Honeywell

Granit™ 1280i

Industrial Full Range Laser Scanner

User's Guide

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Web Address: www.honeywellaidc.com

Product Agency Compliance - Granit 1280i

USA

FCC Part 15 Subpart B Class B

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.

2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or television technician for help.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet helpful: “Something About Interference.” This is available at FCC local regional offices. Honeywell is not responsible for any radio or television interference caused by unauthorized modifications of this equipment or the substitution or attachment of connecting cables and equipment other than those specified by Honeywell. The correction is the responsibility of the user.

Use only shielded data cables with this system. This unit has been tested with cables less than 3 meters. Cables greater than 3 meters may not meet class B performance.

Caution: Any changes or modifications made to this equipment not expressly approved by Honeywell may void the FCC authorization to operate this equipment.

TÜV-R Statement

TÜV R listed: UL 60950-1, Second Edition and CSA C22.2 No.60950-1-07, Second Edition.

Canada

Industry Canada ICES-003

This Class B digital apparatus complies with Canadian ICES-003. Operation is subject to the following conditions:

1. This device may not cause harmful interference.

2. This device must accept any interference received, including interference that may cause undesired operation.

Conformité à la règlementation canadienne

Cet appareil numérique de la Classe A est conforme à la norme NMB-003 du Canada. Son fonctionnement est assujetti aux conditions suivantes :

1. Cet appareil ne doit pas causer de brouillage préjudiciable.

2. Cet appareil doit pouvoir accepter tout brouillage reçu, y compris le brouillage pouvant causer un fonctionnement indésirable.

TÜV-R Statement

TÜV R listed: UL 60950-1, Second Edition and CSA C22.2 No.60950-1-07, Second Edition.

Europe

The CE marking indicates compliance with the following directives:

- 2004/108/EC EMC
- 2011/65/EU RoHS (Recast)

In addition, complies to 2006/95/EC Low Voltage Directive, when shipped with recommended power supply. European contact:

Hand Held Products Europe B.V.
Nijverheidsweg 9-13
5627 BT Eindhoven
The Netherlands

Honeywell International Inc. shall not be liable for use of our product with equipment (i.e., power supplies, personal computers, etc.) that is not CE marked and does not comply with the Low Voltage Directive.

Honeywell Scanning & Mobility Product Environmental Information

Refer to www.honeywellaidc.com/environmental for the RoHS / REACH / WEEE information.

Australia/NZ

C-Tick Statement

Conforms to AS/NZS 3548 EMC requirement

Mexico

Conforms to NOM-019.

Japan

VCCI: V-3, Technical Requirements, Class B ITE.

この装置は、クラス B 情報技術装置です。この装置は、家庭環境で使用
することを目的としていますが、この装置がラジオやテレビジョン受信機に
近接して使用されると、受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。VCCI–B

South Korea

This product meets Korean agency approval.

이 기기는 가정용 (B 급) 전자파적합기기로서 주로 가정에서 사용하는 것을 목적으로 하며 ,
모든 지역에서 사용할 수 있습니다 .

Taiwan

If the following label is attached to your product, the product meets Taiwan agency approval:

BSMI Standard: CNS13438, CNS14336
依據標準 : CNS13438, CNS14336

Russia

Customs Union approval

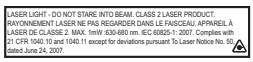
International

CB Scheme

Certified to CB Scheme IEC 60950-1, Second Edition.

Laser Safety Statement

If the following label is attached to your product, it indicates the product contains a laser engine or laser aimer:



This device has been tested in accordance with and complies with IEC60825-1 ed2 (2007). Complies with 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, 1.0 mW MAX OUTPUT: 650nM.

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

Patents

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

Solids and Water Protection

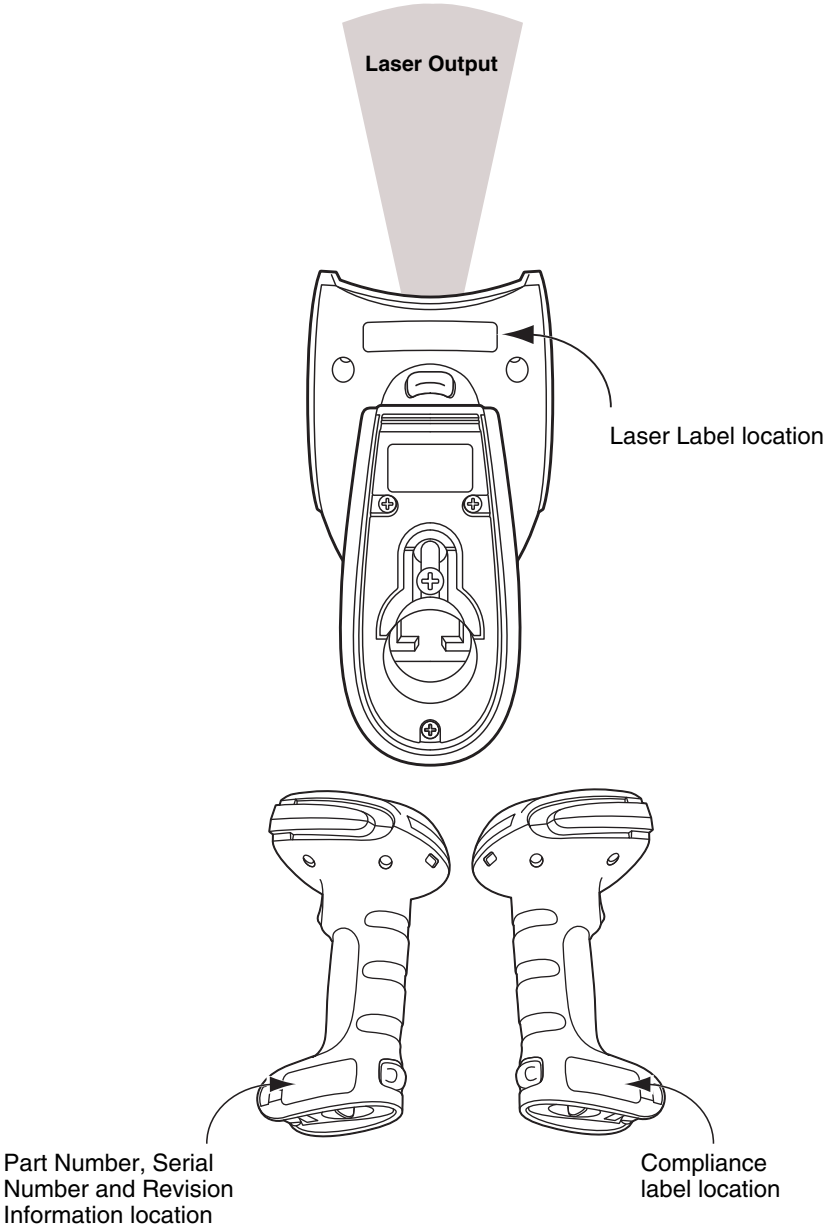
The Granit 1280i has a rating of IP65, totally protected against dust and protected against low pressure water jets.

Warning

To reduce the possibility of heat-related injuries, avoid touching sections of the scanner that feel warm.

Required Safety Labels

Granit 1280i Scanner



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1 Getting Started

About This Manual

This User's Guide provides installation and programming instructions for the Granit 1280i corded industrial scanners. Product specifications, dimensions, warranty, and customer support information are also included.

Honeywell bar code 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 bar codes in this guide.

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

Unpacking Your Device

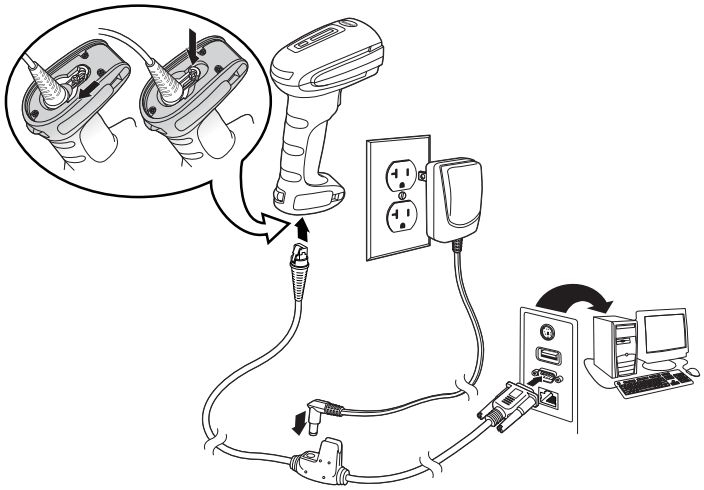
After you open the shipping carton containing the product, take the following steps:

- 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.

Connecting the Device

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

Note: For the scanner to work properly, you must have the correct cable for your type of terminal/computer.



3. Make sure the cable is pushed tightly into the scanner. Loosen the locking plate and slide it over the base of the cable connector to lock the cable in place. Tighten the screw.
4. Plug the serial connector into the serial port on your computer. Tighten the two screws to secure the connector to the port.
5. Once the scanner has been fully connected, power up the computer.
6. Plug in the AC adapter, if applicable.

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

Reading Techniques

The Granit 1280i scanner has a bright red scanning line that corresponds to the scanner's horizontal field of view.

The scanning line 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 scanning line 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.

Cyber Security Settings

Honeywell scanners have additional settings aimed at preventing cyber attacks. You may want to restrict the ability to program your device with menu codes or serial commands, or you may want to disable firmware upgrades to your device. Honeywell's Cyber Security settings allow you to secure your device by restricting these features. Please contact the nearest technical support office (see Technical Assistance on page 11-1) for further information.

Setting 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** bar code below before scanning the menu commands for your custom defaults. If a menu command requires scanning numeric codes from the back cover, then a **Save** code, that entire sequence will be 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** bar code.

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, just scan the **Set Custom Defaults** bar code, 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.

Resetting the Custom Defaults

If you want the custom default settings restored to your scanner, scan the **Activate Custom Defaults** bar code below. This is the recommended default bar code for most users. It 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

2 Programming the Interface

Introduction

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

Programming the Interface - Plug and Play

Plug and Play bar codes 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.

RS232 Serial Port

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

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

RS232 Interface

OPOS Mode

The following bar code configures your engine 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

Verifone® Ruby Terminal Default Settings

Scan the following Plug and Play code to program the scanner for a Verifone Ruby terminal. This bar code sets the baud rate to 1200 bps and the data format to 8 data bits, no parity bit, 1 stop bit. 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

Gilbarco® Terminal Default Settings

Scan the following Plug and Play code to program the scanner for a Gilbarco terminal. This bar code 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

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 bar code sets the baud rate to 38400 bps and the data format to 8 data bits, no parity, 1 stop bit.

Honeywell Bioptic Settings

Datalogic™ Magellan® Aux Port Configuration

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

Datalogic Magellan Settings

NCR Bioptic Aux Port Configuration

Scan the following Plug and Play code to program the scanner for an NCR bioptic scanner auxiliary port configuration. 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
		GS1 DataBar Omnidirecitonal	r
EAN-8	FF	GS1 DataBar Expanded	r
EAN-13	F	Codabar	N
Code 39	a	Code 32 Pharmaceutical (PARAF)	a

NCR Bioptic Settings

Wincor Nixdorf Terminal Default Settings

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

Wincor Nixdorf Terminal Settings

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

Wincor Nixdorf Beetle Settings

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.
19200


232BAD7.
38400


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**


232WRD8.
8 Data, 1 Stop, Parity Odd


232WRD14.
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.

RTS/CTS Off: RTS/CTS is turned off so no data flow control is used, but RTS is still active.

RTS/CTS Off, RTS Inactive: RTS/CTS is turned off so no data flow control is used and RTS is inactive.

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 2-7) 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 2-7) 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.


232CTS0.
*** RTS/CTS Off**


232CTS10.
*** RTS/CTS Off, RTS Inactive**


232CTS1.
Flow Control, No Timeout


232CTS7.
Character-Based Flow Control, No Timeout


232CTS2.
Two-Direction Flow Control


232CTS3.
Flow Control with Timeout


232CTS9.
Character-Based Flow Control with Timeout

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 timeout by scanning the bar code below, then setting the timeout (from 1-65535 milliseconds) by scanning digits from the inside back cover, then scanning **Save**.


232DEL.

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.*


232XON1.

XON/XOFF On


232XON0.

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


232ACK1.

ACK/NAK On


232ACK0.

*** 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 bar code below, then set the timeout (from 1-65535 milliseconds) by scanning digits from the Programming Chart, 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 bar code below, then set the number of retries (from 0-255) by scanning digits from the Programming Chart, 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 3-5). *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 bar code below, then set the number of retries (from 0-255) by scanning digits from the Programming Chart, then scanning **Save**. (5 is the recommended setting.) *Default = 0, or disabled.*

HSTRTN.
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.*

BELCAN1.
BEL/CAN On

BELCAN0.
*** BEL/CAN Off**

RS232 Defaults

If you want the custom RS232 default settings restored to your scanner, scan the **RS232 Defaults** bar code below. This resets the scanner to the custom default settings (see Setting Custom Defaults on page 1-2). 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.


232DFT.
RS232 Defaults

NCR Modifiers

NCR ACK/NAK

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


NCRACK0.
*** NCR ACK/NAK Off**


NCRACK1.
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.*


NCRBCC1.
*** 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), page A-2 to find the hex equivalent for the characters you want for the NCR prefix (typically, 02 for STX). Scan the bar code below, then set the hex number (from 0-FF) by scanning digits from the Programming Chart, 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), page A-2 to find the hex equivalent for the characters you want for the NCR suffix (typically, 03 for ETX). Scan the bar code below, then set the hex number (from 0-FF) by scanning digits from the Programming Chart, then scanning **Save**. *Default = 0.*

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 Editing beginning on page 4-1), however, the following commands override any other prefix/suffix settings. *Default = Don't Transmit.*

Transmit

*** 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 bar code to a price parameter. When set to **On**, the error tone sounds (set via Number of Beeps – Error, page 3-5) 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 2-4, and RS232 Timeout on page 2-7 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

3

Input/Output Settings

Power Save Mode

Power Save Mode allows you to automatically set the conditions under which the scanner idles, sleeps, and wakes up. When **Off** is selected, no power saving is used and the scanner remains powered on until the trigger is pressed.

When **Sleep Mode** is selected, the scanner goes into sleep mode (powered off) after the time interval set using Power Save Mode Timeout (page 3-1), during which there is no activity. This provides significant power savings over the **Off** setting.

When **Hibernate Mode** is selected, the scanner goes into idle mode after the time interval set using Power Save Mode Timeout (page 3-1), during which there is no activity. After the same time interval has elapsed with no activity while the scanner is in idle mode, the scanner goes into sleep mode (powered off). This provides additional power savings over the **Sleep Mode** setting, but the scanner takes longer to wake up.

Default = Off.

*** Off**

Sleep Mode Only

Hibernate Mode

Power Save Mode Timeout

Use this selection to set a timeout (in seconds) for the scanner when using Power Save Mode. When this time has elapsed with no activity, the scanner will enter the Power Save Mode selected. After scanning the **Power Save Mode Timeout** bar code, set the timeout duration (from 0-65535 seconds) by scanning digits on the Programming Chart inside the back cover, then scanning **Save**. *Default = 600 seconds.*

Power Save Mode Timeout

Power Up Beeper

The scanner can be programmed to beep when it's powered up. Scan the **Off** bar code(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** bar code 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.*

Beeper - Good Read Off

*** 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.*

Low

Medium

*** High**

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.*

Low (1600 Hz)

*** Medium (3200 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

Vibrate – Good Read

The scanner vibrates once when a bar code is successfully read, and twice when a programming bar code is successfully read. When a programming bar code is unsuccessful, the scanner emits one long vibration (2 times the Vibrate Duration length). The trigger cannot be used again until the vibration has ended. Scan **Vibrate - Good Read Off** to keep the scanner from vibrating. This setting may be preferable if you need to scan multiple bar codes in succession and do not want to wait till the vibration has ended. *Default = Vibrate - Good Read On.*

Vibrate- Good Read Off

*** Vibrate- Good Read On**

Vibrate Duration

If you want to set the length for the good read vibration, scan the bar code below, then set the duration (from 100 - 2,000 milliseconds) by scanning digits from the inside back cover, then scanning **Save**. If you need to scan multiple bar codes in succession, you may wish to set a short duration time, since the trigger cannot be used until the vibration has ended. *Default = 300 ms.*

Vibrate Duration

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 (3250 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. To change the number of beeps, scan the bar code below and then scan a digit (1-9) bar code and the **Save** bar code on the Programming Chart inside the back cover of this manual. *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. To change the number of error beeps, scan the bar code below and then scan a digit (1-9) bar code and the **Save** bar code on the Programming Chart inside the back cover of this manual. *Default = 1.*

Number of Error Beeps/LED Flashes

Beeper Volume Max

Scan the following bar code to set all error and good read beeps to the maximum volume. This feature also sets the Beeper Pitch – Good Read to the highest level.

Beeper Volume Max

Laser Aimer

Laser Aimer - Scanning Pattern

To set the laser light pattern that appears when scanning a bar code, you must first enter an aimer delay (see Aimer Delay on page 3-7). Then scan one of the following bar codes to set a new scanning pattern.

Default = 10 Segment Line.

Laser Aimer - Scanning Pattern Off

Laser Aimer - Scanning Laser Dot

Laser Aimer - Scanning Blinking Dot

Laser Aimer - Scanning 3 Segment Line

Laser Aimer - Scanning 5 Segment Line

*** Laser Aimer - Scanning 10 Segment Line**

Laser Aimer - Scanning Duration

Use the **Laser Aimer - Scanning Duration** bar code to specify how long you want the Laser Aimer - Scanning Pattern to remain on after the trigger is released. Scan the bar code below, then set the duration (from 0 - 65535 milliseconds) by scanning digits from the inside back cover, then scanning **Save**. *Default = 0 ms.*

Laser Aimer - Scanning Duration

Laser Aimer - Good Read Pattern

Once a bar code has been successfully read, you may want the laser light to remain on, but to display a different pattern than the scanning pattern. This gives the operator an additional visual indicator that the bar code was successfully read.

Scan one of the bar codes below to program your device for a Good Read Pattern. *Default = 10 Segment Line.*

Laser Aimer - Good Read Pattern Off

Laser Aimer - Good Read 3 Segment Line

Laser Aimer - Good Read 5 Segment Line

*** Laser Aimer - Good Read 10 Segment Line**

Laser Aimer - Good Read Duration

Use the **Laser Aimer - Good Read Duration** bar code to specify how long you want the Laser Aimer - Good Read Pattern to remain on after a bar code has been successfully read. Scan the bar code below, then set the duration (from 0 - 65535 milliseconds) by scanning digits from the inside back cover, then scanning **Save**. *Default = 0 ms.*

Laser Aimer - Good Read Duration

Aimer Delay

The aimer delay allows a delay time for the operator to aim the scanner before the bar code is scanned. Use these codes to set the time between when the trigger is pulled and when the bar code is scanned. During the delay time, the aiming light will appear, but scanning will not begin until the delay time is over. *Default = Off.*

200 milliseconds

400 milliseconds

*** Off *(no delay)***

User-Specified Aimer Delay

If you want to set your own length for the duration of the delay, scan the bar code below, then set the time-out by scanning digits (0 - 4,000 ms) from the Programming Chart inside the back cover of this manual, then scan **Save**.

Delay Duration

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 bar codes to program the LED indicators.

LED Settings

Default = Red LED On with Laser, 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


LEDFN1128.
Red LED On with CTS


LEDFN2128.
Green LED On with CTS

Good Read Delay

This sets the minimum amount of time before the scanner can read another bar code. *Default = 0 ms (No Delay).*

*** No Delay**

Short Delay (500 ms)

Medium Delay (1,000 ms)

Long Delay (1,500 ms)

User-Specified Good Read Delay

If you want to set your own length for the good read delay, scan the bar code below, then set the delay (from 0 - 30,000 milliseconds) by scanning digits from the inside back cover, then scanning **Save**.

User-Specified Good Read Delay

Out-Of-Stand Settings

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

Note: The Granit 1280i does not support In-Stand settings. It supports only the standard Honeywell Out-of-Stand settings.

Caution: When working with 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 bar codes. if this happens, power cycle the scanner and scan the defaults bar code on page 1-2.

Out-of-Stand Defaults

If you want the Out-of-Stand default settings restored to your scanner, scan the **Out-of-Stand Defaults** bar code below. This resets the scanner to the custom default settings (see Setting Custom Defaults on page 1-2). 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.

Out-of-Stand Defaults

Presentation Mode

When the scanner is in Presentation Mode, it automatically detects bar codes, then scans and transmits the data. To set the time period before the scanner can read the *same* bar code a second time use Reread Delay (page 3-11). To return to trigger scanning, scan the **Out-of-Stand Defaults** bar code, above.

Presentation Mode Out-of-Stand

Manual Activation Mode

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

Manual Activation Mode Off Out-of-Stand

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

End Manual Activation After Good Read

After a bar code 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 bar code. *Default = End Manual Activation After Good Read Out-of-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 bar codes when the trigger is held down, and after it is released. Set the length (in milliseconds) for a timeout by scanning one of the following bar codes, then setting the timeout (from 1-65535 milliseconds) by scanning digits from the Programming Chart, then scanning **Save**. *Default = Trigger Hold Out-of-Stand 30,000 ms, Trigger Release Out-of-Stand 0.*

Laser Timeout - Trigger Hold Out-of-Stand

Laser Timeout - Trigger Release Out-of-Stand

Reread Delay

This sets the time period before the scanner can read the *same* bar code a second time. Setting a reread delay protects against accidental rereads of the same bar code. Longer delays are effective in minimizing accidental rereads. Use shorter delays in applications where repetitive bar code scanning is required. Reread Delay only works when in a Presentation Mode (see page 3-10). *Default = Medium.*

Short (500 ms)

*** 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 bar code below, then set the delay (from 0-30,000 milliseconds) by scanning digits from the inside back cover, then scanning **Save**.

User-Specified Reread Delay

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 bar codes, but the bar code data is not transmitted until the trigger is pressed. When CodeGate is **Off**, bar code data is transmitted when it is decoded. *Default = CodeGate On Out-of-Stand.*

CodeGate Off Out-of-Stand

*** CodeGate On 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 Timeout (page 3-13), the deactivation character is received (see Deactivation Character on page 3-14), or a bar code is transmitted. Scan the following **On** bar code 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), page A-2, find the hex value that represents the character you want to use to trigger scanning. Scan the following bar code, then use the Programming Chart to read the alphanumeric combination that represents that ASCII character. Scan **Save** to finish**.** *Default = 18 [CAN].*

Activation Character

End Character Activation After Good Read

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

You can set a timeout for the length of time the illumination remains on and attempting to decode bar codes when using Character Activation Mode. Set the length (in milliseconds) for a timeout by scanning the following bar code, then setting the timeout (from 1-65,535 milliseconds) by scanning digits from the Programming Chart inside the back cover of this manual, then scanning **Save**. *Default = 5000 ms.*

Character Activation 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 following **On** bar code to use character deactivation, then use Deactivation Character (following) to select the character you will send from the host to terminate scanning. *Default = Off.*

*** Off**

On

Deactivation Character

This sets the character used to terminate scanning when using Character Deactivation Mode. On the ASCII Conversion Chart (Code Page 1252), page A-2, find the hex value that represents the character you want to use to terminate scanning. Scan the following bar code, then use the Programming Chart inside the back cover of this manual to read the alphanumeric combination that represents that ASCII character. Scan **Save** to finish**.** *Default = 68 [h].*

HSTDCH.

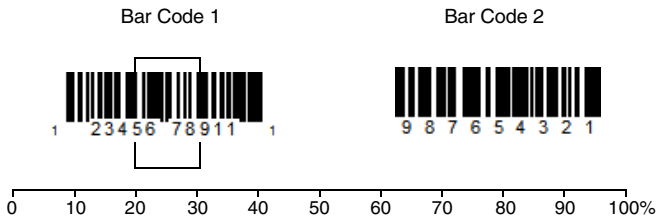
Deactivation Character

Centering

Use Centering to narrow the scanner's field of view to make sure that when the scanner is hand-held, it reads only those bar codes intended by the user. For instance, if multiple codes are placed closely together, centering will insure that only the desired codes are read. (Centering can be used in conjunction with Centering, page 3-14, for the most error-free operation in applications where multiple codes are spaced closely together. Using the Aimer Delay and Centering features, the scanner can emulate the operation of older systems, such as linear laser bar code scanners.)

If a bar code is not touched by a predefined window, it will not be decoded or output by the scanner. If centering is turned on by scanning **Centering On**, the scanner only reads codes that pass through the centering window you specify using the **Left** and **Right of Centering Window** bar codes.

In the example below, the white box is the centering window. The centering window has been set to 20% left and 30% right. Since Bar Code 1 passes through the centering window, it will be read. Bar Code 2 does not pass through the centering window, so it will not be read.



Note: A bar code needs only to be touched by the centering window in order to be read. It does not need to pass completely through the centering window.

Scan **Centering On**, then scan one of the following bar codes to change the left or right of the centering window. Then scan the percent you want to shift the centering window using digits on the inside back cover of this manual. Scan **Save**. *Default Centering = 40% Left, 60% Right.*

DECWIN1.

Centering On

DECWIN0.

*** Centering Off**

DECLFT.

Left of Centering Window

Right of Centering Window

Blinky Mode

When either **Blinky Mode On** or **Blinky Always On/Continuous** is scanned, the scanner blinks on and off at 50% duty cycle (250 milliseconds on, then 250 milliseconds off.) *Default = Blinky Mode Off.*

*** Blinky Mode Off**

Blinky Mode On

Blinky Always On/ Continuous

Laser Scan Angle

The laser scan angle can be set to several different widths in order to adjust to your particular scanning requirements.

Full Laser Beam Sweep: This is the default setting that produces a 13.5° laser beam.

Reduced Laser Beam Sweep: If you are aiming at a longer distance and the laser beam becomes too wide and touches adjacent bar codes, you may need to adjust the width of the beam. In this case, scan the **Reduced Laser Beam Sweep** bar code below to narrow the laser beam.

Wide Laser Beam Sweep: If you have an exceptionally wide medium or high density bar code, you could use the wider sweep so the laser beam encompasses all of the code.

Note: When using Wide Laser Beam Sweep, the depth of field is reduced.

*** Full Laser Beam Sweep**

Reduced Laser Beam Sweep

Wide Laser Beam Sweep

Decode Security

This selection allows you to adjust the decode security needed while scanning. For good quality codes, choose **Low** to achieve fast scan speed. For codes prone to misreads, choose **High**. *Default = Low.*

Note: Increasing the security level may decrease the scan speed.

*** Low**

Low/Medium

Medium/High

High

Continuous Scan Mode

This programs the engine to continuously scan and decode, with the laser and motor staying on.

Note: When operating in Continuous Scan Mode, the scanner's upper operating temperature is 104°F (40°C).

Continuous Scan Mode

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 bar codes 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 (inside back cover) to read these options. You must hold the trigger while reading each bar code in the sequence.

To Add an Output Sequence

1. Scan the ***Enter Sequence*** symbol (see Require Output Sequence, page 3-19).
2. **Code I.D.**
   On the Symbology Charts on page A-1, 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 (inside back cover).
3. **Length**
   Specify what length (up to 9999 characters) of data output will be acceptable for this symbology. Scan the four digit data length from the Programming Chart. (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), page A-2, find the Hex value that represents the character(s) you want to match. Use the Programming Chart to read the alphanumeric combination that represents the ASCII characters. (99 is the Universal number, indicating all characters.)

5. **End Output Sequence Editor**
   Scan ***F F*** to enter an Output Sequence for an additional symbology, or ***Save*** to save your entries.

Other Programming Selections

- ***Discard***
  This exits without saving any Output Sequence changes.

Output Sequence Example

In this example, you are scanning Code 93, Code 128, and Code 39 bar codes, 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:

SEQBLKsequence editor start command

62 code identifier for **Code 39**

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

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

FF termination string for first code

6A code identifier for **Code 128**

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

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

FF termination string for second code

69 code identifier for **Code 93**

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

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

FF termination 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 3-17, 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

62 code identifier for **Code 39**

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

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

FF termination string for first code

6A code identifier for **Code 128**

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

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

FF termination string for second code

69 code identifier for **Code 93**

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

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

FF termination string for third code

Output Sequence Editor

Enter Sequence

Default Sequence

Sequence Timeout

You may wish to set the maximum time between bar code 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 following bar code, then setting the timeout (from 1-65535 milliseconds) by scanning digits from the Programming Chart, then scanning **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 following **Sequence Match Beeper Off** bar code. *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 bar code 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.)

Transmit Partial Sequence

*** 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 bar code data is output to the host as the scanner decodes it. *Default = Off.*

Note: This selection is unavailable when the Multiple Symbols Selection is turned on.

Required

On/Not Required

***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 7-2), an “NR” appears when a code cannot be read. If No Read is turned **Off**, the “NR” will not appear.

Default = Off.

On

*** Off**

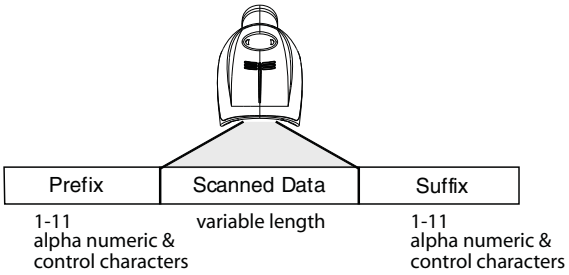
If you want a different notation than “NR,” for example, “Error,” or “Bad Code,” you can edit the output message (see Data Formatting beginning on page 5-1). The hex code for the No Read symbol is 9C.

4 Data Editing

Prefix/Suffix Overview

When a bar code is scanned, additional information is sent to the host computer along with the bar code data. This group of bar code 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 = None.*
- 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 A-2, 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 200 characters, which includes header information.

To Add a Prefix or Suffix:

Step 1. Scan the **Add Prefix** or **Add Suffix** symbol (page 4-2).

Step 2. Determine the 2 digit Hex value from the Symbology Chart (included in the Symbology Charts, beginning on page A-1) 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 inside the back cover of this manual or scan **9**, **9** for all symbologies.

Step 4. Determine the hex value from the ASCII Conversion Chart (Code Page 1252), beginning on page A-2, for the prefix or suffix you wish to enter.

Step 5. Scan the 2 digit hex value from the Programming Chart inside the back cover of this manual.

Step 6. Repeat Steps 4 and 5 for every prefix or suffix character.

Step 7. To add the Code I.D., scan **5**, **C**, **8**, **0**.
To add AIM I.D., scan **5**, **C**, **8**, **1**.
To add a backslash (\), scan **5**, **C**, **5**, **C**.

Note: To add a backslash (\) as in Step 7, you must scan 5C twice – once to create the leading backslash and then to create the backslash itself.

Step 8. Scan **Save** to exit and save, or scan **Discard** to exit without saving.

Repeat Steps 1-6 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 inside the back cover of this manual to apply this suffix to all symbologies.

Step 3. Scan **0**, **9** from the Programming Chart inside the back cover of this manual. This corresponds with the hex value for a horizontal tab, shown in the ASCII Conversion Chart (Code Page 1252), beginning on page A-2.

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

To 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 A-1) 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 inside the back cover of this manual or scan **9**, **9** for all symbologies.

Your change is automatically saved.

To Add a Carriage Return Suffix to All Symbologies

Scan the following bar code 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

SUFCL2.
Clear One Suffix

SUFCA2.
Clear All Suffixes

Function Code Transmit

When this selection is enabled and function codes are contained within the scanned data, the scanner transmits the function code to the terminal. Charts of these function codes are provided in Supported Interface Keys starting on page 7-2. When the scanner is in keyboard wedge mode, the scan code is converted to a key code before it is transmitted. *Default = Enable.*

RMVFNC0.
*** Enable**

RMVFNC1.
Disable

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, or LRC where the calculation starts on the second transmitted character.

Note: This option adds a check character to the bar code data for all symbologies. If you need to enable or disable check characters for individual symbologies, see Symbologies beginning on page 6-1.

Scan the following bar code to set the communication check character type. *Default = None.*

HSTXRC0.
*** None**

HSTXRC1.
LRC Starts on 1st Character

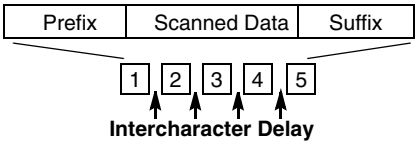
HSTXRC2.
LRC Starts on 2nd Character

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** bar code below, then scan the number of 5ms delays, and the **Save** bar code using the Programming Chart inside the back cover of this manual.



Intercharacter Delay

To remove this delay, scan the **Intercharacter Delay** bar code, then set the number of delays to 0. Scan the **Save** bar code using the Programming Chart inside the back cover of this manual.

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** bar code below, then scan the number of 5ms delays, and the **Save** bar code using the Programming Chart inside the back cover of this manual.

Next, scan the **Character to Trigger Delay** bar code, then the 2-digit hex value for the ASCII character that will trigger the delay ASCII Conversion Chart (Code Page 1252), beginning on page A-2.

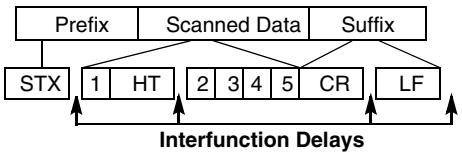
Delay Length

Character to Trigger Delay

To remove this delay, scan the **Delay Length** bar code, and set the number of delays to 0. Scan the **Save** bar code using the Programming Chart inside the back cover of this manual.

Interfunction Delay

An interfunction delay of up to 5000 milliseconds (in 5ms increments) may be placed between the transmission of each control character in the message string. Scan the **Interfunction Delay** bar code below, then scan the number of 5ms delays, and the **Save** bar code using the Programming Chart inside the back cover of this manual.

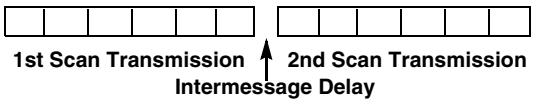


Interfunction Delay

To remove this delay, scan the **Interfunction Delay** bar code, then set the number of delays to 0. Scan the **Save** bar code using the Programming Chart inside the back cover of this manual.

Intermessage Delay

An intermessage delay of up to 5000 milliseconds (in 5ms increments) may be placed between each scan transmission. Scan the **Intermessage Delay** bar code below, then scan the number of 5ms delays, and the **Save** bar code using the Programming Chart inside the back cover of this manual.



Intermessage Delay

To remove this delay, scan the **Intermessage Delay** bar code, then set the number of delays to 0. Scan the **Save** bar code using the Programming Chart inside the back cover of this manual.

5 Data Formatting

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 bar code 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 bar code, it is output automatically. However, when you create a format, you must use a "send" command (see Send Commands on page 5-3) 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 bar code is read that fails the first data format, the next data format, if there is one, will be used on the bar code 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.

*** Default Data Format**

Add a Data Format

Step 1. Scan the **Enter Data Format** symbol (page 5-2).

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** using the Programming Chart inside the back cover of this manual. 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 5-12 for further information.)

Step 3. **Terminal Type**

Refer to Terminal ID Table (page 5-3) and locate the Terminal ID number for your PC. Scan three numeric bar codes on the inside back cover 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 A-1, 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 inside the back cover of this manual.

If you wish to create a data format for all symbologies, with the exception of some specific symbologies, refer to B8 (page 5-11).

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 inside the back cover of this manual. For example, 50 characters is entered as 0050.

Note: 9999 indicates all lengths.

Step 6. Editor Commands

Refer to Data Format Editor Commands (page 5-3). 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 inside the back cover of this manual. 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 A-1), and the bar code 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 to exit and save your data format changes.

Discard to 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
Serial	RS232 True	000

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 A-2 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 A-2 for decimal, hex and character codes.

F2 Example: Send a number of characters

Send the first 10 characters from the bar code 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 bar code 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 A-2 for decimal, hex and character codes.

F3 Example: Send all characters up to a particular character

Using the bar code 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 A-2 for decimal, hex and character codes.

B9 Example: Send all characters up to a defined string

Using the bar code 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 A-2 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 bar code 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 A-2 for decimal, hex and character codes.

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

Using the bar code 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 bar code’s symbology in the output message, without moving the cursor. Only symbologies with a Honeywell ID are included (see Symbology Charts on page A-1). Refer to the ASCII Conversion Chart (Code Page 1252), beginning on page A-2 for decimal, hex and character codes.

Insert bar code length

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

B3 and B4 Example: Insert the symbology name and length

Send the symbology name and length before the bar code data from the bar code 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 bar code 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 Unicode Key Maps on page A-9). Any key can be inserted, including arrows and functions. *Syntax = B5xxssnn* 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 Unicode Key Maps, page A-9.

Key Modifiers	
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 keys pressed (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. Example: Control Left+Shift Left = 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 bar code data from the bar code 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 bar codes that begin with a 1

Search for bar codes that begin with a 1. If a bar code matches, move the cursor back to the beginning of the data and send 6 characters followed by a carriage return. Using the bar code 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 A-2 for decimal, hex and character codes.

F8 Example: Send bar code data that starts after a particular character

Search for the letter “D” in bar codes and send all the data that follows, including the “D.” Using the bar code 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 A-2 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 A-2 for decimal, hex and character codes.

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

Search for the letters "FGH" in bar codes and send all the data that follows, including "FGH." Using the bar code 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 A-2 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 A-2 for decimal, hex and character codes.

E6 Example: Remove zeroes at the beginning of bar code data

This example shows a bar code that has been zero filled. You may want to ignore the zeroes 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 bar code 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 A-2 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 bar code data

This example shows a bar code that has spaces in the data. You may want to remove the spaces before sending the data. Using the bar code 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 zeroes with CRs in bar code data

If the bar code 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 zeroes in the bar code 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 A-2 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 A-2 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 bar code begins with a number

If you want only data from bar codes 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 bar code 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 bar code 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 bar code begins with a letter

If you want only data from bar codes 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 bar code 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 bar code 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.a

Discard Data

B8 Discards types of data. For example, you may want to discard Code 128 bar codes that begin with the letter A. In step 4 (page 5-1), select 6A (for Code 128), and in step 5, select 9999 (for all lengths). Enter FE41B8 to compare and discard Code 128 bar codes 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 5-11) in order for the B8 command to work.*
*If Data Format is **On, but Not Required** (page 5-12), bar code data that meets the B8 format is scanned and output as usual.*
*Because the data format needs to be **On** and **Required** (page 5-12) for the B8 command, you must input data formats for all bar codes you wish to discard as well as all bar codes you wish to output.*
*Other data format settings impact the B8 command. If Data Format Non-Match Error Tone is **On** (page 5-12), 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 bar code 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 bar code is not transmitted. If you wish to process this type of bar code 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 bar code 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.*

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

Data Formatter On, Not Required, Drop Prefix/Suffix

Data Format Required, Keep Prefix/Suffix

Data Format Required, Drop Prefix/Suffix

Data Format Non-Match Error Tone

When a bar code is encountered that doesn't match your required data format, the scanner normally generates an error tone. However, you may want to continue scanning bar codes without hearing the error tone. If you scan the **Data Format Non-Match Error Tone Off** bar code, 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 bar code is found, scan the **Data Format Non-Match Error Tone On** bar code. *Default = Data Format Non-Match Error Tone On*.

*** 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 bar codes 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 bar code 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** bar code below. The next bar code 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

6 Symbologies

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

- All Symbologies
- 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
- Matrix 2 of 5
- MSI
- NEC 2 of 5
- Plessey Code
- 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

If you want to decode all the symbologies allowable for your scanner, scan the ***All Symbologies On*** code. If on the other hand, you want to decode only a particular symbology, scan **All Symbologies Off** followed by the On symbol for that particular symbology.

All Symbologies On

All Symbologies Off

Message Length Description

You are able to set the valid reading length of some of the bar code symbologies. If the data length of the scanned bar code doesn't match the valid reading length, the scanner will issue an error tone. You may wish to set the same value for minimum and maximum length to force the scanner to read fixed length bar code data. This helps reduce the chances of a misread.

EXAMPLE: Decode only those bar codes with a count of 9-20 characters.
Min. length = 09Max. length = 20

EXAMPLE: Decode only those bar codes with a count of 15 characters.
Min. length = 15Max. length = 15

For a value other than the minimum and maximum message length defaults, scan the bar codes included in the explanation of the symbology, then scan the digit value of the message length and **Save** bar codes on the Programming Chart inside the back cover of this manual. The minimum and maximum lengths and the defaults are included with the respective symbologies.

Codabar

<Default All Codabar Settings>

Codabar On/Off

*** On**

Off

Codabar Start/Stop Characters

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

Transmit

*** Don't Transmit**

Codabar Check Character

Codabar check characters are created using different "modulos." You can program the scanner to read only Codabar bar codes with Modulo 16 check characters. *Default = No Check Character.*

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

When Check Character is set to ***Validate and Transmit***, the scanner will only read Codabar bar codes 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 bar codes printed ***with*** a check character, but will not transmit the check character with the scanned data.

*** No Check Character**

Validate Modulo 16, but Don't Transmit


CBRCK22.
Validate Modulo 16 and Transmit


CBRCK23.
Validate Modulo 7 CD, but Don't Transmit


CBRCK24.
Validate Modulo 7 CD and Transmit


CBRCK25.
Validate CLSI, but Don't Transmit


CBRCK26.
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.


CBRCCT1.
On


CBRCCT0.
*** Off**


CBRCCT2.
Require

Concatenation Timeout

When searching for bar codes during concatenation, you may wish to set a delay used to find the next bar code. Set the length (in milliseconds) for this delay by scanning the following bar code, 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 bar codes, 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 bar code. To adjust the redundancy, scan the following **Codabar Redundancy** bar code, then scan a redundancy count between 0 and 10 on the Programming Chart inside the back cover of this manual. Then scan the **Save** bar code. *Default = 0.*

Codabar Redundancy

Codabar Message Length

Scan the bar codes below to change the message length. Refer to Message Length Description (page 6-1) 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 bar code. 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 bar code data with or without a check character.

When Check Character is set to **Validate, but Don't Transmit**, the unit only reads Code 39 bar codes 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 bar codes 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 bar codes, 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 bar code. To adjust the redundancy, scan the **Code 39 Redundancy** bar code below, then scan a redundancy count between 0 and 10 on the Programming Chart inside the back cover of this manual. Then scan the **Save** bar code. *Default = 0.*

Code 39 Redundancy

Code 39 Message Length

Scan the bar codes below to change the message length. Refer to Message Length Description (page 6-1) for additional information. Minimum and Maximum lengths = 1-80. Minimum Default = 3, Maximum Default = 80.

Minimum Message Length

Maximum Message Length

Code 39 Append

This function allows the scanner to append the data from several Code 39 bar codes together before transmitting them to the host computer. When the scanner encounters a Code 39 bar code with the append trigger character(s), it buffers Code 39 bar codes until it reads a Code 39 bar code that does not have the append trigger. The data is then transmitted in the order in which the bar codes were read (FIFO). *Default = Off.*

On

*** Off**

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.

Note: Trioptic Code (page 6-50) must be turned off while scanning Code 32 Pharmaceutical codes.

On

*** 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.*

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	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.

Full ASCII On

*** Full ASCII Off**

Code 39 Code Page

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, scan the bar code below, select the code page with which the bar codes were created (see ISO 2022/ISO 646 Character Replacements on page A-7), and scan the value and the **Save** bar code from the Programming Chart on the inside the back cover of this manual. The data characters should then appear properly.

Code 39 Code Page

Interleaved 2 of 5

< Default All Interleaved 2 of 5 Settings >

Interleaved 2 of 5 On/Off

*** On**

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 bar code. Scan the **On** bar code below to decode this type of Interleaved 2 of 5 bar code. *Default = Off.*

*** Off**

On

Check Digit

No Check Digit indicates that the scanner reads and transmits bar code 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 bar codes 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 bar codes printed with a check digit, and will transmit this digit at the end of the scanned data. *Default = No Check Digit.*

*** No Check Digit**

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 bar codes, 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 bar code. To adjust the redundancy, scan the **Interleaved 2 of 5 Redundancy** bar code below, then scan a redundancy count between 0 and 10 on the Programming Chart inside the back cover of this manual. Then scan the **Save** bar code. *Default = 0.*

I25VOT.
Interleaved 2 of 5 Redundancy

Interleaved 2 of 5 Message Length

Scan the bar codes below to change the message length. Refer to Message Length Description (page 6-1) for additional information. Minimum and Maximum lengths = 2-80. Minimum Default = 4, Maximum Default = 80.

I25MIN.
Minimum Message Length

I25MAX.
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 bar code 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 bar codes 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 bar codes printed with a check character, and will transmit this character at the end of the scanned data. *Default = No Check Character.*

*** No Check Character**

Validate, but Don't Transmit

Validate and Transmit

Matrix 2 of 5 Redundancy

If you are encountering errors when reading Matrix 2 of 5 bar codes, 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 bar code. To adjust the redundancy, scan the **Matrix 2 of 5 Redundancy** bar code below, then scan a redundancy count between 0 and 10 on the Programming Chart inside the back cover of this manual. Then scan the **Save** bar code. *Default = 0.*

Matrix 2 of 5 Redundancy

Matrix 2 of 5 Message Length

Scan the bar codes below to change the message length. Refer to Message Length Description (page 6-1) for additional information. Minimum and Maximum lengths = 1-80. Minimum Default = 3, Maximum Default = 80.

Minimum Message Length

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 bar code 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 bar codes 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 bar codes 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 bar codes, 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 bar code. To adjust the redundancy, scan the **NEC 2 of 5 Redundancy** bar code below, then scan a redundancy count between 0 and 10 on the Programming Chart inside the back cover of this manual. Then scan the **Save** bar code. *Default = 0.*

N25VOT.
NEC 2 of 5 Redundancy

NEC 2 of 5 Message Length

Scan the bar codes below to change the message length. Refer to Message Length Description (page 6-1) 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 bar codes, 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 bar code. To adjust the redundancy, scan the **Code 93 Redundancy** bar code below, then scan a redundancy count between 0 and 10 on the Programming Chart inside the back cover of this manual. Then scan the **Save** bar code. *Default = 0.*

Code 93 Redundancy

Code 93 Message Length

Scan the bar codes below to change the message length. Refer to Message Length Description (page 6-1) for additional information. Minimum and Maximum lengths = 1-80. Minimum Default = 3, Maximum Default = 80.

C93MIN.
Minimum Message Length

C93MAX.
Maximum Message Length

Code 93 Append

This function allows the scanner to append the data from several Code 93 bar codes together before transmitting them to the host computer. When this function is enabled, the scanner stores those Code 93 bar codes that start with a space (excluding the start and stop symbols), and does not immediately transmit the data. The scanner stores the data in the order in which the bar codes are read, deleting the first space from each. The scanner transmits the appended data when it reads a Code 93 bar code that starts with a character other than a space. *Default = Off.*

C93APP1.
On

C93APP0.
*** Off**

Code 93 Code Page

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, scan the bar code below, select the code page with which the bar codes were created (see ISO 2022/ISO 646 Character Replacements on page A-7), and scan the value and the **Save** bar code from the Programming Chart on the inside the back cover of this manual. The data characters should then appear properly.

C93DCP.
Code 93 Code Page

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

<Default All Straight 2 of 5 Industrial Settings>

R25DFT.

Straight 2 of 5 Industrial On/Off

R25ENA1.
On

R25ENA0.
*** Off**

Straight 2 of 5 Industrial Redundancy

If you are encountering errors when reading Straight 2 of 5 Industrial bar codes, 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 bar code. To adjust the redundancy, scan the **Straight 2 of 5 Industrial Redundancy** bar code below, then scan a redundancy count between 0 and 10 on the Programming Chart inside the back cover of this manual. Then scan the **Save** bar code. *Default = 0.*

R25VOT.
Straight 2 of 5 Industrial Redundancy

Straight 2 of 5 Industrial Message Length

Scan the bar codes below to change the message length. Refer to Message Length Description (page 6-1) for additional information. Minimum and Maximum lengths = 1-80. Minimum Default = 3, Maximum Default = 80.

R25MIN.
Minimum Message Length

R25MAX.
Maximum Message Length

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

<Default All Straight 2 of 5 IATA Settings>

A25DFT.

Straight 2 of 5 IATA On/Off

A25ENA1.
On

A25ENA0.
*** Off**

Straight 2 of 5 IATA Redundancy

If you are encountering errors when reading Straight 2 of 5 IATA bar codes, 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 bar code. To adjust the redundancy, scan the **Straight 2 of 5 IATA Redundancy** bar code below, then scan a redundancy count between 0 and 10 on the Programming Chart inside the back cover of this manual. Then scan the **Save** bar code. *Default = 0.*

A25VOT.
Straight 2 of 5 IATA Redundancy

Straight 2 of 5 IATA Message Length

Scan the bar codes below to change the message length. Refer to Message Length Description (page 6-1) for additional information. Minimum and Maximum lengths = 1-80. Minimum Default = 13, Maximum Default = 15.

A25MIN.
Minimum Message Length

A25MAX.
Maximum Message Length

Code 11

<Default All Code 11 Settings>

C11DFT.

Code 11 On/Off

C11ENA1.
On

C11ENA0.
*** Off**

Check Digits Required

This option sets whether 1 or 2 check digits are required with Code 11 bar codes. *Default = Two Check Digits.*

C11CK20.
One Check Digit

C11CK21.
*** Two Check Digits**

Code 11 Redundancy

If you are encountering errors when reading Code 11 bar codes, 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 bar code. To adjust the redundancy, scan the **Code 11 Redundancy** bar code below, then scan a redundancy count between 0 and 10 on the Programming Chart inside the back cover of this manual. Then scan the **Save** bar code. *Default = 0.*

C11VOT.
Code 11 Redundancy

Code 11 Message Length

Scan the bar codes below to change the message length. Refer to Message Length Description (page 6-1) 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 embedded FNC1 characters as group separators (1B hex) with your Code 128 bar code output, scan the **On** bar code. When **Off** is scanned, nothing is transmitted for FNC1 characters. *Default =Off.*

128GSE1.
On

128GSE0.
*** Off**

Code 128 Redundancy

If you are encountering errors when reading Code 128 bar codes, 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 bar code. To adjust the redundancy, scan the **Code 128 Redundancy** bar code below, then scan a redundancy count between 0 and 10 on the Programming Chart inside the back cover of this manual. Then scan the **Save** bar code. *Default = 0.*

128VOT.
Code 128 Redundancy

Code 128 Message Length

Scan the bar codes below to change the message length. Refer to Message Length Description (page 6-1) for additional information. Minimum and Maximum lengths = 0-80. Minimum Default = 3, Maximum Default = 80.

Minimum Message Length

Maximum Message Length

Code 128 Append

This function allows the scanner to append the data from several Code 128 bar codes together before transmitting them to the host computer. When the scanner encounters a Code 128 bar code with the append trigger character(s), it buffers Code 128 bar codes until it reads a Code 128 bar code that does not have the append trigger. The data is then transmitted in the order in which the bar codes were read (FIFO). *Default = On.*

*** On**

Off

ISBT 128 Concatenation

In 1994 the International Society of Blood Transfusion (ISBT) ratified a standard for communicating critical blood information in a uniform manner. The use of ISBT formats requires a paid license. The ISBT 128 Application Specification describes 1) the critical data elements for labeling blood products, 2) the current recommendation to use Code 128 due to its high degree of security and its space-efficient design, 3) a variation of Code 128 that supports concatenation of neighboring symbols, and 4) the standard layout for bar codes on a blood product label. Use the bar codes below to turn concatenation on or off. *Default =Off.*

On

*** Off**

Concatenation Timeout

When searching for bar codes during concatenation, you may wish to set a delay used to find the next bar code. Set the length (in milliseconds) for this delay by scanning the following bar code, 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 bar codes 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 bar codes 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), page A-2, 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 inside the back cover of this manual.

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** bar code, below.

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

Step 3. Scan **Save**.

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

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

Step 9. Scan **Save**.

Step 10. Scan the **2nd Right Identifier** bar code, 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.*


ISBUL1.
1st Left Identifier


ISBUL2.
2nd Left Identifier


ISBUR1.
1st Right Identifier


ISBUR2.
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.


ISBUCE0.
*** Off**


ISBUCE1.
Allow User-Defined Sequence


ISBUCE2.
Require User-Defined Sequence

Content Verification

When the **On** bar code is scanned, the check character values are output along with the bar code 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 bar code. If you select **On**, the flag data is converted into a single MOD (37, 2) character and transmitted with the bar code 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 bar code to be broken into multiple transmissions based on the presence of application identifiers (AI) embedded in the bar code. To use this feature, first enable 128 Group Separator Output (page 6-17). Next, scan **Transmit Without Identifiers** if you want the bar code 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 bar codes, 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 bar code. To adjust the redundancy, scan the **GS1-128 Redundancy** bar code below, then scan a redundancy count between 0 and 10 on the Programming Chart inside the back cover of this manual. Then scan the **Save** bar code. *Default = 0.*

GS1VOT.
GS1-128 Redundancy

GS1-128 Message Length

Scan the bar codes below to change the message length. Refer to Message Length Description (page 6-1) 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.*

TELOLD0.
*** AIM Telepen Output**

TELOLD1.
Original Telepen Output

Telepen Redundancy

If you are encountering errors when reading Telepen bar codes, 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 bar code. To adjust the redundancy, scan the **Telepen Redundancy** bar code below, then scan a redundancy count between 0 and 10 on the Programming Chart inside the back cover of this manual. Then scan the **Save** bar code. *Default = 0.*

Telepen Redundancy

Telepen Message Length

Scan the bar codes below to change the message length. Refer to Message Length Description (page 6-1) 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>

UPC-A On/Off

*** On**

Off

Note: To convert UPC-A bar codes to EAN-13, see Convert UPC-A to EAN-13 on page 6-34.

UPC-A 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*.

*** On**

Off

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 the unit can be programmed so it will not transmit it. *Default = On.*

*** On**

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.

2 Digit Addenda On

*** 2 Digit Addenda Off**

5 Digit Addenda On

*** 5 Digit Addenda Off**

UPC-A Addenda Required

When ***Required*** is scanned, the scanner will only read UPC-A bar codes that have addenda. You must then turn on a 2 or 5 digit addenda listed on page 6-26. *Default = Not Required.*

Required

*** Not Required**

UPC-A Addenda Separator

When this feature is on, there is a space between the data from the bar code and the data from the addenda. When turned off, there is no space. *Default = On.*

*** On**

Off

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 bar code 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 Redundancy

If you are encountering errors when reading UPC-A bar codes, 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 bar code. To adjust the redundancy, scan the **UPC-A Redundancy** bar code below, then scan a redundancy count between 0 and 10 on the Programming Chart inside the back cover of this manual. Then scan the **Save** bar code. *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 bar codes.

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 separate symbologies. 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.*

*** Off**

Allow Concatenation

Require Concatenation

UPC-A/Code 128 Coupon Code Output

These settings are used when a coupon code and a Code 128 bar code are detected in the same scan. Scan **Multiple Code Output** to transmit both codes as separate bar codes with separate terminators. Scan **Single Code Output** to transmit the data as one extended bar code. *Default = Multiple Code Output.*

*** Multiple Code Output**

Single Code Output

UPC-A Number System 4 Addenda Required

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

Require Coupon Code: All UPC-A bar codes that begin with a “4” must have a coupon code. The UPC-A bar code with the coupon code is then transmitted as a single, concatenated bar code. If a coupon code is not found within the Addenda Timeout period, the UPC-A bar code 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 bar codes are transmitted, depending on the setting you are using for UPC-A/EAN-13 with Extended Coupon Code.

Default = Don't Require Coupon Code.

*** Don't Require Coupon Code**

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 bar codes that begin with a "5." The following settings can be programmed:

Require Coupon Code/Addenda: All UPC-A bar codes 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 bar code with the coupon code and/or addenda is then transmitted as a single, concatenated bar code. If a coupon code and/or required addenda is not found within the Addenda Timeout period, the UPC-A bar code 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 bar codes 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

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 bar code 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

Coupon GS1 DataBar Output

If you scan coupons that have both UPC and GS1 DataBar codes, you may wish to scan and output only the data from the GS1 DataBar code. Scan the **GS1 Output On** code below to scan and output only the GS1 DataBar code data. *Default = GS1 Output Off.*

*** GS1 Output Off**

GS1 Output On

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 bar code 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-E0

<Default All UPC-E Settings>

UPC-E0 On/Off

Most U.P.C. bar codes lead with the 0 number system. To read these codes, use the **UPC-E0 On** selection. *Default = On.*

*** UPC-E0 On**

UPC-E0 Off

UPC-E0 Expand

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

On

*** 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.*

*** On**

Off

UPC-E0 Number System and Check Digit

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

UPC-E0 Addenda Required

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

UPEARQ1.
Required

UPEARQ0.
*** Not Required**

UPC-E0 Addenda Separator

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

UPEADS1.
On

UPEADS0.
*** Off**

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

UPECKX0.
*** 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 = Off.*

UPENSX1.

On

UPENSX0.

*** 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.*

UPEAD21.

2 Digit Addenda On

UPEAD20.

*** 2 Digit Addenda Off**

UPEAD51.

5 Digit Addenda On

UPEAD50.

*** 5 Digit Addenda Off**

UPC-E0 Redundancy

If you are encountering errors when reading UPC-E0 bar codes, 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 bar code. To adjust the redundancy, scan the **UPC-E0 Redundancy** bar code below, then scan a redundancy count between 0 and 10 on the Programming Chart inside the back cover of this manual. Then scan the **Save** bar code. *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 bar codes 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.*

2 Digit Addenda On

*** 2 Digit Addenda Off**

5 Digit Addenda On

*** 5 Digit Addenda Off**

EAN/JAN-13 Addenda Required

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

Required

*** Not Required**

EAN-13 Beginning with 2 Addenda Required

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

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

Note: if you are using EAN-13 Beginning with 290 Addenda Required (page 6-36), 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 bar codes 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 bar codes that begin with "290." The following settings can be programmed:

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

Note: if you are using EAN-13 Beginning with 2 Addenda Required (page 6-35), 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 bar codes 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 bar codes that begin with a "378" or "379." The following settings can be programmed:

Require Addenda: All EAN-13 bar codes 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 bar code with the addenda is then transmitted as a single, concatenated bar code. If the required addenda is not found within the Addenda Timeout period, the EAN-13 bar code 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 bar codes 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 bar codes that begin with a “414” or “419.” The following settings can be programmed:

Require Addenda: All EAN-13 bar codes 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 bar code with the addenda is then transmitted as a single, concatenated bar code. If the required addenda is not found within the Addenda Timeout period, the EAN-13 bar code 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 bar codes 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 bar codes that begin with a “434” or “439.” The following settings can be programmed:

Require Addenda: All EAN-13 bar codes 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 bar code with the addenda is then transmitted as a single, concatenated bar code. If the required addenda is not found within the Addenda Timeout period, the EAN-13 bar code 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 bar codes 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 977 Addenda Required

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

Require 2 Digit Addenda: All EAN-13 bar codes that begin with "977" must have a 2 digit addendum. The EAN-13 bar code with the 2 digit addendum is then transmitted as a single, concatenated bar code. If a 2 digit addendum is not found within the Addenda Timeout period, the EAN-13 bar code 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 bar codes 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 978 Addenda Required

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

Require 5 Digit Addenda: All EAN-13 bar codes that begin with "978" must have a 5 digit addendum. The EAN-13 bar code with the 5 digit addendum is then transmitted as a single, concatenated bar code. If a 5 digit addendum is not found within the Addenda Timeout period, the EAN-13 bar code 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 bar codes 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**


ARQ9781.

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 bar codes that begin with "979." The following settings can be programmed:

Require 5 Digit Addenda: All EAN-13 bar codes that begin with "979" must have a 5 digit addendum. The EAN-13 bar code with the 5 digit addendum is then transmitted as a single, concatenated bar code. If a 5 digit addendum is not found within the Addenda Timeout period, the EAN-13 bar code 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 bar codes are transmitted, depending on the setting you are using for EAN/JAN-13 Addenda Required.

Default = Don't Require 5 Digit Addenda.


ARQ9790.

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


ARQ9791.

Require 5 Digit Addenda

EAN/JAN-13 Addenda Separator

When this feature is **On**, there is a space between the data from the bar code 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 6-28).

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 bar code 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 Redundancy

If you are encountering errors when reading EAN/JAN-13 bar codes, 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 bar code. To adjust the redundancy, scan the **EAN/JAN-13 Redundancy** bar code below, then scan a redundancy count between 0 and 10 on the Programming Chart inside the back cover of this manual. Then scan the **Save** bar code. *Default = 0.*

EAN/JAN-13 Redundancy

ISBN Translate

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

On

*** Off**

Convert ISBN to 13-Digit

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

Convert to 13-Digit On

***Convert to 13-Digit Off**

ISBN Reformat

In normal use, the first two or three digits of an EAN-13 bar code 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** bar code 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 6-41) 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 the check digit should be transmitted at the end of the scanned data or not. *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 bar codes that have addenda. *Default = Not Required.*


EA8ARQ1.
Required


EA8ARQ0.
*** Not Required**

EAN/JAN-8 Addenda Separator

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


EA8ADS1.
On


EA8ADS0.
*** Off**

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 bar code 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

EAN/JAN-8 Redundancy

If you are encountering errors when reading EAN/JAN-8 bar codes, 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 ba code. To adjust the redundancy, scan the **EAN/JAN-8 Redundancy** bar code below, then scan a redundancy count between 0 and 10 on the Programming Chart inside the back cover of this manual. Then scan the **Save** bar code. *Default = 0.*

EA8VOT.

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 bar codes. You can program the scanner to read MSI bar codes 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 bar codes 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 bar codes 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 bar codes, 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 bar code. To adjust the redundancy, scan the **MSI Redundancy** bar code below, then scan a redundancy count between 0 and 10 on the Programming Chart inside the back cover of this manual. Then scan the **Save** bar code. *Default = 0.*


MSIVOT.
MSI Redundancy

MSI Message Length

Scan the bar codes below to change the message length. Refer to Message Length Description (page 6-1) 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 bar code data with or without a check character.

When Check Character is set to **Validate, but Don't Transmit**, the unit only reads Plessey bar codes 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 bar codes 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 bar codes, 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 bar code. To adjust the redundancy, scan the **Plessey Redundancy** bar code below, then scan a redundancy count between 0 and 10 on the Programming Chart inside the back cover of this manual. Then scan the **Save** bar code. *Default = 0.*

PLSVOT.
Plessey Redundancy

Plessey Message Length

Scan the bar codes below to change the message length. Refer to Message Length Description (page 6-1) 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 bar codes, 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 bar code. To adjust the redundancy, scan the **GS1 DataBar Omnidirectional Redundancy** bar code below, then scan a redundancy count between 0 and 10 on the Programming Chart inside the back cover of this manual. Then scan the **Save** bar code. *Default = 0.*

RSSVOT.
GS1 DataBar Omnidirectional Redundancy

GS1 DataBar Limited

< Default All GS1 DataBar Limited Settings >

RSLDFT.

GS1 DataBar Limited On/Off

RSLENA1.
*** On**

RSLENA0.
Off

GS1 DataBar Limited Redundancy

If you are encountering errors when reading GS1 DataBar Limited bar codes, 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 bar code. To adjust the redundancy, scan the **GS1 DataBar Limited Redundancy** bar code below, then scan a redundancy count between 0 and 10 on the Programming Chart inside the back cover of this manual. Then scan the **Save** bar code. *Default = 0.*

RSLVOT.
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 bar codes, 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 bar code. To adjust the redundancy, scan the **GS1 DataBar Expanded Redundancy** bar code below, then scan a redundancy count between 0 and 10 on the Programming Chart inside the back cover of this manual. Then scan the **Save** bar code. *Default = 0.*

RSEVOT.
GS1 DataBar Expanded Redundancy

GS1 DataBar Expanded Message Length

Scan the bar codes below to change the message length. Refer to Message Length Description (page 6-1) 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

Note: If you are going to scan Code 32 Pharmaceutical codes (page 6-6), Trioptic Code must be off.

Trioptic Code is used for labeling magnetic storage media.

TRIENA1.
On

TRIENA0.
*** Off**

Trioptic Code Redundancy

If you are encountering errors when reading Trioptic bar codes, 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 bar code. To adjust the redundancy, scan the **Trioptic Code Redundancy** bar code below, then scan a redundancy count between 0 and 10 on the Programming Chart inside the back cover of this manual. Then scan the **Save** bar code. *Default = 0.*

TRIVOT.
Trioptic Code Redundancy

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 A-1).

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 A-1).

If **GS1 Code Expansion Off** is scanned, retail code expansion is disabled, and UPC-E expansion is controlled by the UPC-E0 Expand (page 6-31) setting. If the AIM ID is enabled, the value will be the GS1-128 AIM ID,]C1 (see Symbology Charts on page A-1).

If **EAN8 to EAN13 Conversion** is scanned, all EAN8 bar codes are converted to EAN13 format.

Default = GS1 Emulation Off.

EANEMU1.
GS1-128 Emulation

EANEMU2.
GS1 DataBar Emulation

GS1 Code Expansion Off

EAN8 to EAN13 Conversion

*** GS1 Emulation Off**

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) bar codes, 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 bar code. To adjust the redundancy, scan the **China Post (Hong Kong 2 of 5) Redundancy** bar code below, then scan a redundancy count between 0 and 10 on the Programming Chart inside the back cover of this manual. Then scan the **Save** bar code. *Default = 0.*

China Post (Hong Kong 2 of 5) Redundancy

China Post (Hong Kong 2 of 5) Message Length

Scan the bar codes below to change the message length. Refer to Message Length Description (page 6-1) for additional information. Minimum and Maximum lengths = 1-80. Minimum Default = 3, Maximum Default = 80.

Minimum Message Length

Maximum Message Length

7 Utilities

To 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 A-1) 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 bar code below to output the current software revision, unit serial number, and other product information for the scanner.

Show Software Revision

Show Data Format

Scan the bar code 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**

TotalFreedom

TotalFreedom is an open system architecture that makes it possible for you create applications that reside on your scanner. Decoding apps and Data Formatting apps can be created using TotalFreedom. For further information about TotalFreedom, go to our website at www.honeywellaidc.com.

Application Plug-Ins (Apps)

Any apps that you are using can be turned off or on by scanning the following bar codes. Apps are stored in groups: Decoding, and Formatting. You can enable and disable these groups of apps by scanning that group's **On** or **Off** bar code below. You can also scan the **List Apps** bar code to output a list of all your apps.


PLGDCE1.
*** Decoding Apps On**


PLGDCE0.
Decoding Apps Off


PLGFOE1.
*** Formatting Apps On**


PLGFOE0.
Formatting Apps Off


PLGINF.
List Apps

Note: You must reset your device in order for the apps setting to take effect.

EZConfig-Scanning Introduction

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

To communicate with a scanner, EZConfig-Scanning requires that the PC have at least one available serial communication port, or a serial port emulation using a physical USB port. If you are using the serial port and RS232 cable, an external power supply is required.

EZConfig-Scanning Operations

The EZConfig-Scanning software performs the following operations:

Scan Data

Scan Data allows you to scan bar codes and display the bar code data in a window. Scan Data lets you send serial commands to the scanner and receive scanner response that can be seen in the Scan Data window. The data displayed in the Scan Data window can either be saved in a file or printed.

Configure

Configure displays the programming and configuration data of the scanner. The scanner's programming and configuration data is grouped into different categories. Each category is displayed as a tree item under the "Configure" tree node in the application explorer. When one of these tree nodes is clicked, the right-hand side is loaded with the parameters' form belonging to that particular category. The "Configure" tree option has all the programming and configuration parameters specified for a scanner. You can set or modify these parameters as required. You can later write the modified settings to the scanner, or save them to a dcf file.

Installing EZConfig-Scanning from the Web

Note: EZConfig-Scanning requires .NET software. If .NET is not installed on your PC, you will be prompted to install it during the EZConfig-Scanning installation.

1. Access the Honeywell web site at www.honeywellaidc.com
2. Click on the **Resources** tab. Select **Software**.
3. Click on the dropdown for **Select Product Number**. Click on your product number.
4. Click on the listing for **EZConfig-Scanning**.
5. When prompted, select **Save File**, and save the files to the **c:\windows\temp** directory.
6. Once you have finished downloading the file, exit the web site.
7. Using Explorer, go to the **c:\windows\temp** file.
8. Double click on the **Setup.exe** file. Follow the screen prompts to install the EZConfig-Scanning program.
9. If you've selected the defaults during installation, you can click on **Start Menu-All Programs-Honeywell-EZConfig-Scanning.**

Resetting the Factory Defaults

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** bar code, then scan **Activate Defaults**. This resets the scanner to the factory default settings.

Remove Custom Defaults

Activate Defaults

The Menu Commands, beginning on page 8-4 list the factory default settings for each of the commands (indicated by an asterisk (*) on the programming pages).

8 Serial Programming Commands

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

The device must be set to an RS232 interface (see page 2-1). The following commands can be sent via a PC COM port using terminal emulation software.

Conventions

The following conventions are used for menu and query command descriptions:

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).

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.

Serial 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 bar code has been read, until the deactivate command is sent, or until the Read Time-out has been reached.

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** bar code, set the time-out duration (from 0-300,000 milliseconds) by scanning digits on the Programming Chart inside the back cover, then scanning **Save**. *Default = 30,000 ms.*

Read Time-Out

Resetting the Custom Defaults

If you want the custom default settings restored to your scanner, scan the **Activate Custom Defaults** bar code 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	MNUCDP	1-2
	Save Custom Defaults	MNUCDS	1-2
Resetting the Custom Defaults	Activate Custom Defaults	DEFALT	1-2
Programming the Interface			
Plug and Play Codes	RS232 Serial Port	PAP232	2-1
OPOS Mode	OPOS Mode	PAPOPS	2-1
Plug and Play Codes	Verifone Ruby Terminal	PAPRBY	2-2
	Gilbarco Terminal	PAPGLB	2-2
	Honeywell Bioptic Aux Port	PAPBIO	2-2
	Datalogic Magellan Aux Port	PAPMAG	2-2
	NCR Bioptic Aux Port	PAPNCR	2-3
	Wincor Nixdorf Terminal	PAPWNX	2-3
	Wincor Nixdorf Beetle	PAPBTL	2-3
Baud Rate	300 BPS	232BAD0	2-4
	600 BPS	232BAD1	2-4
	1200 BPS	232BAD2	2-4
	2400 BPS	232BAD3	2-4
	4800 BPS	232BAD4	2-4
	*9600 BPS	232BAD5	2-4
	19200 BPS	232BAD6	2-4
	38400 BPS	232BAD7	2-4
	57600 BPS	232BAD8	2-4
	115200 BPS	232BAD9	2-4
Word Length: Data Bits, Stop Bits, and Parity	7 Data, 1 Stop, Parity Even	232WRD3	2-5
	7 Data, 1 Stop, Parity None	232WRD0	2-5
	7 Data, 1 Stop, Parity Odd	232WRD6	2-5
	7 Data, 2 Stop, Parity Even	232WRD4	2-5
	7 Data, 2 Stop, Parity None	232WRD1	2-5
	7 Data, 2 Stop, Parity Odd	232WRD7	2-5
	8 Data, 1 Stop, Parity Even	232WRD5	2-5
	*8 Data, 1 Stop, Parity None	232WRD2	2-5
	8 Data, 1 Stop, Parity Odd	232WRD8	2-5
	8 Data, 1 Stop, Parity Mark	232WRD14	2-5

Selection	Setting ** Indicates default*	Serial Command *# Indicates a numeric entry*	Page
RS232 Handshaking	*RTS/CTS Off	232CTS0	2-6
	Flow Control, No Timeout	232CTS1	2-6
	Character-Based Flow Control, No Timeout	232CTS7	2-6
	Two-Direction Flow Control	232CTS2	2-6
	Flow Control with Timeout	232CTS3	2-6
	Character-Based Flow Control with Timeout	232CTS9	2-6
	*RTS/CTS Off, RTS Inactive	232CTS10	2-6
	RS232 Timeout	232DEL####	2-7
	*XON/XOFF Off	232XON0	2-7
	XON/XOFF On	232XON1	2-7
	*ACK/NAK Off	232ACK0	2-7
	ACK/NAK On	232ACK1	2-7
	Communication Timeout (Range 1-65535) *2000 ms	232DLK#####	2-7
	Timeout Retries	HSTRTY###	2-8
	Communication Timeout Beeper - Off	HSTTOA0	2-8
	*Communication Timeout Beeper - On	HSTTOA1	2-8
	NAK Retries	HSTRTN###	2-8
Support BEL/CAN in ACK/NAK	BEL/CAN Mode On	BELCAN1	2-8
	*BEL/CAN Mode Off	BELCAN0	2-8
RS232 Defaults	Reset RS232 Defaults	232DFT	2-9
NCR Modifiers			
NCR ACK/NAK	*NCR ACK/NAK Off	NCRACK0	2-9
	NCR ACK/NAK On	NCRACK1	2-9
Block Check Character	*Transmit	NCRBCC1	2-9
	Don't Transmit	NCRBCC0	2-9
NCR Prefix/Suffix	NCR Prefix	NCRPR2##	2-9
	NCR Suffix	NCRSF2##	2-10
	Transmit Prefix/Suffix	NCRBCP1	2-10
	*Don't Transmit Prefix/Suffix	NCRBCP0	2-10
NCR NOF (Not-on-File) Error	On	NCRRAZ1	2-10
	*Off	NCRRAZ0	2-10
Scanner-Bioptic Packet Mode	*Packet Mode Off	232PKT0	2-11
	Packet Mode On	232PKT2	2-11
Input/Output Selections			
Power Save Mode	*Off	PWRMOD0	3-1
	Sleep Mode	PWRMOD1	3-1
	Hibernate Mode	PWRMOD2	3-1
Power Save Mode Timeout	Power Save Mode Timeout	PWRLPT#####	3-1

Selection	Setting ** Indicates default*	Serial Command *# Indicates a numeric entry*	Page
Power Up Beeper	Power Up Beeper Off - Scanner	BEPPWR0	3-1
	*Power Up Beeper On - Scanner	BEPPWR1	3-2
Beep on BEL Character	Beep on BEL On	BELBEP1	3-2
	*Beep on BEL Off	BELBEP0	3-2
Beeper - Good Read	Off	BEPBEP0	3-2
	*On	BEPBEP1	3-2
Beeper Volume - Good Read	Off	BEPLVL0	3-2
	Low	BEPLVL1	3-2
	Medium	BEPLVL2	3-2
	*High	BEPLVL3	3-2
Beeper Pitch - Good Read (Frequency)	Low (1600) (min 90Hz)	BEPFQ11600	3-3
	*Medium (3200 Hz)	BEPFQ13200	3-3
	High (4200) (max 5000Hz)	BEPFQ14200	3-3
Beeper - Transmit Order	*Before Transmission	BEPWHN1	
	After Transmission	BEPWHN2	
Vibrate - Good Read	Vibrate - Good Read Off	TFBGRD0	3-3
	*Vibrate - Good Read On	TFBGRD1	3-3
Vibrate Duration	Duration (100 - 2,000 ms) *300	TFBDUR####	3-4
Beeper Pitch - Error (Frequency)	*Razz (100) (min 90Hz)	BEPFQ2100	3-4
	Medium (3250)	BEPFQ23250	3-4
	High (4200) (max 5000Hz)	BEPFQ24200	3-4
Beeper Duration - Good Read	*Normal Beep	BEPBIP0	3-4
	Short Beep	BEPBIP1	3-4
Number of Beeps - Error	*1	BEPERR3	3-5
	Range 1 - 9	BEPERR#	3-5
Number of Beeps - Good Read	*1	BEPRPT1	3-5
	Range 1 - 9	BEPRPT#	3-5
Beeper Volume Max	Beeper Volume Max	PAPBLM	3-5
Laser Aimer - Scanning Pattern	Pattern Off	SCNGSI0	3-5
	Laser Dot	SCNGSI1	3-5
	Blinking Dot	SCNGSI2	3-6
	3 Segment Line	SCNGSI3	3-6
	5 Segment Line	SCNGSI4	3-6
	*10 Segment Line	SCNGSI5	3-6
Laser Aimer - Scanning Duration	Range (0 - 65535) *0	SCNAIT#####	3-6
Laser Aimer - Good Read Pattern	Off	LASGSI0	3-6
	3 Segment Line	LASGSI3	3-6
	5 Segment Line	LASGSI4	3-6
	*10 Segment Line	LASGSI5	3-7
Laser Aimer - Good Read Duration	Range (0 - 65535) *0	LASGIT#####	3-7

Selection	Setting ** Indicates default*	Serial Command *# Indicates a numeric entry*	Page
Aimer Delay	200 milliseconds	SCNDLY200	3-7
	400 milliseconds	SCNDLY400	3-7
	*Off (no delay)	SCNDLY0	3-7
User-Specified Aimer Delay	Range 0 - 4,000 ms	SCNDLY####	3-7
LED Indicators	Red LED Off	LEDFN10	3-8
	Green LED Off	LEDFN20	3-8
	Red LED On with Good Scan	LEDFN11	3-8
	*Green LED On with Good Scan	LEDFN21	3-8
	*Red LED On with Laser	LEDFN12	3-8
	Green LED On with Laser	LEDFN22	3-8
	Red LED On when CodeGate Disabled	LEDFN14	3-8
	Green LED On when CodeGate Disabled	LEDFN24	3-8
	Red LED On with CTS	LEDFN1128	3-8
	Green LED On with CTS	LEDFN2128	3-8
Good Read Delay	*No Delay	DLYGRD0	3-9
	Short Delay (500 ms)	DLYGRD500	3-9
	Medium Delay (1000 ms)	DLYGRD1000	3-9
	Long Delay (1500 ms)	DLYGRD1500	3-9
User-Specified Good Read Delay	Range 0 - 30,000 ms	DLYGRD#####	3-9
Out-of-Stand Settings	Out-of-Stand Defaults	AOSDFT	3-9
	Presentation Mode Out-of-Stand	PAPPM3	3-10
	Manual Activation Mode Off Out-of-Stand	AOSMEN0	3-10
	*Manual Activation Mode On Out-of-Stand	AOSMEN1	3-10
	Do Not End Manual Activation After Good Read Out-of-Stand	AOSMGD0	3-10
	*End Manual Activation After Good Read Out-of-Stand	AOSMGD1	3-10
	Laser Timeout - Trigger Hold Out-of-Stand (Range 1 - 65525) *30,000 ms	AOSMPT#####	3-11
	Laser Timeout - Trigger Release Out-of-Stand (Range 1 - 65525) *0 ms	AOSMRT#####	3-11
Reread Delay	Short (500 ms)	DLYRRD500	3-11
	*Medium (750 ms)	DLYRRD750	3-11
	Long (1000 ms)	DLYRRD1000	3-11
	Extra Long (2000 ms)	DLYRRD2000	3-11
User-Specified Reread Delay	Range 0 - 30,000 ms	DLYRRD#####	3-11
CodeGate	CodeGate Off Out-of-Stand	AOSCGD0.	3-12
	*CodeGate On Out-of-Stand	AOSCGD1.	3-12

Selection	Setting ** Indicates default*	Serial Command *# Indicates a numeric entry*	Page
Character Activation Mode	*Off	HSTCEN0	3-12
	On	HSTCEN1	3-12
	Activation Character (Range 0-255) *18 [CAN]	HSTACH###	3-12
	Do Not End Character Activation After Good Read	HSTCGD0	3-13
	*End Character Activation After Good Read	HSTCGD1	3-13
	Character Activation Timeout (Range 1 - 5000) *65,535 ms	HSTCDT######	3-13
Character Deactivation Mode	*Off	HSTDEN0	3-13
	On	HSTDEN1	3-13
	Deactivation Character (Range 0-255) *68 [h]	HSTDCH###	3-14
Centering Window	Centering On	DECWIN1	3-14
	*Centering Off	DECWIN0	3-14
	Left of Centering Window (*40%)	DECLFT###	3-14
	Right of Centering Window (*60%)	DECRGT###	3-15
Blinky Mode	*Blinky Mode Off	BLKMOD0	3-15
	Blinky Mode On	BLKMOD1	3-15
	Blinky Always On/Continuous	BLKMOD2	3-15
Laser Scan Angle	Full Laser Beam Sweep	LASANG0	3-15
	Reduced Laser Beam Sweep	LASANG1	3-15
	Wide Laser Beam Sweep	LASANG2	3-15
Decode Security	Low	PAPLS1	3-16
	Low/Medium	PAPLS2	3-16
	Medium/High	PAPLS3	3-16
	High	PAPLS4	3-16
Continuous Scan Mode	Continuous Scan Mode	PAPPM3	3-16
Output Sequence Editor	Enter Sequence	SEQBLK	3-18
	Default Sequence	SEQDFT	3-18
Sequence Timeout	(Range 1 - 65535) *5000 ms	SEQDLY#####	3-18
Sequence Match Beeper	*On	SEQBEP1	3-18
	Off	SEQBEP0	3-18
Partial Sequence	Transmit Partial Sequence	SEQTTS1	3-19
	*Discard Partial Sequence	SEQTTS0	3-19
Require Output Sequence	Required	SEQ_EN2	3-19
	On/Not Required	SEQ_EN1	3-19
	*Off	SEQ_EN0	3-19
Multiple Symbols	On	SHOTGN1	3-20
	*Off	SHOTGN0	3-20
No Read	On	SHWNRD1	3-20
	*Off	SHWNRD0	3-20

Selection	Setting ** Indicates default*	Serial Command *# Indicates a numeric entry*	Page
Prefix/Suffix Selections			
Add CR Suffix to All Symbologies		VSUFCR	4-2
Prefix	Add Prefix	PREBK2##	4-2
	Clear One Prefix	PRECL2	4-2
	Clear All Prefixes	PRECA2	4-2
Suffix	Add Suffix	SUFBK2##	4-2
	Clear One Suffix	SUFCL2	4-2
	Clear All Suffixes	SUFCA2	4-2
Function Code Transmit	*Enable	RMVFNC0	4-3
	Disable	RMVFNC1	4-3
Communication Check Character	*None	HSTXRC0	4-3
	LRC Starts on 1st Character	HSTXRC1	4-3
	LRC Starts on 2nd Character	HSTXRC2	4-3
Intercharacter Delay	Range 0 - 1000 (5ms increments)	DLYCHR##	4-4
User Specified Intercharacter Delay	Delay Length 0 - 1000 (5ms increments)	DLYCRX##	4-4
	Character to Trigger Delay	DLY_XX##	4-4
Interfunction Delay	Range 0 - 1000 (5ms increments)	DLYFNC##	4-4
Intermessage Delay	Range 0 - 1000 (5ms increments)	DLYMSG##	4-5
Data Formatter Selections			
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Selection	Setting ** Indicates default*	Serial Command *# Indicates a numeric entry*	Page
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Matrix 2 of 5 Redundancy	Range (0 - 10) *0	X25VOT##	6-10
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	Maximum (1 - 80) *80	X25MAX##	6-10
NEC 2 of 5	Default All NEC 2 of 5 Settings	N25DFT	6-11
	*Off	N25ENA0	6-11
	On	N25ENA1	6-11
NEC 2 of 5 Check Digit	*No Check Char.	N25CK20	6-11
	Validate, But Don't Transmit	N25CK21	6-11
	Validate, and Transmit	N25CK22	6-11
NEC 2 of 5 Redundancy	Redundancy	N25VOT##	6-11
NEC 2 of 5 Message Length	Minimum (1 - 80) *3	N25MIN##	6-12
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Selection	Setting ** Indicates default*	Serial Command *# Indicates a numeric entry*	Page
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	*On	C93ENA1	6-12
Code 93 Redundancy	Redundancy	C93VOT##	6-12
Code 93 Message Length	Minimum (1 - 80) *3	C93MIN##	6-13
	Maximum (1 - 80) *80	C93MAX##	6-13
Code 93 Append	On	C93APP1	6-13
	*Off	C93APP0	6-13
Code 93 Code Page	Code 93 Code Page	C93DCP	6-13
Straight 2 of 5 Industrial	Default All Straight 2 of 5 Industrial Settings	R25DFT	6-14
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	On	R25ENA1	6-14
Straight 2 of 5 Redundancy	Redundancy	R25VOT##	6-14
Straight 2 of 5 Industrial Message Length	Minimum (1 - 80) *3	R25MIN##	6-14
	Maximum (1 - 80) *80	R25MAX##	6-14
Straight 2 of 5 IATA	Default All Straight 2 of 5 IATA Settings	A25DFT	6-15
Straight 2 of 5 IATA	*Off	A25ENA0	6-15
	On	A25ENA1	6-15
Straight 2 of 5 IATA Redundancy	Redundancy	A25VOT##	6-15
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Code 11	Default All Code 11 Settings	C11DFT	6-16
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Code 11 Redundancy	Redundancy	C11VOT##	6-16
Code 11 Message Length	Minimum (1 - 80) *3	C11MIN##	6-16
	Maximum (1 - 80) *80	C11MAX##	6-16
Code 128	Default All Code 128 Settings	128DFT	6-17
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Selection	Setting ** Indicates default*	Serial Command *# Indicates a numeric entry*	Page
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	Donation ID Number (001) and Donor ID Number (019)	ISBPCS1	6-19
	Donation ID Number (001) and Confidential Unit Exclusion Status	ISBPCS2	6-19
	Product Code (003) and Expiration Date (Form 1)	ISBPCS3	6-19
	Product Code (003) and Expiration Date (Form 2)	ISBPCS4	6-19
	Product Code (003) and Expiration Date (Form 3)	ISBPCS5	6-19
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ISBT 128 Predefined Concatenation Sequences On/Off	*Off	ISBPCE0	6-20
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	Require Predefined Sequence	ISBPCE2	6-20
ISBT 128 User-Defined Concatenation Sequences	1st Left Identifier (0-255) *0	ISBUL1##	6-21
	2nd Left Identifier (0-255) *0	ISBUL2##	6-21
	1st Right Identifier (0-255) *0	ISBUR1##	6-21
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ISBT 128 User-Defined Concatenation Sequences On/Off	*Off	ISBUCE0	6-21
	Allow User-Defined Sequence	ISBUCE1	6-22
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Content Verification	*Off	ISBXM00	6-22
	On	ISBXM01	6-22
Transmit Identifiers	Off	ISBXM10	6-22
	*On	ISBXM11	6-22
Flag Digit Conversion	*Off	ISBXM20	6-22
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GS1-128	Default All GS1-128 Settings	GS1DFT	6-23
	*On	GS1ENA1	6-23
	Off	GS1ENA0	6-23
GS1-128 Application Identifier Parsing	*Off	GS1EMU0	6-23
	Transmit Without Identifiers	GS1EMU1	6-23
	Transmit With Identifiers	GS1EMU2	6-23
GS1-128 Redundancy	Redundancy	GS1VOT##	6-23
GS1-128 Message Length	Minimum (1 - 80) *3	GS1MIN##	6-24
	Maximum (1 - 80) *80	GS1MAX##	6-24

Selection	Setting ** Indicates default*	Serial Command *# Indicates a numeric entry*	Page
Telepen	Default All Telepen Settings	TELDFT	6-24
	*Off	TELENA0	6-24
	On	TELENA1	6-24
Telepen Output	*AIM Telepen Output	TELOLD0	6-24
	Original Telepen Output	TELOLD1	6-24
Telepen Redundancy	Redundancy	TELVOT##	6-25
Telepen Message Length	Minimum (1 - 80) *3	TELMIN##	6-25
	Maximum (1 - 80) *80	TELMAX##	6-25
UPC-A	Default All UPC-A Settings	UPADFT	6-25
	Off	UPBENA0	6-25
	*On	UPBENA1	6-25
UPC-A Check Digit	Off	UPACKX0	6-26
	*On	UPACKX1	6-26
UPC-A Number System	Off	UPANSX0	6-26
	*On	UPANSX1	6-26
UPC-A Addenda	*2 Digit Addenda Off	UPAAD20	6-26
	2 Digit Addenda On	UPAAD21	6-26
	*5 Digit Addenda Off	UPAAD50	6-26
	5 Digit Addenda On	UPAAD51	6-26
UPC-A Addenda Required	*Not Required	UPAARQ0	6-27
	Required	UPAARQ1	6-27
UPC-A Addenda Separator	Off	UPAADS0	6-27
	*On	UPAADS1	6-27
Addenda Timeout	Range (0 - 65535) *100	DLYADD#####	6-27
UPC-A Redundancy	Redundancy	UPAVOT##	6-27
UPC-A/EAN-13 with Extended Coupon Code	*Off	CPNENA0	6-28
	Allow Concatenation	CPNENA1	6-28
	Require Concatenation	CPNENA2	6-28
UPC-A/Code 128 Coupon Code Output	* Multiple Code Output	CPNSTY0	6-28
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UPC-A Number System 4 Addenda Required	* Don't Require Coupon Code	ARQSY40	6-29
	Require Coupon Code	ARQSY41	6-29

Selection	Setting ** Indicates default*	Serial Command *# Indicates a numeric entry*	Page
UPC-A Number System 5 Addenda Required	* Don't Require Coupon Code/ Addenda	ARQSY50	6-29
	Require 2 Digit Addenda	ARQSY51	6-29
	Require 5 Digit Addenda	ARQSY52	6-29
	Require 2 or 5 Digit Addenda	ARQSY53	6-29
	Require Coupon Code	ARQSY54	6-29
	Require Coupon Code or 2 Digit Addenda	ARQSY55	6-29
	Require Coupon Code or 5 Digit Addenda	ARQSY56	6-30
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Coupon GS1 DataBar Output	GS1 Output Off	CPNGS10	6-30
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Addenda Timeout	Range (0 - 65535) *100	DLYADD#####	6-30
UPC-E0	Default All UPC-E Settings	UPEDFT	6-31
	Off	UPEEN00	6-31
	*On	UPEEN01	6-31
UPC-E0 Expand	*Off	UPEEXP0	6-31
	On	UPEEXP1	6-31
UPC-E0 Number System	*On	UPEEXN1	6-31
	Off	UPEEXN0	6-31
UPC-E0 Addenda Required	Required	UPEARQ1	6-32
	*Not Required	UPEARQ0	6-32
Addenda Timeout	Range (0 - 65535) *100	DLYADD#####	6-30
UPC-E0 Addenda Separator	On	UPEADS1	6-32
	*Off	UPEADS0	6-32
UPC-E0 Check Digit	*Off	UPECKX0	6-32
	On	UPECKX1	6-32
UPC-E0 Leading Zero	*Off	UPENSX0	6-33
	On	UPENSX1	6-33
UPC-E0 Addenda	2 Digit Addenda On	UPEAD21	6-33
	*2 Digit Addenda Off	UPEAD20	6-33
	5 Digit Addenda On	UPEAD51	6-33
	*5 Digit Addenda Off	UPEAD50	6-33
UPC-E0 Redundancy	Redundancy	UPEVOT##	6-33
EAN/JAN-13	Default All EAN/ JAN Settings	E13DFT	6-34
	Off	E13ENA0	6-34
	*On	E13ENA1	6-34
Convert UPC-A to EAN-13	UPC-A Converted to EAN-13	UPAENA0	6-34
	* Do not Convert UPC-A	UPAENA1	6-34

Selection	Setting ** Indicates default*	Serial Command *# Indicates a numeric entry*	Page
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	*On	E13CKX1	6-34
EAN/JAN-13 2 Digit Addenda	2 Digit Addenda On	E13AD21	6-35
	*2 Digit Addenda Off	E13AD20	6-35
	5 Digit Addenda On	E13AD51	6-35
	*5 Digit Addenda Off	E13AD50	6-35
EAN/JAN-13 Addenda Required	*Not Required	E13ARQ0	6-35
	Required	E13ARQ1	6-35
EAN-13 Beginning with 2 Addenda Required	* Don't Require 2 Digit Addenda	ARQSY20	6-36
	Require 2 Digit Addenda	ARQSY21	6-36
EAN-13 Beginning with 290 Addenda Required	* Don't Require 5 Digit Addenda	ARQ2900	6-36
	Require 5 Digit Addenda	ARQ2901	6-36
EAN-13 Beginning with 378/379 Addenda Required	* Don't Require Addenda	ARQ3780	6-37
	Require 2 Digit Addenda	ARQ3781	6-37
	Require 5 Digit Addenda	ARQ3782	6-37
	Require 2 or 5 Digit Addenda	ARQ3783	6-37
EAN-13 Beginning with 414/419 Addenda Required	* Don't Require Addenda	ARQ4140	6-37
	Require 2 Digit Addenda	ARQ4141	6-37
	Require 5 Digit Addenda	ARQ4142	6-37
	Require 2 or 5 Digit Addenda	ARQ4143	6-37
EAN-13 Beginning with 434/439 Addenda Required	* Don't Require Addenda	ARQ4340	6-38
	Require 2 Digit Addenda	ARQ4341	6-38
	Require 5 Digit Addenda	ARQ4342	6-38
	Require 2 or 5 Digit Addenda	ARQ4343	6-38
EAN-13 Beginning with 977 Addenda Required	* Don't Require 2 Digit Addenda	ARQ9770	6-38
	Require 2 Digit Addenda	ARQ9771	6-38
EAN-13 Beginning with 978 Addenda Required	* Don't Require 5 Digit Addenda	ARQ9780	6-39
	Require 5 Digit Addenda	ARQ9781	6-39
EAN-13 Beginning with 979 Addenda Required	* Don't Require 5 Digit Addenda	ARQ9790	6-39
	Require 5 Digit Addenda	ARQ9791	6-39
EAN/JAN-13 Addenda Separator	*Off	E13ADS0	6-39
	On	E13ADS1	6-39
Addenda Timeout	Range (0 - 65535) *100	DLYADD#####	6-40
EAN/JAN-13 Redundancy	Redundancy	E13VOT##	6-40
ISBN Translate	*Off	E13ISB0	6-40
	On	E13ISB1	6-40
	Convert to 13-Digit On	E13I131	6-40
	*Convert to 13-Digit Off	E13I130	6-40
	Reformat On	E13IBR1	6-41
	*Reformat Off	E13IBR0	6-41

Selection	Setting ** Indicates default*	Serial Command *# Indicates a numeric entry*	Page
ISSN Translate	*Off	E13ISS0	6-41
	On	E13ISS1	6-41
	Reformat On	E13ISR1	6-41
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EAN/JAN-8	Default All EAN/ JAN 8 Settings	EA8DFT	6-42
	Off	EA8ENA0	6-42
	*On	EA8ENA1	6-42
EAN/JAN-8 Check Digit	Off	EA8CKX0	6-42
	*On	EA8CKX1	6-42
EAN/JAN-8 Addenda	*2 Digit Addenda Off	EA8AD20	6-42
	2 Digit Addenda On	EA8AD21	6-42
	*5 Digit Addenda Off	EA8AD50	6-42
	5 Digit Addenda On	EA8AD51	6-42
EAN/JAN-8 Addenda Required	*Not Required	EA8ARQ0	6-43
	Required	EA8ARQ1	6-43
EAN/JAN-8 Addenda Separator	*Off	EA8ADS0	6-43
	On	EA8ADS1	6-43
Addenda Timeout	Range (0 - 65535) *100	DLYADD#####	6-43
EAN/JAN-8 Redundancy	Redundancy	EA8VOT##	6-44
MSI	Default All MSI Settings	MSIDFT	6-44
	*Off	MSIENA0	6-44
	On	MSIENA1	6-44
MSI Check Character	*Validate Type 10, but Don't Transmit	MSICHK0	6-44
	Validate Type 10 and Transmit	MSICHK1	6-44
	Validate 2 Type 10 Chars, but Don't Transmit	MSICHK2	6-45
	Validate 2 Type 10 Chars and Transmit	MSICHK3	6-45
	Validate Type 11 then Type 10 Char, but Don't Transmit	MSICHK4	6-45
	Validate Type 11 then Type 10 Char and Transmit	MSICHK5	6-45
	Disable MSI Check Characters	MSICHK6	6-45
MSI Redundancy	Redundancy	MSIVOT##	6-45
MSI Message Length	Minimum (1 - 80) *3	MSIMIN##	6-45
	Maximum (1 - 80) *80	MSIMAX##	6-45
Plessey Code	Default All Plessey Code Settings	PLSDFT	6-46
	Off	PLSENA0	6-46
	*On	PLSENA1	6-46

Selection	Setting ** Indicates default*	Serial Command *# Indicates a numeric entry*	Page
Plessey Check Char.	*No Check Char.	PLSCHK0	6-46
	Validate, But Don't Transmit	PLSCHK1	6-46
	Validate, and Transmit	PLSCHK2	6-46
Plessey Redundancy	Range (0 - 10) *0	PLSVOT##	6-46
Plessey Message Length	Minimum (1 - 80) *3	PLSMIN##	6-47
	Maximum (1 - 80) *80	PLSMAX##	6-47
GS1 DataBar Omnidirectional	Default All GS1 DataBar Omnidirectional Settings	RSSDFT	6-47
	Off	RSSENA0	6-47
	*On	RSSENA1	6-47
GS1 DataBar Omnidirectional Redundancy	Redundancy	RSSVOT##	6-47
GS1 DataBar Limited	Default All GS1 DataBar Limited Settings	RSLDFT	6-48
	Off	RSLENA0	6-48
	*On	RSLENA1	6-48
GS1 DataBar Limited Redundancy	Redundancy	RSLVOT##	6-48
GS1 DataBar Expanded	Default All GS1 DataBar Expanded Settings	RSEDFT	6-49
	Off	RSEENA0	6-49
	*On	RSEENA1	6-49
GS1 DataBar Expanded Redundancy	Redundancy	RSEVOT##	6-49
GS1 DataBar Expanded Msg. Length	Minimum (1 - 80) *3	RSEMIN##	6-49
	Maximum (1 - 80) *80	RSEMAX##	6-49
Trioptic Code	*Off	TRIENA0	6-50
	On	TRIENA1	6-50
Trioptic Redundancy	Redundancy	TRIVOT##	6-50
GS1 Emulation	GS1-128 Emulation	EANEMU1	6-50
	GS1 DataBar Emulation	EANEMU2	6-50
	GS1 Code Expansion Off	EANEMU3	6-50
	EAN8 to EAN13 Conversion	EANEMU4	6-51
	*GS1 Emulation Off	EANEMU0	6-51
China Post (Hong Kong 2 of 5)	Default All China Post (Hong Kong 2 of 5) Settings	CPCDFT	6-51
	*Off	CPCENA0	6-51
	On	CPCENA1	6-51
China Post (Hong Kong 2 of 5) Redundancy	Redundancy	CPCVOT##	6-51
China Post (Hong Kong 2 of 5) Msg. Length	Minimum (1 - 80) *3	CPCMIN##	6-52
	Maximum (1 - 80) *80	CPCMAX##	6-52

Selection	Setting ** Indicates default*	Serial Command *# Indicates a numeric entry*	Page
Utilities			
Add Code I.D. Prefix to All Symbologies (Temporary)		PRECA2,BK2995C80!	7-1
Show Software Revision		REVINF	7-1
Show Data Format		DFMBK3?	7-1
Test Menu	On	TSTMNU1	7-1
	*Off	TSTMNU0	7-1
Application Plug-Ins (Apps)	*Decoding Apps On	PLGDCE1	7-2
	Decoding Apps Off	PLGDCE0	7-2
	*Formatting Apps On	PLGFOE1	7-2
	Formatting Apps Off	PLGFOE0	7-2
	List Apps	PLGINF	7-2
Resetting the Factory Defaults	Remove Custom Defaults	DEFOVR	7-3
	Activate Defaults	DEFALT	7-3
Serial Programming Commands			
Serial Trigger Mode	Read Time-Out (0 - 300,000 ms) *30,000	TRGSTO####	8-3

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Product Specifications

Granit 1280i Industrial Corded Scanner Product Specifications

Parameter	Specification
Dimensions (Typical):	
Height	7.7 in. (19.45cm)
Length	5.2 in. (13.31cm)
Width	2.9 in. (7.5cm)
Weight	11.8 oz. (335g)
Scan Line:	
Peak Wavelength Laser	650nm IEC 60825-1: “Class 2”
Optical Power Laser	<1mW
Skew Angle	±65°
Pitch Angle	±65°
Voltage Requirements	4 - 5.5 VDC at input connector
Current Draw @5VDC	Scanning: 360mA, 1.8W Standby: 150mA, 0.75W
Power Supply Noise Rejection	Maximum 100mV peak to peak, 10 to 100 kHz
Temperature Ranges:	
Operating	-22°F to +122°F (-30°C to 50°C)
Operating in Presentation Mode	-22°F to +104°F (-30°C to 40°C)
Storage	-40°F to +158°F (-40°C to 70°C)
Humidity	0 to 95% non-condensing
Mechanical Drop	Operational after 50 drops from 6.6 feet (2m) to concrete at 23°, -30°, and 50°C
Vibration	Complies with MIL-STD-810G, Method 514.6, Annex C
ESD Tolerance	Up to 20kV direct air Up to 8 kV indirect coupling plane
Sealant Rating	IP65

Depth of Field Charts

Typical Performance

Focus		Near Distance	Far Distance
Paper			
7.5 mil	in.	3.5	18.5
	cm	8.9	47
10 mil	in.	4	32.5
	cm	10.2	82.6
15 mil	in.	4	62.5
	cm	10.2	158.8
20 mil	in.	4.5	83.4
	cm	11.4	211.8
55 mil	in.	13.5	178.5
	cm	34.3	453.4
100 mil	in.	36.5	183.5
	cm	92.7	466.1
Retro-reflective			
70 mil	in.	23.5	468.9
	cm	59.7	11.9m
100 mil	in.	38.5	649.6
	cm	97.8	16.5m
Minimum Resolution: 5 mil			

Guaranteed Performance

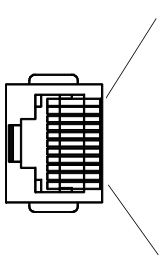
Focus		Near Distance	Far Distance
Paper			
7.5 mil	in.	4.5	13.5
	cm	11.4	34.3
10 mil	in.	4.5	28.5
	cm	11.4	72.4
15 mil	in.	5.5	48.5
	cm	14	123.2
20 mil	in.	5.5	68.5
	cm	14	174
55 mil	in.	15.5	153.5
	cm	39.4	389.9
100 mil	in.	43.5	178.5
	cm	110.5	453.4
Retro-reflective			
70 mil	in.	28.5	403.5
	cm	72.4	10.2m
100 mil	in.	43.5	556.3
	cm	110.5	14.1m

Focus	Near Distance	Far Distance
Minimum Resolution: 5 mil		

Standard Connector Pinouts

Serial Output

10 Pin RJ41 Modular Plug - connects to the scanner



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	

10 Maintenance

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 11-1).

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:

Cleaning the Scanner

The scanner's housing may be cleaned with a soft cloth or tissue dampened with water (or a mild detergent-water solution.) If a detergent solution is used, rinse with a clean tissue dampened with water only.

⚠ Caution:

Do not submerge the scanner in water. The scanner's housing is not watertight.

Do not use abrasive wipes or tissues 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.

Cleaning the Window

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 with gentle dish soap and water.

Inspecting Cords and Connectors

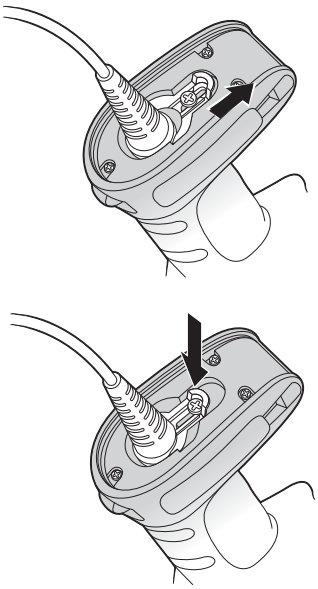
Inspect the interface cable and connector for wear or other signs of damage. A badly worn cable or damaged connector may interfere with scanner operation. Contact your distributor for information about cable replacement. Cable replacement instructions are on page 10-1.

Replacing 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.

Replacing an Interface Cable



1. Turn the power to the host system OFF.
2. Disconnect the scanner's cable from the terminal or computer.
3. Unscrew the locking plate on the bottom of the scanner.
4. Slide the locking plate away from the connector and pull the cable out of the scanner.
5. Replace with the new cable.
6. Insert the connector into the opening and press firmly.
7. Slide the locking plate over the base of the connector to secure the cable, and screw the plate into place.

Troubleshooting

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 aimer on?

If the 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 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 bar code displayed but not entered?

The bar code 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 bar code data plus the key you need (such as "CR") to enter the data into your application. Refer to Prefix/Suffix Overview on page 4-1 for further information.

Does the scanner read the bar code incorrectly?

If the scanner reads a bar code, but the data is not displayed correctly on the host screen:

- The scanner may not be programmed for the appropriate terminal interface.
  For example, you scan "12345" and the host displays "@es%."

Reprogram the scanner with the correct Plug and Play bar code. See Programming the Interface beginning on page 2-1.

- The scanner may not be programmed to output your bar code data properly.
  For example, you scan "12345" and the host displays "A12345B."

Reprogram the scanner with the proper symbology selections. See Chapter 6.

The scanner won't read your bar code at all.

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

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 Resetting the Factory Defaults on page 7-3.

11

Customer Support

Technical Assistance

If you need assistance installing or troubleshooting your device, please contact us by using one of the methods below:

Knowledge Base: www.hsmknowledgebase.com

Our Knowledge Base provides thousands of immediate solutions. If the Knowledge Base cannot help, our Technical Support Portal (see below) provides an easy way to report your problem or ask your question.

Technical Support Portal: www.hsmsupportportal.com

The Technical Support Portal not only allows you to report your problem, but it also provides immediate solutions to your technical issues by searching our Knowledge Base. With the Portal, you can submit and track your questions online and send and receive attachments.

Web form: www.hsmcontactsupport.com

You can contact our technical support team directly by filling out our online support form. Enter your contact details and the description of the question/problem.

Telephone: www.honeywellaidc.com/locations

For our latest contact information, please check our website at the link above.

Product Service and Repair

Honeywell International Inc. provides service for all of its products through service centers throughout the world. To obtain warranty or non-warranty service, please visit www.honeywellaidc.com and select **Support > Contact Service and Repair** to see your region's instructions on how to obtain a Return Material Authorization number (RMA #). You should do this prior to returning the product.

Limited Warranty

Honeywell International Inc. ("HII") warrants its products to be free from defects in materials and workmanship and to conform to HII's published specifications applicable to the products purchased at the time of shipment. This warranty does not cover any HII product which is (i) improperly installed or used; (ii) damaged by accident or negligence, including failure to follow the proper maintenance, service, and cleaning schedule; or (iii) damaged as a result of (A) modification or alteration by the purchaser or other party, (B) excessive voltage or current supplied to or drawn from the interface connections, (C) static electricity or electrostatic discharge, (D) operation under conditions beyond the specified operating parameters, or (E) repair or service of the product by anyone other than HII or its authorized representatives.

This warranty shall extend from the time of shipment for the duration published by HII for the product at the time of purchase ("Warranty Period"). Any defective product must be returned (at purchaser's expense) during the Warranty Period to HII factory or authorized service center for inspection. No product will be accepted by HII without a Return Materials Authorization, which may be obtained by contacting HII. In the event that the product is returned to HII or its authorized service center within the Warranty Period and HII determines to its satisfaction that the product is defective due to defects in materials or workmanship, HII, at its sole option, will either repair or replace the product without charge, except for return shipping to HII.

EXCEPT AS MAY BE OTHERWISE PROVIDED BY APPLICABLE LAW, THE FOREGOING WARRANTY IS IN LIEU OF ALL OTHER COVENANTS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, ORAL OR WRITTEN, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT.

HII'S RESPONSIBILITY AND PURCHASER'S EXCLUSIVE REMEDY UNDER THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT WITH NEW OR REFURBISHED PARTS. IN NO EVENT SHALL HII BE LIABLE FOR INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, AND, IN NO EVENT, SHALL ANY LIABILITY OF HII ARISING IN CONNECTION WITH ANY PRODUCT SOLD HEREUNDER (WHETHER SUCH LIABILITY ARISES FROM A CLAIM BASED ON CONTRACT, WARRANTY, TORT, OR OTHERWISE) EXCEED THE ACTUAL AMOUNT PAID TO HII FOR THE PRODUCT. THESE LIMITATIONS ON LIABILITY SHALL REMAIN IN FULL FORCE AND EFFECT

EVEN WHEN HII MAY HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH INJURIES, LOSSES, OR DAMAGES. SOME STATES, PROVINCES, OR COUNTRIES DO NOT ALLOW THE EXCLUSION OR LIMITATIONS OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

All provisions of this Limited Warranty are separate and severable, which means that if any provision is held invalid and unenforceable, such determination shall not affect the validity of enforceability of the other provisions hereof. Use of any peripherals not provided by the manufacturer may result in damage not covered by this warranty. This includes but is not limited to: cables, power supplies, cradles, and docking stations. HII extends these warranties only to the first end-users of the products. These warranties are non-transferable.

The duration of the limited warranty for the Granit 1280i scanner is three (3) years.

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 Editing beginning on page 4-1 and Data Formatting beginning on page 5-1 for information about using Code ID and AIM ID.

Linear Symbologies

	AIM		Honeywell	
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
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		

Symbology	AIM		Honeywell	
	ID	Possible modifiers (*m*)	ID	Hex
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

Postal Symbologies

Symbology	AIM		Honeywell	
	ID	Possible modifiers (*m*)	ID	Hex
All Symbologies				99
China Post	]X0		Q	51

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 characters ASCII control			Keyboard Control + ASCII (CTRL+X) Mode		
				Windows Mode Control + X Mode On (KBDCAS2)	
DEC	HEX	Char	Control + X Mode Off (KBDCAS0)	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	

Non-printable characters ASCII control			Keyboard Control + ASCII (CTRL+X) Mode		
				Windows Mode Control + X Mode On (KBDCAS2)	
DEC	HEX	Char	Control + X Mode Off (KBDCAS0)	CTRL + X	CTRL + X function
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

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

Note:

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

Printable Characters (Continued)								
DEC	HEX	Character	DEC	HEX	Character	DEC	HEX	Character
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
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

Extended ASCII Characters (Continued)					
DEC	HEX	CP 1252	ASCII	Alternate Extended	PS2 Scan Code
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	┴		
194	C2	Â	┬		
195	C3	Ã	├		
196	C4	Ä	─		
197	C5	Å	í		
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	╒		

Extended ASCII Characters (Continued)					
DEC	HEX	CP 1252	ASCII	Alternate Extended	PS2 Scan Code
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	÷	≈		
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			

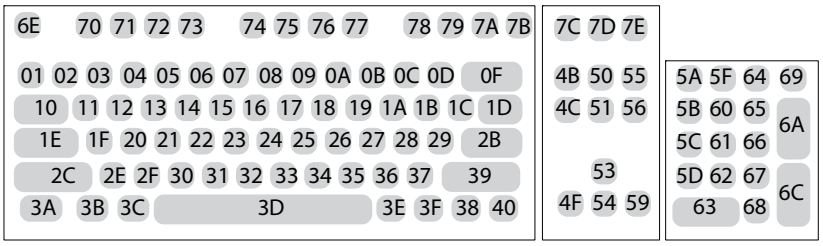
ISO 2022/ISO 646 Character Replacements

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 bar codes were created. The data characters should then appear properly.

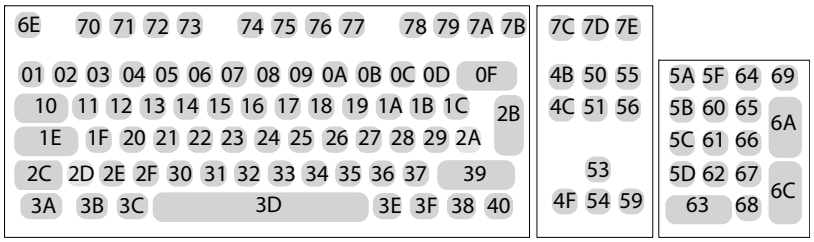
Code Page Selection Method/Country	Standard	Keyboard Country	Honeywell Code Page Option
United States (standard ASCII)	ISO/IEC 646-IRV	n/a	1
Automatic National Character Replacement	ISO/IEC 2022	n/a	2 (default)
Binary Code page	n/a	n/a	3
Default "Automatic National Character replacement" will select 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
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**											

Unicode Key Maps



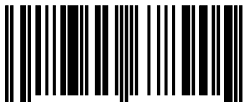
104 Key U.S. Style Keyboard



105 Key European Style Keyboard

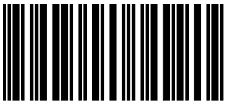
Sample Symbols

UPC-A



0 123456 7890

Interleaved 2 of 5



1234567890

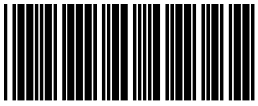
EAN-13

9 780330 290951

Code 128

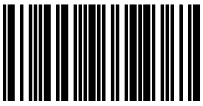
Code 128

Code 39



BC321

Codabar



A13579B

Code 93

123456-9$

Programming Chart

0

1

2

3

4

5

6

7

8

9

Programming Chart

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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