Addenda	ARQ4142	130
	Require 2 or 5 Digit Addenda	ARQ4143	130
EAN-13 Beginning with 434/439 Addenda Required	* Don't Require Addenda	ARQ4340	130
	Require 2 Digit Addenda	ARQ4341	130
	Require 5 Digit Addenda	ARQ4342	130
	Require 2 or 5 Digit Addenda	ARQ4343	131
EAN-13 Beginning with 977 Addenda Required	* Don't Require 2 Digit Addenda	ARQ9770	131
	Require 2 Digit Addenda	ARQ9771	131

Selection	Setting * Indicates default	Serial Command # Indicates a numeric entry	Page
EAN-13 Beginning with 978 Addenda Required	* Don't Require 5 Digit Addenda	ARQ9780	131
	Require 5 Digit Addenda	ARQ9781	132
EAN-13 Beginning with 979 Addenda Required	* Don't Require 5 Digit Addenda	ARQ9790	132
	Require 5 Digit Addenda	ARQ9791	132
Addenda Timeout	Range (0 - 65535) *100	DLYADD#####	132
EAN/JAN-13 Addenda Separator	*Off	E13ADS0	133
	On	E13ADS1	133
EAN/JAN-13 Redundancy	Range (0 - 10) *0	E13VOT##	133
ISBN Translate	*Off	E13ISB0	133
	On	E13ISB1	133
	Convert to 13-Digit On	E13I131	134
	*Convert to 13-Digit Off	E13I130	134
	Reformat On	E13IBR1	134
	*Reformat Off	E13IBR0	134
ISSN Translate	*Off	E13ISS0	134
	On	E13ISS1	134
	Reformat On	E13ISR1	135
	*Reformat Off	E13ISR0	135
EAN/JAN-8	Default All EAN/ JAN 8 Settings	EA8DFT	135
	Off	EA8ENA0	135
	*On	EA8ENA1	135
EAN/JAN-8 Check Digit	Off	EA8CKX0	136
	*On	EA8CKX1	135
EAN/JAN-8 Addenda	*2 Digit Addenda Off	EA8AD20	136
	2 Digit Addenda On	EA8AD21	136
	*5 Digit Addenda Off	EA8AD50	136
	5 Digit Addenda On	EA8AD51	136
EAN/JAN-8 Addenda Required	*Not Required	EA8ARQ0	136
	Required	EA8ARQ1	136
Addenda Timeout	Range (0 - 65535) *100	DLYADD#####	137
EAN/JAN-8 Addenda Separator	*Off	EA8ADS0	137
	On	EA8ADS1	137
EAN/JAN-8 Redundancy	Range (0 - 10) *0	EA8VOT##	137
MSI	Default All MSI Settings	MSIDFT	138
	*Off	MSIENA0	138
	On	MSIENA1	138

Selection	Setting * Indicates default	Serial Command # Indicates a numeric entry	Page
MSI Check Character	*Validate Type 10, but Don't Transmit	MSICHK0	138
	Validate Type 10 and Transmit	MSICHK1	138
	Validate 2 Type 10 Chars, but Don't Transmit	MSICHK2	138
	Validate 2 Type 10 Chars and Transmit	MSICHK3	139
	Validate Type 11 then Type 10 Char, but Don't Transmit	MSICHK4	139
	Validate Type 11 then Type 10 Char and Transmit	MSICHK5	139
	Disable MSI Check Characters	MSICHK6	139
MSI Redundancy	Range (0 - 10) *0	MSIVOT##	139
MSI Message Length	Minimum (1 - 80) *3	MSIMIN##	139
	Maximum (1 - 80) *80	MSIMAX##	139
Plessey Code	Default All Plessey Code Settings	PLSDFT	140
	*Off	PLSENA0	140
	On	PLSENA1	140
Plessey Check Char.	*No Check Char.	PLSCHK0	140
	Validate, But Don't Transmit	PLSCHK1	140
	Validate, and Transmit	PLSCHK2	140
Plessey Redundancy	Range (0 - 10) *0	PLSVOT##	141
Plessey Message Length	Minimum (1 - 80) *3	PLSMIN##	141
	Maximum (1 - 80) *80	PLSMAX##	141
GS1 DataBar Omnidirectional	Default All GS1 DataBar Omnidirectional Settings	RSSDFT	141
	Off	RSSENA0	141
	*On	RSSENA1	141
GS1 DataBar Omnidirectional Redundancy	Range (0 - 10) *0	RSSVOT##	142
GS1 DataBar Limited	Default All GS1 DataBar Limited Settings	RSLDFT	142
	Off	RSLENA0	142
	*On	RSLENA1	142
GS1 DataBar Limited Redundancy	Range (0 - 10) *0	RSLVOT##	142

Selection	Setting * Indicates default	Serial Command # Indicates a numeric entry	Page
GS1 DataBar Expanded	Default All GS1 DataBar Expanded Settings	RSEDFT	143
	Off	RSEENA0	143
	*On	RSEENA1	143
GS1 DataBar Expanded Redundancy	Range (0 - 10) *0	RSEVOT##	143
GS1 DataBar Expanded Msg. Length	Minimum (1 - 80) *3	RSEMIN##	143
	Maximum (1 - 80) *80	RSEMAX##	143
Trioptic Code	*Off	TRIENA0	144
	On	TRIENA1	144
GS1 Emulation	GS1-128 Emulation	EANEMU1	144
	GS1 DataBar Emulation	EANEMU2	144
	GS1 Code Expansion Off	EANEMU3	144
	EAN8 to EAN13 Conversion	EANEMU4	145
	*GS1 Emulation Off	EANEMU0	145
Postal Codes			
China Post (Hong Kong 2 of 5)	Default All China Post (Hong Kong 2 of 5) Settings	CPCDFT	145
	*Off	CPCENA0	145
	On	CPCENA1	145
China Post (Hong Kong 2 of 5) Redundancy	Range (0 - 10) *0	CPCVOT##	145
China Post (Hong Kong 2 of 5) Msg. Length	Minimum (1 - 80) *3	CPCMIN##	146
	Maximum (1 - 80) *80	CPCMAX##	146
Utilities			
Add Code I.D. Prefix to All Symbologies (Temporary)		PRECA2,BK2995C80!	147
Show Software Revision		REVINF	147
Show Data Format		DFMBK3?	147
Test Menu	On	TSTMNU1	148
	*Off	TSTMNU0	148
Resetting the Factory Defaults	Remove Custom Defaults	DEFOVR	149
	Activate Defaults	DEFALT	149
Trigger Commands			
Read Time-Out	0 - 300,000 *30,000 ms	TRGSTO####	154

CHAPTER

9 PRODUCT SPECIFICATIONS

Voyager 1250g Scanner Product Specifications

Parameter	Specification
Mechanical	
Height	6.63 in. (168mm)
Length	3.22 in. (88mm)
Width	2.45 in. (62mm)
Weight	4.69 oz. (133g)
Electrical	
Input Voltage	5V ± 5%
Operating Power	700mW; 140 mA (typical) @ 5V
Standby Power	425mW; 85 mA (typical) @ 5V
Environmental	
Operating Temperature	32°F to 104°F (0°C to 40°C)
Storage Temperature	-4°F to 140°F (-20°C to 60°C)
Humidity	5 to 95% non-condensing
Drop	Operational after 30 drops to concrete from 5 ft. (1.5m)
Environmental Sealing	IP41
Light Immunity	75,000 lux (direct sunlight)
ESD	15kV Air, 8kV contact
Scan Performance	
Scan Pattern	Single scan line
Scan Angle	Horizontal: 30°
Scan Speed	100 scan lines per second
Print Contrast	20% minimum reflectance difference
Pitch, Skew	60°, 60°
Decode Capabilities	Reads standard 1D and GS1 DataBar symbologies

Depth of Field

Typical Performance

Barcode	Standard Range
5.0 mil	57 mm - 139 mm (2.2” - 5.5”)
7.5 mil	28 mm - 245 mm (1.1” - 9.7”)
10.4 mil	9 mm - 369 mm (0.4” - 14.5”)
13 mil	0 mm - 446 mm (0.0” - 17.6”)

Guaranteed Performance

Barcode	Standard Range
5.0 mil	65 mm - 129 mm (2.6” - 5.1”)
7.5 mil	35 mm - 230 mm (1.4” - 9.1”)
10.4 mil	20 mm - 350 mm (0.8” - 13.8”)
13 mil	0 mm - 419 mm (0.0” - 16.5”)

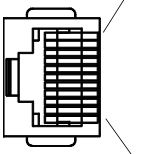
Note: *Resolution at 4 mil (0.127mm)*
Performance may be impacted by barcode quality and environmental conditions.

Standard Cable Pinouts

Note: *The following pin assignments are not compatible with Honeywell legacy products. Use of a cable with improper pin assignments may lead to damage to the unit. Use of any cables not provided by the manufacturer may result in damage not covered by your warranty.*

Keyboard Wedge

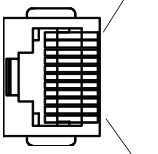
10 Pin RJ41 Modular Plug - connects to the scanner handle



1	**Cable shield**
2	**Cable select**
3	**Supply ground**
4	**Terminal data**
5	**Terminal clock**
6	**Keyboard clock**
7	**+5V power**
8	**Keyboard data**
9	
10	

Serial Output

10 Pin RJ41 Modular Plug - connects to the scanner handle

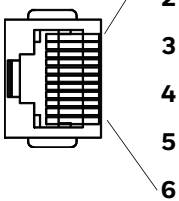


1	**Cable shield**
2	**Cable select**
3	**Supply ground**
4	**Transmit data**
5	**Receive data - serial data to scanner**
6	**CTS**
7	**+5V power**
8	**RTS**
9	
10	

RS485 Output

10 Pin RJ41 Modular Plug - connects to the scanner handle

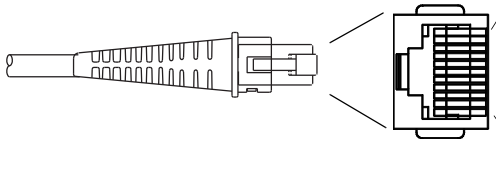
Note: *RS485 signal conversion is performed in the cable.*



1 **Cable shield**
2 **Cable select**
3 **Supply ground**
4 **Transmit data**
5 **Receive data – serial data to scanner**
6
7 **+5V power**
8 **Transmit Enable**
9
10

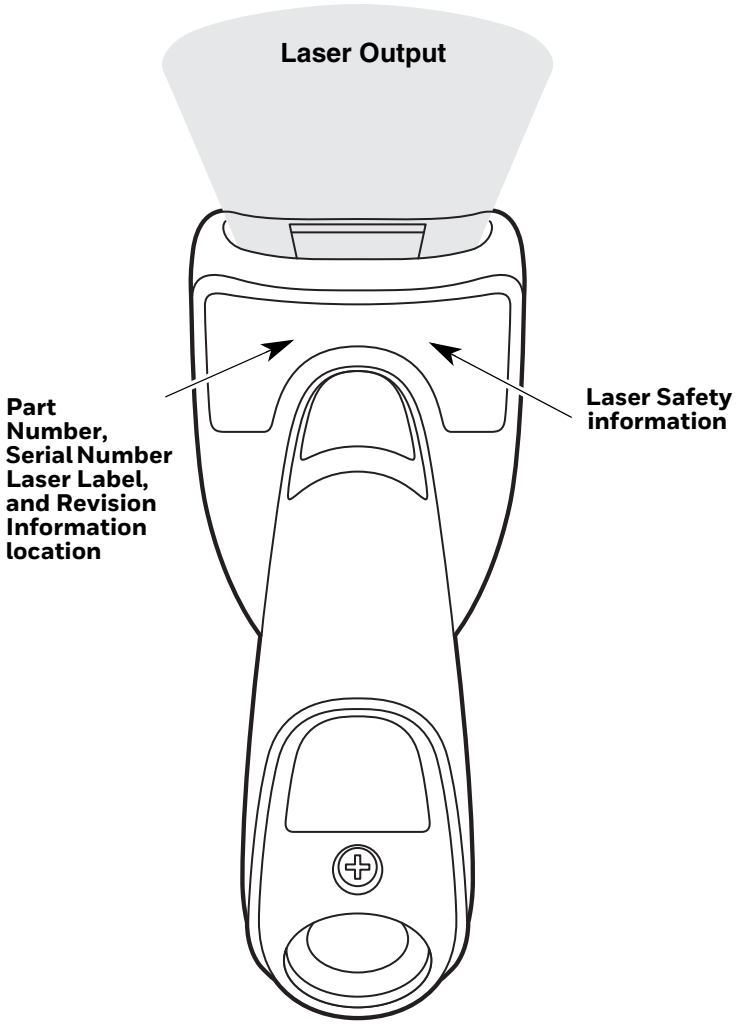
USB

10 Pin Modular Plug – connects to the scanner handle



1 **Cable shield**
2 **Cable select**
3 **Supply ground**
4
5
6
7 **+5V power**
8
9 **Data +**
10 **Data –**

Required Safety Label Locations



Laser Safety Statement

This device has been tested in accordance with and complies with IEC60825-1 Ed 2 and 21 CFR 1040.10 and 1040.11, except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007.

LASER LIGHT, DO NOT STARE INTO BEAM, CLASS 2 LASER PRODUCT. 1 mW MAX OUTPUT: 645-660nM.

Scanner Laser Beam

Wavelength 645 - 660 nm

Divergence < 1.5 mrad. per IEC 60825-1 worst case

Max power output < 1mw

Embedded Laser

Wavelength 645 - 660 nm

Divergence < 1.5 mrad, per IEC 60825-1 worst case

Max power output < 10 mw

Caution: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

CHAPTER 10

MAINTENANCE AND TROUBLESHOOTING

Repairs

Repairs and/or upgrades are not to be performed on this product. These services are to be performed only by an authorized service center (see Customer Support on page xiii).

Maintenance

Your device provides reliable and efficient operation with a minimum of care. Although specific maintenance is not required, the following periodic checks ensure dependable operation:

Clean the Device:

The scanner and scanner window may be cleaned with a soft cloth dampened with water or a mild detergent-water solution. If a mild detergent solution is used, wipe the scanner with a clean cloth dampened only with water to remove any detergent residue.

Note: *Reading performance may degrade if the scanner's window is not clean. If the window is visibly dirty, or if the scanner isn't operating well, clean the window.*

Caution: Do not submerge the scanner in water or cleaning solution. Do not use abrasive wipes or cloths on the scanner's window. Abrasive wipes may scratch the window. Never use solvents (e.g., acetone) on the housing or window. Solvents may damage the finish or the window.

Inspect Cords and Connectors

Inspect the interface cable and connector for wear or other signs of damage. A badly worn cable or damaged connector may interfere with scanner operation. Contact your distributor for information about cable replacement. Cable replacement instructions are on page 186.

Replace Cables

The standard interface cable is attached to the scanner with an 10-pin modular connector. When properly seated, the connector is held in the scanner's handle by a flexible retention tab. The interface cable is designed to be field replaceable.

- Order replacement cables from Honeywell or from an authorized distributor.
- When ordering a replacement cable, specify the cable part number of the original interface cable.

Replace an Interface Cable

1. Turn off the power to the host system.
2. Disconnect the scanner's cable from the terminal or computer.
3. Locate the small hole on the underside of the scanner's handle. This is the cable release.
4. Straighten one end of a paper clip.
5. Insert the end of the paper clip into the small hole and press in. This depresses the retention tab, releasing the connector. Pull the connector out while maintaining pressure on the paper clip, then remove the paper clip.

6. Replace with the new cable.
   Insert the connector into the opening and press firmly. The connector is keyed to go in only one way, and will click into place.

Troubleshoot a Voyager Scanner

The scanner automatically performs self-tests whenever you turn it on. If your scanner is not functioning properly, review the following Troubleshooting Guide to try to isolate the problem.

Is the power on? Is the laser aimer on?

If the laser aimer isn't illuminated, check that:

- The cable is connected properly.

- The host system power is on (if external power isn't used).
- The trigger works.

Is the scanner having trouble reading your symbols?

If the scanner isn't reading symbols well, check that the scanner window is clean and that the symbols:

- Aren't smeared, rough, scratched, or exhibiting voids.
- Aren't coated with frost or water droplets on the surface.
- Are enabled in the scanner or in the decoder to which the scanner connects.

Is the barcode displayed but not entered?

The barcode is displayed on the host device correctly, but you still have to press a key to enter it (the Enter/Return key or the Tab key, for example).

- You need to program a suffix. Programming a suffix enables the scanner to output the barcode data plus the key you need (such as "CR") to enter the data into your application. Refer to Prefix/Suffix Overview on page 61 for further information.

The scanner won't read your barcode at all.

1. Scan the sample barcodes in the back of this manual. If the scanner reads the sample barcodes, check that your barcode is readable.
   Verify that your barcode symbology is enabled (see Chapter 6).
2. If the scanner still can't read the sample barcodes, scan All Symbologies Off, page 90.

If you aren't sure what programming options have been set in the scanner, or if you want the factory default settings restored, refer to Set Custom Defaults on page 5.

APPENDIX

A REFERENCE CHARTS

Symbology Charts

Note: *"m" represents the AIM modifier character. Refer to International Technical Specification, Symbology Identifiers, for AIM modifier character details.*

Prefix/Suffix entries for specific symbologies override the universal (All Symbologies, 99) entry.

Refer to Data Edit beginning on page 61 and Data Format beginning on page 69 for information about using Code ID and AIM ID.

Linear Symbologies

	AIM		Honeywell	
Linear Symbology	**ID**	**Possible modifiers (m)**	**ID**	**Hex**
All Symbologies				99
Codabar	]F*m*	0-1	a	61
Code 11	]H3		h	68
Code 128	]C*m*	0, 1, 2, 4	j	6A
Code 32 Pharmaceutical (PARAF)	]X0		<	3C
Code 39 (supports Full ASCII mode)	]A*m*	0, 1, 3, 4, 5, 7	b	62
TCIF Linked Code 39 (TLC39)	]L2		T	54
Code 93 and 93i	]G*m*	0-9, A-Z, a-m	i	69
EAN	]E*m*	0, 1, 3, 4	d	64
EAN-13 (including Bookland EAN)	]E0		d	64
EAN-13 with Add-On	]E3		d	64
EAN-13 with Extended Coupon Code	]E3		d	64
EAN-8	]E4		D	44

	AIM		Honeywell	
Linear Symbology	**ID**	**Possible modifiers (m)**	**ID**	**Hex**
EAN-8 with Add-On	]E3		D	44
GS1				
GS1 DataBar	]e*m*	0	y	79
GS1 DataBar Limited	]e*m*		{	7B
GS1 DataBar Expanded	]e*m*		}	7D
GS1-128	]C1		I	49
2 of 5				
China Post (Hong Kong 2 of 5)	]X0		Q	51
Interleaved 2 of 5	]I*m*	0, 1, 3	e	65
Matrix 2 of 5	]X0		m	6D
NEC 2 of 5	]X0		Y	59
Straight 2 of 5 IATA	]R*m*	0, 1, 3	f	66
Straight 2 of 5 Industrial	]S0		f	66
MSI	]M*m*	0, 1	g	67
Telepen	]B*m*		t	74
UPC		0, 1, 2, 3, 8, 9, A, B, C		
UPC-A	]E0		c	63
UPC-A with Add-On	]E3		c	63
UPC-A with Extended Coupon Code	]E3		c	63
UPC-E	]E0		E	45
UPC-E with Add-On	]E3		E	45
UPC-E1	]X0		E	45

Add Honeywell Code ID				5C80
Add AIM Code ID				5C81
Add Backslash				5C5C
Batch mode quantity			5	35

2D Symbologies

	AIM		Honeywell	
2D Symbology	**ID**	**Possible modifiers (m)**	**ID**	**Hex**
All Symbologies				99
Aztec Code	]z*m*	0-9, A-C	z	7A

2D Symbology	AIM		Honeywell	
	ID	Possible modifiers (m)	ID	Hex
Chinese Sensible Code (Han Xin Code)	]X0		H	48
Codablock A	]O6	0, 1, 4, 5, 6	V	56
Codablock F	]O*m*	0, 1, 4, 5, 6	q	71
Code 49	]T*m*	0, 1, 2, 4	l	6C
Data Matrix	]d*m*	0-6	w	77
Dot Code	]J0		.	2E
GS1	]e*m*	0-3	y	79
GS1 Composite	]e*m*	0-3	y	79
GS1 DataBar Omnidirectional	]e*m*	0-3	y	79
MaxiCode	]U*m*	0-3	x	78
PDF417	]L*m*	0-2	r	72
MicroPDF417	]L*m*	0-5	R	52
QR Code	]Q*m*	0-6	s	73
Micro QR Code	]Q*m*		s	73

Postal Symbologies

Symbology	AIM		Honeywell	
	ID	Possible modifiers (m)	ID	Hex
All Symbologies				99
Australian Post	]X0		A	41
British Post	]X0		B	42
Canadian Post	]X0		C	43
China Post	]X0		Q	51
InfoMail	]X0		,	2c
Intelligent Mail Barcode	]X0		M	4D
Japanese Post	]X0		J	4A
KIX (Netherlands) Post	]X0		K	4B
Korea Post	]X0		?	3F
Planet Code	]X0		L	4C
Postal-4i	]X0		N	4E
Postnet	]X0		P	50

ASCII Conversion Chart (Code Page 1252)

In keyboard applications, ASCII Control Characters can be represented in 3 different ways, as shown below. The CTRL+X function is OS and application dependent. The following table lists some commonly used Microsoft functionality. This table applies to U.S. style keyboards. Certain characters may differ depending on your Country Code/PC regional settings.

Non-printable ASCII control characters			Keyboard Control + ASCII (CTRL+X) Mode		
			Control + X Mode Off (KBDCAS0)	Windows Mode Control + X Mode On (KBDCAS2)	
DEC	HEX	Char		CTRL + X	CTRL + X function
0	00	NUL	Reserved	CTRL+ @	
1	01	SOH	NP Enter	CTRL+ A	Select all
2	02	STX	Caps Lock	CTRL+ B	Bold
3	03	ETX	ALT Make	CTRL+ C	Copy
4	04	EOT	ALT Break	CTRL+ D	Bookmark
5	05	ENQ	CTRL Make	CTRL+ E	Center
6	06	ACK	CTRL Break	CTRL+ F	Find
7	07	BEL	Enter / Ret	CTRL+ G	
8	08	BS	*(Apple Make)*	CTRL+ H	History
9	09	HT	Tab	CTRL+ I	Italic
10	0A	LF	*(Apple Break)*	CTRL+ J	Justify
11	0B	VT	Tab	CTRL+ K	hyperlink
12	0C	FF	Delete	CTRL+ L	list, left align
13	0D	CR	Enter / Ret	CTRL+ M	
14	0E	SO	Insert	CTRL+ N	New
15	0F	SI	ESC	CTRL+ O	Open
16	10	DLE	F11	CTRL+ P	Print
17	11	DC1	Home	CTRL+ Q	Quit
18	12	DC2	PrtScn	CTRL+ R	
19	13	DC3	Backspace	CTRL+ S	Save
20	14	DC4	Back Tab	CTRL+ T	
21	15	NAK	F12	CTRL+ U	
22	16	SYN	F1	CTRL+ V	Paste
23	17	ETB	F2	CTRL+ W	
24	18	CAN	F3	CTRL+ X	
25	19	EM	F4	CTRL+ Y	
26	1A	SUB	F5	CTRL+ Z	
27	1B	ESC	F6	CTRL+ [	
28	1C	FS	F7	CTRL+ \	
29	1D	GS	F8	CTRL+]	
30	1E	RS	F9	CTRL+ ^	
31	1F	US	F10	CTRL+ -	
127	7F	⌂	NP Enter		

Lower ASCII Reference Table

Note: *Windows Code page 1252 and lower ASCII use the same characters.*

Printable Characters								
DEC	**HEX**	**Character**	**DEC**	**HEX**	**Character**	**DEC**	**HEX**	**Character**
32	20	<SPACE>	64	40	@	96	60	`
33	21	!	65	41	A	97	61	a
34	22	"	66	42	B	98	62	b
35	23	#	67	43	C	99	63	c
36	24	$	68	44	D	100	64	d
37	25	%	69	45	E	101	65	e
38	26	&	70	46	F	102	66	f
39	27	'	71	47	G	103	67	g
40	28	(	72	48	H	104	68	h
41	29	)	73	49	I	105	69	i
42	2A	*	74	4A	J	106	6A	j
43	2B	+	75	4B	K	107	6B	k
44	2C	,	76	4C	L	108	6C	l
45	2D	-	77	4D	M	109	6D	m
46	2E	.	78	4E	N	110	6E	n
47	2F	/	79	4F	O	111	6F	o
48	30	0	80	50	P	112	70	p
49	31	1	81	51	Q	113	71	q
50	32	2	82	52	R	114	72	r
51	33	3	83	53	S	115	73	s
52	34	4	84	54	T	116	74	t
53	35	5	85	55	U	117	75	u
54	36	6	86	56	V	118	76	v
55	37	7	87	57	W	119	77	w
56	38	8	88	58	X	120	78	x
57	39	9	89	59	Y	121	79	y
58	3A	:	90	5A	Z	122	7A	z
59	3B	;	91	5B	[	123	7B	{
60	3C	<	92	5C	\	124	7C	|
61	3D	=	93	5D	]	125	7D	}
62	3E	>	94	5E	^	126	7E	~
63	3F	?	95	5F	_	127	7F	⌂

Extended ASCII Characters					
DEC	**HEX**	**CP 1252**	**ASCII**	**Alternate Extended**	**PS2 Scan Code**
128	80	€	Ç	up arrow ↑	0x48
129	81		ü	down arrow ↓	0x50
130	82	‚	é	right arrow →	0x4B
131	83	*ƒ*	â	left arrow ←	0x4D
132	84	„	ä	Insert	0x52
133	85	…	à	Delete	0x53
134	86	†	å	Home	0x47
135	87	‡	ç	End	0x4F
136	88	ˆ	ê	Page Up	0x49
137	89	‰	ë	Page Down	0x51
138	8A	Š	è	Right ALT	0x38
139	8B	‹	ï	Right CTRL	0x1D

Extended ASCII Characters (Continued)					
DEC	**HEX**	**CP 1252**	**ASCII**	**Alternate Extended**	**PS2 Scan Code**
140	8C	Œ	î	Reserved	n/a
141	8D		ì	Reserved	n/a
142	8E	Ž	Ä	Numeric Keypad Enter	0x1C
143	8F		Å	Numeric Keypad /	0x35
144	90		É	F1	0x3B
145	91	‘	æ	F2	0x3C
146	92	’	Æ	F3	0x3D
147	93	“	ô	F4	0x3E
148	94	”	ö	F5	0x3F
149	95	•	ò	F6	0x40
150	96	–	û	F7	0x41
151	97	—	ù	F8	0x42
152	98	˜	ÿ	F9	0x43
153	99	™	Ö	F10	0x44
154	9A	š	Ü	F11	0x57
155	9B	›	¢	F12	0x58
156	9C	œ	£	Numeric Keypad +	0x4E
157	9D		¥	Numeric Keypad -	0x4A
158	9E	ž	Pts	Numeric Keypad *	0x37
159	9F	Ÿ	ƒ	Caps Lock	0x3A
160	A0		á	Num Lock	0x45
161	A1	¡	í	Left Alt	0x38
162	A2	¢	ó	Left Ctrl	0x1D
163	A3	£	ú	Left Shift	0x2A
164	A4	¤	ñ	Right Shift	0x36
165	A5	¥	Ñ	Print Screen	n/a
166	A6	¦	ª	Tab	0x0F
167	A7	§	º	Shift Tab	0x8F
168	A8	¨	¿	Enter	0x1C
169	A9	©	⌐	Esc	0x01
170	AA	ª	¬	Alt Make	0x36
171	AB	«	½	Alt Break	0xB6
172	AC	¬	¼	Control Make	0x1D
173	AD		¡	Control Break	0x9D
174	AE	®	«	Alt Sequence with 1 Character	0x36
175	AF	¯	»	Ctrl Sequence with 1 Character	0x1D
176	B0	°	░		
177	B1	±	▒		
178	B2	²	▓		
179	B3	³	│		
180	B4	´	┤		
181	B5	µ	╡		
182	B6	¶	╢		
183	B7	·	╖		
184	B8	¸	╕		
185	B9	¹	╣		
186	BA	º	║		
187	BB	»	╗		
188	BC	¼	╝		
189	BD	½	╜		
190	BE	¾	╛		
191	BF	¿	┐		
192	C0	À	└		
193	C1	Á	┴		

Extended ASCII Characters (Continued)					
DEC	**HEX**	**CP 1252**	**ASCII**	**Alternate Extended**	**PS2 Scan Code**
194	C2	Â	┬		
195	C3	Ã	├		
196	C4	Ä	─		
197	C5	Å	┼		
198	C6	Æ	╞		
199	C7	Ç	╟		
200	C8	È	╚		
201	C9	É	╔		
202	CA	Ê	╩		
203	CB	Ë	╦		
204	CC	Ì	╠		
205	CD	Í	═		
206	CE	Î	╬		
207	CF	Ï	╧		
208	D0	Ð	╨		
209	D1	Ñ	╤		
210	D2	Ò	╥		
211	D3	Ó	╙		
212	D4	Ô	╘		
213	D5	Õ	╒		
214	D6	Ö	╓		
215	D7	×	╫		
216	D8	Ø	╪		
217	D9	Ù	┘		
218	DA	Ú	┌		
219	DB	Û			
220	DC	Ü			
221	DD	Ý			
222	DE	Þ			
223	DF	ß			
224	E0	à	α		
225	E1	á	ß		
226	E2	â	Γ		
227	E3	ã	π		
228	E4	ä	Σ		
229	E5	å	σ		
230	E6	æ	µ		
231	E7	ç	τ		
232	E8	è	Φ		
233	E9	é	Θ		
234	EA	ê	Ω		
235	EB	ë	δ		
236	EC	ì	∞		
237	ED	í	φ		
238	EE	î	ε		
239	EF	ï	∩		
240	F0	ð	≡		
241	F1	ñ	±		
242	F2	ò	≥		
243	F3	ó	≤		
244	F4	ô	⌠		
245	F5	õ	⌡		
246	F6	ö	÷		
247	F7	÷	≈		

Extended ASCII Characters (Continued)					
DEC	**HEX**	**CP 1252**	**ASCII**	**Alternate Extended**	**PS2 Scan Code**
248	F8	ø	°		
249	F9	ù	·		
250	FA	ú	·		
251	FB	û	√		
252	FC	ü	ⁿ		
253	FD	ý	²		
254	FE	þ	■		
255	FF	ÿ			

ISO 2022/ISO 646 Character Replacements

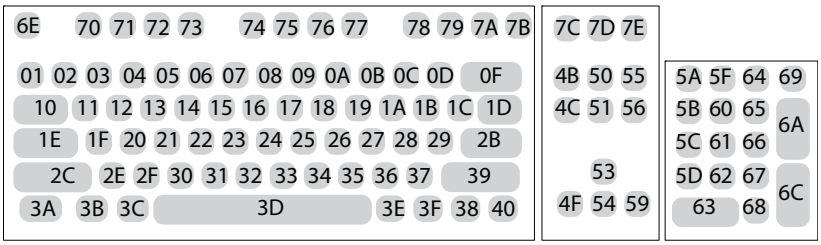
Code pages define the mapping of character codes to characters. If the data received does not display with the proper characters, it may be because the bar-code being scanned was created using a code page that is different from the one the host program is expecting. If this is the case, select the code page with which the barcodes were created. The data characters should then appear properly.

Code Page Selection Method/ Country	**Standard**	**Keyboard Country**	**Honeywell Code Page Option**
United States (standard ASCII)	ISO/IEC 646-IRV	n/a	1
Automatic National Character Replacement	ISO/IEC 2022	n/a	2 (default)
Binary Code page	n/a	n/a	3
Default "Automatic National Character replacement" will select the below Honeywell Code Page options for Code128, Code 39 and Code 93.			
United States	ISO/IEC 646-06	0	1
Canada	ISO /IEC 646-121	54	95
Canada	ISO /IEC 646-122	18	96
Japan	ISO/IEC 646-14	28	98
China	ISO/IEC 646-57	92	99
Great Britain (UK)	ISO /IEC 646-04	7	87
France	ISO /IEC 646-69	3	83
Germany	ISO/IEC646-21	4	84
Switzerland	ISO /IEC 646-CH	6	86
Sweden / Finland (extended Annex C)	ISO/IEC 646-11	2	82
Ireland	ISO /IEC 646-207	73	97
Denmark	ISO/IEC 646-08	8	88
Norway	ISO/IEC 646-60	9	94
Italy	ISO/IEC 646-15	5	85
Portugal	ISO/IEC 646-16	13	92

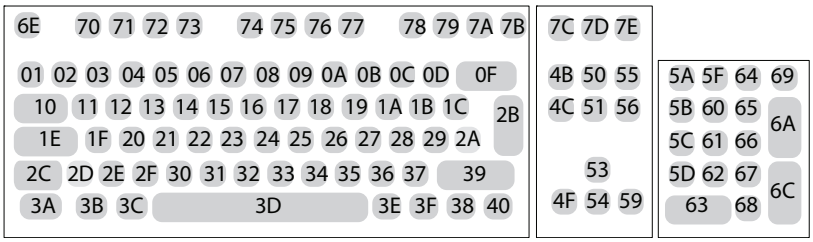
Code Page Selection Method/ Country	Standard	Keyboard Country	Honeywell Code Page Option
Spain	ISO/IEC 646-17	10	90
Spain	ISO/IEC 646-85	51	91

Dec			35	36	64	91	92	93	94	96	123	124	125	126
Hex			23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E
US	0	1	#	$	@	[	\	]	^	`	{	|	}	~
CA	54	95	#	$	à	â	ç	ê	î	ô	é	ù	è	û
CA	18	96	#	$	à	â	ç	ê	É	ô	é	ù	è	û
JP	28	98	#	$	@	[	¥	]	^	`	{	|	}	¯
CN	92	99	#	¥	@	[	\	]	^	`	{	|	}	¯
GB	7	87	£	$	@	[	\	]	^	`	{	|	}	~
FR	3	83	£	$	à	°	ç	§	^	µ	é	ù	è	¨
DE	4	84	#	$	§	Ä	Ö	Ü	^	`	ä	ö	ü	ß
CH	6	86	ù	$	à	é	ç	ê	î	ô	ä	ö	ü	û
SE/FI	2	82	#	¤	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü
DK	8	88	#	$	@	Æ	Ø	Å	^	`	æ	ø	å	~
NO	9	94	#	$	@	Æ	Ø	Å	^	`	æ	ø	å	¯
IE	73	97	£	$	Ó	É	Í	Ú	Á	ó	é	í	ú	á
IT	5	85	£	$	§	°	ç	é	^	ù	à	ò	è	ì
PT	13	92	#	$	§	Ã	Ç	Õ	^	`	ã	ç	õ	°
ES	10	90	#	$	§	¡	Ñ	¿	^	`	°	ñ	ç	~
ES	51	91	#	$	·	¡	Ñ	Ç	¿	`	´	ñ	ç	¨
COUNTRY	Country Keyboard	Honeywell CodePage	ISO / IEC 646 National Character Replacements											

Keyboard Key References



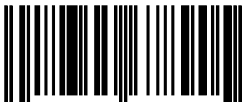
104 Key U.S. Style Keyboard



105 Key European Style Keyboard

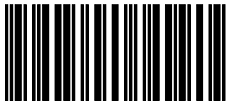
Sample Symbols

UPC-A



0 123456 7890

Interleaved 2 of 5



01234567890

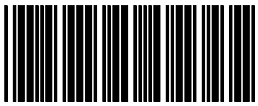
EAN-13

9 780330 290951

Code 128

Code 128

Code 39

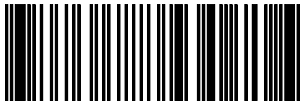


BC321

Codabar

A13579B

Code 93



123456-9$

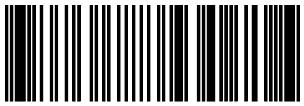
Straight 2 of 5 Industrial

123456

Matrix 2 of 5

6543210

GS1 DataBar



(01)00123456789012

Programming Chart

0

1

2

3

4

5

6

7

8

9

Programming Chart (Continued)

A

B

C

D

E

F

Save

Discard

Reset

Note: *If you make an error while scanning the letters or digits (before scanning **Save**), scan **Discard**, scan the correct letters or digits, and **Save** again.*

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