

Stratos™ 2700

Biopic Scanner/Scale

User's Guide

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Web Address: www.honeywellaidc.com

Product Agency Compliance

USA

FCC Part 15 Subpart B Class A

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 A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Use only shielded data cables with this system.

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 A 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 réglementation canadienne

Cet appareil numérique de la Classe A est conforme à la norme NMB-003 du Canada. Son fonctionnement est assujéti 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.

Normes TÜV R

Homologué TÜV R : UL 60950-1, seconde édition et CSA C22.2 No. 60950-1-07, seconde édition.

Europe

CE The CE marking indicates compliance to 2004/108/EC EMC Directive with Standards EN55022 CLASS B, EN55024, EN61000-3-2, EN61000-3-3, and 2011/65/EU RoHS directive. 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.

Waste Electrical and Electronic Equipment Information

Honeywell complies with Directive 2002/96/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on waste electrical and electronic equipment (WEEE).

This product has required the extraction and use of natural resources for its production. It may contain hazardous substances that could impact health and the environment, if not properly disposed.

In order to avoid the dissemination of those substances in our environment and to diminish the pressure on the natural resources, we encourage you to use the appropriate take-back systems for product disposal. Those systems will reuse or recycle most of the materials of the product you are disposing in a sound way.



The crossed out wheeled bin symbol informs you that the product should not be disposed of along with municipal waste and invites you to use the appropriate separate take-back systems for product disposal.

If you need more information on the collection, reuse, and recycling systems, contact your local or regional waste administration.

You may also contact your supplier for more information on the environmental performances of this product.

Australia/NZ

C-Tick Statement



Conforms to AS/NZS 3548 EMC requirement

Japan



VCCI: 2012-04 Class A

Russia



Gost-R certificate

South Korea



This product meets Korean agency approval.

International

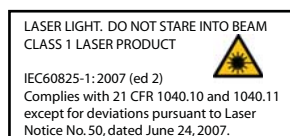
LED Safety Statement

LEDs have been tested and classified as “EXEMPT RISK GROUP” to the standard: IEC 62471:2006.

CB Scheme

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

Laser Safety Statement



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 1 LASER PRODUCT.

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, refer to www.honeywellaidc.com/patents.

Solids and Water Protection

The Stratos 2700 has a rating of IP42, immunity of foreign particles and dripping water.

Warning



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

Required Safety Labels

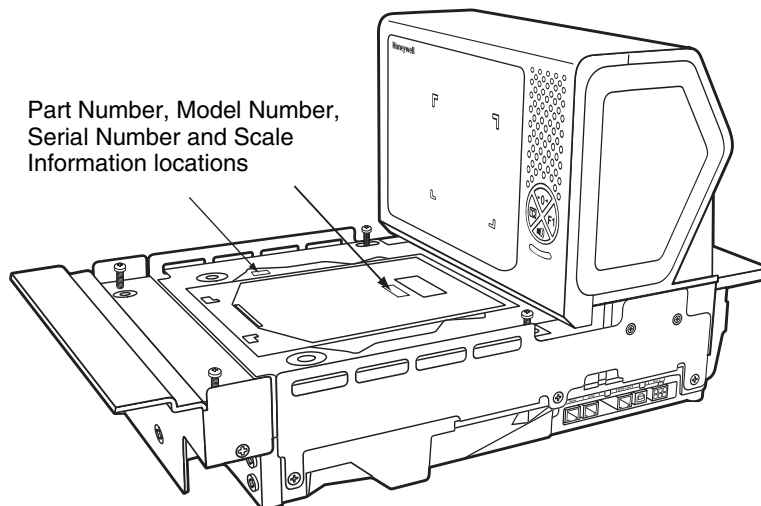
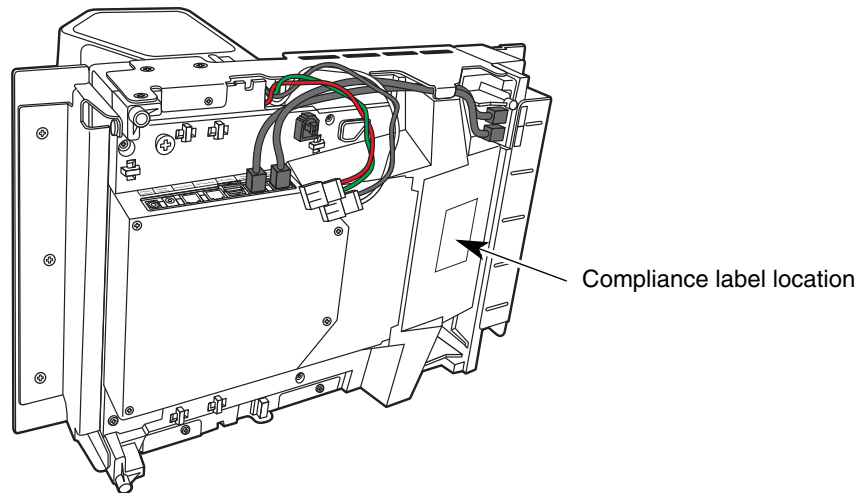




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Getting Started

Honeywell's Stratos™ bioptic scanner/scale incorporates a revolutionary hybrid platform that enables retailers to maximize customer throughput for rapid pass-through scanning of linear bar codes, plus area imaging technology for scanning of 2D and mobile bar codes. The Stratos bioptic enhances the checkout scanning experience for traditional checkout lanes and self-checkout environments.

About This Manual

This User's Guide provides installation and programming instructions for the Stratos bioptic. 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. See [Serial Programming Commands](#) beginning on page 13-1 for a complete listing of the serial commands for programming bar codes.

Note: The Stratos bioptic is programmed via the vertical window only. The horizontal window intentionally does not read programming bar codes as a means of preventing accidental scans.

Printing Single Bar Codes

If you wish to print single-page bar codes for any programming selection, hover your cursor over the bar code, and left click. A document with that bar code on a single page is displayed. Click the **Print** button to print that page.

The bar code document contains all the programming bar codes from this manual. You can scroll through the pdf to locate any other codes in which you are interested.

Dimensions

Site Requirements

Vertical Clearance

A minimum clearance height of 7 inches (17.78cm) from the checkout counter surface is needed for the vertical hood.

Ventilation and Spacing

The Stratos bioptic has a die-cast housing that dissipates heat, allowing the unit to operate without a ventilation fan. Honeywell recommends that the temperature surrounding the unit does not exceed 104°F (40°C). There should be adequate convection and minimal heat producing equipment in close proximity of the unit. A cooling fan with a filter is recommended if there will be a conveyor motor or other heat producing equipment close to the unit that will create a high temperature environment.

Adequate spacing between the unit and the checkout counter opening is required for proper operation of the scale. When the Stratos bioptic is mounted properly, the scale platter should be able to move up and down freely without hitting the edges of the checkout counter cutout. Refer to [Installation](#) beginning on page 2-1 for detailed cutout dimensions and mounting instructions.

Lighting

The Stratos bioptic should not be pointed toward any strong light sources that would create glare on the vertical window.

Service Access

When routing and installing the cable(s) and power supply, make sure to leave access so that these components may be swapped easily without the need to remove the unit from the checkout counter.

When calibrating or zeroing the scale, do not remove the unit from the checkout counter. Refer to [Scale](#) beginning on page 6-1 for detailed instructions on zeroing and calibration.

Power Installation

The Power Supply (AC/DC) should be connected to an AC outlet that is free of electrical noise (clean). A qualified electrician can determine the amount of electrical noise on the AC line. All power supplies must be properly grounded.

Honeywell recommends using a switched AC outlet. The switch should be located on the operator's side of the checkout counter in close proximity to the Stratos bioptic to facilitate calibration and service of the unit.

Note: The power supply should never be disconnected from the Stratos bioptic without first disconnecting the AC power.

EAS Considerations

Do not install any large iron fixtures, such as steel support poles, near the Stratos bioptic. Doing so may re-shape the EAS tag deactivation field. See [EAS Settings](#) beginning on page 10-1 for complete EAS information.

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.

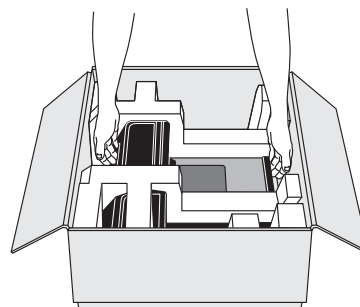
1. Make sure the shipping box is top-side up before opening.
2. Carefully remove the platter and store it in a safe location until the unit is properly installed into the checkout counter.
3. Remove all loose packing materials from the box.
4. Lift the Stratos bioptic out of the box by grasping each end of the unit and lifting directly up.

Note: Do not remove the scanner from the box by grabbing the shipping foam. This can result in the unit falling.

5. Remove the shipping foam from around the scanner.

Note: Retain all packing materials in the event you need to re-pack the unit.

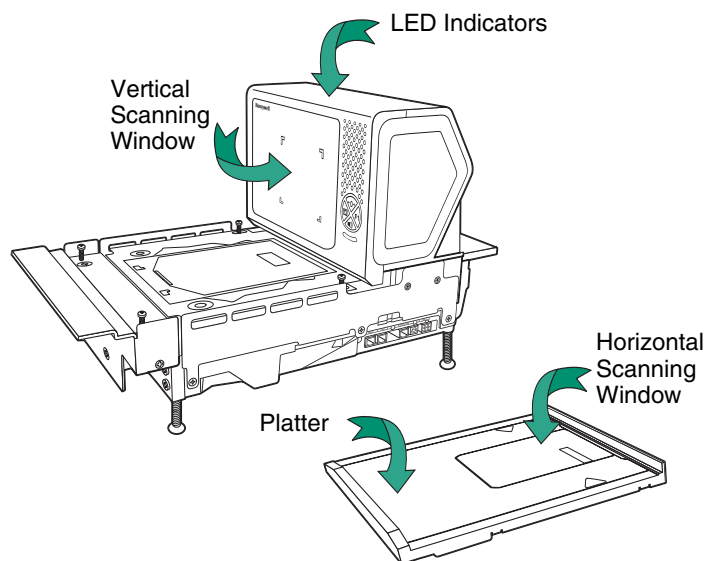
6. Remove the protective film from the top side platter surface, vertical scan window, and horizontal scan window.



Configuring the 2700

If the unit has not already been pre-configured with the proper POS interface and selectable options, program the configuration now. You may do so using EZConfig-Scanning (see [EZConfig-Scanning Introduction](#) on page 12-1), or by scanning the programming bar codes in this manual.

Features of the Stratos Bioptic



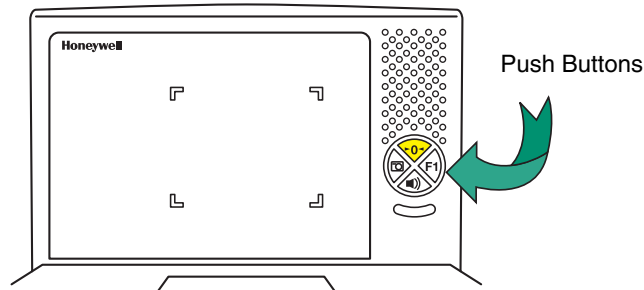
Audible and Visual Indicators

The Stratos bioptic provides audible tones and visual indicators that indicate the status of the unit. See [Input/Output Settings](#) beginning on page 4-1 to change any of these settings. The following table lists the default audible and visual indications. See also [Error Codes](#) on page 15-3.

LEDs	Sound	Indication
Normal Operations		
Blue Flash, then Green and Red	Beep	Power up
Green Continuous	None	Laser On
Green Flash	Beep	Good Scan
Green Flash	Auxiliary Scanner Beep	Good Scan from auxiliary scanner
Green/Blue Flash	Beep	Good Scan from RFID
Blue Flash	Fast Beep	EAS Deactivate
Red, then alternating Red and Green	Razz or Beep	Not on File (NCR Protocol)
Alternating Red and Green Flashes	None	Scanner Software Disabled
Green and Red Continuous	None	Scanner Hardware Disabled
Power Management		
Green Flash	None	Power Save - Lasers Off
Green Continuous	None	Power Save - Blinking Lasers
Scale		
Yellow Continuous	None	Scale at Zero
Yellow Off	None	Scale at steady weight
Maintenance/Error		
Green, Red, Yellow Flash	Ascending Beep	Bioptic Flash
Green, Red, Yellow Flash	None	Bioptic Configuration

LEDs (Continued)	Sound	Indication
Green, Red, Yellow Flash	Auxiliary Scanner Beep	Auxiliary Scanner Configuration
Green, Red, Yellow Flash	With or without Beep	Scale Calibration
Red Flash	Razz	Error Event - Minor (See Troubleshooting a Stratos Bioptic Scanner , beginning on page 15-1)
Red Flash, then Continuous	Razz	Error Event - Major (See Troubleshooting a Stratos Bioptic Scanner , beginning on page 15-1)
Green Flash	Cuckoo Beep	Configuration Code - Temporary
Green Flash	Ascending 3 Tone	Configuration Code - Permanent

Push Button Functionality



There is a ring of 4 push buttons on the front of the device. The following is a brief description of the default settings for the push buttons. For complete functionality and programming options, refer to [Button Controls](#) on page 4-4.

Note: Pressing any button wakes the scanner from sleep mode.



This button is normally lit when the scale is at zero. The backlight goes off when the scale is not at zero. Press this button to reset the scale to zero.



Press this button once to scan a bar code using a customer-facing scanner (if installed). Push it a second time to disable the customer-facing scanner. See [Image Capture Button](#) on page 4-6 for further information.



Press repeatedly to scroll through the beeper volumes. This button is also used to clear error conditions (LED lights, beeps, and LCD notifications). Hold this button down for 5 seconds to put the scanner to sleep.

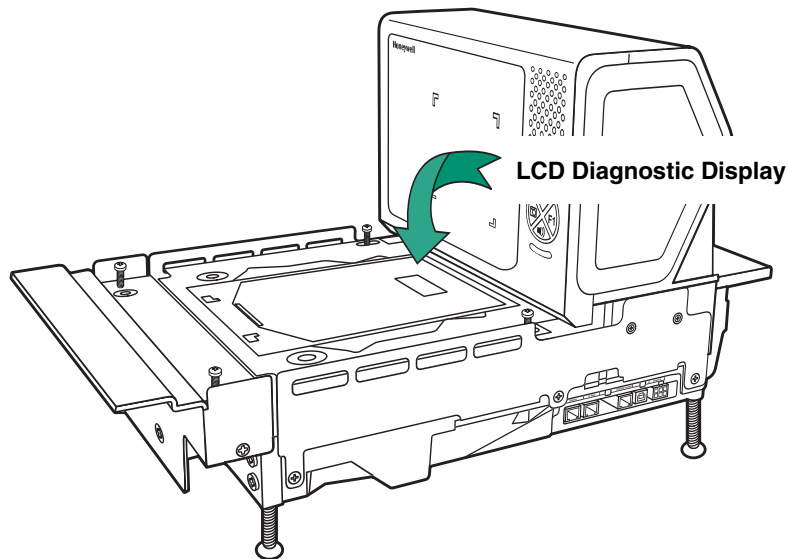
F1 Programmable Functions



Press and hold the F1 button for 5 seconds to deactivate an EAS tag. Refer to [F1 Programmable Button](#) (page 4-4) for further information about the F1 button settings.

LCD Diagnostic Display

There is an LCD diagnostic display located under the platter near the end of the scanner closest to the vertical window.



Refer to [Diagnostic Indicator](#) on page 15-2 for complete information about codes that appear in this display.

LCD Video Display

If you are using a VGA security camera, you can feed the video line to the Stratos bioptic. This type of camera could be used to display items on the bottom of a cart, or to show activity at a deliveries door. See [Connecting an LCD Video Display](#) on page 2-7 for connection information for an external camera.

Reading Techniques

2D bar codes, such as drivers' licenses or coupons on mobile phones, must be scanned using the vertical window. Linear bar codes can be scanned using either the vertical or the horizontal window.



Installation

Installing the Stratos Bioptic

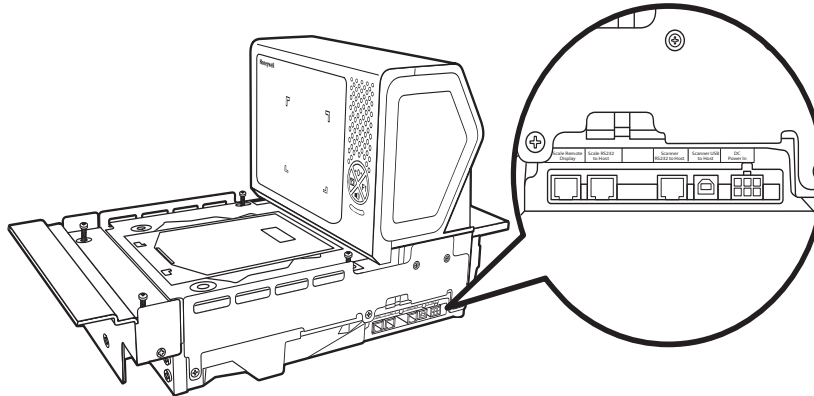
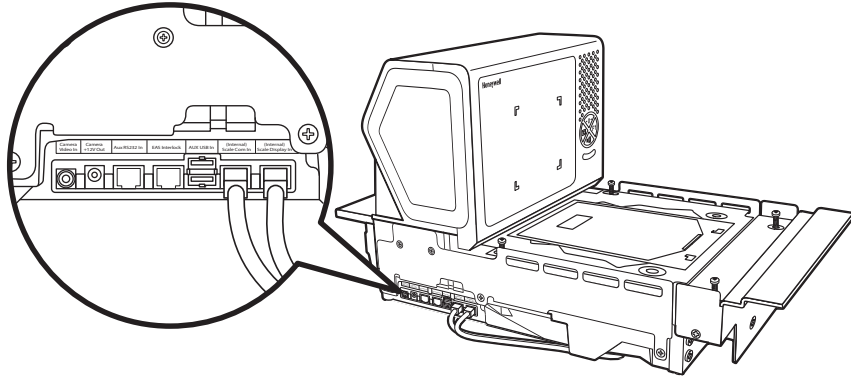
Step 1. Shut down the POS system.

Step 2. Connect the appropriate cables from the host system and auxiliaries to the ports on the 2700.

Device Ports

Left Side Ports:

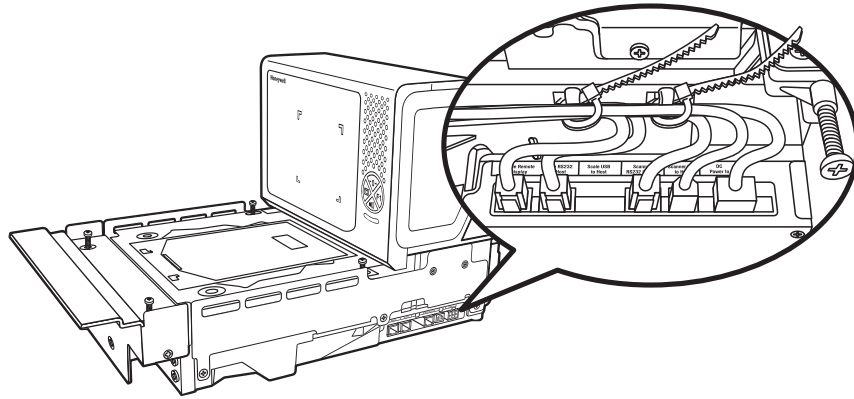
Camera Video In
 Camera +12V Out
 Aux RS232 In
 EAS Interlock
 Aux USB In
 (Internal) Scale Com In
 (Internal) Scale Display In



Right Side Ports:

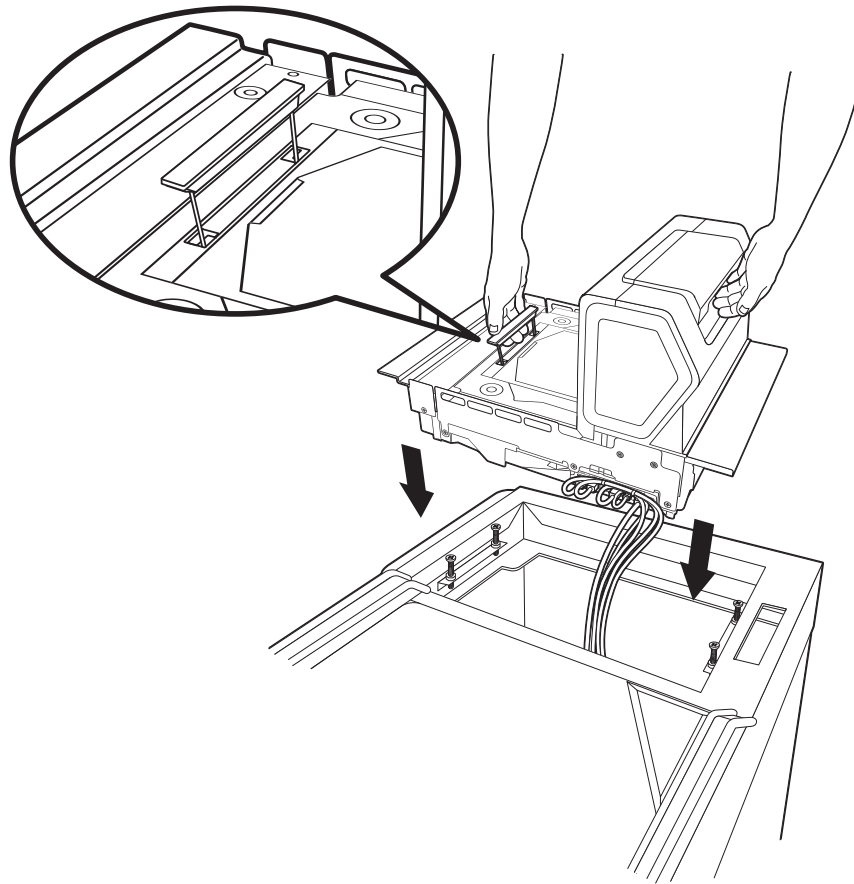
Scale Remote Display
 Scale RS232 to Host
 Scanner RS232 to Host
 Scanner USB to Host
 DC Power In

Step 3. Use cable ties to secure the cables to the sides so they won't interfere with installation.



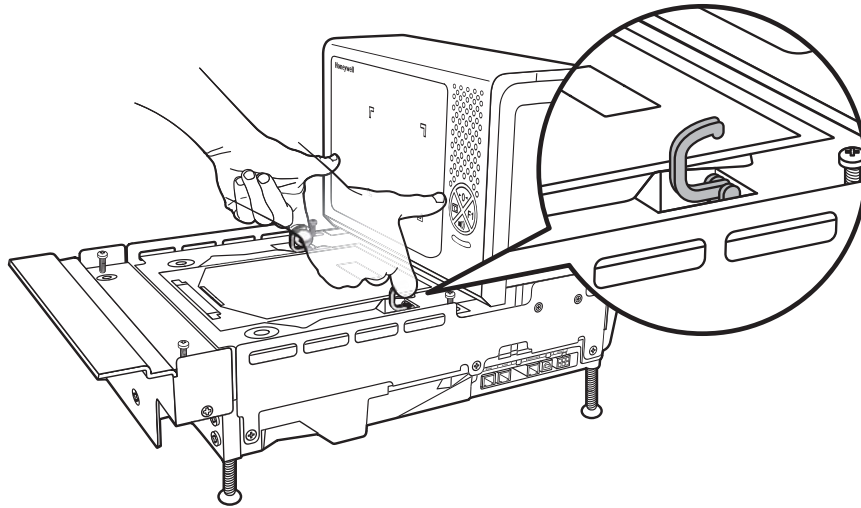
Placing the Stratos Bioptic in the Check Stand

Pull up the lift handle located in front of the horizontal window. Use this lift handle with one hand and grasp the 2700 underneath the vertical display with the other hand. Carefully lower the 2700 into the check stand cutout.

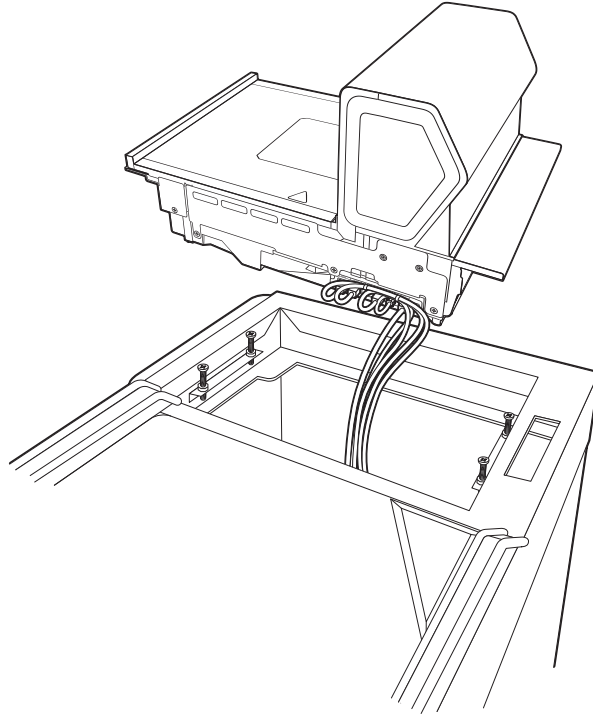


Alternate Lift Method

There are also two finger handles located near the base of the vertical window. Swing them up into position with your index fingers. Hook both your index fingers into these handles and rest both thumbs against the vertical window frame for added stability. Carefully lower the 2700 into the check stand cutout.

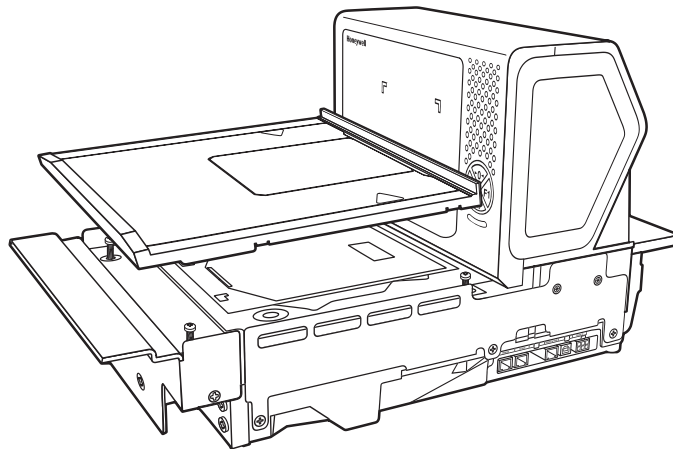


Step 4. Route the cables through the check stand cutout to the POS terminal.



Place the Platter

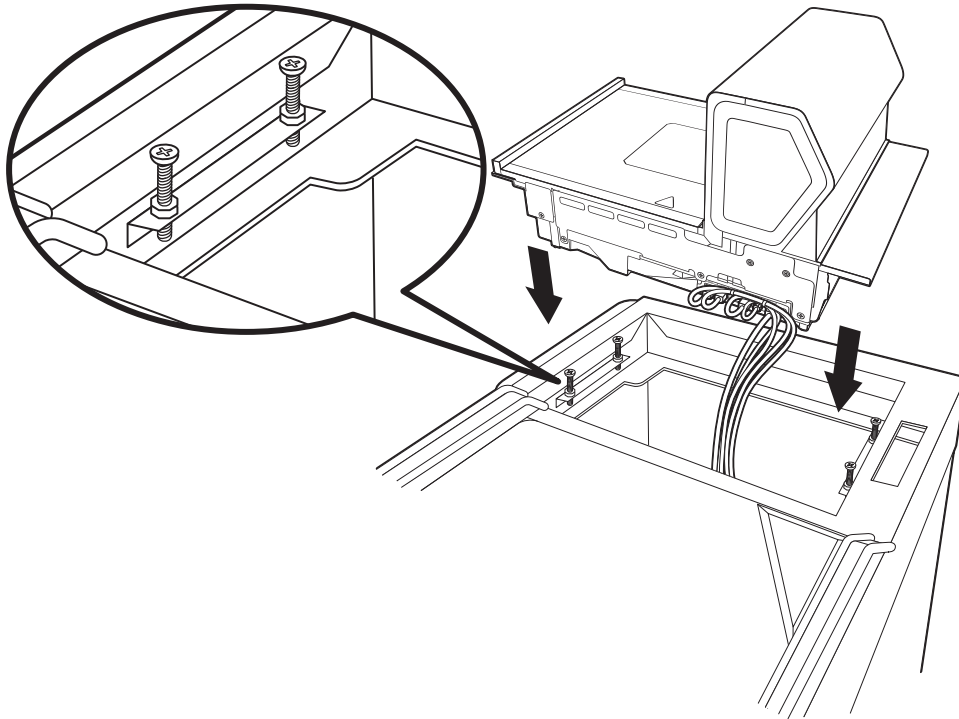
Place the platter in position over the horizontal window.



WARNING: Do not attempt to adjust the screws that support the platter. Any attempt to do so may throw the scale out of calibration.

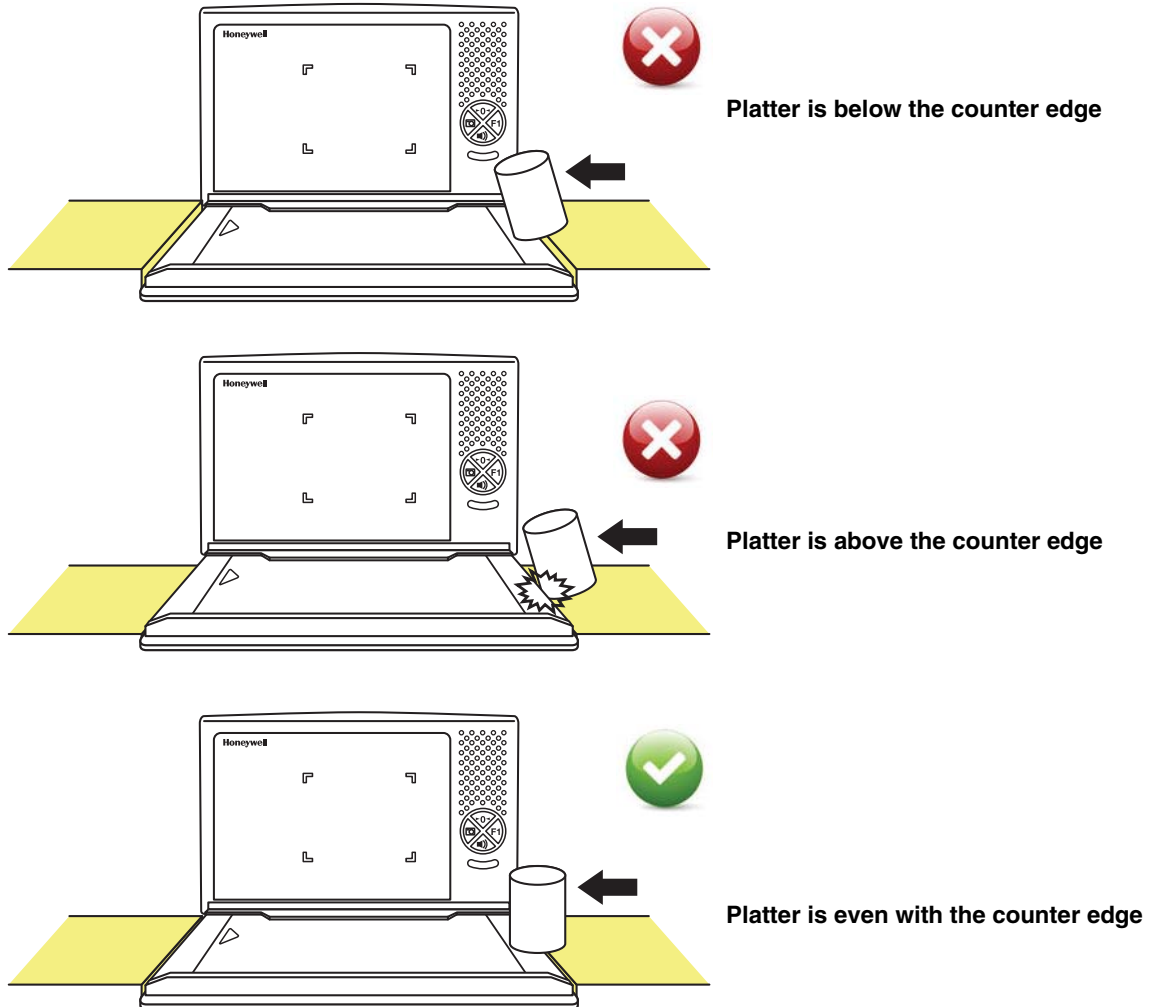
Adjust the Height

Make sure the the platter is at the correct height and completely level. The front edge of the platter should be flush with the check stand. To adjust the height, turn the leveling screws. If the model 2753 is installed, adjust the 4 leveling screws in the check stand until the platter is at the correct height.



Remove the platter and make sure the scanner is level both with and without the platter installed. For installations that do not have hanging ledges, adjust the leveling feet at the bottom 4 corners of the scanner until the platter is at the correct height.

Check the platter height by sliding an item across the check stand and the platter. If you feel it bump over the leading or trailing edge, adjust the leveling screws until it passes over the platter smoothly. The center of the platter should be slightly higher than the counter so that when an item is placed on the scale, the item's edges do not rest on the counter.



Leveling

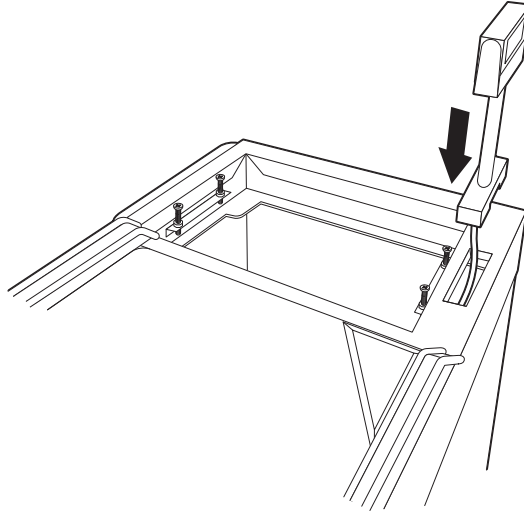
Press your hands on each corner of the platter and gently rock the opposite corners. If the platter rocks on any corner, adjust the leveling screws. Check the bubble level beneath the platter. It should indicate when the 2700 is level.



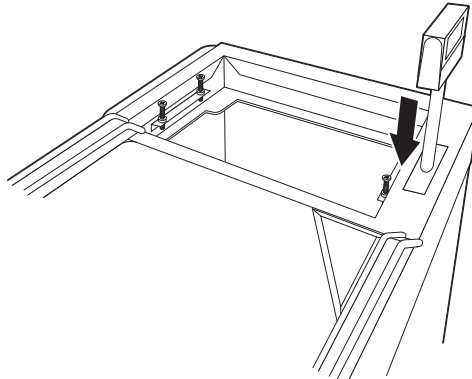
If the scale is not level, it may fall out of calibration and cannot be used. You must level it in order for it to perform properly. Once the 2700 is at the correct height and level, lock down the leveling screws with the bolt at the bottom.

Pole Display (if included)

Step 1. Route the pole display cables through the pole opening (if pole display is included).

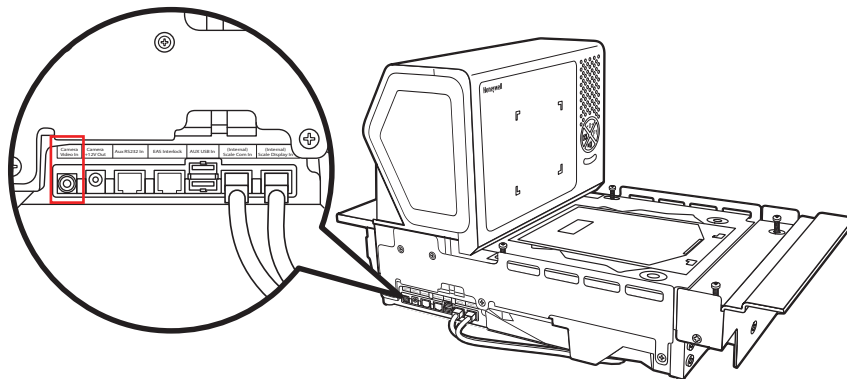


Step 2. Mount the pole display.



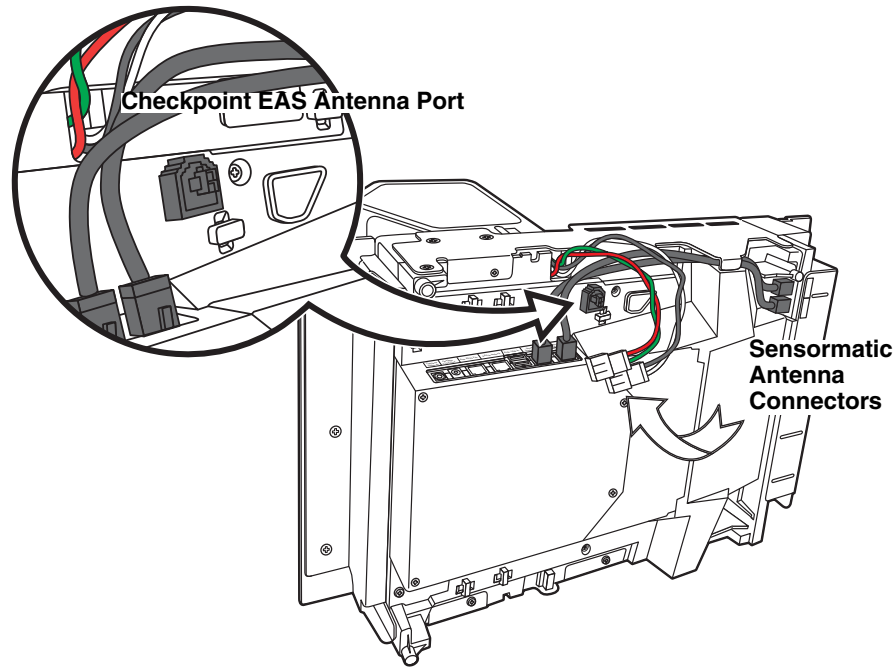
Connecting an LCD Video Display

You may install a VGA camera and position it to view the bottom of a shopping basket. Connect the yellow video line from the camera to the port marked **Camera Video In**.



The images from the video camera are shown in the upper left corner of the scanner's vertical tower.

Connecting EAS



Checkpoint

When connecting to a Checkpoint EAS system, connect the Checkpoint EAS interlock cable (if required) to the EAS interlock port on the left side of the 2700 (see [Device Ports](#) on page 2-1). Connect the Checkpoint antenna cable to the antenna port on the underside of the 2700, shown above. Refer to [EAS Settings](#) beginning on page 10-1 for configuration codes and further EAS programming information.

Sensormatic®

When connecting to a Sensormatic EAS system, connect the Sensormatic RS232 control line to the EAS interlock port on the left side of the 2700 (see [Device Ports](#) on page 2-1). Connect the Sensormatic antenna cables to the multi-colored antenna connectors on the underside of the 2700, shown above. Contact Tyco for further information about Sensormatic installation and configuration. Refer to [EAS Settings](#) beginning on page 10-1 for Stratos bioptic configuration codes and further EAS programming information.

Connecting to the POS System

Step 1. Turn off the host system.

Step 2. If using a single cable, plug one end of the interface cable into the port labeled for your interface on the right side of the Stratos bioptic:

USB: **Scanner USB to Host**

RS232: **Scanner RS232 to Host**

RS485: **Scanner RS232 to Host**

When using a dual cable, plug an RS232 cable into the Scale to Host port on the right side of the Stratos bioptic.

If using a USB Plus Power connection to the host (12V), match the turquoise cable connector to the turquoise receptor on the 2700.

- Step 3.** Connect the other end of the interface cable to the appropriate communication port on the host's scale device.
- Step 4.** Plug the optional remote display cable into the port labeled **ScaleRemote Display** on the right side of the Stratos bioptic.
- Step 5.** Plug the external power supply into the 3-pin socket labeled **DC Power In** on the right side of the Stratos bioptic.
- Step 6.** Connect AC power to the transformer. If the AC outlet is equipped with an on/off switch, turn the power on.
- Step 7.** Configure the Stratos bioptic to match the host system's communication parameters. Refer to [Programming the Bioptic Scanner Interface](#) beginning on page 3-1.



Programming the Bioptic Scanner Interface

Introduction

This chapter describes how to program the Stratos bioptic scanner for the desired interface. To program the scale interface, refer to [Programming the Scale Interface](#), beginning on page 6-1.

Printing Single Bar Codes

If you wish to print single-page bar codes for any programming selection, hover your cursor over the bar code, and left click. A document with that bar code on a single page is displayed. Click the **Print** button to print that page.

The bar code document contains all the programming bar codes from this manual. You can scroll through the pdf to locate any other codes in which you are interested.

Menu Bar Code Security Settings

Honeywell scanners are programmed by scanning menu bar codes or by sending serial commands to the scanner. If you want to restrict the ability to scan menu codes, you can use the Menu Bar Code Security settings. Contact the nearest technical support office (see [Technical Assistance](#) on page 16-1) for further information.

Programming the Scanner Interface - Plug and Play

Plug and Play bar codes provide instant scanner set up for commonly used interfaces. They are also used to program the scanner portion when using a dual cable interface.

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

For scale and scanner/scale interfaces, refer to [Programming the Scale Interface](#) on page 6-1. For EAS Interfaces, refer to [Programming the EAS Interface](#) on page 10-3.

RS232 Serial Port Interface

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

Option	Setting
Baud Rate	9,600 bps
Data Format	8 data bits, no parity bit, 1 stop bit



RS232 OPOS Scanner Only - Dual Cable

Scan the following bar codes to configure the Stratos bioptic as a scanner only, using the OPOS drivers in dual cable mode. In a dual cable environment, the scanner and scale work independently. In this mode, the host must have a dedicated RS232 port to receive the scale data and the bar code data is sent via its own cable to a separate communication port. The bar codes below program the following baud rates and data formats:

Programming Code	Data Format
9600 Baud	8 data bits, no parity bit, 1 stop bit
38,400 Baud	8 data bits, no parity bit, 1 stop bit, Flow Control, No Timeout



PAP0PS.

**RS232 OPOS Scanner Only -
Dual Cable
9600 Baud**



PAP911.

**RS232 OPOS Scanner Only -
Dual Cable
38,400 Baud**

USB Interface

USB PC or Macintosh Keyboard

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



PAP124.

USB Keyboard (PC)



PAP125.

USB Keyboard (Mac)



PAP134.

USB Japanese Keyboard (PC)

USB HID

Scan the following code to program the scanner for USB HID bar code scanners.



PAP131.

USB HID Bar Code Scanner

USB Serial Commands

USB Serial Emulation

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



TRMUSB130.

USB Serial



PAP130.

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



REMIFCO;PAP130.

USB Serial Emulation for Windows 2000

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

CTS/RTS Emulation



USBCTS1.

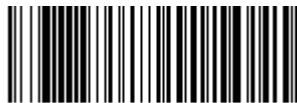
CTS/RTS Emulation On



USBCTS0.

*** CTS/RTS Emulation Off**

ACK/NAK Mode



USBACK1.

ACK/NAK Mode On



USBACK0.

*** ACK/NAK Mode Off**

USB Host Power

When using host power for a USB interface, you may use the following settings to conserve power:

Scan **No Power Management** if the scanner is self-powered.

Scan **Reduced Motor Speed During Power On** if the scanner is being powered by the USB connection from the host. This saves power by reducing motor speed.

Scan **Motor/Beeper Power Save** if the scanner is being powered by the USB connection from the host. This saves power by reducing both motor speed and beeper power usage.

Scan **Combined Power Save Mode** if the scanner is being powered by the USB connection from the host. This saves the most power by combining the two modes above.

Default = No Power Management.



PWRUSB0.

*** No Power Management**



PWRUSB1.

Reduced Motor Speed During Power On



PWRUSB2.

Motor/Beeper Power Save



PWRUSB3.

Combined Power Save Modes

Host System Plug and Play Codes

RS485

Scan one of the following “Plug and Play” codes to program the scanner for an IBM POS terminal interface at address 4B.

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



PAPP5B.

IBM Port 5B Interface



PAPP9B1.

IBM Port 9B
HHBCR-1 Interface



PAPP9B2.

IBM Port 9B
HHBCR-2 Interface



PAPP17.

IBM Port 17 Interface

Each bar code above also programs the following suffixes for each symbology:

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

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

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

IBM 46XX - Scanner Only

The following bar code sets the scanner for IBM 46XX RS485 emulation, scanner-only protocol defaults.



PAP952.

IBM 46XX - Scanner Only

IBM Port 17 Interface - Scanner Only

The following bar code forces the Stratos bioptic to operate as an IBM tabletop scanner when connected via a single RS485 cable at address 4A.



PAPPTT.

IBM Port 17 Interface - Scanner Only

RS485 Packet Mode

The following selection allows you to break up large bar code data into smaller packets on an IBM POS terminal. To break up large bar codes into small packets, scan the **Packet Mode On** bar code, below. Scan the **Packet Mode Off** bar code if you want large bar code data to be sent to the host in a single chunk. *Default = Packet Mode Off.*



RTLPDF0.

*** Packet Mode Off**



RTLPDF1.

Packet Mode On

RS485 Packet Length

If you are using Packet mode, you can specify the size of the data “packet” that is sent to the host. Scan the **Packet Length** bar code, then then the packet size (from 20 - 255) from the [Programming Chart](#) inside the back cover of this manual, then **Save**. *Default = 40.*



RTLMP5.

Packet Length

USB - IBM SurePos

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

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



PAPSPH.
**USB IBM SurePos
(USB Handheld Scanner)
Interface**



PAPSPT.
**USB IBM SurePos
(USB Tabletop Scanner)
Interface**

Each bar code above also programs the following suffixes for each symbology:

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

NCR Host System Scanner Only - Dual Cable

Scan the following bar code to place the scanner in dual cable mode. In a dual cable environment, the scanner and scale work independently. In this mode, the host must have a dedicated RS232 port to receive the scale data and the bar code data is sent via its own cable to a separate communication port. The following bar code programs a carriage return (CR) suffix, NCR Code IDs, baud rate, and data format as indicated below.

Option	Setting
Baud Rate	9,600 bps
Data Format	8 data bits, no parity bit, 1 stop bit



PAP953.
NCR Scanner Only - Dual Cable

Verifone® Ruby Terminal Default Settings

Scan the following bar 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



PAPRBY.

Verifone Ruby Settings

Gilbarco® Terminal Default Settings

Scan the following bar 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



PAPGLB.

Gilbarco Settings

Wincor Nixdorf Terminal Default Settings

Scan the following bar code to configure 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.



PAPWNX.

Wincor Nixdorf Terminal Settings

Wincor Nixdorf Beetle™ Terminal Default Settings

Scan the following bar code to configure the scanner for a Wincor Nixdorf Beetle terminal. The following prefixes are programmed for each symbology:



PAPBTL.

Wincor Nixdorf Beetle Settings

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

Keyboard Country Layout

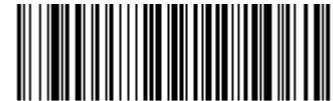
Scan the appropriate country code below to program the keyboard layout for your country or language. As a general rule, the following characters are supported, but need special care for countries other than the United States: @ | \$ # { } [] = / ' \ < > ~

Keyboard Countries



KBDCTY0.

* United States



KBDCTY35.

Albania



KBDCTY91.

Arabic



KBDCTY81.

Azeri (Cyrillic)



KBDCTY80.

Azeri (Latin)

Keyboard Countries (Continued)



KBDCTY1.
Belgium



KBDCTY16.
Brazil



KBDCTY52.
Bulgaria (Cyrillic)



KBDCTY54.
Canada (French legacy)



KBDCTY82.
Belarus



KBDCTY33.
Bosnia



KBDCTY59.
Brazil (MS)



KBDCTY53.
Bulgaria (Latin)



KBDCTY18.
Canada (French)

Keyboard Countries (Continued)



KBDCTY55.
Canada (Multilingual)



KBDCTY32.
Croatia



KBDCTY40.
Czech (Programmers)



KBDCTY38.
Czech (QWERTZ)



KBDCTY11.
Dutch (Netherlands)



KBDCTY92.
China



KBDCTY15.
Czech



KBDCTY39.
Czech (QWERTY)



KBDCTY8.
Denmark

Keyboard Countries (Continued)



KBDCTY83.
Faroese



KBDCTY3.
France



KBDCTY4.
Germany



KBDCTY64.
Greek (220 Latin)



KBDCTY41.
Estonia



KBDCTY2.
Finland



KBDCTY84.
Gaelic



KBDCTY17.
Greek



KBDCTY61.
Greek (220)

Keyboard Countries (Continued)



KBDCTY65.
Greek (319 Latin)



KBDCTY63.
Greek (Latin)



KBDCTY60.
Greek (Polytonic)



KBDCTY50.
Hungarian (101 key)



KBDCTY75.
Iceland



KBDCTY62.
Greek (319)



KBDCTY66.
Greek (MS)



KBDCTY12.
Hebrew



KBDCTY19.
Hungary

Keyboard Countries (Continued)



KBDCTY56.
Italian (142)



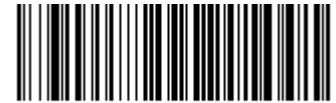
KBDCTY28.
Japan ASCII



KBDCTY93.
Korea



KBDCTY14.
Latin America



KBDCTY73.
Irish



KBDCTY5.
Italy



KBDCTY78.
Kazakh



KBDCTY79.
Kyrgyz (Cyrillic)

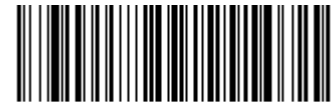


KBDCTY42.
Latvia

Keyboard Countries (Continued)



KBDCTY43.
Latvia (QWERTY)



KBDCTY44.
Lithuania



KBDCTY45.
Lithuania (IBM)



KBDCTY34.
Macedonia



KBDCTY74.
Malta



KBDCTY86.
Mongolian (Cyrillic)



KBDCTY9.
Norway



KBDCTY20.
Poland



KBDCTY57.
Polish (214)

Keyboard Countries (Continued)



KBDCTY58.
Polish (Programmers)



KBDCTY13.
Portugal



KBDCTY25.
Romania



KBDCTY26.
Russia



KBDCTY67.
Russian (MS)



KBDCTY68.
Russian (Typewriter)



KBDCTY21.
SCS



KBDCTY37.
Serbia (Cyrillic)

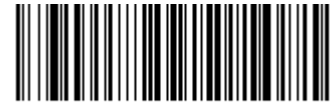
Keyboard Countries (Continued)



KBDCTY36.
Serbia (Latin)



KBDCTY22.
Slovakia



KBDCTY49.
Slovakia (QWERTY)



KBDCTY48.
Slovakia (QWERTZ)



KBDCTY31.
Slovenia



KBDCTY10.
Spain



KBDCTY51.
Spanish variation



KBDCTY23.
Sweden

Keyboard Countries (Continued)



KBDCTY6.
Switzerland (German)



KBDCTY94.
Thailand



KBDCTY24.
Turkey Q



KBDCTY7.
United Kingdom



KBDCTY29.
Switzerland (French)



KBDCTY85.
Tatar



KBDCTY27.
Turkey F



KBDCTY76.
Ukrainian



KBDCTY87.
United States (Dvorak)

Keyboard Countries (Continued)



KBDCTY88.
United States (Dvorak left)



KBDCTY89.
United States (Dvorak right)



KBDCTY30.
United States (International)



KBDCTY77.
Uzbek (Cyrillic)



KBDCTY95.
Vietnam

Keyboard Style

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

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



KBDSTY0.
* Regular

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



KBDSTY1.
Caps Lock

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



Automatic Caps Lock is used if you change the Caps Lock key on and off. The software tracks and reflects if you have Caps Lock on or off. This selection can only be used with systems that have an LED that notes the Caps Lock status (AT keyboards).



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



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



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

Keyboard Conversion

Alphabetic keyboard characters can be forced to be all upper case or all lowercase. So if you have the following bar code: "abc569GK," you can make the output "ABC569GK" by scanning **Convert All Characters to Upper Case**, or to "abc569gk" by scanning **Convert All Characters to Lower Case**.

These settings override [Keyboard Style](#) selections.

Note: If your interface is a keyboard wedge, first scan the menu code for [Automatic Caps Lock](#) (page 3-20). Otherwise, your output may not be as expected.

Default = Keyboard Conversion Off.





KBDCNV1.
Convert All Characters
to Upper Case



KBDCNV2.
Convert All Characters
to Lower Case

Keyboard Modifiers

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

Turbo Mode.

Control + X (Control + ASCII) Mode On: The scanner sends key combinations for ASCII control characters for values 00-1F. Windows is the preferred mode. All keyboard country codes are supported. DOS mode is a legacy mode, and it does not support all keyboard country codes. New users should use the Windows mode. Refer to [Keyboard Function Relationships](#), page 11-1 for CTRL+ X Values.

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

Default = Control + X Mode Off.



KBDCAS2.
Windows Mode Control + X
Mode On



KBDCAS0.
* Control + X Mode Off



KBDCAS1.
DOS Mode Control + X Mode On



KBDCAS3.
Windows Mode Prefix/Suffix Off

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



KBDNPS1.

Numeric Keypad Mode On



KBDNPS0.

*** Numeric Keypad Mode Off**

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.*



232WRD0.

7 Data, 1 Stop, Parity None



232WRD3.

7 Data, 1 Stop, Parity Even



232WRD6.

7 Data, 1 Stop, Parity Odd



232WRD9.

7 Data, 1 Stop, Parity Space



232WRD12.

7 Data, 1 Stop, Parity M



232WRD4.
7 Data, 2 Stop Parity Even



232WRD10.
7 Data, 2 Stop, Parity Space



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



232WRD8.
8 Data, 1 Stop, Parity Odd



232WRD1.
7 Data, 2 Stop, Parity None



232WRD7.
7 Data, 2 Stop, Parity Odd



232WRD13.
7 Data, 2 Stop Parity M



232WRD5.
8 Data, 1 Stop, Parity Even



232WRD11.
8 Data, 1 Stop, Parity Space



232WRD14.

8 Data, 1 Stop, Parity M

RS232 Receiver Timeout

The unit stays awake to receive data until the RS232 Receiver Timeout expires. A bar code read resets the timeout. When an RS232 receiver is sleeping, a character may be sent to wake up the receiver and reset the timeout. A transaction on the CTS line will also wake up the receiver. The receiver takes 300 milliseconds to completely come up. Change the RS232 receiver timeout by scanning the bar code below, then scanning digits from the inside back cover of this manual, then scanning **Save**. The range is 0 to 65535 ms. *Default = 0 ms (no timeout - always on).*



232LPT.

RS232 Receiver Timeout

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 3-28) 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](#), page 3-28) 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.

CTS-Based Flow Control, No Timeout: When the host asserts CTS, scanning is enabled. When CTS is not asserted, scanning is disabled.

RTS On: RTS only is on during transmission. CTS is ignored.

Default = RTS/CTS Off.



232CTS0.

* **RTS/CTS Off**



232CTS1.
Flow Control, No Timeout



232CTS2.
Two-Direction Flow Control



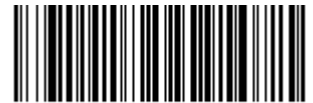
232CTS4.
Character-Based Flow Control
with Timeout



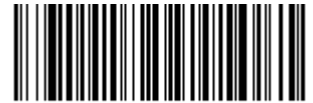
232CTS8.
RTS On



232CTS10.
RTS/CTS Off, RTS Inactive



232CTS7.
Character-Based Flow Control,
No Timeout



232CTS3.
Flow Control with Timeout



232CTS5.
CTS-Based Flow Control, No
Timeout



232CTS9.
No RTS if CTS is On

RS232 Timeout

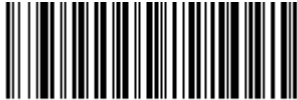
When using Flow Control with Timeout, you must program the length of the delay you want to wait for CTS from the host. Set the length (in milliseconds) for a timeout by scanning the bar code below, then setting the timeout (from 1-65535 milliseconds) by scanning digits from the inside back cover, then scanning **Save**. *Default = 1000.*



232DEL.
RS232 Timeout

Host Communications Timeout Beeper

If you wish to hear a razz tone or a beep when a communications timeout is reached, scan one of the following bar codes. *Default = Timeout Beeper Off.*



HSTTOA0.
* Timeout Beeper Off



HSTTOA1.
Timeout Razz



HSTTOA1.
Timeout Beep

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**

Host NAK Retries in ACK/NAK Mode

When in ACK/NAK mode, you may set the number of times a NAK is received before terminating the operation. Scan the bar code below, then scan the number of retries (from 1-255) by scanning digits from the inside back cover, then scanning **Save**. *Default = 0.*



HSTRTN.
Host NAK Retries

Host Timeout Retries in ACK/NAK Mode

When in ACK/NAK mode, you may set the number of timeouts in order to limit the number of ACK/NAK retries. Scan the bar code below, then scan the number of timeouts (from 1-255) by scanning digits from the inside back cover, then scanning **Save**. *Default = 0.*



HSTRTY.
Host Timeout 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 RS232 default settings restored to your scanner, scan the **RS232 Defaults** bar code below. This resets the scanner to the 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

NCR Modes

Scan one of the following bar codes to set the message mode for an attached NCR device.

NCR Scanner Only Mode

Scan the **NCR Scanner Only Mode On** bar code to select the NCR scanner-only message format. (For more information, refer to the NCR Scanner/Scale Programmer's Guide.) *Default = NCR Scanner Only Mode Off.*



NCRSOM0.
* NCR Scanner Only Mode Off



NCRSOM1.
NCR Scanner Only Mode On

NCR Scanner Scale Mode

Scan the **NCR Scanner Scale Mode On** bar code to select the NCR scanner/scale message format. (For more information, refer to the NCR Scanner/Scale Programmer's Guide.) *Default = NCR Scanner Scale Mode Off.*



NCRSSM0.

* **NCR Scanner Scale Mode Off**



NCRSSM1.

NCR Scanner Scale Mode On

NCR Scanner Scale Acknowledgment

After the scanner receives a command, the host may require a scanner/scale acknowledgment from the scanner. When **NCR Scanner Scale ACK On** is selected, the scanner sends an NCR Scanner Scale acknowledgment in the form <prefix><0x3x><0x30><suffix><BCC>. Turn on the NCR Scanner Scale ACK answer by scanning the **NCR Scanner Scale ACK On** bar code below. To turn off the answer, scan **NCR Scanner Scale ACK Off**.

Default = NCR Scanner Scale ACK On.



NCRX300.

NCR Scanner Scale ACK Off



NCRX301.

***NCR Scanner Scale ACK On**

NCR Special Function Mode

Scan the **NCR Special Function Mode On** bar code to select the NCR special function message format. (For more information, refer to the NCR Scanner/Scale Programmer's Guide.) *Default = Off.*



NCRSFF0.

* **NCR Special Function Mode
Off**



NCRSFF1.

**NCR Special Function Mode
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.*



NCR Prefix

This selection allows you to program an NCR-specific prefix. Refer to the [ASCII Conversion Chart \(Code Page 1252\)](#) on page A-3 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.



NCR Suffix

This selection allows you to program an NCR-specific suffix. Refer to the [ASCII Conversion Chart \(Code Page 1252\)](#) on page A-3 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 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 for an NOF, and disables the scanner while the cashier looks up the price manually. (The tone is set via [Beeper Pitch – Error](#), page 4-10 and number of beeps are set via [NCR NOF \(Not-on-File\) Number of Beeps](#), page 3-33). When set to **Off**, a good read beep sound is emitted for an NOF. *Default = Off.*





NCRRAZD.

* Off

NCR NOF (Not-on-File) Number of Beeps

When using [NCR NOF \(Not-on-File\) Error](#), set the number of beeps or error tones, from 1 to 7, the scanner emits when it receives an NOF from the POS system. *Default = 1.*



NCRNOB.

NCR Number of Beeps

Do Not Wait for NCR Weight

A get weight command waits until either a weight is ready or the command is cancelled. If you do not want the scanner to wait for an answer, scan the **Do Not Wait** bar code. If you do want the scanner to wait, scan the **Wait** bar code. *Default = Wait.*



NCRDNWD.

* Wait



NCRDNW1.

Do Not Wait

NCR Weight Timeout

A get weight command waits until either a weight is ready or the command is cancelled. If you wish to set a timeout for this wait time, scan the **NCR Weight Timeout On** bar code. You must then set the timeout using the [Timeout](#) bar code which follows. If you want to cancel the weight timeout, scan the **NCR Weight Timeout Off** bar code. *Default = NCR Weight Timeout Off.*



NCRSCLD.

* NCR Weight Timeout Off



NCRSCL1.

NCR Weight Timeout On

Timeout

When using [NCR Weight Timeout](#), you must program the length of the delay you want to wait for a weight from the scale. 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 [Programming Chart](#), then scanning **Save**. If the scale takes longer than this setting to answer, the operation is terminated. *Default = 2000ms (2 seconds)*.



HSTCTO.

Timeout

Input/Output Settings

Power Up Settings

Wake Activation

When **Wake Activation Off** is selected, the F1 button can be used to wake the scanner (see [F1 Programmable Button](#) on page 4-4). When **Wake Activation On** is selected, the scanner will wake when it senses activity, such as a cashier walking into the space where the scanner is located. *Default = Wake Activation On.*



Wake Activation Sensitivity

This allows you to set the sensitivity of the scanner when Wake Activation is being used. The sensor can be programmed to be more sensitive by selecting **Far Distance**, or less sensitive by selecting **Close Distance**. These indicate that moving near the scanner from a far distance would wake it, or only by moving close to it would it wake. *Default = Far Distance.*



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 F1 button is pressed (see [Sound Button](#) on page 4-5).

When **Sleep Mode Only** is selected, the scanner goes into sleep mode (all components are powered off) after the time interval set using [Power Save Mode Timeout](#) (page 4-2), during which there is no activity.

When **Idle, then Sleep Mode** is selected, the scanner goes into idle mode (laser, motor, and micro are off) after the time interval set using [Power Save Mode Timeout](#) (page 4-2), 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 (all components are powered off).

Note: When the F1 button is pressed, the scanner always goes straight to sleep mode.

Default = Idle, then Sleep 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.*



Laser Idle/Sleep State

These selections program the lasers to **Off**, **On**, or **Blinking** when the scanner is in idle or in sleep mode. *Default = Off.*

Note: When the motor is off, the lasers are automatically turned off for safety. See [Motor Idle/Sleep State](#) (page 4-3).





PWRLS12.
Idle - Lasers Blinking



PWRLS21.
* Sleep - Lasers Off



PWRLS22.
Sleep - Lasers Blinking

Motor Idle/Sleep State

These selections program the motor to **Off** or **On** when the scanner is in idle mode or in sleep mode. *Default = Off.*



PWRMS10.
Idle - Motor On



PWRMS11.
* Idle - Motor Off



PWRMS20.
Sleep - Motor On



PWRMS21.
* Sleep - Motor Off

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.*

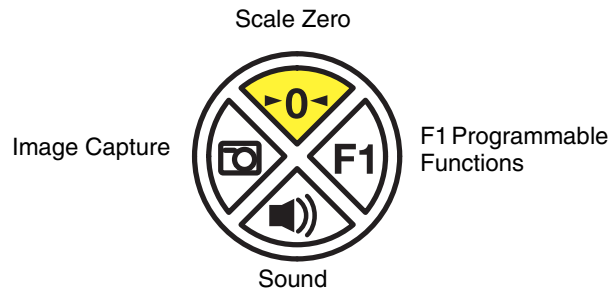


BEPPWR0.
Power Up Beeper Off



BEPPWR1.
* Power Up Beeper On

Button Controls



To program the buttons for additional functionality, see the descriptions that follow.

Button Click

To hear an audible click when any button is pressed, scan the **Button Click On** bar code below. Scan the **Button Click Off** code if you don't wish to hear the click. *Default = Button Click Off.*



BEPBTN0.
* Button Click Off



BEPBTN1.
Button Click On

F1 Programmable Button

The F1 button can be programmed for several different functions. By default, press this button and hold for 5 seconds to deactivate an EAS tag. Use the selections that follow to change these default settings.

EAS Function

When **EAS Function On** is set, the cashier can press and hold down the F1 button for 5 seconds to deactivate EAS tags. When **EAS Function Off** is set, the F1 button has no EAS capability. *Default = EAS Function Off.*



BTNEAS0.
* EAS Function Off



BTNEAS1.
EAS Function On

Sound Button

Volume Adjustment

When Volume Adjustment is set to **On**, pressing the Sound button once and releasing it scrolls through the volume settings for the scanner's beeper. When set to **Off**, the Sound button does not scroll through these settings. *Default = Volume Adjustment On.*



BTNVOL0.
Volume Adjustment Off



BTNVOL1.
*Volume Adjustment On

Frequency Adjustment

When Frequency Adjustment is set to **On**, holding the Sound button down for up to 3 seconds scrolls through the frequency (tone) settings for the scanner's beeper. When set to **Off**, the Sound button does not scroll through these settings. *Default = Frequency Adjustment On.*



BTNTON0.
Frequency Adjustment Off



BTNTON1.
*Frequency Adjustment On

Sleep Mode

When **Sleep Mode On** is set, the cashier can press and hold down the Sound button for 5 seconds to put the scanner to sleep. Pressing any button wakes the scanner. When **Sleep Mode Off** is set, the Sound button does not control the scanner's sleep mode. *Default = Sleep Mode On.*



BTNSLW0.
Sleep Mode Off



BTNSLW1.
*Sleep Mode On

Error Condition

When **Error Condition On** is set, the cashier can push the Sound button to clear errors (visuals, beeps, and notifications). When **Error Condition Off** is set, visible and audible error conditions remain. *Default = Error Condition On.*



BTNEOF0.
Error Condition Off



BTNEOF1.
* Error Condition On

Image Capture Button

Customer Imager Control

When **Customer Imager Control** is set to **On**, the cashier can push the Image Capture button once to scan a bar code using a customer-facing scanner (if installed). When **Customer Imager Control** is set to **Off**, the Image Capture button cannot be used for a customer-facing scanner. *Default = Customer Imager Control On.*



BTNCEN0.
Customer Imager Control
Off

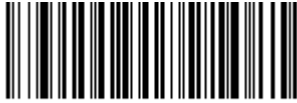


BTNCEN1.
* Customer Imager Control
On

Cashier Imager

When **Cashier Imager On** is set, the cashier can use the Image Capture button to take a picture of an item on the scanner. To take an image, first plug a FAT32 formatted flash drive into any USB port on the scanner. Then press the Image Capture button for 2 to 3 seconds. The image of the item on the scanner is saved to the flash drive in bitmap format.

When **Cashier Imager Off** is set, the Image Capture button cannot be used to take a picture with the scanner. *Default = Cashier Imager On.*



BTNSNIO.
Cashier Imager Off



BTNSNI1.
*** Cashier Imager On**

JPEG Image Quality

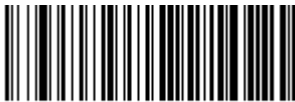
This selection sets the desired JPEG image quality for captured images. Higher numbers result in higher quality, but larger files. Smaller numbers result in greater amounts of lossy compression, faster transmission times, lower quality, but smaller files. After scanning the **JPEG Image Quality** bar code, set the quality (from 0-100) by scanning digits on the [Programming Chart](#) inside the back cover, then scanning **Save**. *Default = 50.*



IMGJQF.
JPEG Image Quality

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.*



BELBEP0.
***Beep on BEL Off**



BELBEP1.
Beep on BEL On

Good Read 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.*

Note: Also see [Good Read Beep - Aux Scanner](#) (page 5-2) to set which device emits the good read beep.



BEPBEP0.
Beeper - Good Read Off



BEPBEP1.
* Beeper - Good Read On

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.*



BEPWHN1.
* Before Transmission



BEPWHN2.
After Transmission

Beeper Volume – Good Read

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



BEPLVL1.
Low



BEPLVL2.
Medium



BEPLVL3.
* High



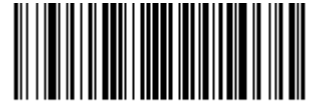
BEPLVL0.
Off

Beeper Pitch – Good Read

The beeper pitch codes modify the pitch, or tone of the beep the scanner emits on a good read. *Default = Tone 1.*



BEPCUR1.
* Tone 1



BEPCUR3.
Tone 3



BEPCUR4.
Tone 4



BEPCUR5.
Tone 5



BEPCUR6.
Tone 6



BEPCUR7.
Tone 7



BEPCUR8.
Tone 8

Beeper Duration – Good Read

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



BEPBIPO.
* Normal Beep



BEPBIP1.
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.*



BEPRPT.
Number of Good Read Beeps/LED Flashes

Beep on EAS Deactivation

After a good read, the beeper will beep quickly (chirp) upon EAS deactivation when **Beep on EAS Deactivation** is set to **On**. If you do not want a chirp on EAS deactivation, scan **Beep on EAS Deactivation Off**. *Default = Off.*



EASBIPO.
* Beep on EAS Deactivation
Off



EASBIP1.
Beep on EAS Deactivation On

Error Indicators

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.*



BEPFQ2100.
* Razz



Number of Beeps/LED Flashes – 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.*



LED Settings

Disabled Scanner LED Flash

When the scanner is disabled by the POS system, the LEDs can be set to flash by scanning **LED Flash On**. If you do not want the LEDs to flash, scan **LED Flash Off**. *Default = LED Flash On.*



Bar Code Scanning Delays

Reread Delay

This sets the time period before the Stratos bioptic 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. These settings apply to both

1D and 2D bar codes unless the **2D Reread Delay** (page 4-12) is set. *Default = Short.*



DLYRRD500.
* Short (500 ms)



DLYRRD750.
Medium (750 ms)



DLYRRD1000.
Long (1000 ms)



DLYRRD2000.
Extra Long (2000 ms)

User-Specified Reread Delay

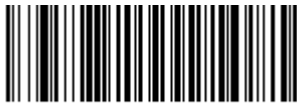
If you want to set your own length for the reread delay, scan the bar code below, then set the delay (from 0-30,000 milliseconds) by scanning digits from the inside back cover, then scanning **Save**.



DLYRRD.
User-Specified Reread Delay

2D Reread Delay

Sometimes 2D bar codes can take longer to read than other bar codes. If you wish to set a separate Reread Delay for 2D bar codes, scan one of the programming codes that follows. **2D Reread Delay Off** indicates that the time set for **Reread Delay** is used for both 1D and 2D bar codes. *Default = 2D Reread Delay Off.*



DLY2RR0.
* 2D Reread Delay Off



DLY2RR1000.
Short (1000ms)



DLY2RR2000.
Medium (2000ms)



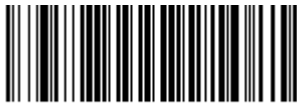
DLY2RR3000.
Long (3000ms)



DLY2RR4000.
Extra Long (4000ms)

Same Symbol Test

When **Same Symbol Test On** is scanned, the current bar code must be 1 character different from the previous bar code in order to be read. When **Same Symbol Test Off** is scanned, the bar codes must be 25% different to be read. *Default = Same Symbol Test Off.*



DLYSSP0.
* Same Symbol Test Off



DLYSSP1.
Same Symbol Test On

Bar Code Absence Detection

Use this selection to set a timeout (in milliseconds) before the scanner can read a bar code after any other code is read. The timer starts after the first bar code has left the field of view. Scan **Bar Code Absence Detection**, set the timeout duration (from 0-300,000 milliseconds) by scanning digits on the [Programming Chart](#) inside the back cover of this manual, then scanning **Save**. *Default = 0 (No Delay).*



DLYDEC.
Bar Code Absence Detection

Character Activation Mode

You may use a character sent from the host to trigger the scanner to begin scanning. When the activation character is received, the scanner continues scanning until either the [Character Activation Laser Timeout](#) (page 4-15), the deactivation character is received (see [Deactivation Character](#) on page 4-15), 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.*



HSTCEND.
* Off



HSTCEN1.
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-3, 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.



HSTACH.
Activation Character

End Character Activation After Good Read

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



HSTCGD0.
Do Not End Character Activation
After Good Read



HSTCGD1.
* End Character Activation After
Good Read

Character Activation Laser Timeout

You can set a timeout for the length of time the laser remains on and attempting to decode 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 1-65535 milliseconds) by scanning digits from the [Programming Chart](#) inside the back cover of this manual, then scanning **Save**. *Default = 5000 ms.*



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.*



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-3, 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.



Output Sequence Overview

Require Output Sequence

When turned off, the bar code data will be output to the host as the scanner decodes it. When turned on, all output data must conform to an edited sequence or the scanner will not transmit the output data to the host device.

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 4-18).
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-3, 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 **FF** 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 4-16](#), 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



SEQBLK.
Enter Sequence



SEQDFT.
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](#) inside the back

cover of this manual, then scanning **Save**. *Default = 5000 msec.*



SEQDLY.
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.*



SEQBEP0.
Sequence Match Beeper Off



SEQBEP1.
* 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.) If you have programmed a **Sequence Timeout** (page 4-17) and the timeout is reached, the partial sequence is transmitted. *Default = Discard Partial Sequence.*



SEQTTS1.
Transmit Partial Sequence



SEQTTS0.
* Discard Partial Sequence

Require Output Sequence

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

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



SEQ_EN2.
Required



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 12-1), an “NR” appears when a code cannot be read. If No Read is turned **Off**, the “NR” will not appear. *Default = 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 8-1). The hex code for the No Read symbol is 9C.



Programming an Auxiliary Scanner

Introduction

This chapter describes how to program auxiliary scanners that will be connected to the Stratos bioptic.

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 Baud Rate" on page 3-23, and [RS232 Timeout](#) on page 3-28 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.*



232PKT0.
* Packet Mode Off



232PKT2.
Packet Mode On

ACK/NAK

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

Aux Port Configuration Codes

Honeywell Scanner Aux Port Configuration

Scan the following bar code to configure the Stratos bioptic aux port to use a Honeywell auxiliary scanner.



AUXDFT.

Honeywell Aux Scanner

Note: Refer to your scanner's User's Guide on www.honeywellaidc.com to program the scanner for Stratos bioptic input.

Datalogic™ Magellan® Aux Port Configuration

Scan the following bar code to configure the Stratos bioptic aux port to use an auxiliary scanner that has been used as an input to a Datalogic Magellan scanner.



AUXMAG.

Datalogic Magellan Aux Scanner

NCR Bioptic Aux Port Configuration

Scan the following bar code to configure the Stratos bioptic aux port to use an auxiliary scanner that has been used as an input to an NCR scanner.



AUXNCR.

NCR Aux Scanner

Wincor Nixdorf Beetle Aux Port Configuration

Scan the following bar code to configure the Stratos bioptic aux port to use an auxiliary scanner that has been used as an input to a Beetle terminal.



AUXBTL.

Wincor Nixdorf Beetle Aux Scanner

Good Read Beep - Aux Scanner

When reading a bar code with an auxiliary scanner, by default you will hear the good read beep from both the bioptic and the auxiliary scanner. You may wish to suppress the good read beep from the Stratos bioptic when a bar code is read with the auxiliary scanner. Scan **Good Read Beep - Aux Scanner** to sound the good read beep from only the auxiliary scanner when the

bar code is read with the aux scanner. Scan **Good Read Beep - Bioptic and Aux Scanner** to sound the good read beep from both the Stratos bioptic and the auxiliary scanner when the bar code is read with the aux scanner. *Default = Good Read Beep - Bioptic and Aux Scanner.*

Note: Also see [Good Read Indicators](#) (page 4-8).



AUXBEP1.

* **Good Read Beep - Bioptic and Aux Scanner**



AUXBEP0.

Good Read Beep - Aux Scanner

Aux Scanner D/E Commands

Scan the **Use D/E Commands** bar code to allow the Stratos bioptic to control the auxiliary scanner with the use of disable/enable (D/E) single character commands. Scan the **Do Not Use D/E Commands** bar code if you do not want to use this feature. *Default = Do Not Use D/E Commands.*



AUXDEC1.

Use D/E Commands



AUXDEC0.

* **Do Not Use D/E Commands**

Reread Delay Override



AUXDSS1.

* **Reread Delay from Aux Scanner**



AUXDSS0.

Reread Delay from Bioptic



Scale

Programming the Scale Interface

RS232

OPOS - Single Cable

Scan one of the following bar codes to set up the scanner/scale using the OPOS drivers when connected via a single RS232 cable. This also sets the baud rate to 9600 bps and the data format to 8 data bits, no parity, 1 stop bit. Select the appropriate code for either kilograms or pounds.



PAP958.
OPOS English (lbs)
Single Cable



PAP957.
OPOS Metric (kg)
Single Cable

NCR Protocol - Single Cable

Scan one of the following bar codes to set up the scanner/scale for an NCR Communication Protocol (Retailx Storeline and LOC SMS POS application software) when connected via a single RS232 cable. This also sets the baud rate to 9600 bps and the data format to 8 data bits, no parity, 1 stop bit. Select the appropriate code for either kilograms or pounds.



PAP956.
NCR Protocol English (lbs)
Single Cable



PAP955.
NCR Protocol Metric (kg)
Single Cable

POS Beep on Send Weight

Note: This selection should only be used for POS "weight-on-demand" applications. Do not use when the POS continually asks for the weight or incessant beeping will be heard.

Scan the **Beep on Send Weight** code below if you want to hear a beep every time the scanner transmits a stable weight. *Default = Don't Beep on Send Weight.*



NCRBWS0.

* Don't Beep on Send Weight



NCRBWS1.

Beep on Send Weight

RS485

IBM 3rd Generation 46xx - Single Cable

Scan one of the following bar codes to set up the scanner/scale for an IBM 46xx when connected via a single RS485 cable. Select the appropriate code for either kilograms or pounds.



P.A.P960.

IBM 3rd Generation 46xx,
English (lbs)
Single Cable



P.A.P959.

IBM 3rd Generation 46xx,
Metric (kg)
Single Cable

USB

IBM OEM USB - Single Cable

The following bar codes program the Stratos bioptic to operate as an IBM OEM USB tabletop scanner/scale when connected via a full speed USB cable. Select the appropriate code for either kilograms or pounds.



P.A.P962.

IBM OEM USB English (lbs)
Single Cable



P.A.P961.

IBM OEM USB Metric (kg)
Single Cable

Scale Status Bytes

Scan one of the following bar codes to set how many scale status bytes to send to the host from the scanner. These selections apply to RS485 and IBM OEM protocols. *Default = 3 Bytes.*



SCNSN22.
2 Bytes



SCNSN23.
* 3 Bytes

Scale Type

Scan the appropriate bar code for the type of scale that's attached. *Default = No Scale.*



SCLTYP0.
* None



SCLTYP1.
Mettler Ariva



SCLTYP3.
Bizerba



SCLTYP4.
Filizola



SCLTYP5.
Herbert



SCLTYP6.
Dibal



SCLTYP7.
Digi Teraoka



SCLTYP8.
Avery FX100

Scale Calibration

The scale must be calibrated if:

- It is a first time installation
- The scale cannot be re-zeroed
- The calibration verification tests indicate errors
- There is a change in the units of measure (i.e., from pounds to kilograms)
- The scale load cell has been replaced
- The calibration seal is missing or torn

Tools Required

- Field standard 30 lb. or 15 kg weight set
- Thin rod for activating the protected calibration switch
- Wire or paper seal (the type of seal depends on the guidelines specified by the local Weights and Measures authorities)

Priming the Scale for Calibration

Calibrate the scale after the unit is installed in the checkout countertop. It is important to use the correct certified (pounds or kilograms) field weight set when calibrating the scale.

1. Check the platter to ensure that nothing is interfering with its freedom to move. Assure that no debris is present from daily use of the scanner/scale if it has been in service. Make sure the platter seats normally on the scale arms.
2. Apply power to the scanner/scale.
3. Wait 5 minutes up to 30 minutes after power up before proceeding. If the unit has been subjected to cold, it may take longer to get to room temperature.
4. Place the 30.0 lb. weights or the 15 kg weights on the center of the scale platter. Allow the weight to settle.
5. Remove the weight.
6. Repeat three times to prime the scale before calibration.

Scale Calibration

[Scale Calibration with Remote Display](#) (see page 6-5) uses the scale display to sequence through the calibration steps and store critical calibration points.

Putting the Scale into Service Mode

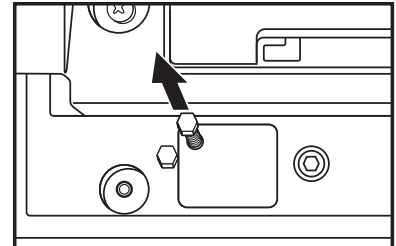
Certain scale adjustments require putting the scale into service mode. Use the following steps to put the scale into service mode.

- Step 1.** Remove the platter and set aside.

Step 2. If this is a currently installed scanner/scale, there will be either an adhesive label seal or wire sealed cover over the scale calibration button. Newly installed units may only have a factory-applied adhesive seal covering the scale calibration button.. Remove the seal.

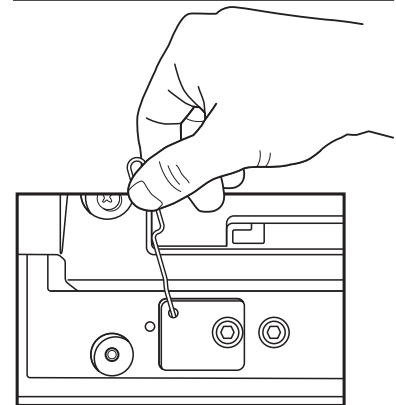
- To remove the adhesive label seal, peel off the label and discard.
- To remove the wire seal, cut the wire and discard.

Step 3. Remove the hex bolt and security plate to the right of the bubble level.



Step 4. Use a thin rod or straightened paper clip to push down through the exposed pinhole and depress the calibration switch. **Cal** then **Conf** appears on the remote display and a scale beep sounds. The scale is now in service mode.

Step 5. Reinstall the platter.



Scale Calibration with Remote Display

Once the scale is in Service Mode, you can calibrate it using the remote display.

Step 1. Press the Zero key on the remote display several times until **Grp 2 Step 1** is displayed.





Step 2. Either display will initially display **x = NO**. Press the Tare **+T+** key to change this to **YES**:



Step 3. Press the Zero **+0+** key to select **YES**.

Step 4. Press the Tare **+T+** key until **bLd 2** displays:



Step 5. This is the weight range selection against which the load cell is measured. Using the table below, press the Tare  key to rotate around the **bLd 2** selections. Press the Zero  key to select the bld range desired.

Group 2 Step 1 bld	Weight Unit Ranges
Bld 1	15 kg Single Range
Bld 2	15 Kg Dual Range*
Bld 3	30 lb Single Range*
Bld 4	30 lb Dual Range

* Common Ranges used as default for most country settings

Step 6. Press the Zero  key to display the **Cal** prompt.

Step 7. Press the Tare  key to select **YES**:




Step 8. Press the Zero  key to start the scale calibration.

Step 9. The display shows - - - - -:




This indicates that the scale is ready to take a zero reading. Check the platter to ensure that it is seated properly and nothing is touching or interfering with its freedom to move.

Step 10. After 3 to 5 seconds of inactivity, press the Zero  key to accept and begin taking the zero capacity calibration reading. If the scale is unable to capture a stable reading it will not store any value and will advance to the next step. If this happens, verify that nothing is touching or interfering with the scale and/or platter.

Step 11. Once the zero calibration reading has been successful, the display shows **FULCAP** (Full Capacity):



Place the full capacity weight, either 15kg or 30lb (whichever matches the previously selected Weight Unit Range), on the center of the scale platter. Wait at least 3 seconds for the scale to stabilize.

Step 12. Press the Zero  key to accept and begin taking the full capacity calibration reading. If the scale is unable to capture a stable reading it will not store any value and will advance to the next step. If this happens, verify nothing is touching or interfering with the scale and/or platter.

Step 13. Once the full capacity calibration reading has been successfully taken, the display shows **UNLOAD** (zero capacity):



Remove all weight from the platter. Wait at least 3 seconds for the scale to stabilize.

Step 14. Press the Zero  key to accept and begin taking the return zero capacity calibration reading.

Step 15. The display begins the initialization sequence and returns to the normal weighing mode in the calibrated weight units.



Once you have completed the scale calibration, the scale must be verified by the appropriate state Weights and Measures inspector. For details, contact your local government's Weights and Measures department.

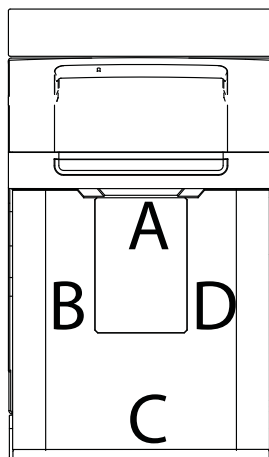
Calibration Verification

The following tests verify the scale's calibration. The following tests are based on a 2-digit accuracy setting for pounds and a 3-digit accuracy setting for kilograms.

Increasing Load Test

1. Make sure there is no load on the scale platter and verify that the remote display reads:
0.00 lbs
or
0.000 kg
2. Place a 5 lb. or a 2.5kg weight on the center of the scale platter and verify the display reads:
5.00 lbs
or
2.5 kg
3. Place an additional 5 lb. or an additional 2.5kg weight on the center of the scale platter and verify the remote display reads between:
9.99 and 10.01 lbs
or
4.995 and 5.005kg
4. Place an additional 10 lb. or 5kg weight on the center of the scale platter and verify the remote display reads between:
19.99 and 20.01 lbs
or
9.995 and 10.005kg
5. Place an additional 10 lb. or 5kg weight on the center of the scale platter and verify the remote display reads between:
29.99 and 30.01 lbs
or
14.995 and 15.005kg
6. Remove all the weight from the scale platter and verify the display reads:
0.00 lbs
or
0.00kg

Shift Test



Shift Test Zones

1. Ensure there is no load on the scale platter and verify the remote display reads:
0.00 lbs
or
0.00kg
2. Place a 15 lb. or 7.5kg weight on the scale platter in the center of Shift Test Zone A (see diagram) and verify the remote display reads between:
14.99 and 15.01 lbs
or
7.495 and 7.505kg

-
3. Remove the 15 lb. or 7.5kg weight and verify the display reads:
0.00 lbs
or
0.00kg
 4. Repeat steps 2 and 3 for each of the remaining Shift Test Zones (B, C, and D).
 5. When all weight has been removed, verify that the remote display reads:
0.00 lbs
or
0.00kg

Decreasing Load Test

1. Ensure there is no load on the scale platter and verify the remote display reads:
0.00 lbs
or
0.00kg
2. Place a 30 lb. or 15kg load on the center of the scale platter. Verify the remote display reads between:
29.99 and **30.01 lbs**
or
14.995 and **15.005kg**
3. Remove 10 lbs. or 7.5kg from the platter and center the remaining weight. Verify the remote display reads between:
19.99 and **20.01 lbs**
or
7.495 and **7.505kg**
4. Remove another 15 lbs. or 5kg from the platter and center the remaining weight. Verify the remote display reads:
5.0 lbs
or
2.5kg
5. Remove all the weight from the platter and verify the display reads:
0.00 lbs
or
0.00kg

Return to Zero Test

1. Ensure there is no load on the scale platter and verify the remote display reads:
0.00 lbs
or
0.00kg

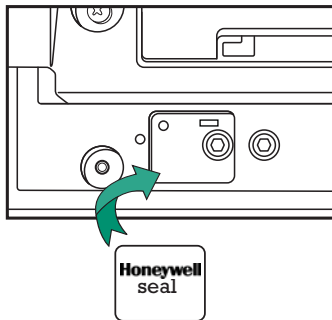
Security Seal Installation

The security seal may be installed only if there were no errors during the scale calibration verification tests.

Note: The certification of the weighing mechanism of the scale is subject to federal, state and local Weights and Measures statutes and regulations and can only be performed by authorized government agencies and/or their duly registered agents. Every time the scale or weighing mechanism is calibrated, it should be properly sealed with a paper seal or a wire seal prior to being placed into service in commerce. It is the responsibility of the owner of the scale to confirm compliance with the relevant Weights and Measures statutes and regulations applicable in your area by checking with the appropriate government agency before placing a newly calibrated unit into service or removing any official seals. The type of seal to be used depends on the guidelines specified by the local Weights and Measures authorities.

Pressure Sensitive Security Seal

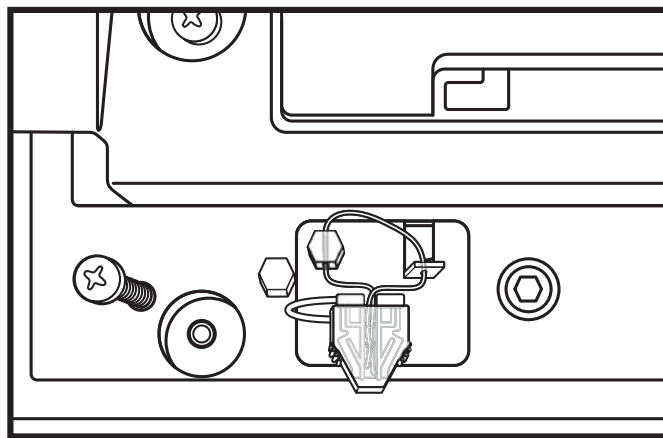
1. Temporarily remove the platter and set aside.
2. Apply the adhesive calibration security seal over the calibration button access hole.



3. With very light pressure, push down on the seal label to adhere it to the opening.
4. Replace the security plate and hex bolt.
5. Reinstall the platter.

Wire Security Seal

1. Temporarily remove the platter and set aside.
2. Replace the wire seal security plate and bolt.
3. Thread the wires through the mandrel, the security plate tab, and the bolt head.

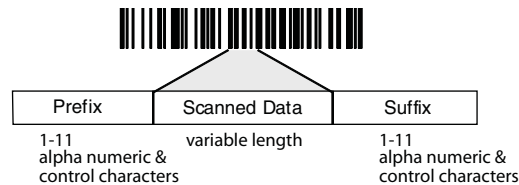


4. Plug the mandrel into the mandrel cover to secure the wire.
5. Reinstall the platter.

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-3, 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 7-2](#)).
- 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-3, 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 Suffix to a specific symbology

To send a CR (carriage return) Suffix for U.P.C. only:

Step 1. Scan **Add Suffix**.

Step 2. Determine the 2 digit hex value from the Symbology Chart (included in the [Symbology Charts](#), beginning on page A-1) for U.P.C..

Step 3. Scan **6, 3** from the [Programming Chart](#) inside the back cover of this manual.

Step 4. Determine the hex value from the [ASCII Conversion Chart \(Code Page 1252\)](#), beginning on page A-3, for the CR (carriage return).

Step 5. Scan **0, D** from the [Programming Chart](#) inside the back cover of this manual.

Step 6. 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.



VSUF CR.
Add CR Suffix
All Symbologies

Prefix Selections



PREBK2.
Add Prefix



PRECL2.
Clear One Prefix



PRECA2.
Clear All Prefixes

Suffix Selections



SUFBK2.
Add Suffix



SUFCL2.
Clear One Suffix



SUFCA2.
Clear All Suffixes

Cash Register Code IDs

In order to work properly, some POS registers require that certain Code IDs are sent with all bar codes. Scan the appropriate bar code below to enable the Code ID set required. If you scan more than one of the codes below, the Code ID set for only the last selection is enabled.



CIDMAG.
Datalogic Magellan



CIDHAL.
Hallmark



CID15.
IBM 1520



CIDNCR.
NCR



CIDRTM.
Rochford-Thomson



CIDT71.
TEC 711



CIDSYO
Sanyo



CIDNIX.
Wincor Nixdorf



CIDT15.
TEC MA 1530



CIDBTL.
Wincor Nixdorf Beetle

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 11-3](#). 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, LRC where the calculation starts on the second transmitted character, or CRC.

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 9-1.

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

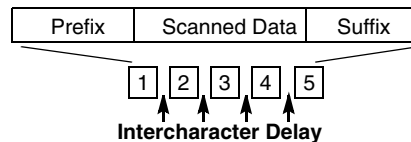


Intercharacter, Interfunction, and Intermessage Delays

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 65535 milliseconds (in 1ms 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 1ms delays, and the **Save** bar code using the [Programming Chart](#) inside the back cover of this manual.



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.

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

User Specified Intercharacter Delay

An intercharacter delay of up to 65535 milliseconds (in 1ms 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 1ms delays, and the **Save** bar code using the [Programming Chart](#) inside the back cover of this manual.

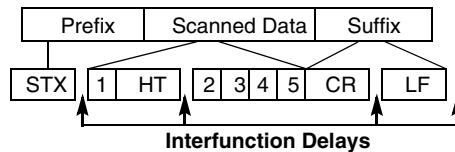
Next, scan the **Character to Trigger Delay** bar code, then the 2-digit hex value for the ASCII character that will trigger the delay [ASCII Conversion Chart \(Code Page 1252\)](#), beginning on page A-3.



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

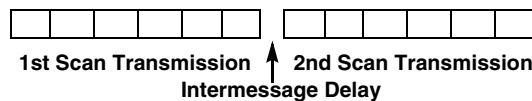
An interfunction delay of up to 65535 milliseconds (in 1 ms increments) may be placed between the transmission of each segment of the message string. Scan the **Interfunction Delay** bar code below, then scan the number of 1ms delays, and the **Save** bar code using the [Programming Chart](#) inside the back cover of this manual.



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 65535 milliseconds (in 1ms increments) may be placed between each scan transmission. Scan the **Intermessage Delay** bar code below, then scan the number of 1ms delays, and the **Save** bar code using the [Programming Chart](#) inside the back cover of this manual.



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.

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 8-3) 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 you have changed data format settings, and wish to clear all formats and return to the factory defaults, scan the **Default Data Format** code below.



DFMDF3.

* Default Data Format

Add a Data Format

Step 1. Scan the **Enter Data Format** symbol ([page 8-2](#)).

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 8-13 for further information.)

Step 3. **Terminal Type**

Refer to [Terminal ID Table](#) ([page 8-3](#)) 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 8-11](#)).

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

Note: 99 indicates all symbologies.

Step 5. Length

Specify what length (up to 9999 characters) of data will be acceptable for this symbology. Scan the four digit data length from the [Programming Chart](#) inside the back cover of this manual. (Note: 50 characters is entered as 0050.

Note: 9999 indicates all lengths.

Step 6. Editor Commands

Refer to [Data Format Editor Commands](#) (page 8-3). Scan the symbols that represent the command you want to enter. 94 alphanumeric characters may be entered for each symbology data format.

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



DFMBK3.
Enter Data Format



MNUSAV.
Save



MNUABT.
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.



DFMCL3.
Clear One Data Format



DFMCA3.
Clear All Data Formats



MNUSAV.
Save



MNUABT.
Discard

Terminal ID Table

Terminal	Model(s)	Terminal ID
USB	PC keyboard (HID)	124
	Mac Keyboard	125
	PC Keyboard (Japanese)	134
	Serial (COM driver required)	130
	HID POS	131
	USB SurePOS Handheld	128
	USB SurePOS Tabletop	129
	IBM USB POS Tabletop Scanner/Scale (SurePOS)	140
Serial	RS232 TTL	000
	RS232 True	000
	RS485 (IBM-HHBCR 1+2, 46xx)	051
	IBM Tabletop Scanner/Scale (SurePOS)	140
Keyboard	PS2 compatibles	003

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. For examples that use the Data Format Editor commands, refer to [Data Formatter](#) on page 8-11.

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-3 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-3 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-3 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 = B9nnns...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-3 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-3 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

- B A 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-3 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: **1234567890**ABCDEFGHIJ
<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-3 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-10). 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-10.

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



1234567890ABCDEFGHIJ

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-3 for decimal, hex and character codes.

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



1234567890ABCDEFGHIJ

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-3 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-3 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-3 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-3 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-3 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 = E4nnxx₁xx₂yy₁yy₂...zz₁zz₂* where nn is the total count of the number of characters in the list (characters to be replaced plus replacement characters); xx₁ defines characters to be replaced and xx₂ defines replacement characters, continuing through zz₁ and zz₂.

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-3 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-3 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 will only accept 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 format fails.
AB1234

If this bar code is read:  the data is output as:
1234AB

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 will only accept data from bar codes that begin with a letter, you can use ED to check for the number.

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 format fails.
1234AB

If this bar code is read:  the data is output as:
AB1234

AB1234
<CR>

Insert a delay

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

Discard Data

B8 Discards types of data. For example, you may want to discard Code 128 bar codes that begin with the letter A. In step 4 (page 8-1), 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 8-11) in order for the B8 command to work. If Data Format is On, but Not Required (page 8-12), bar code data that meets the B8 format is scanned and output as usual. Other data format settings impact the B8 command. If Data Format Non-Match Error Tone is **On** (page 8-12), 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.



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](#).

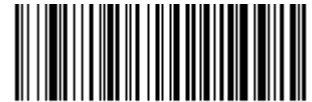
Data Format Required, Drop Prefix/Suffix

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.*



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



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



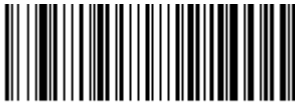
DFM_EN2.
**Data Format Required,
Keep Prefix/Suffix**



DFM_EN4.
**Data Format Required,
Drop Prefix/Suffix**

Data Format Non-Match Error Tone

When a 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.*



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



DFMDEC1.
**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.



ALTFNM0.
Primary Data Format



ALTFNM2.
Data Format 2



ALTFNM1.
Data Format 1



ALTFNM3.
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.



VSAF_0.
Single Scan-Primary
Data Format



VSAF_2.
Single Scan-Data Format 2



VSAF_1.
Single Scan-Data Format 1



VSAF_3.
Single Scan-Data Format 3



Symbologies

This programming section contains the following menu selections. Refer to [Chapter 13](#) for settings and defaults.

- All Symbologies
- Aztec Code
- Chinese Sensible (Han Xin) Code
- Codabar
- Codablock A
- Codablock F
- Code 11
- Code 128
- Code 32 Pharmaceutical (PARAF)
- Code 39
- Code 93
- Data Matrix
- EAN/JAN-13
- EAN/JAN-8
- GS1 Composite Codes
- GS1 DataBar Expanded
- GS1 DataBar Limited
- GS1 DataBar Omnidirectional
- GS1 Emulation
- GS1-128
- In-Store Printed Bar Codes
- Interleaved 2 of 5
- Matrix 2 of 5
- MaxiCode
- MicroPDF417
- MSI
- NEC 2 of 5
- Plessey Code
- PDF417
- QR Code
- Straight 2 of 5 IATA (two-bar start/stop)
- Straight 2 of 5 Industrial (three-bar start/stop)
- TCIF Linked Code 39 (TLC39)
- 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.



ALLENA1.
All Symbologies On



ALLENA0.
All Symbologies Off

Note: When All Symbologies On is scanned, 2D Postal Codes are not enabled. 2D Postal Codes must be enabled separately.

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



CBRDFT.
Default All Codabar Settings

Codabar On/Off



CBRENA1.
On



CBRENA0.
* 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.



CBRSSX1.
Transmit



CBRSSX0.
* Don't Transmit

Codabar Check Character

Codabar check characters are created using different "modulos." You can program the scanner to read only Codabar 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.



CBRCK20.
* No Check Character



CBRCK21.
Validate Modulo 16, but
Don't Transmit



CBRCK22.
Validate Modulo 16
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.



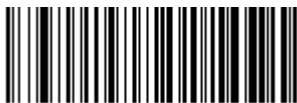
Select Require to prevent the scanner from decoding a single “D” Codabar symbol without its companion. This selection has no effect on Codabar symbols without Stop/Start D characters.



CBRCCT1.
On



CBRCCT0.
* Off



CBRCCT2.
Require

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.*



CBRVOT.

Codabar Redundancy

Codabar Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 9-1) for additional information. Minimum and Maximum lengths = 1-80. Minimum Default = 3, Maximum Default = 80.



CBRMIN.

Minimum Message Length



CBRMAX.

Maximum Message Length

Code 39



C39DFT.
Default All Code 39 Settings

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 Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 9-1) for additional information. Minimum and Maximum lengths = 0-80. Minimum Default = 3, Maximum Default = 80.



C39MIN.

Minimum Message Length



C39MAX.

Maximum Message Length

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 scanning **Save**. *Default = 0.*



C39VOT.

Code 39 Redundancy

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 9-60) must be turned off while scanning Code 32 Pharmaceutical codes.



C39B321.

On



C39B320.

* Off

Full ASCII

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

NUL %U	DLE \$P	SP SPACE	0 0	@ %V	P P	' %W	p +P
SOH \$A	DC1 \$Q	! /A	1 1	A A	Q Q	a +A	q +Q
STX \$B	DC2 \$R	" /B	2 2	B B	R R	b +B	r +R
ETX \$C	DC3 \$S	# /C	3 3	C C	S S	c +C	s +S
EOT \$D	DC4 \$T	\$ /D	4 4	D D	T T	d +D	t +T
ENQ \$E	NAK \$U	% /E	5 5	E E	U U	e +E	u +U
ACK \$F	SYN \$V	& /F	6 6	F F	V V	f +F	v +V
BEL \$G	ETB \$W	' /G	7 7	G G	W W	g +G	w +W
BS \$H	CAN \$X	(/H	8 8	H H	X X	h +H	x +X
HT \$I	EM \$Y	) /I	9 9	I I	Y Y	i +I	y +Y
LF \$J	SUB \$Z	* /J	: /Z	J J	Z Z	j +J	z +Z
VT \$K	ESC %A	+ /K	; %F	K K	[%K	k +K	{ %P
FF \$L	FS %B	, /L	< %G	L L	\ %L	l +L	| %Q
CR \$M	GS %C	- -	= %H	M M	] %M	m +M	} %R
SO \$N	RS %D	. .	> %I	N N	^ %N	n +N	~ %S
SI \$O	US %E	/ /O	? %J	O O	_ %O	o +O	DEL %T

Character pairs /M and /N decode as a minus sign and period respectively.

Character pairs /P through /Y decode as 0 through 9.



C39ASC1.

Full ASCII On



C39ASC0.

* Full ASCII Off

Code 39 Code Page

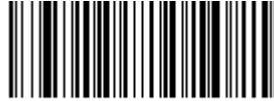
Code pages define the mapping of character codes to characters. If the data received does not display with the proper characters, it may be because the bar code being scanned was created using a code page that is different from the one the host program is expecting. If this is the case, scan the bar 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.



C39DCP.
Code 39 Code Page

Interleaved 2 of 5



I25DFT.
Default All Interleaved 2 of 5 Settings

Interleaved 2 of 5 On/Off



I25ENA1.
On



I25ENA0.
* Off

NULL Characters

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

Default = Off.



I25NULO.
* Off



I25NUL1.
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.*



I25CK20.

* No Check Digit



I25CK21.

Validate, but Don't Transmit



I25CK22.

Validate and Transmit

Interleaved 2 of 5 Redundancy

If you are encountering errors when reading Interleaved 2 of 5 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 scanning **Save**. *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 9-1) for additional information. Minimum and Maximum lengths = 1-80. Minimum Default = 6, Maximum Default = 80.



I25MIN.

Minimum Message Length



I25MAX.

Maximum Message Length

NEC 2 of 5



N25DFT.

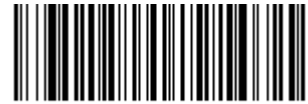
Default All NEC 2 of 5 Settings

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 9-1) for additional information. Minimum and Maximum lengths = 1-80. Minimum Default = 6, Maximum Default = 80.



N25MIN.
Minimum Message Length



N25MAX.
Maximum Message Length

Code 93



C93DFT.
Default All Code 93 Settings

Code 93 On/Off



C93ENA1.
On



C93ENAD.
*** 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.*



C93VOT.

Code 93 Redundancy

Code 93 Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 9-1) 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 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)



R25DFT.

Default All Straight 2 of 5 Industrial Settings

Straight 2 of 5 Industrial On/Off



R25ENA1.

On

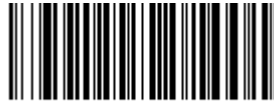


R25ENA0.

* 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 9-1) for additional information. Minimum and Maximum lengths = 1-80. Minimum Default = 6, Maximum Default = 80.



R25MIN.

Minimum Message Length



R25MAX.

Maximum Message Length

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



A25DFT.

Default All Straight 2 of 5 IATA Settings

Straight 2 of 5 IATA On/Off



A25ENA1.

On

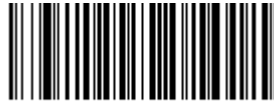


A25ENA0.

* 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 9-1) for additional information. Minimum and Maximum lengths = 1-80. Minimum Default = 6, Maximum Default = 15.



A25MIN.

Minimum Message Length



A25MAX.

Maximum Message Length

Matrix 2 of 5



X25DFT.

Default All Matrix 2 of 5 Settings

Matrix 2 of 5 On/Off



X25ENA1.

On



X25ENA0.

* 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 Matrix 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 Matrix 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.*



X25CK20.

* No Check Digit



X25CK21.

Validate, but Don't Transmit



X25CK22.

Validate and Transmit

Matrix 2 of 5 Redundancy

If you are encountering errors when reading Matrix 2 of 5 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 scanning **Save**. *Default = 0.*



Matrix 2 of 5 Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 9-1) for additional information. Minimum and Maximum lengths = 1-80. Minimum Default = 6, Maximum Default = 80.



Code 11



Code 11 On/Off



Check Digits Required

These options set whether 1 or 2 check digits are required with Code 11 bar codes. **Auto Select Check Digits** determines the number of check digits based on the length of the bar code. If the bar code is 10 digits or more, 2 check digits are required. If it is 9 digits or less, 1 check digit is required. The check digit data is only transmitted if you program that feature

(see [Check Digit Validation](#) on page 9-17). *Default = Two Check Digits Required.*



C11CK20.

One Check Digit Required



C11CK21.

*** Two Check Digits Required**



C11CK22.

**Auto Select Check Digits
Required**

Check Digit Validation

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



C11CK23.

**Validate and Transmit One
Check Digit**



C11CK24.

**Validate and Transmit Two
Check Digits**



C11CK25.

**Validate and Transmit Auto
Select Check Digits**

Code 11 Redundancy

If you are encountering errors when reading Code 11 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.*



Code 11 Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 9-1) for additional information. Minimum and Maximum lengths = 1-80. Minimum Default = 3, Maximum Default = 80.



Code 128



128DFT.
Default All Code 128 Settings

Code 128 On/Off



128ENA1.
* On



128ENAO.
Off

128 Group Separator Output

When **Off** is selected, group separator characters (FNC 1 characters embedded in the bar code) are not output. If you wish to transmit the FNC1 characters as group separators “GS” (0x1D hex) with your Code 128 bar code output, scan the **On** bar code. *Default =Off.*

*Note: FNC1 characters at the beginning of 128 codes are never transmitted. Group separator characters that have been explicitly embedded in the bar code are still transmitted when this feature is **Off**. To remove these embedded characters, refer to [Data Formatting](#) beginning on page 8-1.*



128GSE1.
On



128GSEO.
* 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 9-1) for additional information. Minimum and Maximum lengths = 0-80. Minimum Default = 3, Maximum Default = 80.



128MIN.

Minimum Message Length



128MAX.

Maximum Message Length

Code 128 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.



128DCP.

Code 128 Code Page

ISBT 128

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



ISBENA1.

On



ISBENA0.

* 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 bar code below, then setting the timeout (from 1-65535 milliseconds) by scanning digits from the [Programming Chart](#), then scanning **Save**. *Default = 500.*



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)



ISBPCS5.
Product Code (003) and
Expiration Date (Form 3)



ISBPCS6.
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.



ISBPCE0.
* Off



ISBPCE1.
Allow Predefined Sequence



ISBPCE2.
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 \(Code Page 1252\)](#), beginning on page A-3, 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.



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.*



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.*





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



GS1DFT.
Default All GS1-128 Settings

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 9-19). 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 9-1) for additional information. Minimum and Maximum lengths = 1-80. Minimum Default = 3, Maximum Default = 80.



GS1MIN.
Minimum Message Length



GS1MAX.
Maximum Message Length

Telepen



TELDFT.

Default All Telepen Settings

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.*



TELVOT.

Telepen Redundancy

Telex Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 9-1) for additional information. Minimum and Maximum lengths = 1-80. Minimum Default = 3, Maximum Default = 80.



TELMIN.

Minimum Message Length



TELMAX.

Maximum Message Length

UPC-A



UPADFT.

Default All UPC-A Settings

UPC-A On/Off



UPBENA1.

* On



UPBENA0.

Off

Note: To convert UPC-A bar codes to EAN-13, see [Convert UPC-A to EAN-13](#) on page 9-41

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.



UPACKX1.

* On



UPACKXD.

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.*



UPANSX1.

* On



UPANSXD.

Off

UPC-A Addenda

This selection adds 2 or 5 digits to the end of all scanned UPC-A data.

Default = Off for both 2 Digit and 5 Digit Addenda.



UPAAD21.

2 Digit Addenda On



UPAAD20.

* 2 Digit Addenda Off



UPAAD51.

5 Digit Addenda On



UPAAD50.

* 5 Digit Addenda Off

UPC-A Addenda Required

When **Required** is scanned, the scanner will only read UPC-A bar codes that have addenda. You must then turn on a 2 or 5 digit addenda listed on [page 9-30](#). *Default = Not Required.*



UPAARQ1.
Required



UPAARQ0.
*** 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 = Off.



UPAADS1.
On



UPAADS0.
*** Off**

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.*



UPAVOT.
UPC-A Redundancy

UPC-A/EAN Addenda Redundancy

This programs the number of redundant scans required of a 2 or 5-digit addendum before it is attached to the UPC or EAN bar code and submitted. To adjust the redundancy, scan the **Redundancy** bar code below for the 2 or 5-digit addenda you want to adjust, 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 = 2 for 2-Digit Addenda, 1 for 5-Digit Addenda.*



AD2VOT.
2-Digit Addenda
Redundancy



AD5VOT.
5-Digit Addenda
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.



CPNENA0.
* Off



CPNENA1.
Allow Concatenation



CPNENA2.
Require Concatenation

UPC-A Number System 4 Addenda Required

This setting programs the scanner to require a coupon code only on UPC-A 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



ARQSY54.

Require Coupon Code



ARQSY55.

Require Coupon Code or 2 Digit Addenda



ARQSY56.

Require Coupon Code or 5 Digit Addenda



ARQSY57.

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

Addenda Timeout

You can set a time during which the scanner looks for an addenda. If an addenda is not found within this time period, the data can be either transmitted or discarded, based on the setting you are using for [UPC-A Number System 4 Addenda Required](#) or [UPC-A Number System 5 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

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.*



CPNGS10.

*** GS1 Output Off**



CPNGS11.
GS1 Output On

In-Store Printed Bar Codes

In-store UPC and EAN bar codes are sometimes haphazardly printed, resulting in poor quality codes. The decoding of in-store bar codes may need some adjustment to improve read rates. The following settings allow you to make fine adjustments to the way the decoder interprets the bar code data from in-store printed UPC and EAN bar codes.

Stitching

Stitching controls the decoding security for in-store UPC and EAN bar codes. If you are having difficulty reading poor quality in-store bar codes, you may wish to scan the **Stitching Off** bar code below to improve the read rate. *Default = Stitching On.*



EANDNS1.
* **Stitching On**



EANDNS0.
Stitching Off

Framing

Framing controls the framing rules for in-store UPC and EAN bar codes. If you are having difficulty reading poor quality in-store bar codes, you may wish to scan the **Framing Off** bar code below to improve the read rate. *Default = Framing Off.*



EANFRM1.
Framing On



EANFRM0.
* **Framing Off**

Redundancy

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. If you are having difficulty reading poor quality in-store bar codes, you may wish to scan a higher **Redundancy** bar code below to improve the read rate. *Default = Redundancy Off.*



EANISR0.
* Redundancy Off



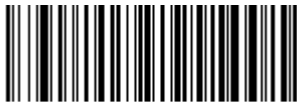
EANISR1.
1X Redundancy



EANISR2.
2X Redundancy



EANISR3.
3X Redundancy



EANISR4.
4X Redundancy

UPC/EAN Security

This feature allows you to increase the security when reading UPC and EAN bar codes. For lesser quality bar codes, you may wish to increase the security settings to improve the read rate. *Default = Medium.*



EANSEC0.
Minimum



EANSEC1.
Low



EANSEC2.
Medium Low



EANSEC3.
* Medium



EANSEC4.
Medium High



EANSEC5.
High

UPC-E0



UPEDFT.
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.*



UPEEN01.
* UPC-E0 On



UPEEN00.
UPC-E0 Off

UPC-E0 Expand

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



UPEEXP1.
On



UPEEXP0.

* Off

UPC-E0 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 = On.



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 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. 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.*



UPC/EAN Addenda Redundancy

This programs the number of redundant scans required of a 2 or 5-digit addendum before it is attached to the UPC or EAN bar code and submitted. To adjust the redundancy, scan the **Redundancy** bar code below for the 2 or 5-digit addenda you want to adjust, 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 = 2 for 2-Digit Addenda, 1 for 5-Digit Addenda.*



EAN/JAN-13



E13DFT.
Default All EAN/JAN Settings

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 EAN-13. When **Do not Convert UPC-A** is selected, UPC-A codes are read as UPC-A.



UPAENA0.
UPC-A Converted to EAN-13



UPAENA1.
* Do not Convert UPC-A

EAN/JAN-13 Check Digit

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



E13CKX1.
* On



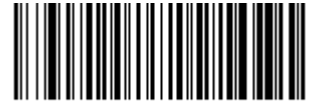
E13CKX0.
Off

EAN/JAN-13 Addenda

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



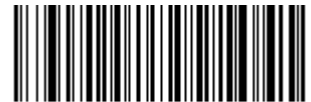
E13AD21.
2 Digit Addenda On



E13AD20.
* 2 Digit Addenda Off



E13AD51.
5 Digit Addenda On



E13AD50.
* 5 Digit Addenda Off

EAN/JAN-13 Addenda Required

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



E13ARQ1.
Required



E13ARQ0.
* Not Required

EAN-13 Beginning with 2 Addenda Required

This setting programs the scanner to require a 2 digit addenda only on EAN-13 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 9-43), 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.



ARQSY20.

* Don't Require 2 Digit Addenda



ARQSY21.

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 9-42), 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.



ARQ2900.

* Don't Require 5 Digit Addenda



ARQ2901.

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.



ARQ3780.

* Don't Require Addenda



ARQ3782.

Require 5 Digit Addenda



ARQ3781.

Require 2 Digit Addenda



ARQ3783.

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.



ARQ4140.

* Don't Require Addenda



ARQ4142.

Require 5 Digit Addenda



ARQ4141.

Require 2 Digit Addenda



ARQ4143.

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.



ARQ4340.

*** Don't Require Addenda**



ARQ4341.

Require 2 Digit Addenda



ARQ4342.

Require 5 Digit Addenda



ARQ4343.

Require 2 or 5 Digit Addenda

EAN-13 Beginning with 977 Addenda Required

This setting programs the scanner to require a 2 digit addenda only on EAN-13 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.



* Don't Require 5 Digit Addenda



Require 5 Digit Addenda

EAN-13 Beginning with 979 Addenda Required

These settings program the scanner to require a 5 digit addenda only on EAN-13 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

Addenda Timeout

You can set a time during which the scanner looks for an addenda. If an addenda is not found within this time period, the data can be either transmitted or discarded, based on the setting you are using for [EAN/JAN-13 Addenda Required](#). Set the length (in milliseconds) for this timeout by scanning the 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-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 9-32).

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.*



UPC/EAN Addenda Redundancy

This programs the number of redundant scans required of a 2 or 5-digit addendum before it is attached to the UPC or EAN bar code and submitted. To adjust the redundancy, scan the **Redundancy** bar code below for the 2 or 5-digit addenda you want to adjust, 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 = 2 for 2-Digit Addenda, 1 for 5-Digit Addenda.*



ISBN Translate

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





E13I130.

*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.



E13IR1.

Reformat On



E13IR0.

*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 9-49) before scanning **Reformat On**.) *Default = Reformat Off.*



E13ISR1.

Reformat On



E13ISR0.
* Reformat Off

EAN/JAN-8



EA8DFT.
Default All EAN/JAN-8 Settings

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



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.*



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.



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 bar 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.*



EAN/JAN-8 Redundancy

EAN/JAN-8 Redundancy

UPC/EAN Addenda Redundancy

This programs the number of redundant scans required of a 2 or 5-digit addendum before it is attached to the UPC or EAN bar code and submitted. To adjust the redundancy, scan the **Redundancy** bar code below for the 2 or 5-digit addenda you want to adjust, 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 = 2 for 2-Digit Addenda, 1 for 5-Digit Addenda.*



AD2VOT.

**2-Digit Addenda
Redundancy**



AD5VOT.

**5-Digit Addenda
Redundancy**

MSI



MSIDFT.
Default All MSI Settings

MSI On/Off



MSIENA1.
On



MSIENAO.
* 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.



MSICK0.
* Validate Type 10, but Don't
Transmit



MSICK1.
Validate Type 10 and Transmit



MSICK2.
Validate 2 Type 10 Characters,
but Don't Transmit



MSICK3.
Validate 2 Type 10 Characters
and Transmit



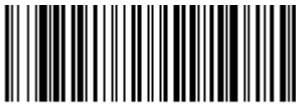
MSICLK4.

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



MSICLK5.

Validate Type 10 then
Type 11 Character and Transmit



MSICLK6.

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 9-1) 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



PLSDFT.

Default All Plessey Code Settings

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.*



Plessey Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 9-1) for additional information. Minimum and Maximum lengths = 1-80. Minimum Default = 3, Maximum Default = 80.



GS1 DataBar Omnidirectional



GS1 DataBar Omnidirectional On/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



RSLDFT.
Default All GS1 DataBar Limited Settings

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



RSEDFT.

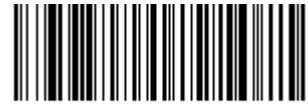
Default All GS1 DataBar Expanded Settings

GS1 DataBar Expanded On/Off



RSEENA1.

* On



RSEENA0.

Off

Note: Contact [Technical Assistance](#) (page 16-1) for help if you have difficulty with GS1 DataBar Expanded bar codes.

GS1 DataBar Expanded Coupons With AI (8110)

This selection lets you control reading GS1 DataBar Expanded coupon codes that have an application identifier (AI) of 8110. When **On** is scanned, GS1 DataBar Expanded coupon codes that have an AI of 8110 are read. When **Off** is scanned, GS1 DataBar Expanded coupon codes with AI (8110) are not read. *Default = Off.*



RSEAIW1.

On



RSEAIW0.

* Off

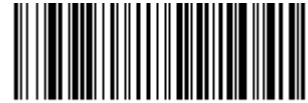
GS1 DataBar Expanded Coupons Without AI (8110)

This selection lets you control reading GS1 DataBar Expanded coupon codes that do not have an application identifier (AI) of 8110. When **On** is scanned, GS1 DataBar Expanded coupon codes that do not have an AI of 8110 are read. When **Off** is scanned, GS1 DataBar Expanded coupon codes without AI (8110) are not read. *Default = Off.*



RSEAI01.

On



RSEA100.

* Off

GS1 DataBar Expanded Coupon Preferred Mode

This selection allows you to set a scanning preference for GS1 DataBar Expanded Coupons With AI (8110) over UPC/EAN bar codes. When **On** is selected and an item is scanned that has both a GS1 DataBar Expanded coupon code with AI (8110) as well as a UPC or EAN bar code, the scanner will transmit the coupon code data. If no coupon code is found, then the UPC or EAN code data is sent. The scanner searches for the coupon code for the length of time set for the [Addenda Timeout](#), page 9-47. When **Off** is selected, both bar codes are sent independently. *Default = Off.*



RSEPRF1.

On



RSEPRF0.

* 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 9-1) for additional information. Minimum and Maximum lengths = 4-74. Minimum Default = 4, Maximum Default = 74.



RSEMIN.

Minimum Message Length



RSEMAX.
Maximum Message Length

Trioptic Code

Note: If you are going to scan Code 32 Pharmaceutical codes (page 9-6), Trioptic Code must be off.

Trioptic Code is used for labeling magnetic storage media.



TRIENA1.
On



TRIENA0.
* Off

Codablock A



CBADFT.
Default All Codablock A Settings

Codablock A On/Off



CBAENA1.
On



CBAENA0.
* Off

Codablock A Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 9-1) for additional information. Minimum and Maximum lengths = 1-600. Minimum Default = 1, Maximum Default = 600.



CBAMIN.

Minimum Message Length



CBAMAX.

Maximum Message Length

Codablock F



CBFDF.

Default All Codablock F Settings

Codablock F On/Off



CBFENA1.

On



CBFENA0.

*** Off**

Codablock F Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 9-1) for additional information. Minimum and Maximum lengths = 1-2048. Minimum Default = 1, Maximum Default = 2048.



CBFMIN.

Minimum Message Length



CBFMAX.

Maximum Message Length

PDF417



PDFDFT.
Default All PDF417 Settings

PDF417 On/Off



PDFENA1.
On



PDFENAO.
* Off

PDF417 Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 9-1) for additional information. Minimum and Maximum lengths = 1-2750. Minimum Default = 1, Maximum Default = 2750.



PDFMIN.
Minimum Message Length



PDFMAX.
Maximum Message Length

MacroPDF417

MacroPDF417 is an implementation of PDF417 capable of encoding very large amounts of data into multiple PDF417 bar codes. When this selection is enabled, these multiple bar codes are assembled into a single data string. *Default = Off.*



PDFMAC1.
On



PDFMAC0.
* Off

MicroPDF417



MPDDFT.

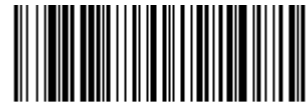
Default All MicroPDF417 Settings

MicroPDF417 On/Off



MPDENA1.

On



MPDENAO.

* Off

MicroPDF417 Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 9-1) for additional information. Minimum and Maximum lengths = 1-366. Minimum Default = 1, Maximum Default = 366.



MPDMIN.

Minimum Message Length



MPDMAX.

Maximum Message Length

GS1 Composite Codes

Linear codes are combined with a unique 2D composite component to form a new class called GS1 Composite symbology. GS1 Composite symbologies allow for the co-existence of symbologies already in use. *Default = Off.*



COMENA1.

On



COMENAD.

* Off

UPC/EAN Version

Scan the **UPC/EAN Version On** bar code to decode GS1 Composite symbols that have a U.P.C. or an EAN linear component. (This does not affect GS1 Composite symbols with a GS1-128 or GS1 linear component.) *Default = UPC/EAN Version Off.*



COMUPC1.

UPC/EAN Version On



COMUPC0.

* UPC/EAN Version Off

Note: 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. See [Coupon GS1 DataBar Output](#) (page 9-34) for further information.

GS1 Composite Code Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 9-1) for additional information. Minimum and Maximum lengths = 1-2435. Minimum Default = 1, Maximum Default = 2435.



COMMIN.

Minimum Message Length



COMMAX.

Maximum Message Length

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,]em (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 9-37) 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. 7

Default = GS1 Emulation Off.



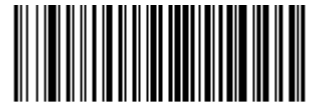
EANEMU1.
GS1-128 Emulation



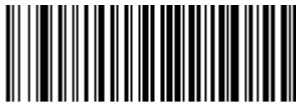
EANEMU2.
GS1 DataBar Emulation



EANEMU3.
GS1 Code Expansion Off



EANEMU4.
EAN8 to EAN13 Conversion



EANEMU0.
* GS1 Emulation Off

TCIF Linked Code 39 (TLC39)

This code is a composite code since it has a Code 39 linear component and a MicroPDF417 stacked code component. All bar code readers are capable of reading the Code 39 linear component. The MicroPDF417 component can only be decoded if **TLC39 On** is selected. The linear component may be decoded as Code 39 even if TLC39 is off. *Default = Off.*



T39ENA1.
On



T39ENA0.
* Off

QR Code



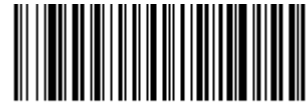
QRCDFT.
Default All QR Code Settings

QR Code On/Off

This selection applies to both QR Code and Micro QR Code.



QRCENA1.
On



QRCENA0.
* Off

QR Code Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 9-1) for additional information. Minimum and Maximum lengths = 1-7089. Minimum Default = 1, Maximum Default = 7089.



QRCMIN.
Minimum Message Length



QRCMAX.
Maximum Message Length

QR Code Append

This function allows the scanner to append the data from several QR Code bar codes together before transmitting them to the host computer. When the scanner encounters an QR Code bar code with the append trigger character(s), it buffers the number of QR Code bar codes determined by information encoded in those bar codes. Once the proper number of codes is reached, the data is output in the order specified in the bar codes. *Default = On.*



QRCAPP1.
* On



QRCAPP0.

Off

Data Matrix



IDMDFT.

Default All Data Matrix Settings

Data Matrix On/Off



IDMENA1.

* On



IDMENA0.

Off

Data Matrix Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 9-1) for additional information. Minimum and Maximum lengths = 1-3116. Minimum Default = 1, Maximum Default = 3116.



IDMMIN.

Minimum Message Length



IDMMAX.

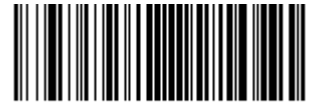
Maximum Message Length

Data Matrix Append

This function allows the scanner to append the data from several Data Matrix bar codes together before transmitting them to the host computer. When the scanner encounters a Data Matrix bar code with the append trigger character(s), it buffers the number of Data Matrix bar codes determined by information encoded in those bar codes. Once the proper number of codes is reached, the data is output in the order specified in the bar codes. *Default = On.*



IDMAPP1.
* On



IDMAPPO.
Off

MaxiCode



MAXDFT.
Default All MaxiCode Settings

MaxiCode On/Off



MAXENA1.
On



MAXENAO.
* Off

MaxiCode Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 9-1) for additional information. Minimum and Maximum lengths = 1-150. Minimum Default = 1, Maximum Default = 150.



MAXMIN.
Minimum Message Length



MAXMAX.

Maximum Message Length

Aztec Code



AZTDFT.

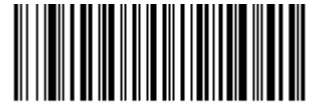
Default All Aztec Code Settings

Aztec Code On/Off



AZTENA1.

On



AZTENAO.

* Off

Aztec Code Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 9-1) for additional information. Minimum and Maximum lengths = 1-3832. Minimum Default = 1, Maximum Default = 3832.



AZTMIN.

Minimum Message Length

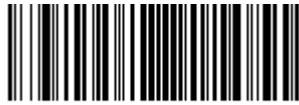


AZTMAX.

Maximum Message Length

Aztec Append

This function allows the scanner to append the data from several Aztec bar codes together before transmitting them to the host computer. When the scanner encounters an Aztec bar code with the append trigger character(s), it buffers the number of Aztec bar codes determined by information encoded in those bar codes. Once the proper number of codes is reached, the data is output in the order specified in the bar codes. *Default = On.*



AZTAPP1.
* On



AZTAPP0.
Off

Chinese Sensible (Han Xin) Code



HX_DFT.
Default All Han Xin Settings

Han Xin Code On/Off



HX_ENA1.
On



HX_ENA0.
* Off

Han Xin Code Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 9-1) for additional information. Minimum and Maximum lengths = 1-7833. Minimum Default = 1, Maximum Default = 7833.



HX_MIN.
Minimum Message Length



HX_MAX.

Maximum Message Length

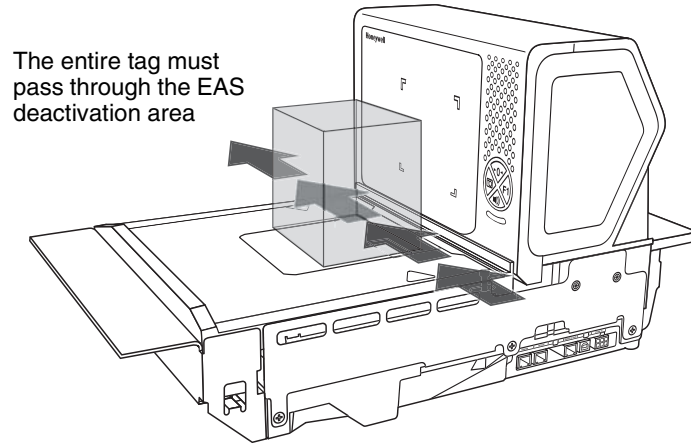


EAS Settings

EAS Deactivation

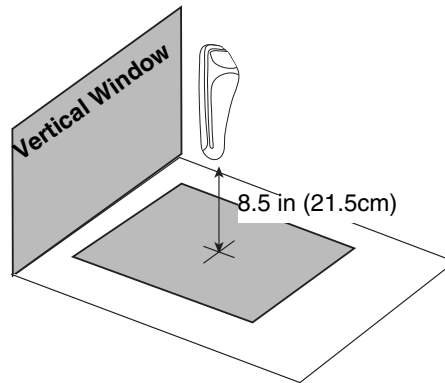
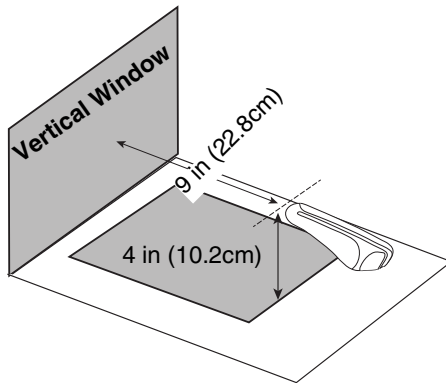
The Stratos bioptic supports deactivation of Checkpoint and Sensormatic/Tyco EAS tags. The following illustration shows the location of the EAS deactivation area. It is important to pass the entire tag through this area to deactivate the security tag.

EAS Deactivation Zone

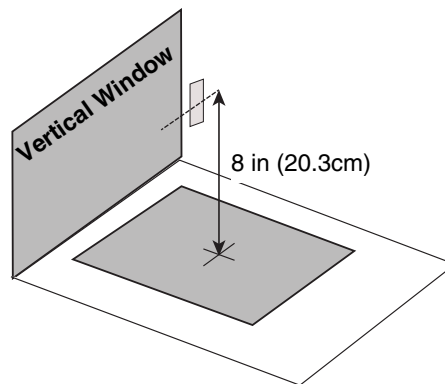
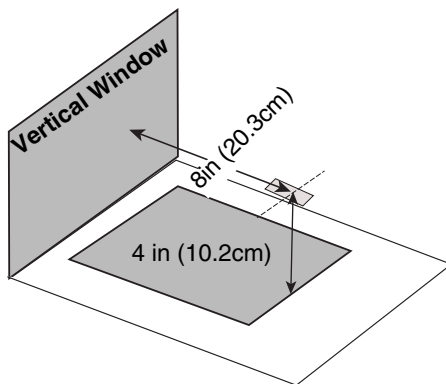


Sensormatic

Detection Ranges



Deactivation Ranges



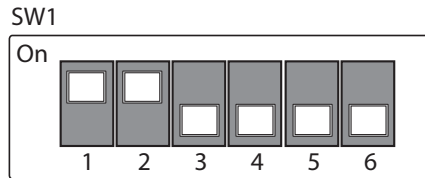
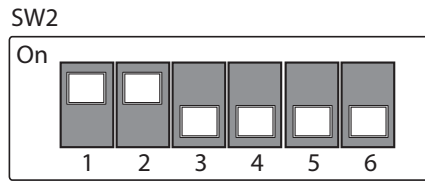
Checkpoint

EAS Controller Settings

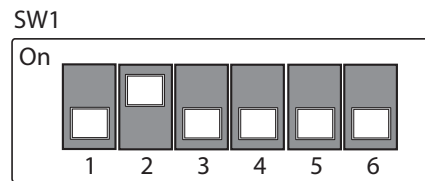
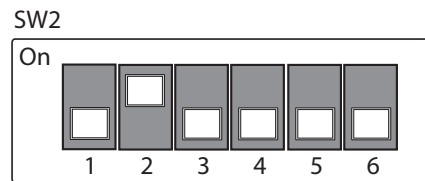
The following switch settings for a Checkpoint Counterpoint IX controller can be used as a starting point, however, these

settings should be tuned according to your particular installation.

Using a 2 ft
(.61m) cable
Part #52-52511



Using a 6 ft
(1.83m) cable
Part #52-52556



Cable	EAS Detection Volume		
	Width	Height	Depth
2 ft (.61m) #52-52511	11 in. (27.94cm)	6.75 in. (17.15cm)	10 in. (25.4cm)
6 ft (1.83m) #52-52556	9.5 in. (24.13cm)	5 in. (12.7cm)	10 in. (25.4cm)

Programming the EAS Interface

Scan one of the following bar codes to program the EAS Interface. The EAS Interfaces all work in interlocked mode (see [EAS Mode of Operation](#) on page 10-5).



PAPCP1.
GPIO Checkpoint



EAS Controller

Scan one of the following bar codes to select the EAS system that is attached to the scanner. *Default = Off.*

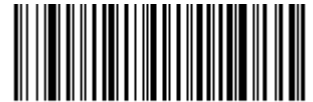


EAS Interface

Scan one of the following bar codes to select the type of interface the EAS device uses to connect to the scanner. *Default = GPIO.*



EASINF0.
* GPIO



EASINF1.
RS232



EASINF2.
USB

EAS Mode of Operation

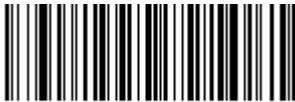
Scan one of the following bar codes to select the EAS mode you wish to use.

When **Interlocked** is selected, EAS tag deactivation is interlocked with bar code scanning and transmission. When using **Interlocked**, you must set the timeout (see below).

When **Continuous on Enable** is selected, EAS tag deactivation is disabled whenever the POS system disables the scanner.

When **Continuous** is selected, EAS tag deactivation is on all the time.

Default = Interlocked.



EASMOD0.
* Interlocked



EASMOD1.
Continuous on Enable



EASMOD2.
Continuous

EAS Interlocked Duration Timeout

When using the Interlocked EAS Mode of Operation, you must set the lag time between when a bar code is read and when the EAS tag is deactivated. Use this selection to set this timeout (in milliseconds). After scanning the **EAS Interlocked Duration Timeout** bar code, set the timeout duration (from 0-65535 milliseconds) by scanning digits on the

[Programming Chart](#) inside the back cover, then scanning **Save**. *Default = 4000 ms, which is 4 seconds.*

Note: If the EAS tag has not been deactivated in this time period, the operator can deactivate it using the F1 button. See [EAS Function](#) on page 4-5 to program this functionality.



EASTIM.
**EAS Interlocked Duration
Timeout**

EAS Tag Detection

When **On** is scanned, the scanner makes a geiger counter sound when an EAS tag is detected. Scan the **Off** bar code(s) if you don't want the scanner to make this sound. *Default = EAS Tag Detection Off.*



EASGGR0.
*** EAS Tag Detection Off**



EASGGR1.
EAS Tag Detection On

Note: To set the scanner to chirp when an EAS tag is deactivated, refer to [Beep on EAS Deactivation](#) on page 4-10.

Interface Keys

Keyboard Function Relationships

The following Keyboard Function Code, Hex/ASCII Value, and Full ASCII “CTRL”+ relationships apply to all terminals that can be used with the scanner. Refer to [page 3-21](#) enable Control + X mode.

Function Code	HEX/ASCII Value	Full ASCII “CTRL” +
NUL	00	@
SOH	01	A
STX	02	B
ETX	03	C
EOT	04	D
ENQ	05	E
ACK	06	F
BEL	07	G
BS	08	H
HT	09	I
LF	0A	J
VT	0B	K
FF	0C	L
CR	0D	M
SO	0E	N
SI	0F	O
DLE	10	P
DC1	11	Q
DC2	12	R
DC3	13	S
DC4	14	T
NAK	15	U
SYN	16	V
ETB	17	W
CAN	18	X
EM	19	Y
SUB	1A	Z
ESC	1B	[
FS	1C	\
GS	1D]
RS	1E	^
US	1F	-

The last five characters in the Full ASCII “CTRL”+ column ([\] 6 -), apply to US only. The following chart indicates the equivalents of these five characters for different countries.

Country	Codes				
United States	[	\	\]	6	-
Belgium	[	<	]	6	-
Scandinavia	8	<	9	6	-
France	^	8	\$	6	=
Germany		Ã	+	6	-
Italy		\	+	6	-
Switzerland		<	..	6	-
United Kingdom	[	¢	]	6	-

Country	Codes				
Denmark	8	\	9	6	-
Norway	8	\	9	6	-
Spain	[	\	\]	6	-

Supported Interface Keys

ASCII	HEX	IBM PC/AT and Compatibles, USB PC Keyboard	Apple Mac/iMac Supported Keys
NUL	00	Reserved	Reserved
SOH	01	Enter (KP)	Enter/Numpad Enter
STX	02	Cap Lock	CAPS
ETX	03	ALT make	ALT make
EOT	04	ALT break	ALT break
ENQ	05	CTRL make	CNTRL make
ACK	06	CTRL break	CNTRL break
BEL	07	CR/Enter	RETURN
BS	08	Reserved	APPLE make
HT	09	Tab	TAB
LF	0A	Reserved	APPLE break
VT	0B	Tab	TAB
FF	0C	Delete	Del
CR	0D	CR/Enter	RETURN
SO	0E	Insert	Ins Help
SI	0F	Escape	ESC
DLE	10	F11	F11
DC1	11	Home	Home
DC2	12	Print	Prnt Scrn
DC3	13	Back Space	BACKSPACE
DC4	14	Back Tab	LSHIFT TAB
NAK	15	F12	F12
SYN	16	F1	F1
ETB	17	F2	F2
CAN	18	F3	F3
EM	19	F4	F4
SUB	1A	F5	F5
ESC	1B	F6	F6
FS	1C	F7	F7
GS	1D	F8	F8
RS	1E	F9	F9
US	1F	F10	F10
DEL	7F		BACKSPACE



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.



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 Data Format

Scan the bar code below to show current data format settings.



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.

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. When using a USB serial port emulation, only a USB cable 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.

Imaging

Imaging provides all the image-related functions that a 2D Scanner can perform. You can capture an image using the current settings, and the image will be displayed in an image window. Images captured from the scanner can be saved to files in different image formats. You can modify the image settings and save the image settings to an INI file, which can be loaded later to capture new images. Imaging also lets you preview the images continuously captured by the scanner.

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 **2700**.
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**.

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 3-1](#)). 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:

<i>parameter</i>	A label representing the actual value you should send as part of a command.
[<i>option</i>]	An optional part of a command.
{ <i>Data</i> }	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 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.)

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.

Menu Commands

Selection	Setting <i>* Indicates default</i>	Serial Command <i># Indicates a numeric entry</i>	Page
Programming the Bioptic Scanner Interface			
RS232 Serial Port Interface	RS232 Interface	PAP232	3-1
	RS232 OPOS Scanner Only - Dual Cable 9600 Baud	PAPOPS	3-2
	RS232 OPOS Scanner Only - Dual Cable 38,400 Baud	PAP911	3-2
USB Interface			
USB Host Power	*No Power Management	PWRUSB0	3-4
	Reduced Motor Speed During Power On	PWRUSB1	3-4
	Motor/Beeper Power Save	PWRUSB2	3-5
	Combined Power Save Modes	PWRUSB3	3-5
USB PC or Macintosh Keyboard	USB Keyboard (PC)	PAP124	3-2
	USB Keyboard (Mac)	PAP125	3-2
	USB Japanese Keyboard (PC)	PAP134	3-2
USB HID	USB HID	PAP131	3-2
USB Serial Commands	USB Serial Emulation	TRMUSB130	3-3
	USB Serial Emulation for Windows XP, Windows Server 2003, and later	PAP130	3-3
	USB Serial Emulation for Windows 2000	REMIFCO;PAP130	3-2
	CTS/RTS Emulation On	USBCTS1	3-4
	CTS/RTS Emulation Off*	USBCTS0	3-4
	ACK/NAK Mode On	USBACK1	3-4
	ACK/NAK Mode Off*	USBACK0	3-4
Host System Plug and Play Codes			
RS485	IBM Port 5B Interface	PAPP5B	3-5
	IBM Port 9B HHBCR-1 Interface	PAP9B1	3-5
	IBM Port 9B HHBCR-2 Interface	PAP9B2	3-5
	IBM Port 17 Interface	PAPP17	3-5
IBM 46XX	Scanner Only	PAP952	3-6
IBM Port 17 Interface	Scanner Only	PAPPTT	3-6
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	RS485 Packet Mode Off	RTLPDF0	3-6
	RS485 Packet Length (20-255)	RTLMPS	3-6
USB - IBM SurePos	USB IBM SurePos Handheld	PAPSPH	3-7
	USB IBM SurePos Tabletop	PAPSPT	3-7
NCR	NCR Host System Scanner Only - Dual Cable	PAP953	3-7
Verifone	Verifone Ruby Terminal	PAPRBY	3-8
Gilbarco	Gilbarco Terminal	PAPGLB	3-8
Wincor Nixdorf	Wincor Nixdorf Terminal	PAPWNX	3-8
	Wincor Nixdorf Beetle Terminal	PAPBTL	3-9

Selection	Setting <i>* Indicates default</i>	Serial Command <i># Indicates a numeric entry</i>	Page
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	Arabic	KBDCTY91	3-9
	Azeri (Cyrillic)	KBDCTY81	3-9
	Azeri (Latin)	KBDCTY80	3-9
	Belarus	KBDCTY82	3-10
	Belgium	KBDCTY1	3-10
	Bosnia	KBDCTY33	3-10
	Brazil	KBDCTY16	3-10
	Brazil (MS)	KBDCTY59	3-10
	Bulgaria (Cyrillic)	KBDCTY52	3-10
	Bulgaria (Latin)	KBDCTY53	3-10
	Canada (French legacy)	KBDCTY54	3-10
	Canada (French)	KBDCTY18	3-10
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	China	KBDCTY92	3-11
	Croatia	KBDCTY32	3-11
	Czech	KBDCTY15	3-11
	Czech (Programmers)	KBDCTY40	3-11
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	Czech (QWERTZ)	KBDCTY38	3-11
	Denmark	KBDCTY8	3-11
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	Estonia	KBDCTY41	3-12
	Faroese	KBDCTY83	3-12
	Finland	KBDCTY2	3-12
	France	KBDCTY3	3-12
	Gaelic	KBDCTY84	3-12
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	Greek	KBDCTY17	3-12
	Greek (220 Latin)	KBDCTY64	3-12
	Greek (220)	KBDCTY61	3-12
	Greek (319 Latin)	KBDCTY65	3-13
	Greek (319)	KBDCTY62	3-13
	Greek (Latin)	KBDCTY63	3-13
	Greek (MS)	KBDCTY66	3-13
	Greek (Polytonic)	KBDCTY60	3-13
	Hebrew	KBDCTY12	3-13
	Hungarian (101 key)	KBDCTY50	3-13
	Hungary	KBDCTY19	3-13
Iceland	KBDCTY75	3-13	

Selection	Setting <i>* Indicates default</i>	Serial Command <i># Indicates a numeric entry</i>	Page
	Irish	KBDCTY73	3-14
	Italian (142)	KBDCTY56	3-14
	Italy	KBDCTY5	3-14
	Japan ASCII	KBDCTY28	3-14
	Kazakh	KBDCTY78	3-14
	Korea	KBDCTY93	3-14
	Kyrgyz (Cyrillic)	KBDCTY79	3-14
	Latin America	KBDCTY14	3-14
	Latvia	KBDCTY42	3-14
	Latvia (QWERTY)	KBDCTY43	3-15
	Lithuania	KBDCTY44	3-15
	Lithuania (IBM)	KBDCTY45	3-15
	Macedonia	KBDCTY34	3-15
	Malta	KBDCTY74	3-15
	Mongolian (Cyrillic)	KBDCTY86	3-15
	Norway	KBDCTY9	3-15
	Poland	KBDCTY20	3-15
	Polish (214)	KBDCTY57	3-15
	Polish (Programmers)	KBDCTY58	3-16
	Portugal	KBDCTY13	3-16
	Romania	KBDCTY25	3-16
	Russia	KBDCTY26	3-16
	Russian (MS)	KBDCTY67	3-16
	Russian (Typewriter)	KBDCTY68	3-16
	SCS	KBDCTY21	3-16
	Serbia (Cyrillic)	KBDCTY37	3-16
	Serbia (Latin)	KBDCTY36	3-17
	Slovakia	KBDCTY22	3-17
	Slovakia (QWERTY)	KBDCTY49	3-17
	Slovakia (QWERTZ)	KBDCTY48	3-17
	Slovenia	KBDCTY31	3-17
	Spain	KBDCTY10	3-17
	Spanish variation	KBDCTY51	3-17
	Sweden	KBDCTY23	3-17
	Switzerland (French)	KBDCTY29	3-18
	Switzerland (German)	KBDCTY6	3-18
	Tatar	KBDCTY85	3-18
	Thailand	KBDCTY94	3-18
	Turkey F	KBDCTY27	3-18
	Turkey Q	KBDCTY24	3-18
	Ukrainian	KBDCTY76	3-18
	United Kingdom	KBDCTY7	3-18

Selection	Setting <i>* Indicates default</i>	Serial Command <i># Indicates a numeric entry</i>	Page
	United States (Dvorak right)	KBDCTY89	3-19
	United States (Dvorak left)	KBDCTY88	3-19
	United States (Dvorak)	KBDCTY87	3-18
	United States (International)	KBDCTY30	3-19
	Uzbek (Cyrillic)	KBDCTY77	3-19
	Vietnam	KBDCTY95	3-19
Keyboard Conversion	*Keyboard Conversion Off	KBDCNV0	3-20
	Convert all Characters to Upper Case	KBDCNV1	3-21
	Convert all Characters to Lower Case	KBDCNV2	3-21
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	Caps Lock	KBDSTY1	3-19
	Shift Lock	KBDSTY2	3-20
	Automatic Caps Lock	KBDSTY6	3-20
	Emulate External Keyboard	KBDSTY5	3-20
Keyboard Modifiers	*Control + X Off	KBDCAS0	3-21
	DOS Mode Control + X	KBDCAS1	3-21
	Windows Mode Control + X	KBDCAS2	3-21
	Windows Mode Prefix/Suffix Off	KBDCAS3	3-21
	*Numeric Keypad Off	KBDNPS0	3-22
	Numeric Keypad On	KBDNPS1	3-22
Baud Rate	300 BPS	232BAD0	3-23
	600 BPS	232BAD1	3-23
	1200 BPS	232BAD2	3-23
	2400 BPS	232BAD3	3-23
	4800 BPS	232BAD4	3-23
	*9600 BPS	232BAD5	3-23
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	38400 BPS	232BAD7	3-23
	57600 BPS	232BAD8	3-24
	115200 BPS	232BAD9	3-24

Selection	Setting <i>* Indicates default</i>	Serial Command <i># Indicates a numeric entry</i>	Page
Word Length: Data Bits, Stop Bits, and Parity	7 Data, 1 Stop, Parity None	232WRD0	3-24
	7 Data, 1 Stop, Parity Even	232WRD3	3-24
	7 Data, 1 Stop, Parity Odd	232WRD6	3-24
	7 Data, 1 Stop, Parity Space	232WRD9	3-24
	7 Data, 1 Stop Parity M	232WRD12	3-24
	7 Data, 2 Stop, Parity None	232WRD1	3-24
	7 Data, 2 Stop Parity Even	232WRD4	3-24
	7 Data, 2 Stop, Parity Odd	232WRD7	3-24
	7 Data, 2 Stop, Parity Space	232WRD10	3-24
	7 Data, 2 Stop, Parity M	232WRD13	3-24
	*8 Data, 1 Stop, Parity None	232WRD2	3-24
	8 Data, 1 Stop, Parity Even	232WRD5	3-24
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	8 Data, 1 Stop, Parity Space	232WRD11	3-24
8 Data, 1 Stop, Parity M	232WRD14	3-24	
RS232 Receiver Timeout	Range 0 - 65535 ms *0	232LPT###	3-26
RS232 Handshaking	*RTS/CTS Off	232CTS0	3-26
	RTS/CTS Off, RTS Inactive	232CTS10	3-27
	Flow Control, No Timeout	232CTS1	3-27
	Character-Based Flow Control, No Timeout	232CTS7	3-27
	Two-Direction Flow Control	232CTS2	3-27
	Flow Control with Timeout	232CTS3	3-27
	Character-Based Flow Control with Timeout	232CTS4	3-27
	CTS-Based Flow Control, No Timeout	232CTS5	3-27
	RTS On	232CTS8	3-27
	No RTS if CTS is On	232CTS9	3-27
	RS232 Timeout (Range 0 - 65535) *1000	232DEL####	3-28
	*Host Communications Timeout Beeper Off	HSTTOA0	3-28
	Host Communications Timeout Razz	HSTTOA1	3-28
	Host Communications Timeout Beep	HSTTOA2	3-28
	*XON/XOFF Off	232XON0	3-28
	XON/XOFF On	232XON1	3-28
	*ACK/NAK Off	232ACK0	3-29
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	BEL/CAN Mode Off*	BELCAN0	3-30
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	*Redundancy Off	EANISR0	9-36
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	2X Redundancy	EANISR2	9-36
	3X Redundancy	EANISR3	9-36
	4X Redundancy	EANISR4	9-36
UPC/EAN Security	Minimum	EANSEC0	9-36
	Low	EANSEC1	9-36
	Medium Low	EANSEC2	9-36
	*Medium	EANSEC3	9-36
	Medium High	EANSEC4	9-36
	High	EANSEC5	9-36
UPC-E0	Default All UPC-E Settings	UPEDFT	9-37
	Off	UPEEN00	9-37
	*On	UPEEN01	9-37
UPC-E0 Expand	*Off	UPEEXP0	9-38
	On	UPEEXP1	9-37
UPC-E0 Number System	*On	UPEEXN1	9-39
	Off	UPEEXN0	9-38
UPC-E0 Addenda Required	Required	UPEARQ1	9-38
	*Not Required	UPEARQ0	9-38
UPC-E0 Addenda Separator	*On	UPEADS1	9-38
	Off	UPEADS0	9-38

Selection	Setting <i>* Indicates default</i>	Serial Command <i># Indicates a numeric entry</i>	Page
UPC-E0 Check Digit	*Off	UPECKX0	9-38
	On	UPECKX1	9-38
UPC-E0 Number System	*Off	UPENSX0	9-39
	On	UPENSX1	9-39
UPC-E0 Addenda	2 Digit Addenda On	UPEAD21	9-39
	*2 Digit Addenda Off	UPEAD20	9-39
	5 Digit Addenda On	UPEAD51	9-39
	*5 Digit Addenda Off	UPEAD50	9-39
UPC-E0 Redundancy	Range (0 - 10) *1	UPEVOT##	9-40
UPC/EAN Addenda Redundancy	2-Digit Addenda Redundancy Range (0 - 10) *2	AD2VOT##	9-40
	5-Digit Addenda Redundancy Range (0 - 10) *1	AD5VOT##	9-40
EAN/JAN-13	Default All EAN/ JAN Settings	E13DFT	9-41
	Off	E13ENA0	9-41
	*On	E13ENA1	9-41
Convert UPC-A to EAN-13	UPC-A Converted to EAN-13	UPAENA0	9-41
	*Do not Convert UPC-A	UPAENA1	9-41
EAN/JAN-13 Check Digit	Off	E13CKX0	9-41
	*On	E13CKX1	9-41
EAN/JAN-13 Addenda	2 Digit Addenda On	E13AD21	9-42
	*2 Digit Addenda Off	E13AD20	9-42
	5 Digit Addenda On	E13AD51	9-42
	*5 Digit Addenda Off	E13AD50	9-42
EAN/JAN-13 Addenda Required	*Not Required	E13ARQ0	9-42
	Required	E13ARQ1	9-42
EAN-13 Beginning with 2 Addenda Required	* Don't Require 2 Digit Addenda	ARQSY20	9-42
	Require 2 Digit Addenda	ARQSY21	9-42
EAN-13 Beginning with 290 Addenda Required	* Don't Require 5 Digit Addenda	ARQ2900	9-43
	Require 5 Digit Addenda	ARQ2901	9-43
EAN-13 Beginning with 378/379 Addenda Required	* Don't Require Addenda	ARQ3780	9-43
	Require 2 Digit Addenda	ARQ3781	9-43
	Require 5 Digit Addenda	ARQ3782	9-43
	Require 2 or 5 Digit Addenda	ARQ3783	9-43
EAN-13 Beginning with 414/419 Addenda Required	* Don't Require Addenda	ARQ4140	9-44
	Require 2 Digit Addenda	ARQ4141	9-44
	Require 5 Digit Addenda	ARQ4142	9-44
	Require 2 or 5 Digit Addenda	ARQ4143	9-44
EAN-13 Beginning with 434/439 Addenda Required	* Don't Require Addenda	ARQ4340	9-45
	Require 2 Digit Addenda	ARQ4341	9-44
	Require 5 Digit Addenda	ARQ4342	9-44
	Require 2 or 5 Digit Addenda	ARQ4343	9-44

Selection	Setting <i>* Indicates default</i>	Serial Command <i># Indicates a numeric entry</i>	Page
EAN-13 Beginning with 977 Addenda Required	* Don't Require 2 Digit Addenda	ARQ9770	9-45
	Require 2 Digit Addenda	ARQ9771	9-45
EAN-13 Beginning with 978 Addenda Required	* Don't Require 5 Digit Addenda	ARQ9780	9-46
	Require 5 Digit Addenda	ARQ9781	9-46
EAN-13 Beginning with 979 Addenda Required	* Don't Require 5 Digit Addenda	ARQ9790	9-46
	Require 5 Digit Addenda	ARQ9791	9-46
Addenda Timeout	Range (0 - 65535) *100	DLYADD#####	9-47
EAN/JAN-13 Addenda Separator	*Off	E13ADS0	9-47
	On	E13ADS1	9-47
EAN/JAN-13 Redundancy	Range (0 - 10) *0	E13VOT##	9-48
UPC/EAN Addenda Redundancy	2-Digit Addenda Redundancy Range (0 - 10) *2	AD2VOT##	9-48
	5-Digit Addenda Redundancy Range (0 - 10) *1	AD5VOT##	9-48
ISBN Translate	*Off	E13ISB0	9-48
	On	E13ISB1	9-48
	Convert to 13-Digit On	E13I131	9-48
	*Convert to 13-Digit Off	E13I130	9-49
	Reformat On	E13IBR1	9-49
	*Reformat Off	E13IBR0	9-50
ISSN Translate	*Off	E13ISS0	9-49
	On	E13ISS1	9-49
	Reformat On	E13ISR1	9-49
	*Reformat Off	E13ISR0	9-50
EAN/JAN-8	Default All EAN/ JAN 8 Settings	EA8DFT	9-50
	Off	EA8ENA0	9-50
	*On	EA8ENA1	9-50
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EAN/JAN-8 Addenda	*2 Digit Addenda Off	EA8AD20	9-51
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	*5 Digit Addenda Off	EA8AD50	9-51
	5 Digit Addenda On	EA8AD51	9-51
EAN/JAN-8 Addenda Required	*Not Required	EA8ARQ0	9-51
	Required	EA8ARQ1	9-51
EAN/JAN-8 Addenda Separator	*Off	EA8ADS0	9-51
	On	EA8ADS1	9-51
EAN/JAN-8 Redundancy	Range (0 - 10) *0	EA8VOT##	9-52
UPC/EAN Addenda Redundancy	2-Digit Addenda Redundancy Range (0 - 10) *2	AD2VOT##	9-52
	5-Digit Addenda Redundancy Range (0 - 10) *1	AD5VOT##	9-52

Selection	Setting <i>* Indicates default</i>	Serial Command <i># Indicates a numeric entry</i>	Page
MSI	Default All MSI Settings	MSIDFT	9-53
	*Off	MSIENA0	9-53
	On	MSIENA1	9-53
MSI Check Character	*Validate Type 10, but Don't Transmit	MSICHK0	9-53
	Validate Type 10 and Transmit	MSICHK1	9-53
	Validate 2 Type 10 Chars, but Don't Transmit	MSICHK2	9-53
	Validate 2 Type 10 Chars and Transmit	MSICHK3	9-53
	Validate Type 10 then Type 11 Char, but Don't Transmit	MSICHK4	9-54
	Validate Type 10 then Type 11 Char and Transmit	MSICHK5	9-54
	Disable MSI Check Characters	MSICHK6	9-54
MSI Redundancy	Range (0 - 10) *0	MSIVOT##	9-54
MSI Message Length	Minimum (1 - 80) *3	MSIMIN##	9-54
	Maximum (1 - 80) *80	MSIMAX##	9-54
Plessey Code	Default All Plessey Code Settings	PLSDFT	9-55
	*Off	PLSENA0	9-55
	On	PLSENA1	9-55
Plessey Check Char.	*No Check Char.	PLSCHK0	9-55
	Validate, But Don't Transmit	PLSCHK1	9-55
	Validate, and Transmit	PLSCHK2	9-55
Plessey Redundancy	Range (0 - 10) *0	PLSVOT##	9-56
Plessey Message Length	Minimum (1 - 80) *3	PLSMIN##	9-56
	Maximum (1 - 80) *80	PLSMAX##	9-56
GS1 DataBar Omnidirectional	Default All GS1 DataBar Omnidirectional Settings	RSSDFT	9-56
	Off	RSEENA0	9-56
	*On	RSEENA1	9-56
GS1 DataBar Omnidirectional Redundancy	Range (0 - 10) *0	RSSVOT##	9-57
GS1 DataBar Limited	Default All GS1 DataBar Limited Settings	RSLDFT	9-57
	Off	RSEENA0	9-57
	*On	RSEENA1	9-57
GS1 DataBar Limited Redundancy	Range (0 - 10) *0	RSLVOT##	9-57
GS1 DataBar Expanded	Default All GS1 DataBar Expanded Settings	RSEDFT	9-58
	Off	RSEENA0	9-58
	*On	RSEENA1	9-58
GS1 DataBar Expanded Coupons With AI (8110)	On	RSEAIW1	9-58
	*Off	RSEAIW0	9-58

Selection	Setting <i>*Indicates default</i>	Serial Command <i># Indicates a numeric entry</i>	Page
GS1 DataBar Expanded Coupons Without AI (8110)	On	RSEAI01	9-58
	*Off	RSEAI00	9-58
GS1 DataBar Expanded Coupon Preferred Mode	On	RSEPRF1	9-59
	*Off	RSEPRF0	9-59
GS1 DataBar Expanded Redundancy	Range (0 - 10) *0	RSEVOT##	9-59
GS1 DataBar Expanded Msg. Length	Minimum (1 - 80) *3	RSEMIN##	9-59
	Maximum (1 - 80) *80	RSEMAX##	9-60
Trioptic Code	*Off	TRIENA0	9-60
	On	TRIENA1	9-60
Codablock A	Default All Codablock A Settings	CBADFT	9-60
	*Off	CBAENA0	9-60
	On	CBAENA1	9-60
Codablock A Msg. Length	Minimum (1 - 600) *1	CBAMIN####	9-61
	Maximum (1 - 600) *600	CBAMAX####	9-61
Codablock F	Default All Codablock F Settings	CBFDFT	9-60
	*Off	CBFENA0	9-61
	On	CBFENA1	9-61
Codablock F Msg. Length	Minimum (1 - 2048) *1	CBFMIN####	9-61
	Maximum (1 - 2048) *2048	CBFMAX####	9-61
PDF417	Default All PDF417 Settings	PDFDFT	9-62
	On	PDFENA1	9-62
	*Off	PDFENA0	9-62
PDF417 Msg. Length	Minimum (1-2750) *1	PDFMIN	9-62
	Maximum (1-2750) *2750	PDFMAX	9-62
MacroPDF417	On	PDFMAC1	9-62
	*Off	PDFMAC0	9-62
MicroPDF417	Default All Micro PDF417 Settings	MPDDFT	9-63
	On	MPDENA1	9-63
	*Off	MPDENA0	9-63
MicroPDF417 Msg. Length	Minimum (1-366) *1	MPDMIN	9-63
	Maximum (1-366) *366	MPDMAX	9-63
GS1 Composite Codes	On	COMENA1	9-63
	*Off	COMENA0	9-64
UPC/EAN Version	On	COMUPC1	9-64
	*Off	COMUPC0	9-64
GS1 Composite Codes Msg. Length	Minimum (1-2435) *1	COMMINS	9-64
	Maximum (1-2435) *2435	COMMAX	9-64
GS1 Emulation	GS1-128 Emulation	EANEMU1	9-65
	GS1 DataBar Emulation	EANEMU2	9-65
	GS1 Code Expansion Off	EANEMU3	9-65
	EAN8 to EAN13 Conversion	EANEMU4	9-65
	*GS1 Emulation Off	EANEMU0	9-65

Selection	Setting <i>* Indicates default</i>	Serial Command <i># Indicates a numeric entry</i>	Page
TCIF Linked Code 39	On	T39ENA1	9-65
	*Off	T39ENA0	9-65
QR Code	Default All QR Code Settings	QRCDFT	9-70
	On	QRCENA1	9-66
	*Off	QRCENA0	9-66
QR Code Msg. Length	Minimum (1-7089) *1	QRCCMIN	9-66
	Maximum (1-7089) *7089	QRCCMAX	9-66
QR Code Append	*On	QRCAPP1	9-66
	Off	QRCAPP0	9-67
Data Matrix	Default All Data Matrix Settings	IDMDFT	9-67
	*On	IDMENA1	9-67
	Off	IDMENA0	9-67
Data Matrix Msg. Length	Minimum (1-3116) *1	IDMMIN	9-67
	Maximum (1-3116) *3116	IDMMAX	9-67
Data Matrix Append	*On	IDMAPP1	9-68
	Off	IDMAPP0	9-68
MaxiCode	Default All MaxiCode Settings	MAXDFT	9-68
	On	MAXENA1	9-68
	*Off	MAXENA0	9-68
MaxiCode Msg. Length	Minimum (1-150) *1	MAXMIN	9-68
	Maximum (1-150) *150	MAXMAX	9-69
Aztec Code	Default All Aztec Code Settings	AZTDFT	9-69
	On	AZTENA1	9-69
	*Off	AZTENA0	9-69
Aztec Code Msg. Length	Minimum (1-3832) *1	AZTMIN	9-69
	Maximum (1-3832) *3832	AZTMAX	9-69
Aztec Append	*On	AZTAPP1	9-70
	Off	AZTAPP0	9-70
Chinese Sensible (Han Xin) Code	Default All Han Xin Code Settings	HX_DFT	9-70
	On	HX_ENA1	9-70
	*Off	HX_ENA0	9-70
Chinese Sensible (Han Xin) Code Msg. Length	Minimum (1-7833) *1	HX_MIN	9-70
	Maximum (1-7833) *7833	HX_MAX	9-71
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Programming the EAS Interface	GPIO Checkpoint	PAPCP1	10-3
	GPIO Sensormatic	PAPSM1	10-3
	RS232 Sensormatic	PAPSM2	10-3

Selection	Setting <i>* Indicates default</i>	Serial Command <i># Indicates a numeric entry</i>	Page
EAS Controller	*Off	EASTYP0	10-4
	Checkpoint Systems	EASTYP2	10-4
	NEDAP	EASTYP3	10-4
	Gateway Security	EASTYP4	10-4
	Sensormatic AMB9010	EASTYP1	10-4
	Sensormatic ScanMaxPro	EASTYP5	10-4
EAS Interface	*GPIO	EASINF0	10-5
	RS232	EASINF1	10-5
	USB	EASINF2	10-5
EAS Mode of Operation	*Interlocked	EASMOD0	10-5
	Continuous on Enable	EASMOD1	10-5
	Continuous	EASMOD2	10-5
EAS Interlocked Duration Timeout	EASTIM (0 - 65535) *4000 ms	EASTIM#####	10-5
EAS Tag Detection	* EAS Tag Detection Off	EASGGR0	10-6
	EAS Tag Detection On	EASGGR0	10-6
Utilities			
	Add Code I.D. Prefix to All Symbologies (Temporary)	PRECA2;PREBK2 995C80!	12-1
	Show Software Revision	REVINF	12-1
	Show Data Format	DFMBK3?	12-1

Product Specifications

Stratos Bioptic Scanner/Scale Product Specifications

Parameter	Specification
Model 2753 Dimensions (Typical):	
Height	11.1 inches (28.2cm)
Length	20 inches (50.8cm)
Width	11.5 inches (7.1cm)
Weight:	
Without Scale	17.85 lbs. (8.1kg)
With Scale	23.85 lbs. (10.8kg)
Model 2752 Dimensions (Typical):	
Height	11.1 inches (28.2cm)
Length	15.7 inches (39.9cm)
Width	11.5 inches (7.1cm)
Weight:	
Without Scale	16.55 lbs. (7.5kg)
With Scale	21.8 lbs. (9.9kg)
Model 2751 Dimensions (Typical):	
Height	11.1 inches (28.2cm)
Length	13.9 inches (35.3cm)
Width	11.5 inches (7.11cm)
Weight:	
Without Scale	15.75 lbs. (7.1kg)
Optical	
Laser Scan Lines	21,500 per second
Imager Resolution	838 x 640 pixel array
LED	635nm \pm 40nm (red LED) IEC 62471: "Exempt Risk Group"
Operating Wavelength	
Illumination	650nm \pm 5nm
Laser	650nm
Voltage Requirements	12V \pm 10%
Current Draw 12VDC @ 25°C	
Stratos bioptic scanner only	<u>Operating</u> .85A <u>Standby</u> .41A
Stratos bioptic scanner with LCD Video display	.93A .41A
Stratos bioptic with LCD Video display, and scale with single line display	1A .47A
Maximum Auxiliary Power	
12V video port	.3A
Other aux ports	.5A
Temperature Ranges:	
Operating	+50°F to +104°F (10°C to 40°C)
Storage	-40°F to +158°F (-40°C to 70°C)
Humidity	5% - 95% relative humidity, non-condensing
ESD Immunity	IEC 61000-4-2 (8kV contact / 15kV air)
Safety/Compliance	
Laser	IEC Class 1
LED	IEC 62471 "Exempt Risk Group"

Depth of Field Charts

Typical Performance

Focus		From Vertical Window		From Horizontal Window	
Symbology		Near Distance	Far Distance	Near Distance	Far Distance
4 mil Code 39	in.	window	4	window	4
	mm	window	101	window	101
13 mil UPC	in.	window	12	window	7
	mm	window	305	window	180
6.7 mil PDF417	in.	window	4		
	mm	window	101		
10 mil PDF417	in.	window	6		
	mm	window	152		
10 mil Data Matrix	in.	window	4		
	mm	window	101		
Resolution (1D Code 39)		4 mil (.102mm)		4 mil (.102mm)	
Resolution (2D PDF417)		6.7 mil (.170mm)			
Resolution (2D Data Matrix)		7.5 mil (.190mm)			

Guaranteed Performance

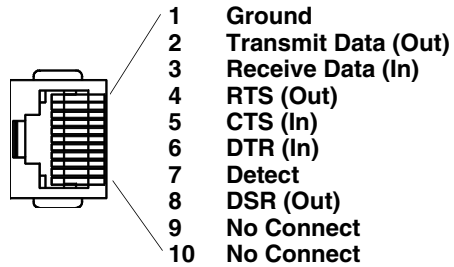
Focus		From Vertical Window		From Horizontal Window	
Symbology		Near Distance	Far Distance	Near Distance	Far Distance
4 mil Code 39	in.	window	3.5	window	3.5
	mm	window	88	window	88
13 mil UPC	in.	window	9	window	7
	mm	window	228	window	180
6.7 mil PDF417	in.	window	3		
	mm	window	76		
10 mil PDF417	in.	window	5		
	mm	window	127		
10 mil Data Matrix	in.	window	3		
	mm	window	75		
Resolution (1D Code 39)		4 mil (.102mm)		4 mil (.102mm)	
Resolution (2D PDF417)		6.7 mil (.170mm)			
Resolution (2D Data Matrix)		7.5 mil (.190mm)			

Standard Connector Pinouts

Note: Use of a cable with improper pin assignments may lead to damage to the unit. Use of any cables not provided by the manufacturer may result in damage not covered by your warranty.

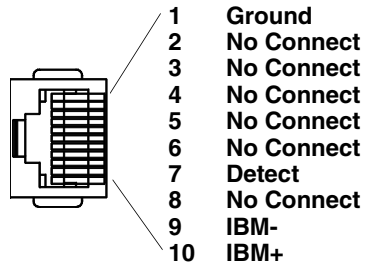
Host - RS232

10 Pin RJ41 Modular Plug:

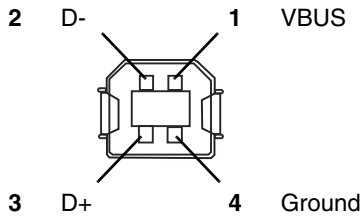


Host - RS485

10 Pin RJ41 Modular Plug:

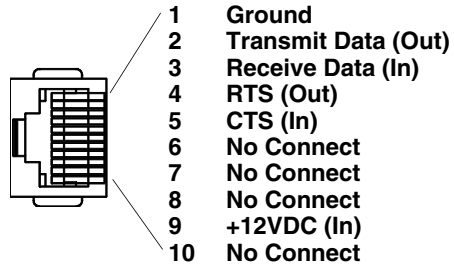


Host - USB Type B



Scale to Host - RS232

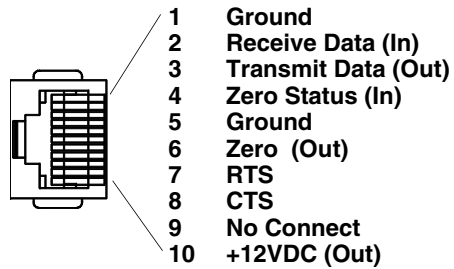
10 Pin RJ41 Modular Plug:



Scanner to Scale - COMM

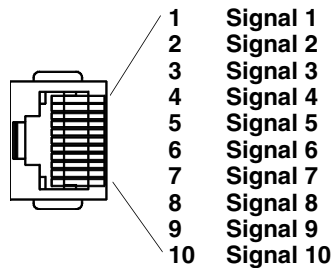
Data originates from the scale and is sent to the scanner.

10 Pin RJ41 Modular Plug:



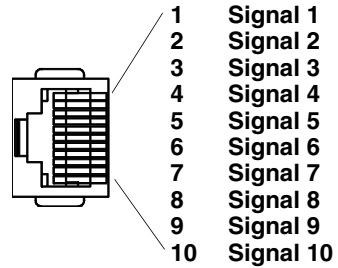
Scale to Scanner - Display

10 Pin RJ41 Modular Plug:



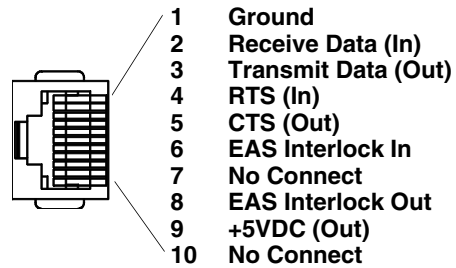
Scale Display

10 Pin RJ41 Modular Plug:



RS232 Auxiliary Scanner - Bioptic end

10 Pin RJ41 Modular Plug:



USB Auxiliary Scanner - Bioptic end

USB Type A Plug:



- 1 VBUS
2 D-
3 D+
4 Ground



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 16-1).

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 one of the cleaning solutions listed above.

Troubleshooting a Stratos Biopic Scanner

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

Is the power on? Is the illumination on?

If the illumination isn't on, check that:

- The cable is connected properly.
- The host system power is on (if external power isn't used).

Does the scanner respond to host commands?

If it does not respond, make sure that:

- The protocol in the scanner's configuration matches the host POS protocol.
- That the prefixes and suffixes are correct for the protocol.
- That the cables are attached to the proper ports on the Stratos.
- When using a dual cable setup, the scale must also be attached via the scale RS232 port.

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.
- Try reading the bar code using the vertical window.

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 7-1 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 interface bar code. See [Programming the Bioptic Scanner Interface](#), beginning on page 3-1.

- 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 9](#).

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 9](#)).

If the scanner still can't read the sample bar codes, scan [All Symbologies On](#), page 9-1.

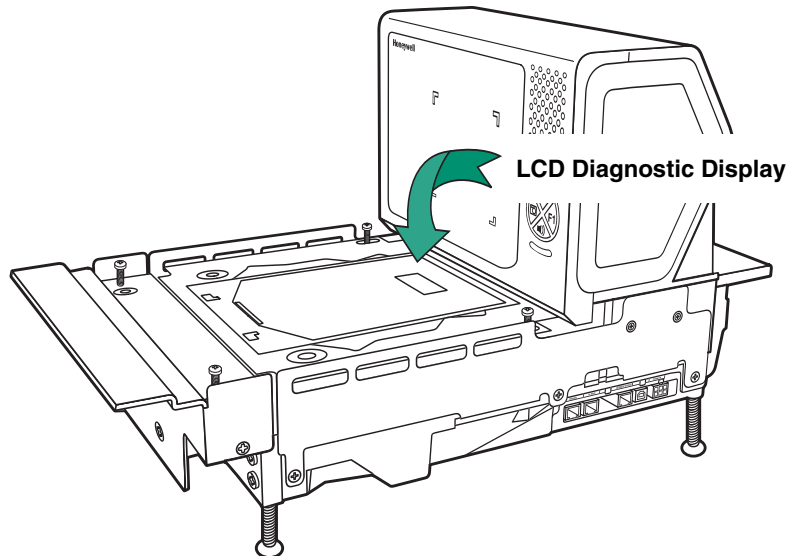
Are the scanner's red and green indicators flashing or solidly lit?

The host system may be disabling the Stratos. Make sure that:

- The host system is not sending a disable command to the scanner.
- The host communication cable is properly attached to the host and to the scanner.

Diagnostic Indicator

There is an LCD diagnostic display located under the platter near the end of the scanner closest to the vertical window.



Error Codes

The following is a list of possible error codes and their meanings. Some errors will require immediate scanner maintenance. See also [Audible and Visual Indicators](#) on page 1-3.

Error Text	Description	What to do
AUX_DEVICE_ERROR	RS232 or USB auxiliary device is not communicating with the scanner.	Reconnect auxiliary device and power cycle both devices.
BUTTON#_ERROR	The button is stuck or has failed.	Push the button firmly to attempt to free it. Call for service. See Customer Support on page 16-1.
CANNOT_CALIBRATE_DEVICE	Maintenance error.	Return the unit for repair. Call for service. See Customer Support on page 16-1.
COMMUNICATION_ERROR	RS232 only. The data line is being held active. This causes the scanner to read a "break" signal constantly and continuous attempts are made to enter configuration mode. A short on the RX Data line can cause this condition. It can also be the result of a laptop in power save mode. The scanner aborts attempts to enter configuration mode after a short timeout.	The scanner recovers from this condition once the short in the RX Data line is corrected.
CONFIGURATION_ERROR	The configuration file is corrupt.	Reload the defaults or reload the custom configuration.
EAS_ERROR	No response from EAS interlock controller.	Contact EAS vendor for service.
IMAGER_ERROR	Imager sub-system has experienced a fault.	Reload the defaults or reload the custom configuration and power cycle. Call for service. See Customer Support on page 16-1.
INTERFACE_ERROR	The manually selected interface does not match the current cable and autodetect has been disabled.	Install the correct cable and reboot.
IR_SENSE_ERROR or PHOTO_SENSE_ERROR	The photosensor is failing.	Use the volume button to manually wake the scanner. Call for service. See Customer Support on page 16-1.
LASER_1_ERROR	The vertical left laser has failed.	You can continue to scan with the remaining lasers. Call for service. See Customer Support on page 16-1.
LASER_1_WARNING	Warning that the vertical left laser may soon fail.	Call for service. See Customer Support on page 16-1.
LASER_2_ERROR	The vertical right laser has failed.	You can continue to scan with the remaining lasers. Call for service. See Customer Support on page 16-1.
LASER_2_WARNING	Warning that the vertical right laser may soon fail.	Call for service. See Customer Support on page 16-1.
LASER_3_ERROR	The horizontal left laser has failed.	You can continue to scan with the remaining lasers. Call for service. See Customer Support on page 16-1.
LASER_3_WARNING	Warning that the horizontal left laser may soon fail.	Call for service. See Customer Support on page 16-1.

Error Text	Description	What to do
LASER_4_ERROR	The horizontal right laser has failed.	You can continue to scan with the remaining lasers. Call for service. See Customer Support on page 16-1.
LASER_4_WARNING	Warning that the horizontal right laser may soon fail.	Call for service. See Customer Support on page 16-1.
MOTOR_1_ERROR	The laser sub-system has experienced a major failure.	Call for service. See Customer Support on page 16-1.
MOTOR_1_WARNING	Warning that the laser sub-system may soon fail.	Call for service. See Customer Support on page 16-1.
PROGRAM_ERROR_	The bioptic firmware has failed.	Call for service. See Customer Support on page 16-1.
RAM_ERROR	The scanner's memory has failed.	Try a reboot. Otherwise, call for service. See Customer Support on page 16-1.
ROM_ERROR	The scanner's ROM is faulty.	Return the unit for repair. Call for service. See Customer Support on page 16-1.
SCALE_COMM_ERROR	The cables between the scale and the scanner have failed.	Check the cables between the scanner and the scale and reboot. Call for service. See Customer Support on page 16-1.
SCALE_COMMAND_REJECT	The scale has a NAK response to a scanner request.	Contact the scale provider for service.
SCALE_DATA_FORMAT	The scanner does not recognize scale data.	Adjust the communication parameters so the scanner and scale match.
SCALE_EEPROM_ERROR	The scale is indicating a configuration memory problem.	Contact the scale provider for service.
SCALE_INIT_ZERO_ERR	The scale did not return to zero when booting up.	Make sure the platter is present and properly seated. Make sure no items are on the platter. Reboot. Call for service.
SCALE_INVALID_RESPONSE	There is a protocol communication error between the scale and the scanner.	Adjust the communication parameters so the scanner and scale match.
SCALE_NO_TYPE	No scale type has been specified.	Program the scale type (see Programming the Scale Interface beginning on page 6-1). Reboot. Call for service.
SCALE_RAM_ERROR	The scale is indicating a RAM memory problem.	Contact the scale provider for service.
SCALE_ROM_ERROR	The scale is indicating a ROM memory problem.	Contact the scale provider for service.

Customer Support

Technical Assistance

If you need assistance installing or troubleshooting your device, 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, check the 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, 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 Stratos 2700 bioptic scanner is two (2) years.

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 7-1 and [Data Formatting](#) beginning on page 8-1 for information about using Code ID and AIM ID.

Linear Symbologies

Symbology	AIM		Honeywell	
	ID	Possible modifiers (m)	ID	Hex
All Symbologies				99
Codabar	]Fm	0-1	a	61
Code 11	]H3		h	68
Code 128	]Cm	0, 1, 2, 4	j	6A
Code 32 Pharmaceutical (PARAF)	]X0		<	3C
Code 39 (supports Full ASCII mode)	]Am	0, 1, 3, 4, 5, 7	b	62
TCIF Linked Code 39 (TLC39)	]L2		T	54
Code 93 and 93i	]Gm	0-9, A-Z, a-m	i	69
EAN	]Em	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	]em	0	y	79
GS1 DataBar Limited	]em		{	7B
GS1 DataBar Expanded	]em		}	7D
GS1-128	]C1		l	49
2 of 5				
China Post (Hong Kong 2 of 5)	]X0		Q	51
Interleaved 2 of 5	]Im	0, 1, 3	e	65
Matrix 2 of 5	]X0		m	6D
NEC 2 of 5	]X0		Y	59
Straight 2 of 5 IATA	]Rm	0, 1, 3	f	66
Straight 2 of 5 Industrial	]S0		f	66
MSI	]Mm	0, 1	g	67
Telepen	]Bm		t	74
UPC		0, 1, 2, 3, 8, 9, A, B, C		

Symbology	AIM		Honeywell	
	ID	Possible modifiers (<i>m</i>)	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

2D Symbologies

Symbology	AIM		Honeywell	
	ID	Possible modifiers (<i>m</i>)	ID	Hex
<i>All Symbologies</i>				99
Aztec Code	]zm	0-9, A-C	z	7A
Chinese Sensible Code (Han Xin Code)	]X0		H	48
Codablock A	]O6	0, 1, 4, 5, 6	V	56
Codablock F	]Om	0, 1, 4, 5, 6	q	71
Code 49	]Tm	0, 1, 2, 4	l	6C
Data Matrix	]dm	0-6	w	77
GS1	]em	0-3		
GS1 Composite	]em	0-3	y	79
GS1 DataBar Omnidirectional	]em		y	79
MaxiCode	]Um	0-3	x	78
PDF417	]Lm	0-2	r	72
MicroPDF417	]Lm	3-5	R	52
QR Code	]Qm	0-6	s	73
Micro QR Code	]Qm		s	73

Postal Symbologies

Symbology	AIM		Honeywell	
	ID	Possible modifiers (<i>m</i>)	ID	Hex
<i>All Symbologies</i>				99
Australian Post	]X0		A	41

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

ASCII Conversion Chart (Code Page 1252)

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

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

Non-printable characters		ASCII control	Keyboard Control + ASCII (CTRL+X) Mode		
DEC	HEX	Char	Control + X Mode Off (KBDCAS0)	Windows Mode Control + X Mode On (KBDCAS2)	
				CTRL + X	CTRL + X function
24	18	CAN	F3	CTRL+ X	
25	19	EM	F4	CTRL+ Y	
26	1A	SUB	F5	CTRL+ Z	
27	1B	ESC	F6	CTRL+ [
28	1C	FS	F7	CTRL+ \	
29	1D	GS	F8	CTRL+]	
30	1E	RS	F9	CTRL+ ^	
31	1F	US	F10	CTRL+ -	
127	7F	△	NP Enter		

Lower ASCII Reference Table

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

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

Extended ASCII Characters					
DEC	HEX	CP 1252	ASCII	Alternate Extended	PS2 Scan Code
128	80	€	Ç	up arrow ↑	0x48
129	81		ù	down arrow ↓	0x50
130	82	,	é	right arrow →	0x4B
131	83	f	â	left arrow ←	0x4D
132	84	„	ä	Insert	0x52
133	85	...	à	Delete	0x53
134	86	†	â	Home	0x47
135	87	‡	ç	End	0x4F
136	88	^	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	›	ø	F12	0x58
156	9C	œ	£	Numeric Keypad +	0x4E
157	9D		¥	Numeric Keypad -	0x4A
158	9E	ž	Pts	Numeric Keypad *	0x37
159	9F	ÿ	f	Caps Lock	0x3A
160	A0		á	Num Lock	0x45
161	A1	¡	í	Left Alt	0x38
162	A2	¢	ó	Left Ctrl	0x1D
163	A3	£	ú	Left Shift	0x2A
164	A4	¤	ñ	Right Shift	0x36
165	A5	¥	Ñ	Print Screen	n/a
166	A6	¦	ª	Tab	0x0F
167	A7	§	º	Shift Tab	0x8F
168	A8	¨	¿	Enter	0x1C
169	A9	©	¬	Esc	0x01
170	AA	ª	¬	Alt Make	0x36
171	AB	«	½	Alt Break	0xB6
172	AC	¬	¼	Control Make	0x1D
173	AD		¡	Control Break	0x9D
174	AE	®	«	Alt Sequence with 1 Character	0x36
175	AF	™	»	Ctrl Sequence with 1 Character	0x1D
176	B0	°	␣		
177	B1	±	␣		

Extended ASCII Characters (Continued)					
DEC	HEX	CP 1252	ASCII	Alternate Extended	PS2 Scan Code
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	␣		
198	C6	Æ	␣		
199	C7	Ç	␣		
200	C8	È	␣		
201	C9	É	␣		
202	CA	Ê	␣		
203	CB	Ë	␣		
204	CC	Ì	␣		
205	CD	Í	␣		
206	CE	Î	␣		
207	CF	Ï	␣		
208	D0	Ð	␣		
209	D1	Ñ	␣		
210	D2	Ò	␣		
211	D3	Ó	␣		
212	D4	Ô	␣		
213	D5	Õ	␣		
214	D6	Ö	␣		
215	D7	×	␣		
216	D8	Ø	␣		
217	D9	Ù	␣		
218	DA	Ú	␣		
219	DB	Û	␣		
220	DC	Ü	␣		
221	DD	Ý	␣		
222	DE	Þ	␣		
223	DF	ß	␣		
224	E0	à	α		
225	E1	á	β		
226	E2	â	γ		
227	E3	ã	π		
228	E4	ä	Σ		
229	E5	å	σ		

Extended ASCII Characters (Continued)					
DEC	HEX	CP 1252	ASCII	Alternate Extended	PS2 Scan Code
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
<i>Default "Automatic National Character replacement" will select the below Honeywell Code Page options for Code128, Code 39 and Code 93.</i>			
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

Code Page Selection Method/Country	Standard	Keyboard Country	Honeywell Code Page Option
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
Danmark	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	#	\$	§	í	Ñ	¿	^	`	°	ñ	ç	~
ES	51	91	#	\$	·	í	Ñ	Ç	¿	`	´	ñ	ç	..
COUNTRY	Country Keyboard	Honeywell CodePage	ISO / IEC 646 National Character Replacements											

Unicode Key Maps

6E	70	71	72	73	74	75	76	77	78	79	7A	7B	7C	7D	7E	5A	5F	64	69	
01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0F	4B	50	55	5B	60	65	6A
10	11	12	13	14	15	16	17	18	19	1A	1B	1C	1D	4C	51	56	5C	61	66	6C
1E	1F	20	21	22	23	24	25	26	27	28	29	2B		53	5D	62	67	6C		
2C	2E	2F	30	31	32	33	34	35	36	37	39	4F	54	59	63	68	6C			
3A	3B	3C			3D				3E	3F	38	40								

104 Key U.S. Style Keyboard

6E	70	71	72	73	74	75	76	77	78	79	7A	7B	7C	7D	7E	5A	5F	64	69	
01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0F	4B	50	55	5B	60	65	6A
10	11	12	13	14	15	16	17	18	19	1A	1B	1C	2B	4C	51	56	5C	61	66	6C
1E	1F	20	21	22	23	24	25	26	27	28	29	2A		53	5D	62	67	6C		
2C	2D	2E	2F	30	31	32	33	34	35	36	37	39	4F	54	59	63	68	6C		
3A	3B	3C			3D				3E	3F	38	40								

105 Key European Style Keyboard

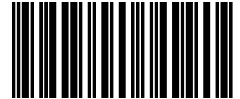
Sample Symbols

UPC-A



0 123456 7890

Interleaved 2 of 5



1234567890

Code 128



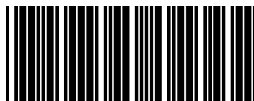
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EAN-13



9 780330 290951

Code 39



BC321

Codabar



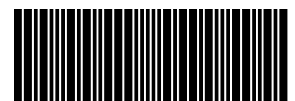
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Code 93



123456-9\$

Straight 2 of 5 Industrial



123456

Matrix 2 of 5



6543210

GS1 DataBar



(01)00123456789012

PDF417



Car Registration

Aztec



Package Label

Data Matrix



Test Symbol

QR Code



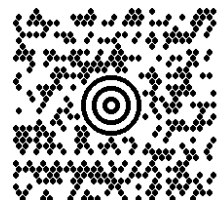
Numbers

Micro PDF417



Test Message

MaxiCode



Test Message

Programming Chart



K0K.
0



K2K.
2



K4K.
4



K6K.
6



K8K.
8



K1K.
1



K3K.
3



K5K.
5



K7K.
7



KAK.
A



KCK.
C



KEK.
E



MNUSAV.
Save



K9K.
9



KBK.
B



KDK.
D



KFK.
F



MNUABT.
Discard



RESET_
Reset

*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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