Honeywell

Voyager 1602g
Wireless Area–Imaging Pocket Scanner

User Guide

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Customer Support

Technical Assistance

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

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

Product Service and Repair

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

Limited Warranty

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

1

GETTING STARTED

About This Manual

This User Guide provides installation and programming instructions for the Voyager 1602g scanners. Product specifications, dimensions, warranty, and customer support information are also included.

Note: *The selections in this User Guide are dependent on the Voyager 1602g model you have purchased. PDF and 2 dimensional barcodes can only be read by model 1602g2D and cannot be read by model 1602g1D.*

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

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

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.

Charging the Scanner Battery

The scanner's battery must be fully charged before the first use. It can be charged using a power supply or by connecting the USB cable to a computer. Refer to About the Battery on page 43 for further battery information.

Charging with a Power Supply

Connect the mini-USB connector to the scanner. Assemble the wall plug. Attach the plug to the USB connector, then plug into an electrical outlet, as shown below.
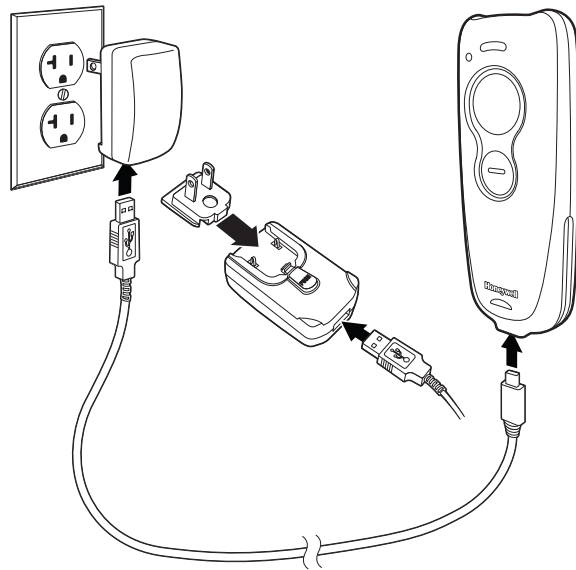
Charging with a PC

Charging your scanner battery through the USB port of a computer will take longer than charging with an electrical outlet. Connect the mini-USB connector to the scanner and the USB connector to the computer, as shown below.

Note: *The mini-USB connector is only used for charging the scanner. If using a scanner in corded mode, it can also be used to configure the device via EZConfig (see page 173 for further information).*
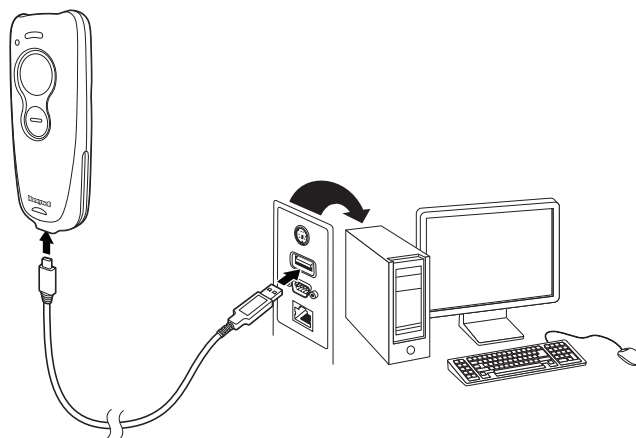
Battery Charge Indicator

When the battery is charging, the small LED at the top left of the scanner flashes orange. When the battery is fully charged, this LED is solid green. Refer to Scan LED Sequences and Meaning (page 45) and Low Battery Indicator (page 45) for the complete list of LED indications.
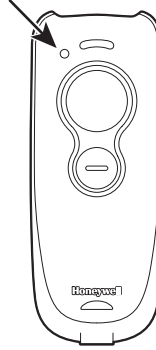
To use your scanner with a Honeywell Access Point (AP01-XXXBT), refer to Host ACK Timeout, page 66 or Linking the Scanner to an Access Point, page 55.

Pairing the Scanner with Bluetooth® Devices

The scanner can be paired with Bluetooth devices such as personal computers, laptops, tablets, and Apple® devices.

1. Scan the appropriate **Bluetooth Connect** barcode below to establish one-way communication with the Voyager 1602g.

PAPBTH.

Bluetooth HID Keyboard Connect

PAPJKB.

Bluetooth HID Japanese Keyboard Connect

Note: *If you want to use an Apple app or you are a developer creating an Apple app to communicate with the VG1602g, you would use SPP to establish two-way communication to control the scanner through that application. See Pairing the Scanner with an Apple Device Using SPP on page 5.*

2. Set your personal computer, laptop, tablet, or Apple device so it searches for other Bluetooth devices. (Refer to your device's User Guide for pairing instructions.)

3. Once your personal computer, laptop, tablet, or Apple device has located the scanner, select the scanner name. Some personal computers, laptops, or tablets will automatically pair with the scanner. If your device automatically

pairs with the scanner, it displays a successful pairing message and you do not need to continue to the next step.

4. If your personal computer, laptop, or tablet does not automatically pair with the scanner, a PIN is displayed. This PIN must be scanned within 60 seconds. You must quickly scan Bluetooth PIN Code below, then scan the numeric barcode(s) for the PIN code from the chart below, then scan the **Save** barcode.

BT_PIN.
Bluetooth PIN Code

K0K
0

K1K
1

K2K
2

K3K
3

K4K
4

K5K
5

K6K
6

K7K
7

K8K
8

```
║││║││║║│║││║║║│║║║║
        K9K
         9
```

```
║│║║││║║││║│║║│║║│║║
        MNUSAV.
```
Save

Your personal computer, laptop, tablet, or Apple device should now be paired with the scanner.

Once the scanner battery is charged and you have paired it, you may begin scanning barcodes. Verify the scanner operation by scanning a barcode from the Sample Symbols in the back of this manual.

Pairing the Scanner with an Apple Device Using SPP

Serial port protocol, or SPP, is used to establish two-way Bluetooth communication with the scanner. If you want to use an Apple app or you are a developer creating an Apple app to communicate with the VG1602, use SPP to control the scanner through that application. This feature is only available with Apple's MFI-certified devices. Consult Apple to determine if your device is MFI-certified. Scan the barcode below to pair the Voyager 1602g with an Apple device using SPP.

```
║││║│║││║│║║││║║║│║
       PAPMFI.
```
**Pair with Apple Device
Using SPP**

Once the Apple device is connected to the Voyager 1602g using SPP, you must select the app that will be used to send commands to and receive responses from the scanner. To disconnect the association between the scanner and the app, use Bluetooth HID Keyboard Disconnect on page 37.

Reading Techniques

The Voyager 1602g has a large scan button just forward of a smaller, programmable button. (See Programmable Button on page 67 for further information about the programmable button.)
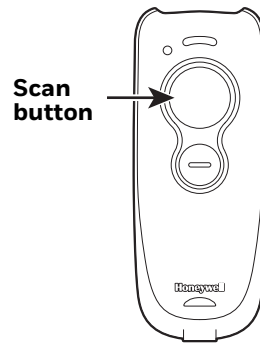
Scan button

Press the scan button to project an aiming beam. This beam should be centered over the barcode, but it can be positioned in any direction for a good read.

Linear barcodes with aiming beam

2D Matrix symbol with aiming beam
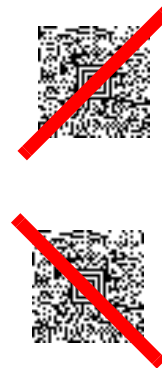
The aiming beam is smaller when the scanner is closer to the code and larger when it is farther from the code. Symbologies with smaller bars or elements (mil size) should be read closer to the scanner. Symbologies with larger bars or elements (mil size) should be read farther from the scanner. To read single or multiple symbols (on a page or on an object), hold the scanner at an appropriate distance from the target, press the scan button, and center the aiming beam on the symbol. If the code being scanned is highly reflective (e.g., laminated), it may be necessary to tilt the code up 15º to 18º to prevent unwanted reflection.

Menu Barcode Security Settings

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

Setting Custom Defaults

You have the ability to create a set of menu commands as your own, custom defaults. To do so, scan the **Set Custom Defaults** barcode below before scanning the menu commands for your custom defaults. If a menu command requires scanning numeric codes from the back cover, then a **Save** code, that entire sequence will be saved to your custom defaults. When you have entered all the commands you want to save for your custom defaults, scan the **Save Custom Defaults** barcode.

MNUCDP.

Set Custom Defaults

MNUCDS.

Save Custom Defaults

Note: *The Custom Defaults settings apply to all workgroups Scanning the* ***Save Defaults*** *barcode also causes both the scanner and the host to perform a reset and become unlinked. You must relink (pair) the scanner to the host. See* Wireless System Operation *beginning on page 37 for additional information.*

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

Resetting the Custom Defaults

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

DEFALT.

Activate Custom Defaults

Note: *The Custom Defaults settings apply to all workgroups Scanning the **Save Defaults** barcode also causes both the scanner and the host to perform a reset and become unlinked. You must relink (pair) the scanner to the host. See Wireless System Operation beginning on page 37 for additional information.*

2

PROGRAMMING THE INTERFACE

Introduction

This chapter describes how to program your scanner for different keyboards and settings, and for an interface when using an Access Point (see Programming an Interface for an Access Point, beginning on page 21). The VG1602g is primarily designed as a cordless scanner. However, if you are using the VG1602g as a corded scanner, see Programming the VG1602 Corded Interface beginning on page 35.

Keyboard Country Layout

If your interface is USB Keyboard or Keyboard Wedge through an Access Point or a Bluetooth Keyboard, your keyboard layout default is a US keyboard. To change this layout, refer to the chart below for your keyboard country. Scan the appropriate barcode below to change the layout.

By default, national character replacements are used for the following characters: #$@[\]^'{|}~

See ISO 2022/ISO 646 Character Replacements on page 220 to view the character replacements for each country.

Keyboard Countries

‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY0.
* United States

‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY35.
Albania

‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY81.
Azeri (Cyrillic)

Keyboard Countries (Continued)

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY80.
Azeri (Latin)

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY82.
Belarus

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY1.
Belgium

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY33.
Bosnia

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY16.
Brazil

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY59.
Brazil (MS)

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY52.
Bulgaria (Cyrillic)

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY53.
Bulgaria (Latin)

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY54.
Canada (French legacy)

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY18.
Canada (French)

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY55.
Canada (Multilingual)

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY32.
Croatia

Keyboard Countries (Continued)

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY15.
Czech

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY40.
Czech (Programmers)

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY39.
Czech (QWERTY)

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY38.
Czech (QWERTZ)

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY8.
Denmark

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY11.
Dutch (Netherlands)

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY41.
Estonia

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY83.
Faroese

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY2.
Finland

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY3.
France

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY84.
Gaelic

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY4.
Germany

Keyboard Countries (Continued)

‖|‖|‖‖|‖‖|‖‖|‖‖|‖‖|‖‖|
KBDCTY17.
Greek

‖|‖|‖‖|‖‖|‖‖|‖‖|‖‖|‖
KBDCTY64.
Greek (220 Latin)

‖|‖|‖‖|‖‖|‖‖|‖‖|‖‖|
KBDCTY61.
Greek (220)

‖|‖|‖‖|‖‖|‖‖|‖‖|‖‖|
KBDCTY65.
Greek (319 Latin)

‖|‖|‖‖|‖‖|‖‖|‖‖|‖‖|
KBDCTY62.
Greek (319)

‖|‖|‖‖|‖‖|‖‖|‖‖|‖‖|
KBDCTY63.
Greek (Latin)

‖|‖|‖‖|‖‖|‖‖|‖‖|‖‖|
KBDCTY66.
Greek (MS)

‖|‖|‖‖|‖‖|‖‖|‖‖|‖‖|
KBDCTY60.
Greek (Polytonic)

‖|‖|‖‖|‖‖|‖‖|‖‖|‖‖|
KBDCTY12.
Hebrew

‖|‖|‖‖|‖‖|‖‖|‖‖|‖‖|
KBDCTY50.
Hungarian (101 key)

‖|‖|‖‖|‖‖|‖‖|‖‖|‖‖|
KBDCTY19.
Hungary

‖|‖|‖‖|‖‖|‖‖|‖‖|‖‖|
KBDCTY75.
Iceland

Keyboard Countries (Continued)

KBDCTY73.
Irish

KBDCTY56.
Italian (142)

KBDCTY5.
Italy

KBDCTY28.
Japan ASCII

KBDCTY78.
Kazakh

KBDCTY79.
Kyrgyz (Cyrillic)

KBDCTY14.
Latin America

KBDCTY42.
Latvia

KBDCTY43.
Latvia (QWERTY)

KBDCTY44.
Lithuania

KBDCTY45.
Lithuania (IBM)

KBDCTY34.
Macedonia

Keyboard Countries (Continued)

|||| |||| || ||| ||||| || ||| |||
KBDCTY74.
Malta

|||| ||||| || ||| || ||| ||||| |||
KBDCTY86.
Mongolian (Cyrillic)

||| ||||| || ||| || ||| ||| |||
KBDCTY9.
Norway

||| ||||| || ||| || ||| |||| |||
KBDCTY20.
Poland

|||| ||||| || ||| || ||| ||||| |||
KBDCTY57.
Polish (214)

|||| ||||| || ||| || ||| ||||| |||
KBDCTY58.
Polish (Programmers)

||| ||||| || ||| || ||| ||||| |||
KBDCTY13.
Portugal

||| ||||| || ||| || ||| ||| |||
KBDCTY25.
Romania

|||| ||||| || ||| || ||| ||||| |||
KBDCTY26.
Russia

||| ||||| || ||| || ||| ||||| |||
KBDCTY67.
Russian (MS)

|||| ||||| || ||| || ||| ||||| |||
KBDCTY68.
Russian (Typewriter)

||| ||||| || ||| || ||| ||||| |||
KBDCTY21.
SCS

Keyboard Countries (Continued)

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY37.
Serbia (Cyrillic)

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY36.
Serbia (Latin)

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY22.
Slovakia

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY49.
Slovakia (QWERTY)

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY48.
Slovakia (QWERTZ)

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY31.
Slovenia

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY10.
Spain

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY51.
Spanish variation

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY23.
Sweden

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY29.
Switzerland (French)

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY6.
Switzerland (German)

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
KBDCTY85.
Tatar

Keyboard Countries (Continued)

```
|||||||||||||||||||||||||||||
KBDCTY27.
```
Turkey F

```
|||||||||||||||||||||||||||||
KBDCTY24.
```
Turkey Q

```
|||||||||||||||||||||||||||||
KBDCTY76.
```
Ukrainian

```
|||||||||||||||||||||||||||||
KBDCTY7.
```
United Kingdom

```
|||||||||||||||||||||||||||||
KBDCTY87.
```
United States (Dvorak)

```
|||||||||||||||||||||||||||||
KBDCTY88.
```
United States (Dvorak left)

```
|||||||||||||||||||||||||||||
KBDCTY89.
```
United Stated (Dvorak right)

```
|||||||||||||||||||||||||||||
KBDCTY30.
```
United States (International)

```
|||||||||||||||||||||||||||||
KBDCTY77.
```
Uzbek (Cyrillic)

Keyboard 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).

```
KBDSTY2.
```
Shift Lock

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).

```
KBDSTY6.
```
Automatic Caps Lock

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

```
KBDSTY7.
```
Autocaps via NumLock

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

```
KBDSTY5.
```
Emulate External Keyboard

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

Keyboard Conversion

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

These settings override Keyboard Style selections.

Note: *If your interface is a keyboard wedge, first scan the menu code for Automatic Caps Lock (page 17). Otherwise, your output may not be as expected.*

Default = Keyboard Conversion Off.

KBDCNV0.

* Keyboard Conversion Off

KBDCNV1.

Convert All Characters to Upper Case

KBDCNV2.

Convert All Characters to Lower Case

Control Character Output

This selection sends a text string instead of a control character. For example, when the control character for a carriage return is expected, the output would display [CR] instead of the ASCII code of 0D. Refer to ASCII Conversion Chart (Code Page 1252) on page 216. Only codes 00 through 1F are converted (the first column of the chart). *Default = Off.*

Note: *Control + ASCII Mode overrides this mode.*

KBDNPE1.

Control Character Output On

KBDNPE0.

* Control Character Output Off

Keyboard Modifiers

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

Control + ASCII Mode On: The scanner sends key combinations for ASCII control characters for values 00–1F. Windows is the preferred mode. All keyboard country codes are supported. DOS mode is a legacy mode, and it does not support all keyboard country codes. New users should use the Windows mode. Refer to ASCII Conversion Chart (Code Page 1252), page 216 for CTRL+ ASCII Values.

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

Default = Control + ASCII 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

Turbo Mode: The scanner sends characters to a terminal faster. If the terminal drops characters, do not use Turbo Mode. *Default = Off.*

```
KBDTMD1.
```
Turbo Mode On

```
KBDTMD0.
```
* Turbo Mode 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

Automatic Direct Connect Mode: This selection can be used if you have an IBM AT style terminal and the system is dropping characters. *Default = Off.*

KBDADC1.
**Automatic Direct Connect
Mode On**

KBDADC0.
*** Automatic Direct Connect
Mode Off**

Programming an Interface for an Access Point

If you are using a Honeywell Access Point (AP01-XXXBT) to communicate with the VG1602, you can use the following barcodes to program the Access Point interface. These barcodes set the Access Point for commonly used interfaces.

Keyboard Wedge

If you want your system programmed for an IBM PC AT and compatibles keyboard wedge interface with a USA keyboard, scan the barcode below, then power cycle the host. Keyboard wedge is the default interface. This interface is only appropriate for an Access Point.

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

PAP_AT.

IBM PC AT and Compatibles with CR suffix

Laptop Direct Connect

For most laptops, scanning the **Laptop Direct Connect** barcode allows operation of the scanner in parallel with the integral keyboard. The following **Laptop Direct Connect** barcode also programs a carriage return (CR) suffix and turns on Emulate External Keyboard (page 17). Power cycle the host after scanning this barcode. This interface is only appropriate for an Access Point.

PAPLTD.

Laptop Direct Connect with CR suffix

RS232 Serial Port

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

Option	Setting
Baud Rate	115,200 bps
Data Format	8 data bits, no parity bit, 1 stop bit

RS232 Interface

RS485

Scan one of the following "Plug and Play" codes to program the scanner for an IBM POS terminal interface. This interface is only appropriate for an Access Point.

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

IBM Port 5B Interface

IBM Port 9B
HHBCR–1 Interface

IBM Port 17 Interface

IBM Port 9B
HHBCR–2 Interface

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

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

RS485 Packet Mode

The following selection allows you to break up large barcode data into smaller packets on an IBM POS terminal. To break up large barcodes into small packets, scan the **Packet Mode On** barcode below. Scan the **Packet Mode Off** barcode if you want large barcode 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** barcode, then the packet size (from 20 – 256) from the Programming Chart, then **Save**. *Default = 40.*

RTLMPS.
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. This interface is only appropriate for an Access Point.

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 barcode above also programs the following suffixes for each symbology:

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

USB PC or Macintosh Keyboard

Scan one of the following codes to program the scanner for USB PC Keyboard or USB Macintosh Keyboard, then power cycle the host. Scanning these codes also adds a CR and LF. This interface is only appropriate for an Access Point.

PAP124.
USB Keyboard (PC)

PAP125.
USB Keyboard (Mac)

TRMUSB134.
USB Japanese Keyboard (PC)

USB HID

Scan the following code to program the scanner for USB HID barcode scanners, then power cycle the host. This interface is only appropriate for an Access Point.

PAP131.
USB HID Barcode Scanner

USB Serial

Scan the following code to program the scanner to emulate a regular RS232-based COM Port, then power cycle the host. If you are using a Microsoft® Windows® PC, you will need to download a driver from the Honeywell website (sps.honeywell.com). The driver will use the next available COM Port number.

Apple® Macintosh computers recognize the scanner as a USB CDC class device and automatically uses a class driver. This interface is only appropriate for an Access Point.

TRMUSB130.

USB Serial

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

Secondary Interface for USB

When using a USB interface, you may wish to configure your scanner to communicate with scanner management software. Scan the **Secondary Interface On** barcode to communicate with the scanner management software. To disable this capability, scan **Secondary Interface Off.** This interface is only appropriate for an Access Point. *Default = Secondary Interface On*.

REMIFC0.
Secondary Interface Off

REMIFC1.
* Secondary Interface On

Gilbarco® Terminal Default Settings

Scan the following Plug and Play code to program the scanner for a Gilbarco terminal, then power cycle the host. This barcode sets the baud rate to 2400 bps and the data format to 7 data bits, even parity, 2 stop bits. It also adds a carriage return (CR) suffix and programs the following prefixes for each symbology. This interface is only appropriate for an Access Point.

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

PAPGLB.

Gilbarco Settings

Honeywell Bioptic Aux Port Configuration

Scan the following Plug and Play code to program the scanner for a Honeywell bioptic scanner auxiliary port configuration, then power cycle the host. This barcode sets the baud rate to 38400 bps and the data format to 8 data bits, no parity, 1 stop bit. This interface is only appropriate for an Access Point.

PAPBIO.

Honeywell Bioptic Settings

Datalogic™ Magellan© Bioptic Aux Port Configuration

Scan the following Plug and Play code to program the scanner for a Datalogic Magellan bioptic scanner auxiliary port configuration, then power cycle the host. This barcode sets the baud rate to 9600 bps and the data format to 8 data bits, no parity, 1 stop bit. This interface is only appropriate for an Access Point.

PAPMAG.

Datalogic Magellan Bioptic Settings

NCR Bioptic Aux Port Configuration

Scan the following Plug and Play code to program the scanner for an NCR bioptic scanner auxiliary port configuration, then power cycle the host. This interface is only appropriate for an Access Point.The following prefixes are programmed for each symbology:

Symbology	Prefix	Symbology	Prefix
UPC-A	A	Interleaved 2 of 5	b
UPC-E	E0	Code 128	f
EAN-8	FF	Code 32 Pharmaceutical (PARAF)	a
EAN-13	F	Code 39	a

NCR Bioptic Settings

Wincor Nixdorf Terminal Default Settings

Scan the following Plug and Play code to program the scanner for a Wincor Nixdorf terminal, then power cycle the host. This barcode sets the baud rate to 9600 bps and the data format to 8 data bits, no parity, 1 stop bit. This interface is only appropriate for an Access Point.

Wincor Nixdorf Terminal Settings

Wincor Nixdorf Beetle™ Terminal Default Settings

Scan the following Plug and Play code to program the scanner for a Wincor Nixdorf Beetle terminal, then power cycle the host. This barcode sets the baud rate to 115200 bps and the data format to 8 data bits, no parity, 1 stop bit. This interface is only appropriate for an Access Point. The following prefixes are programmed for each symbology:

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

PAPBTL.

Wincor Nixdorf Beetle Settings

Wincor Nixdorf RS232 Mode A

Scan the following Plug and Play code to program the scanner for a Wincor Nixdorf RS232 Mode A terminal, then power cycle the host. This barcode sets the baud rate to 9600 bps and the data format to 8 data bits, odd parity, 1 stop bit. This interface is only appropriate for an Access Point. The following prefixes are programmed for each symbology:

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

PAPWMA.

**Wincor Nixdorf RS232 Mode A
Settings**

RS232 Modifiers

The following RS232 settings should only be used when connecting through an Access Point.

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 = 115200.*

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.

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232WRD3.
7 Data, 1 Stop, Parity Even

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
232WRD0.
7 Data, 1 Stop, Parity None

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
232WRD6.
7 Data, 1 Stop, Parity Odd

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
232WRD4.
7 Data, 2 Stop, Parity Even

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
232WRD1.
7 Data, 2 Stop Parity None

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
232WRD7.
7 Data, 2 Stop, Parity Odd

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
232WRD5.
8 Data, 1 Stop, Parity Even

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

232WRD8.

8 Data, 1 Stop, Parity Odd

232WRD14.

8 Data, 1 Stop, Parity Mark

RS232 Receiver Time-Out

The unit stays awake to receive data until the RS232 Receiver Time-Out expires. A scan button push or serial trigger command resets the time-out. When an RS232 receiver is sleeping, a character may be sent to wake up the receiver and reset the time-out. 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 time-out by scanning the barcode below, then scanning digits from the Programming Chart, then scanning **Save**. The range is 0 to 300 seconds. *Default = 0 seconds (no time-out - always on).*

232LPT.

RS232 Receiver Time-Out

RS232 Handshaking

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

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

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 32) for CTS to be asserted by the host. If the delay time expires and CTS is not asserted, the device transmit buffer is cleared and scanning may resume. *Default = RTS/CTS Off.*

232CTS1.

Flow Control, No Timeout

232CTS2.

Two-Direction Flow Control

Flow Control with Timeout

* RTS/CTS Off

RS232 Timeout

When using Flow Control with Timeout, you must program the length of the delay you want to wait for CTS from the host. Set the length (in milliseconds) for a timeout by scanning the barcode below, then setting the timeout (from 1-5100 milliseconds) by scanning digits from the Programming Chart, then scanning Save.

RS232 Timeout

XON/XOFF

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

XON/XOFF On

* XON/XOFF Off

ACK/NAK

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

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

232ACK1.
ACK/NAK On

232ACK0.
* ACK/NAK Off

Scanner to Bioptic Communication

The following settings should only be used when connecting through an Access Point. They are used to set up communication between Honeywell scanners and bioptic scanners.

Note: *The scanner's baud rate must be set to 38400 and the RS232 timeout must be set to 3000 in order to communicate with a bioptic scanner. See "RS232 Modifiers" on page 29, and RS232 Timeout on page 32 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

Scanner-Bioptic ACK/NAK Mode

Bioptic ACK/NAK On must be scanned so the scanner will wait for an ACK or NAK from a bioptic scanner after each packet is sent. The Scanner-Bioptic ACK/NAK Timeout (below) controls how long the scanner will wait for a response. *Default = Bioptic ACK/NAK Off.*

232NAK0.
* Bioptic ACK/NAK Off

232NAK1.
Bioptic ACK/NAK On

Scanner-Bioptic ACK/NAK Timeout

This allows you to set the length (in milliseconds) for a timeout for a bioptic scanner's ACK/NAK response. Scan the barcode below, then set the timeout (from 1–30,000 milliseconds) by scanning digits from the Programming Chart, then scanning **Save**. *Default = 5100.*

232DLK.
ACK/NAK Timeout

Programming the VG1602 Corded Interface

You may convert a VG1602 scanner to a corded scanner using a USB interface cable. Use the following barcodes to program the VG1602g as a corded scanner.

Setting the VG1602 Corded Interface

Scan one of the following codes to set the scanner's communication as either Bluetooth, for a cordless scanner, to USB, for a corded scanner. *Default = Bluetooth Communication (Cordless Scanner)*.

Note: *Once the communication is set to USB (Corded Scanner), the VG1602g can only communicate with the host via a USB interface cable.*

BTUENA1.
**USB Communication
(Corded Scanner)**

BTUENA0.
*** Bluetooth Communication
(Cordless Scanner)**

Corded USB PC or Macintosh Keyboard

Scan one of the following codes to program the corded scanner for a USB Keyboard, either PC or Macintosh, then power cycle the host.

BTUMID124.
Corded USB Keyboard (PC)

BTUMID125.
Corded USB Keyboard (Mac)

Corded USB HID POS

Scan the following code to program the corded scanner for USB HID POS interface, then power cycle the host.

BTUMID131.
Corded USB HID POS Interface

Corded USB Serial

Scan the following code to program the corded scanner to emulate a regular RS232-based COM Port, then power cycle the host. 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.

BTUMID130.

Corded USB Serial

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

Corded CTS/RTS Emulation

BTUCTS1.

Corded CTS/RTS Emulation On

BTUCTS0.

* Corded CTS/RTS Emulation Off

Corded ACK/NAK Mode

BTUACK1.

Corded ACK/NAK Mode On

BTUACK0.

* Corded ACK/NAK Mode Off

3 WIRELESS SYSTEM OPERATION

The VG1602g scanner can be used with Bluetooth devices such as personal computers, laptops, PDAs, and Honeywell mobility systems devices.

Bluetooth Settings

Refer to Pairing the Scanner with Bluetooth® Devices, beginning on page 3, to link your scanner to a host via Bluetooth. The following settings allow you to refine your Bluetooth connection.

Bluetooth HID Keyboard Disconnect

If your scanner has been connected directly to an iPad, smart phone, or laptop you must disconnect it in order to once again communicate with the host. Scan the **Bluetooth HID Keyboard Disconnect** barcode to unlink the scanner from the currently linked host. Scan the linking barcode on the Access Point or host to relink the scanner.

PAPSPP.

Bluetooth HID Keyboard Disconnect

Bluetooth Serial Port - PCs/Laptops

Scanning the **Non-Base BT Connection** barcode below unlinks your scanner and puts it into a discoverable state. Once the scanner searches for and connects with a Bluetooth host, the scanner stores the connection to the host device address and switches virtual COM ports. This allows the scanner to automatically relink to the host if the connection is lost.

BT_TRM0,DNG5.

Non-Base BT Connection

PDAs/Mobility Systems Devices

You may also use the scanner with a PDA or a Honeywell Mobility Systems device. Scan the barcode below and follow the instructions supplied with your Bluetooth device to locate the scanner, and connect with it.

BT_TRM0;BT_DNG1.

BT Connection – PDA/Mobility Systems Device

Change the Scanner's Bluetooth PIN Code

Some devices require a PIN code as part of the Bluetooth security features. Your scanner's default PIN is **1234**, which you may need to enter the first time you connect to your host. The PIN code must be between 1 and 16 characters. To change the PIN, scan the barcode below and then scan the appropriate numeric barcodes from the Programming Chart. Scan **Save** to save your selection.

BT_PIN.

Bluetooth PIN

Minimize Bluetooth/ISM Band Network Activity

The settings described below can help you customize the relinking behavior of the wireless area-imaging system to obtain the best compromise between convenience and low interference.

Note: *ISM band refers to the 2.4 to 2.48 GHz frequency band used by wireless networks, cordless phones, and Bluetooth.*

Auto Reconnect Mode

Auto Reconnect controls whether or not the scanner automatically begins the relink process when a loss of connection is detected. When the **Auto Reconnect On** barcode is scanned, the scanner begins the relink process immediately, without user intervention. *Default = Auto Reconnect On.*

BT_ACM1.
* Auto Reconnect On

BT_ACM0.
Auto Reconnect Off

Note: *If you are connecting to a Bluetooth Interface Module, set Auto Reconnect to Off.*

The table below shows the results of the Auto Reconnect On and Off settings:

Event	Auto Reconnect On	Auto Reconnect Off
Scanner out of range	Relink occurs automatically. If maximum number of link attempts is unsuccessful, then the scanner must be relinked by either pressing the scan button or relink the scanner to the host. See Pairing the Scanner with Bluetooth® Devices on page 3. Also see Maximum Link Attempts.	The scanner is relinked by pressing the scan button, or relinking the host.
Host reset (firmware upgrade or power cycle)	Scanner behaves as if out of range.	No attempt to relink made while host is powered off. Scan button must be pressed to initiate relinking.
Scanner power down due to Scanner Power Time-Out Timer setting.	Scanbutton must be pressed.	
Scanner reset due to firmware upgrade	Relink occurs automatically.	
Scanner reset due to battery change	Relink occurs automatically.	

Maximum Link Attempts

The Maximum Link Attempts setting controls the number of times the scanner tries to form a connection with the host. During the connection setup process, the scanner transmits in order to search for and connect to the host. In order to prevent continuous transmissions that could interfere with other users of the ISM band, the number of attempts to connect is limited by this setting. After the maximum number of attempts is reached, the scanner will not attempt to reconnect to

the host. Pressing the scan button, scanning an Access Point linking barcode, or pairing the scanner with a host resets the attempt count and the scanner will again try to link.

Scan the **Maximum Link Attempts** barcode, then scan the number of attempts for the setting (from 0-100) from the Programming Chart. Scan **Save** to save the setting. *Default = 0.*

Maximum Link Attempts

Note: *When Auto Reconnect Mode is On, setting Maximum Link Attempts to zero will cause the scanner to try to link until the Scanner Power Time-Out Timer setting expires. When Auto Reconnect Mode is Off, setting Maximum Link Attempts to zero will cause the scanner to only attempt linking one time after a scan button press.*

Relink Time-Out

Relink Time-Out controls the idle time between relink attempts. An attempt to link a scanner to a host typically lasts up to 5 seconds. This is the time when the scanner is actually attempting a contact. Relink Time-Out controls the amount of time, in seconds, that elapses between the end of one connection attempt and the start of the next.

Note: *The length of time for an attempt depends on the number of scanners connected to a host. An extra 7 seconds may be required when a connection is successful.*

Scan the **Relink Time-Out** barcode, then scan the number of seconds for the setting (from 1-100) from the Programming Chart. Scan **Save** to save the setting. *Default = 3 seconds.*

Relink Time-Out

Bluetooth/ISM Network Activity Examples

Default values

When the scanner goes out of range, the scanner repeatedly attempts to connect to the host. Each attempt consists of approximately 5 seconds of active time followed by 3 seconds of idle time. After one hour, the scanner powers off and batch mode data is lost.

Maximum Link Attempts set to 15
Other values at default setting

When the scanner goes out of range, 15 attempts are made to link to the host. Each attempt consists of approximately 5 seconds of active time followed by 3 seconds of idle time. After 15 cycles (8*15 =120), or about 2 minutes, the scanner stops try-ing to connect to the host, but retains any barcodes that may have been saved in batch mode. After one hour, the scanner powers off and batch mode data is lost.

Auto Reconnect Mode set to 0
Maximum Link Attempts set to 15
Other values at default setting

When the scanner goes out of range, no action is taken to relink. When the scan button is pressed, 15 attempts are made to link to the host. Each attempt consists of approximately 5 seconds of active time followed by 3 seconds of idle time. After 15 cycles (8*15 =120), or about 2 minutes, the scanner stops trying to connect to the host, but retains any barcodes that may have been saved in batch mode. After one hour, the scanner powers off and batch mode data is lost. Refer to Auto Reconnect Mode, to review other events that can start the relink process.

Auto Reconnect Mode set to 1
Maximum Link Attempts set to 0
Relink Time-Out set to 10
Scanner Power Time-Out Timer set to 1800

Note: See *Scanner Power Time-Out Timer*.

The scanner attempts to connect to the host every 15 seconds, measured from one attempt start to the next attempt start. After one half hour, the scanner powers off.

Communication Between the Scanner and the Host

The scanner provides immediate feedback in the form of a "good read" indication with a green LED on the scanner and an audible beep. This indicates that the bar-code has been scanned correctly.

When using an Access Point, the host also acknowledges when it has received the data. The wireless scanner recognizes data acknowledgment (ACK) from the host. If an Access Point cannot determine that the data has been properly sent to the host, the scanner issues an error tone. You must then check to see if the scanned data was received by the host.

Programming the Scanner and Host

When using the scanner and host together as a system, menu parameters and configuration settings are stored in the host. If the scanner is not linked to a host, configuration settings are stored in the scanner.

RF (Radio Frequency) Module Operation

The wireless system uses a two-way Bluetooth® radio utilizing adaptive frequency hopping (APH) to transmit and receive data between the scanner and the host. Designed for point-to-point and multiple point-to-single-point applications, the radio operates using a license-free ISM band, which sends relatively small data packets at a fast data rate over a radio signal with randomly changing frequencies. This makes the wireless system highly responsive to a wide variety of data collection applications and resistant to noisy RF environments. The communication range between the scanner and host, depending on the environment, is 33 feet (10m). See Flexible Power Management, page 50, for information about controlling this range.

System Conditions

The components of the wireless system interact in specific ways as you move a scanner out of range, bring a scanner back in range, or swap scanners between two hosts. The following information explains the wireless system operating conditions.

Scanner Is Out of Range

The wireless scanner is in communication with its host, even when it is not transmitting barcode data. Whenever the scanner can't communicate with the host for a few seconds, it is out of range. If the scanner is out of range and you scan a barcode, the scanner issues an error tone indicating that there was no communication with the host. Refer to Out-of-Range Alarm, page 47 and Auto Reconnect Mode, page 39.

Scanner Is Moved Back Into Range

The scanner relinks if the scanner or the host have been reset, or the scanner comes back into range. If the scanner relinks, you will hear a single chirp when the relinking process (uploading of the parameter table) is complete. Refer to Out-of-Range Alarm on page 47 and Auto Reconnect Mode, page 39 for further information.

Out of Range and Back into Range with Batch Mode On

Note: See Batch Mode, beginning on page 58, for further information.

The scanner may store a number of symbols (approximately 500 U.P.C. symbols; others may vary) when it is out of range and then send them to the host when back in range.

You will not hear a communication error tone in this mode, but you will hear a short buzz when you press the scan button if the radio communication is not working. Once the radio connection is made, the scanner produces a series of beeps while the data is being transferred to the host.

About the Battery

⚠️ **Warning:** **There is a danger of explosion if the batteries are incorrectly replaced. Replace the batteries with only the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the recycle program for batteries as directed by the governing agency for the country where the batteries are to be discarded.**

Power is supplied to the wireless scanner by a rechargeable battery that is inte-grated in the scanner. Batteries are shipped approximately 30% to 60% charged. The battery should be charged for a minimum of 4 hours before initial use to ensure optimal performance.

Charging Information

The battery is designed to charge while the scanner is plugged into a wall outlet or into a host via the USB cable. Refer to Low Battery Indicator, page 45, for an inter-pretation of the Charge Status indicators.

Plug the scanner in a Listed Limited Power Source (LPS) or Class 2 type power supply with output rated 5 to 5.2Vdc, 1A.

Note: *If you are powering the scanner through the USB interface cable instead of using an external power supply, the current available for charging is reduced and charge times are increased.*

Battery Recommendations

- To learn more about Battery Maintenance for Portable Devices, go to honeywell.com/PSS-BatteryMaintenance.
- The battery is a lithium ion cell and can be used without a full charge, and can also be charged without fully discharging, without impacting the battery life. There is no need to perform any charge/discharge conditioning on this type of battery.
- Replace a defective battery immediately since it could damage the scanner.
- Although your battery can be recharged many times, it will eventually be depleted. Replace it after the battery is unable to hold an adequate charge.
- If you are not sure if the battery or charger is working properly, send it to Honeywell International Inc. or an authorized service center for inspection. Refer to Customer Support for additional information.

Caution: Use only Honeywell Li-ion battery packs, model number 3H21-00000112 or 163480-0001, rated 3.7 Vdc, 2.77Whr in this device. Use of any non-Honeywell battery may result in damage not covered by the warranty.

Safety Precautions for Lithium Batteries

- Do not place batteries in fire or heat the batteries.
- Do not store batteries near fire or other high temperature locations.
- Do not store or carry batteries together with metal objects.
- Do not expose batteries to water or allow the batteries to get wet.
- Do not connect (short) the positive and negative terminals, of the batteries, to each other with any metal object.
- Do not pierce, strike or step on batteries or subject batteries to strong impacts or shocks.
- Do not disassemble or modify batteries.

Caution: Danger of explosion if batteries are incorrectly replaced. Dispose of used batteries according to the recycle program for batteries as directed by the governing agency for the country where the batteries are to be discarded.

Beeper and LED Sequences and Meaning

The scanner contains 2 LEDs on the top of the unit that indicate linking status, decoding state, and battery condition. There are audible indicators as well: 1 razz or error tone = error; 2 beeps = menu change; 1 beep = all other successes.

The table below lists the indication and cause of the LED indicators and beeps for the scanner.

Scan LED Sequences and Meaning
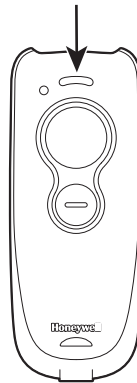
LED Indication	Beeper Indication	Cause
Normal Operation		
Red Flash	None	Battery low
Green Flash	1 beep	Successful scan
Red, blinking	Razz or error tone	Failed communication
Blue, off	None	Bluetooth connection has not been established
Blue flash	None	Scanner is attempting to pair with Bluetooth device
Blue, on	1 beep	Successful Bluetooth pairing
Menu Operation		
Green Flash	2 beeps	Successful menu change
Red, blinking	Razz or error tone	Unsuccessful menu change

Low Battery Indicator
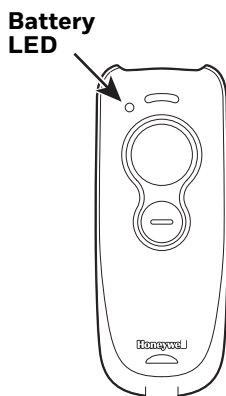
Battery LED

If your battery is low, the battery LED double flashes orange and the scanner double chirps. The programmable button can also be set to display the battery charge level. See Battery Charge Status on page 68.

Reset Scanner

Scanning this barcode reboots the scanner and causes it to relink with the host.

RESET_.
Reset Scanner

Scanner Report

Scan the barcode below to generate a report for the connected scanners. The report indicates the port, work group, scanner name, and address. To assign a name to your scanner, refer to Menu Command Syntax, page 177.

RPTSCN.
Scanner Report

Scanner Address

Scan the barcode below to determine the address of the scanner you are using.

BT_LDA.
Scanner Address
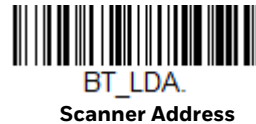
Linked Modes

Locked Link Mode and Open Link Mode are the link modes that accommodate different applications. Scan the appropriate barcodes included in the Open Link and Locked Link Mode explanations that follow to switch from one mode to another. *Default = Open Link Mode*.

Locked Link Mode – Single Scanner

When you scan the barcode below, only the linked scanner can connect to the host and other scanners are blocked from being linked to that host.

BASCON0,DNG1.
Locked Link Mode
(Single Scanner)

To use a different scanner, you need to unlink the original scanner by scanning the Unlink Scanner barcode. (See Unlinking the Scanner, below.)

Open Link Mode - Single Scanner

When newly shipped or defaulted to factory settings, a scanner is not linked to an Access Point. A link is established when an Access Point linking barcode is scanned. When in Open Link Mode, a new link is established when you scan an Access Point linking barcode. Each time a scanner scans an Access Point linking barcode, the scanner becomes linked to the Access point and the old scanner is unlinked.

BASCON1,DNG1.

* Open Link Mode
(Single Scanner)

Unlinking the Scanner

If a host has a scanner linked to it, that scanner must be unlinked before a new scanner can be linked. Once the previous scanner is unlinked, it will no longer com-municate with the host. To unlink the scanner from a host, scan the **Unlink Scanner** barcode below.

BT_RMV.

Unlink Scanner

Override Locked Scanner

If you need to replace a broken or lost scanner that is linked to a host, scan the **Override Locked Scanner** barcode below with a new scanner and pair that scanner with the host. The locked link will be overridden; the broken or lost scanner's link with the host will be removed, and the new scanner will be linked.

BT_RPL1.

Override Locked Scanner
(Single Scanner)

Out-of-Range Alarm

Note: *This feature is only supported by a Honeywell Access Point (AP). See Access Point Operations, beginning on page 55 for further information.*

If your scanner is out range of the AP, an alarm sounds from the scanner. The alarm stops when the scanner is moved closer to the AP, when the AP links to another scanner, or when the alarm duration expires. To set the alarm duration, scan the barcode below and then set the time-out duration (from 0-3000 seconds) by scanning digits on the Programming Chart inside the back cover, then scanning **Save**. D*efault = 0 sec (no alarm).*

BT_ORD.
Scanner Alarm Duration

Note: *If you are out of range when you scan a barcode, you will receive an error tone even if you do not have the alarm set because the data could not be communicated to the AP.*

Alarm Sound Type

Change the alarm type by scanning the following barcode and then scanning a digit (0-7) barcode and the **Save** barcode on the Programming Chart inside the back cover of this manual. *Default = 0.*

The sounds are as follows:

Setting	Sound
0	3 long beeps, medium pitch
1	3 long beeps, high pitch
2	4 short beeps, medium pitch
3	4 short beeps, high pitch
4	single chirps, medium pitch
5	2 chirps, then 1 chirp, medium pitch
6	single chirps, high pitch
7	2 chirps, then 1 chirp, high pitch

BT_ORW.
Scanner Alarm Type

Scanner Idle Alarm

When the scanner is idle for over 1 hour, you can set it to beep every minute until the trigger is pressed. *Default = Scanner Idle Alarm Off.*

Scanner Idle Alarm On

* Scanner Idle Alarm Off

Scanner Power Time-Out Timer

When there is no activity within a specified time period, the scanner enters low power mode. Scan the appropriate scanner power time-out barcode to change the time-out duration (in seconds).

Note: *Scanning zero (0) is the equivalent of setting no time-out.*

If there are no scan button presses during the timer interval, the scanner goes into power down mode. Whenever the scan button is pressed, the timer is reset. The scanner will not go into power down mode when the battery is charging. *Default = 3600 seconds.*

||||||||||||||||||||||||||
BT_LPT0.
0 seconds

||||||||||||||||||||||||||
BT_LPT200.
200 seconds

||||||||||||||||||||||||||
BT_LPT400.
400 seconds

||||||||||||||||||||||||||
BT_LPT900.
900 seconds

||||||||||||||||||||||||||
BT_LPT3600.
* 3600 seconds

||||||||||||||||||||||||||
BT_LPT7200.
7200 seconds

Note: *When the scanner is in power down mode, press the scan button to power the unit back up. There will be a set of power up beeps and a delay of up to a few seconds for the radio to join. The scanner will then be ready to use.*

Flexible Power Management

If you are experiencing network performance issues, and suspect the scanner is interfering with other devices, you can turn down the power output of the scanner. This reduces the range between the scanner and a host as shown in the following illustration:
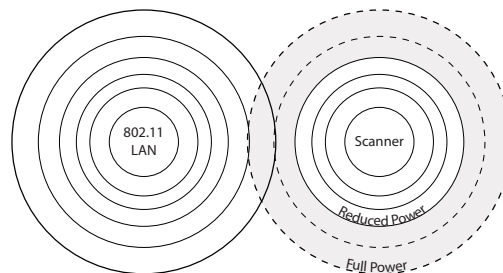
Scan one of the barcodes below to set the scanner's power output to Full Power (100%), Medium Power (35%), Medium Low Power (5%), or Low Power (1%). *Default = Full Power.*

BT_TXP100.
* Full Power

BT_TXP35.
Medium Power

BT_TXP5.
Medium Low Power

BT_TXP1.
Low Power

Multiple Scanner Operation

Note: *Multiple Scanner Operation Mode allows you to link up to 6 scanners to one Access Point. You cannot join an 7th scanner until you unlink one of the 6 scanners or take a scanner out of range.*

To put the scanner in multiple scanner mode, scan the barcode below. Once you scan this barcode, the scanner is unlinked from the current host and must be paired with a host to relink.

BASCON2,DNG3.
Multiple Scanner Operation

Scanner Name

You may assign a name to each scanner you are using for identification purposes. For example, you may want to have a unique identifier for a scanner that is receiv-ing specific commands sent from the host.

The default name is in the format "ScannerName_Model_SN_XXXXXXXXX" If you have more than one scanner linked to a host and they all have the same name, the first scanner linked to the host receives commands. When renaming a series of scanners with identical names, unlink all except one of the scanners from the host.

Perform the rename operation using either the barcodes on , or by sending the serial command :*ScannerName*:BT_NAM*NewName*. where *ScannerName* is the current name of the scanner, and *NewName* is the new name for the scanner. If you wish to change the names of additional scanners, link them one at a time and repeat the :*ScannerName*:BT_NAM*NewName*. command for each scanner.

To rename scanners with sequential, numeric names, scan the barcodes below. Scan the Reset code after each name change and wait for the scanner to relink to the host before scanning a barcode to rename the next scanner.

BT_NAM0001.
0001

BT_NAM0002.
0002

BT_NAM0003.
0003

BT_NAM0004.
0004

BT_NAM0005.
0005

BT_NAM0006.
0006

BT_NAM0007.
0007

RESET_.
Reset

You may also scan the Scanner Name barcode below and scan a number for the scanner name. For example, if you wanted to name the linked scanner "312," you would scan the barcode below, scan the 3, 1, and 2 barcodes on the Programming Chart inside the back cover of this manual, then scan Save. Scan the Reset barcode and wait for the scanner to relink to the host.

BT_NAM.
Scanner Name
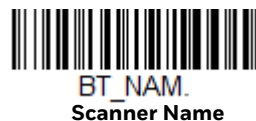
Application Work Groups

> *Note:* *Application Work Groups can only be used with an Access Point.*

Your wireless system can have up to 6 scanners linked to one host. You can also have up to 6 work groups. If you want to have all of the scanners' settings pro–grammed alike, you don't need to use more than one work group. If you want each scanner to have unique settings (e.g., beeper volume, prefix/suffix, data formatter), then you may program each scanner to its own unique work group and may pro–gram each scanner independently. For example, you might want to have multiple work groups in a retail/warehouse application where you need to have different data appended to barcodes used in the warehouse area versus the retail area. You could assign all the scanners in the retail area to one work group and those in the warehouse to another. Consequently, any desired changes to either the retail or warehouse area would apply to all scanners in that particular work group. Honey–well's online configuration tool, EZConfig for Scanning (page 172), makes it easy for you to program your system for use with multiple scanners and multiple work groups.

The scanner keeps a copy of the menu settings it is using. Whenever the scanner is connected or reconnected to a host, the scanner is updated with the latest settings from the host for its work group The scanner also receives menu setting changes processed by the host. If a scanner is removed from a host and linked to another host, it will be updated with the new host settings for whatever work group to which that the scanner was previously assigned. For example, if the scanner was in work group 1 linked to the first host, it will be placed in work group 1 in the second host with the associated settings.

Application Work Group Selection

This programming selection allows you to assign a scanner to a work group by scanning the barcode below. You may then program the settings (e.g., beeper vol–ume, prefix/suffix, data formatter) that your application requires. *Default = Group 0.*

GRPSEL0.
* Group 0

GRPSEL1.
Group 1

GRPSEL2.
Group 2

GRPSEL3.
Group 3

GRPSEL4.
Group 4

Resetting the Factory Defaults: All Application Work Groups

The following barcode defaults all of the work groups to the factory default settings.

PAPDFT&
Factory Default Settings:
All Work Groups

To see what the factory default settings are, refer to the table of Menu Commands, beginning on page 182. The standard product default settings for each of the commands are indicated by an asterisk (*).

Note: *Scanning this barcode also causes both the scanner and the host to perform a reset and become unlinked. You must relink (pair) the scanner to the host. Refer to Bluetooth Settings, page 37 for additional information.*

If your scanner is in multiple scanner mode, you will hear up to 30 seconds of beeping while all scanners are relinked to the host and the settings are changed.

Reset the Custom Defaults: All Application Work Groups

If you want the custom default settings restored to all of the work groups, scan the **Custom Product Default Settings** barcode below. (If there are no custom defaults, it will reset the work groups to the factory defaults.) See Setting Custom Defaults on page 7. for further information about custom defaults.

PAPDFT.
Custom Default Settings:
All Work Groups

Note: *Scanning this barcode also causes both the scanner and the host to perform a reset and become unlinked. You must relink (pair) the scanner to the host. See Bluetooth Settings, page 37 for additional information.*

If your scanner is in multiple scanner mode, you will hear up to 30 seconds of beeping while all scanners are relinked to the host and the settings are changed.

Access Point Operations

The Voyager 1602g can pair with a Honeywell Access Point (AP01-010BT or AP01-100BT), which provides 2-way communication between the scanner and host.

Linking the Scanner to an Access Point

Turn on the host computer (laptop/desktop). Plug the interface cable into the Access Point first and then into the appropriate port on the computer. The Page button lights up when the connection to the host is made.

Scan the linking barcode on the top of the Access Point to establish a connection between the Access Point and the scanner. The scanner emits a short beep and flashes the green LED to confirm a connection with the Access Point. The Access Point's Page button remains blue.
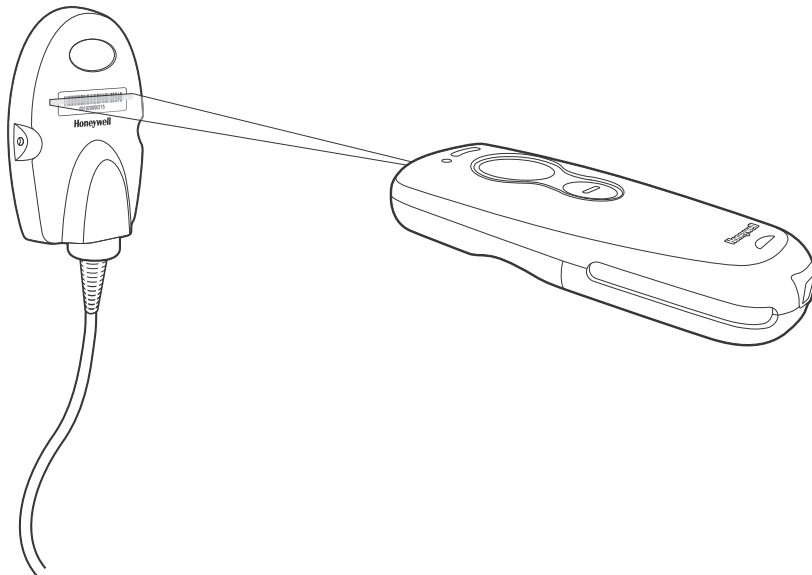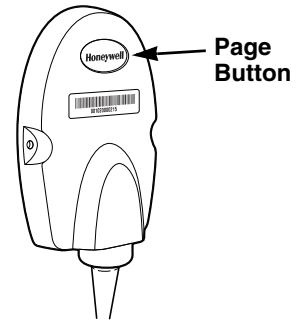
If the Access Point sounds 5 error tones followed by 3 beeps, it indicates that you are attempting to link to the incorrect model Access Point. The Voyager 1602g scanner can only link to an Access Point model AP01-010BT or AP01-100BT.

Disconnect from Host and Connect to an Access Point

If your scanner has been connected directly to an iPad, smart phone, or laptop, you must disconnect it in order to communicate with an Access Point. Scan the **Bluetooth HID Keyboard Disconnect** barcode to unlink the scanner from the currently linked host. Scan the linking barcode on the Access Point to link the scanner to the Access Point.

Bluetooth HID Keyboard Disconnect

Replacing a Linked Scanner

If you need to replace a broken or lost scanner that is linked to an Access Point, scan the Override Locked Scanner barcode below with a new scanner and scan the Access Point linking barcode. The locked link will be overridden; the broken or lost scanner's link with the Access Point will be removed, and the new scanner will be linked.

**Override Locked Scanner
(Single Scanner)**

Access Point LED Sequences and Meaning

The Access Point has a blue LED on the top of the unit that indicates its power up and communication condition.

Blue LED – Host Communication	
Blue LED	**Communication Condition**
Off	USB suspend
On continuously	Power on, system idle
Short blinks in multiple pulses. Occurs while transferring data to/from the RF module or the Host port.	Receiving data

Access Point Address

Scan the barcode below to determine the address of the Access Point you are using.

BASLDA.
Base Address

Paging

Page Mode

By default, the paging button on the Access Point pages the scanners associated with that Access Point. If you want the paging button on your Access Point to be disabled, scan the **Page Mode Off** barcode, below. When Page Mode is off, the Access Point will no longer page scanners when the button is pressed. The blue LED on the Access Point will remain lit to indicate that PageMode is off. (This light will go out when the button is pressed, then back on when it's released.) *Default = Page Mode On.*

BEPPGE1.
* Page Mode On

BEPPGE0.
Page Mode Off

Paging Pitch

When you press the Page button on the Access Point, the scanners associated with that Access Point will begin beeping. You can set the pitch of the paging beep for each scanner by scanning one of the following barcodes. *Default = Low.*

BEPPFQ1000.
* Low (1000 Hz)

BEPPFQ3250.
Medium (3250 Hz)

High (4200 Hz)

Batch Mode

Batch mode is used to store barcode data when a scanner is out of range of its host, or when performing inventory. The scanner may store a number of symbols (approximately 500 U.P.C. symbols; others may vary) when it is out of range and then send them to the host when back in range or when the records are manually transmitted.

Note: *Batch mode has limitations when using multiple scanners with one Access Point. When a wireless system is being used in "multiple link mode," where up to 6 scanners are connected to one Access Point, some accumulated or batched scans could be lost if scanners are constantly moved in and out of range.*

Automatic Batch Mode stores barcode data when the scanner is out of range of the host or Access Point. The data is automatically transmitted to the host or Access Point once the scanner is back in range. When the scanner's buffer space is full, any barcodes scanned generate an error tone. In order to scan barcodes again, the scanner must be moved back into range of the host or Access Point so data can be transmitted.

Inventory Batch Mode stores barcode data, whether or not you are in range of the host or Access Point. To transmit the stored data to the host or Access Point, scan Transmit Inventory Records (page 63). When the scanner's buffer space is full, any barcodes scanned generate an error tone. In order to scan barcodes again, the data must be transmitted to the host or Access Point. Once the data is transmitted, it is cleared in the scanner.

Persistent Batch Mode is the same as Inventory Batch Mode, except that once the data is transmitted to the host or Access Point, it is retained in the scanner. If you want to transmit more than once, you can do so using this mode. In order to clear the scanner's buffer, you must scan Clear All Codes (see page 63).

Default = Batch Mode Off.

* Batch Mode Off

Automatic Batch Mode

||||| |||| |||||| ||||||| |||
BATENA2.
Inventory Batch Mode

||| || ||| |||| ||||| |||| |
BATENA3.
Persistent Batch Mode

Batch Mode Beep

When scanning in Inventory Batch Mode (page 59), the scanner beeps every time a barcode is scanned. When Batch Mode Beep is On, you will also hear a click when each barcode is sent to the host. If you do not want to hear these clicks, scan **Batch Mode Beep Off**. *Default = Batch Mode Beep On.*

||| || |||| ||||||| |||| |||
BATBEP0.
Batch Mode Beep Off

||| | ||| ||| ||||||| ||| |
BATBEP1.
* Batch Mode Beep On

Batch Mode Storage

When a scanner is storing data during a Batch Mode process, you can select whether the data is stored in Flash memory or in RAM.

Flash Storage: The scanner writes any untransmitted data to flash memory prior to powering down. The data will still be there when the scanner powers back up. However, the scanner will power down, even with untransmitted data, if it reaches a power down timeout or if the battery power is very low.

RAM Storage: The scanner will not power down while it contains data that has not been transmitted to the host or Access Point, even if it reaches a power down timeout. However, if the scanner runs out of battery power, it will power down and the data will be lost.

Default = Flash Storage.

||| || ||| |||| ||||||| |||
BATNVS1.
* Flash Storage

||| | ||| ||| |||||| ||| |
BATNVS0.
RAM Storage

Batch Mode Quantity

When in Batch Mode, you may wish to transmit the number of multiple barcodes scanned, rather than a single barcode multiple times. For example, if you scan three barcodes called XYZ with Batch Mode Quantity Off, when you transmit your data it will appear as XYZ three times. Using Batch Mode Quantity On and the Quantity Codes (page 61), you could output your data as "XYZ, 00003" instead.

Note: *If you wish to format your output, for example, place a CR or tab between the barcode data and the quantity, refer to Data Editing beginning on page 93.*

Default = Batch Mode Quantity Off.

* Batch Mode Quantity Off

Batch Mode Quantity On
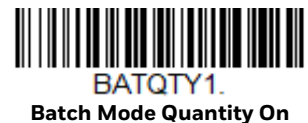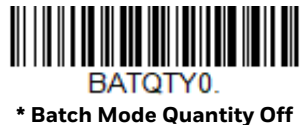
Enter Quantities

Quantity Codes (page 61) allow you to enter a quantity for the last item scanned, up to 9999 (default = 1). Quantity digits are shifted from right to left, so if a 5th digit is scanned, the 1st digit scanned is discarded and the 2nd, 3rd and 4th digits are moved to the left to accommodate the new digit.

For example, if the Quantity 5 barcode is scanned after the quantity has been set to 1234, then the 1 is dropped, the quantity will be 2345.

Example: Add a quantity of 5 for the last item scanned.

1. Scan the item's barcode.
2. Scan the quantity **5** barcode.

Example: Add a quantity of 1,500 for the last item scanned.

1. Scan the item's barcode.
2. Scan the quantity **1** barcode.
3. Scan the quantity **5** barcode.
4. Scan the quantity **0** barcode.
5. Scan the quantity **0** barcode.

Example: Change a quantity of 103 to 10.

To correct an incorrect quantity, scan the quantity 0 barcode to replace the incor–rect digits, then scan the correct quantity barcodes.

1. Scan the quantity **0** barcode to change the quantity to 1030.
2. Scan the quantity **0** barcode to change the quantity to 0300.
3. Scan the quantity **1** barcode to change the quantity to 3001.
4. Scan the quantity **0** barcode to change the quantity to 0010.

Default = 1.

Quantity Codes

BATNUM0.
0

BATNUM1.
1

BATNUM2.
2

BATNUM3.
3

BATNUM4.
4

BATNUM5.
5

BATNUM6.
6

BATNUM7.
7

BATNUM8.
8

```
BATNUM2.
```
2

```
BATNUM3.
```
3

```
BATNUM4.
```
4

```
BATNUM5.
```
5

```
BATNUM6.
```
6

```
BATNUM7.
```
7

```
BATNUM8.
```
8
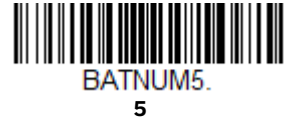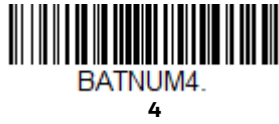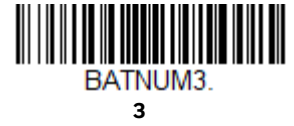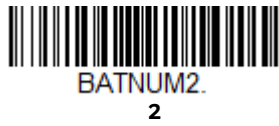
Batch Mode Output Order

When batch data is transmitted, select whether you want that data sent as FIFO (first-in first-out), or LIFO (last-in first-out). *Default = Batch Mode FIFO.*

```
BATLIF0.
```
* Batch Mode FIFO

```
BATLIF1.
```
Batch Mode LIFO

Total Records

If you wish to output the total number of barcodes scanned when in Batch Mode, scan **Total Records**.

Total Records

Delete Last Code

If you want to delete the last barcode scanned when in Batch Mode, scan **Delete Last Code**.

Delete Last Code

Clear All Codes

If you want to clear the scanner's buffer of all data accumulated in Batch Mode, scan **Clear All Codes**.

Clear All Codes

Transmit Records to Host

If you are operating in Inventory Batch Mode Inventory Batch Mode, you must scan the following barcode to transmit all the stored data to the host system.

Transmit Inventory Records

Batch Mode Transmit Delay

Sometimes when accumulated scans are sent to the host system, the transmission of those scans is too fast for the application to process. To program a transmit delay between accumulated scans, scan one of the following delays. *Default = Off.*

Note: *In most cases, a short (250 ms (milliseconds)) delay is ideal, however, longer delays may be programmed. Contact Customer Support for additional information.*

```
||||||||||||||||||||||||||||||||
BATDLY0.
```
*** Batch Mode Transmit Delay Off
(No Delay)**

```
||||||||||||||||||||||||||||||||
BATDLY250.
```
**Batch Mode Transmit Delay Short
(250 ms)**

```
||||||||||||||||||||||||||||||||
BATDLY500.
```
**Batch Mode Transmit Delay Medium
(500 ms)**

```
||||||||||||||||||||||||||||||||
BATDLY1000.
```
**Batch Mode Transmit Delay Long
(1000 ms)**

Host Acknowledgment

Some applications require that the host terminal validate incoming barcode data (database look-up) and provide acknowledgment to the scanner whether or not to proceed. In Host ACK Mode, the scanner waits for this acknowledgment after each scan. Visual and audible acknowledgments provide valuable feedback to the scan operator. The Host ACK functionality is controlled via a number of predefined escape commands that are sent to the scanner to make it behave in different ways.

Note: *System performance degrades when using Host ACK at rates lower than 9600 baud.*

The following criteria must be met for the Host ACK to work correctly:

* The scanner must be paired with a Honeywell Access Point (AP01-010BT or AP01-100BT).

* The wireless system must be configured for Host Port RS232 (terminal ID = 000) or USB COM Emulation (terminal ID = 130).

* RTS/CTS is defaulted off. You must enable it if the host system requires it.

* Host ACK must be set to On (page 65).

* A comma must be used as a terminator.

* The host terminal software must be capable of interpreting the barcode data, make decisions based on the data content, and send out appropriate escape commands to the scanner.

Escape commands are addressed to the scanner via "Application Work Groups." Once a command is sent, all scanners in a group respond to that command. Because of this, it is recommended that each scanner is assigned to its own group in Host ACK mode.

The commands to which the scanner responds are listed on . The [ESC] is a 1B in hex. A typical command string is y [ESC] x, where "y" is the application work group number, "[ESC] x" is the escape command, and the comma is the terminator, which is required. (When "y" is not specified, the command is sent to the default Application Work Group 0.)

Example: Commands may be strung together to create custom response sequences. An example of a command string is listed below.

0[ESC]4,[ESC]5,[ESC]6,

The above example will make a scanner that is in application work group zero beep low, then medium, then high.

Example: A good read beep is required for any item on file, but a razz or error tone is required if the item is not on file. In this case,

[ESC]7, is sent to the host for an on-file product

[ESC]8,[ESC]8, is sent to the host for a not-on-file product

When a barcode is scanned, the scanner enters a timeout period until either the host ACK sequence is received, or the timeout expires (in 10 seconds, by default).

Once Host ACK is enabled, the system works as follows when a barcode is scanned:

- The scanner reads the code and sends data to the host system. No audible or visual indication is emitted until the scanner receives an escape command. The scanner read illumination goes out when there's a successful read.

- Scanner operation is suspended until 1) a valid escape string is received from the host system or 2) the scanner times out.

- Once condition 1 or 2 above has been met, the scanner is ready to scan again, and the process repeats.

A timeout occurs if the scanner does not receive a valid escape command within the timeout period. A timeout is indicated by an error tone. If a timeout occurs, the operator should check the host system to understand why a response to the scanner was not received.

Host ACK On/Off

HSTACK1.
Host ACK On

```
||||||||||||||||||||||||||||||||
HSTACK0.
```
* Host ACK Off

Host ACK Timeout

You can set a timeout for the length of time the scanner waits for a valid escape command when using Host Acknowledgment Mode. Set the length (in seconds) for a timeout by scanning the following barcode, then setting the timeout (from 1-90 seconds) by scanning digits from the Programming Chart, then scanning **Save**. *Default = 10.*

```
||||||||||||||||||||||||||||||||
HSTATO.
```
Host ACK Timeout

Host ACK Responses

Command	Action
[ESC] a,	Double beeps to indicate a successful menu change was made.
[ESC] b,	Razz or error tone to indicate a menu change was unsuccessful.
[ESC] 1,	The green LED illuminates for 135 milliseconds followed by a pause.
[ESC] 2,	The green LED illuminates for 2 seconds followed by a pause.
[ESC] 3,	The green LED illuminates for 5 seconds followed by a pause.
[ESC] 4,	Emits a beep at a low pitch.
[ESC] 5,	Emits a beep at a medium pitch.
[ESC] 6,	Emits a beep at a high pitch.
[ESC] 7,	Beeps to indicate a successful decode and communication to host.
[ESC] 8,[ESC] 8,	Razz or error tone to indicate a decode/communication to host was unsuccessful.

INPUT/OUTPUT SETTINGS

Programmable Button

The second, smaller button on the scanner can be programmed so that pressing the button displays a virtual keyboard on the host, displays the battery charge status, puts the scanner into flashlight mode, or pairs and unpairs the Bluetooth connection between the scanner and the host. You may program one of these selections to occur after a short button press, and another selection to occur after a long button press. The scanner emits a short beep to let you know when the button has been held down long enough.

Programmable button
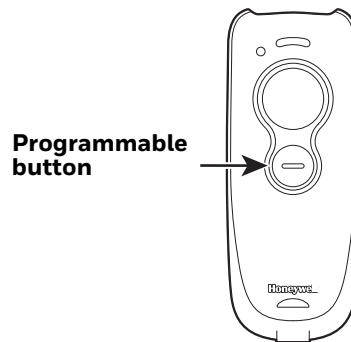
Virtual Keyboard

Once your scanner has been connected directly to an Apple® iPad, smart phone, or laptop, you can toggle the virtual keyboard on the host with either a short or a long press of the programmable button.

Note: *This feature is only supported with Apple devices.*

BTNSEC1.

**Virtual Keyboard On –
Short Press**

Battery Charge Status

If you want the battery indicator LED to flash in a pattern that indicates the battery charge level, scan one of the following barcodes.

BTNSEC2.
**Battery Charge Status On
– Short Press**

BTNSCL2.
**Battery Charge Status On –
Long Press**

The battery LED flashes in the following patterns after a short or long press of the programmable button:

**Battery
LED**
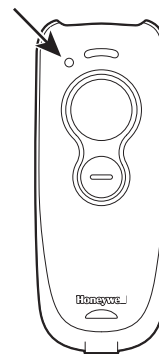
LED Indicator	Battery Charge Status
Orange flash	Battery is charging
Orange, blink once	Battery is 25-49%
Orange, blink twice	Battery is 50-74%
Orange, blink three times	Battery is 75-99%
Green, on	Battery is fully charged
Red, on	Low battery, 0-24%
Red blink	Charging error

Flashlight Mode

If you want the scanner to act as a flashlight, scan one of the barcodes below. Pressing the programmable button (short or long press) turns the flashlight on. Pressing the scan button turns it back off.

BTNSEC3.

**Flashlight Mode On –
Short Press**

BTNSCL3.

**Flashlight Mode On –
Long Press**

Bluetooth Pair/Unpair

The programmable button can be used to toggle between pairing and unpairing from the host. Scan one of the following barcodes to set the Bluetooth Pair/Unpair with a short or long press of the programmable button:

BTNSEC4.

**Bluetooth Pair/Unpair
On – Short Press**

BTNSCL4.

**Bluetooth Pair/Unpair On
– Long Press**

The Bluetooth LED flashes in the following pattern after a short or long press of the programmable button:
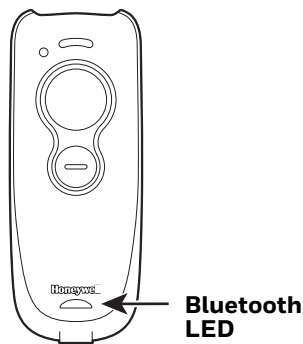
**Bluetooth
LED**

LED Indicator	Beeper Indicator	Bluetooth Status
Blue, off	None	Bluetooth connection has not been established

LED Indicator	Beeper Indicator	Bluetooth Status
Blue flash	None	Scanner is attempting to pair with Bluetooth device
Blue, on	1 beep	Successful Bluetooth Pairing

Disable Programmable Button

To disable the programmable button, scan one or both of the barcodes below. *Default = Disable Short and Long Press*.

BTNSEC0.

* Disable Short Press

BTNSCL0.

* Disable Long Press

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

Beep on BEL Character

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

BELBEP0.

*Beep on BEL Off

BELBEP1.

Beep on BEL On

Trigger Click

To hear an audible click every time the scanner button is pressed, scan the Trigger Click On barcode below. Scan the Trigger Click Off code if you don't wish to hear the click. (This feature has no effect on serial or automatic triggering.) *Default = Trigger Click Off.*

BEPTRG0.
*Trigger Click Off

BEPTRG1.
Trigger Click On

Good Read and Error Indicators

Beeper – Good Read

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

BEPBEP0.
Beeper – Good Read Off

BELBEP1.
* Beeper – Good Read On

Beeper Volume – Good Read

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

BEPLVL1.
Low

BEPLVL2.
Medium

||||||||||||||||||||||||||||||||
BEPLVL3.
* High

||||||||||||||||||||||||||||||||
BEPLVL0.
Off

Beeper Pitch – Good Read

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

||||||||||||||||||||||||||||||||
BEPFQ11600.
Low (1600 Hz)

||||||||||||||||||||||||||||||||
BEPFQ12700.
* Medium (2700 Hz)

||||||||||||||||||||||||||||||||
BEPFQ14200.
High (4200 Hz)

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.*

||||||||||||||||||||||||||||||||
BEPFQ2250.
* Razz (250 Hz)

||||||||||||||||||||||||||||||||
BEPFQ23250.
Medium (3250 Hz)

||||||||||||||||||||||||||||||||
BEPFQ24200.
High (4200 Hz)

Beeper Duration – Good Read

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

BEPBIP0.
* Normal Beep

BEPBIP1.
Short Beep

LED – Good Read

The LED indicator can be programmed **On** or **Off** in response to a good read. *Default = On.*

BEPLED1.
* LED – Good Read On

BEPLED0.
LED – Good Read Off

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 barcode below and then scan a digit (1–9) barcode and the **Save** barcode on the Programming Chart. *Default = 1.*

BEPRPT.
Number of Good Read Beeps/LED Flashes

Number of Beeps – Error

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

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

Number of Error Beeps/LED Flashes

Good Read Delay

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

* No Delay

Short Delay (500 ms)

Medium Delay (1,000 ms)

Long Delay (1,500 ms)

User-Specified Good Read Delay

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

User-Specified Good Read Delay

Manual Trigger Modes

When in manual trigger mode, the scanner scans until a barcode is read or until the scan button is released. Two modes are available, Normal and Enhanced. **Normal** mode offers good scan speed and the longest working ranges (depth of field). **Enhanced** mode will give you the highest possible scan speed but slightly less

range than Normal mode. Enhanced mode is best used when you require a very fast scan speed and don't require a long working range. *Default = Manual Trigger– Normal.*

* Manual Trigger – Normal

Manual Trigger – Enhanced

Serial Trigger Mode

You can activate the scanner either by pressing the scan button, or using a serial trigger command (see Trigger Commands on page 180). You must be in a serial interface mode in order to use serial triggering. Refer to RS232 Serial Port (page 21) or USB Serial (page 25) for further information. When in serial mode, the scanner scans until a barcode has been read or until the deactivate command is sent. The scanner can also be set to turn itself off after a specified time has elapsed (see Read Time-Out, which follows).

Read Time-Out

Use this selection to set a time-out (in milliseconds) of the scan button when using serial commands to trigger the scanner. Once the scanner has timed out, you can activate the scanner either by pressing the scan button or using a serial trigger command. After scanning the **Read Time-Out** barcode, set the time-out duration (from 0-300,000 milliseconds) by scanning digits on the Programming Chart inside the back cover, then scanning **Save**. *Default = 30,000 ms.*

Read Time-Out

Poor Quality Codes

Poor Quality 1D Codes

This setting improves the scanner's ability to read damaged or badly printed linear barcodes. When **Poor Quality 1D Reading On** is scanned, poor quality linear bar‐code reading is improved, but the scanner's snappiness is decreased, making it less aggressive when reading good quality barcodes. This setting does not affect 2D barcode reading. *Default = Poor Quality 1D Reading Off.*

Poor Quality 1D Reading On

* Poor Quality 1D Reading Off

Poor Quality PDF Codes

This setting improves the scanner's ability to read damaged or badly printed PDF codes by combining information from multiple images. It is useful when a com‐plete barcode cannot be seen in one image. This setting does not affect 1D bar‐code reading. *Default = Poor Quality PDF Reading Off.*

Poor Quality PDF Reading On

* Poor Quality PDF Reading Off

CodeGate®

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

AOSCGD0.

*** CodeGate Off
Out-of-Stand**

AOSCGD1.

**CodeGate On
Out-of-Stand**

Mobile Phone Read Mode

When this mode is selected, your scanner is optimized to read barcodes from mobile phone or other LED displays. However, the speed of scanning printed barcodes may be slightly lower when this mode is enabled.

PAPHHC.

**Hand Held Scanning – Mobile
Phone**

Note: To turn off Mobile Phone Read Mode, scan the *Manual Trigger Modes* barcode.

Character Activation Mode

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

HSTCEN0.

* Off

Activation Character

This sets the character used to trigger scanning when using Character Activation Mode. On the ASCII Conversion Chart (Code Page 1252), find the hex value that represents the character you want to use to trigger scanning. Scan the following barcode, 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 barcode is successfully detected and read from the scanner, the illumination can be programmed either to remain on and scanning, or to turn off. When **End Character Activation After Good Read** is enabled, the illumination turns off and stops scanning after a good read. If you scan **Do Not End Character Activation After Good Read**, the illumination remains on after a good read. *Default = End Character Activation After Good Read.*

HSTCGD0.
**Do Not End Character
Activation After Good Read**

HSTCGD1.
*** End Character Activation
After Good Read**

Character Activation Timeout

You can set a timeout for the length of time the aimer remains on and attempting to decode barcodes when using Character Activation Mode. Set the length (in milliseconds) for a timeout by scanning the following barcode, then setting the timeout (from 1-300000 milliseconds) by scanning digits from the Programming Chart, then scanning **Save**. *Default = 30000 ms.*

```
||| |||| ||| | ||| ||| |||| ||| |||
HSTCDT.
```
Character Activation Timeout

Character Deactivation Mode

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

```
||| | ||||| ||| | || |||||||| ||| |||
HSTDEN0.
```
* Off

```
||| | ||||| ||| | || |||||||| ||| |||
HSTDEN1.
```
On

Deactivation Character

This sets the character used to terminate scanning when using Character Deactivation Mode. On the ASCII Conversion Chart (Code Page 1252), page 216, find the hex value that represents the character you want to use to terminate scanning. Scan the following barcode, then use the Programming Chart inside the back cover of this manual to read the alphanumeric combination that represents that ASCII character. Scan **Save** to finish. *Default = 14 [DC4].*

```
||| ||||| ||| | ||| ||| |||| ||| |||
HSTDCH.
```
Deactivation Character

Illumination Lights

If you want the illumination lights on while reading a barcode, scan the **Lights On** barcode, below. However, if you want to turn just the lights off, scan the **Lights Off** barcode. *Default = Lights On.*

Note: *This setting does not affect the aimer light. The aiming light can be set using Aimer Mode.*

SCNLED1.
* Lights On

SCNLED0.
Lights Off

Aimer Delay

The aimer delay allows a delay time for the operator to aim the scanner before the barcode is read. Use these codes to set the time between when the scan button is pressed and when the barcode is read. During the delay time, the aiming light will appear, but the LEDs won't turn on until the delay time is over. *Default = Off.*

SCNDLY200.
200 milliseconds

SCNDLY400.
400 milliseconds

SCNDLY0.
* Off *(no delay)*

User-Specified Aimer Delay

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

SCNDLY.
Delay Duration

Aimer Mode

This feature allows you to turn the aimer on and off. When the **Interlaced** barcode is scanned, the aimer is interlaced with the illumination LEDs. *Default = Interlaced.*

SCNAIM0.
Off

SCNAIM2.
* Interlaced

Centering

Use Centering to narrow the scanner's field of view to make sure that when the scanner is hand-held, it reads only those barcodes intended by the user. For instance, if multiple codes are placed closely together, centering will insure that only the desired codes are read. (Centering can be used in conjunction with Aimer Delay, page 80 for the most error-free operation in applications where multiple codes are spaced closely together. Using the Aimer Delay and Centering features, the scanner can emulate the operation of older system, such as linear laser bar-code scanners.)

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

In the example below, the white box is the centering window. The centering window has been set to 20% left, 30% right, 8% top, and 25% bottom. Since Barcode 1 passes through the centering window, it will be read. Barcode 2 does not pass through the centering window, so it will not be read.
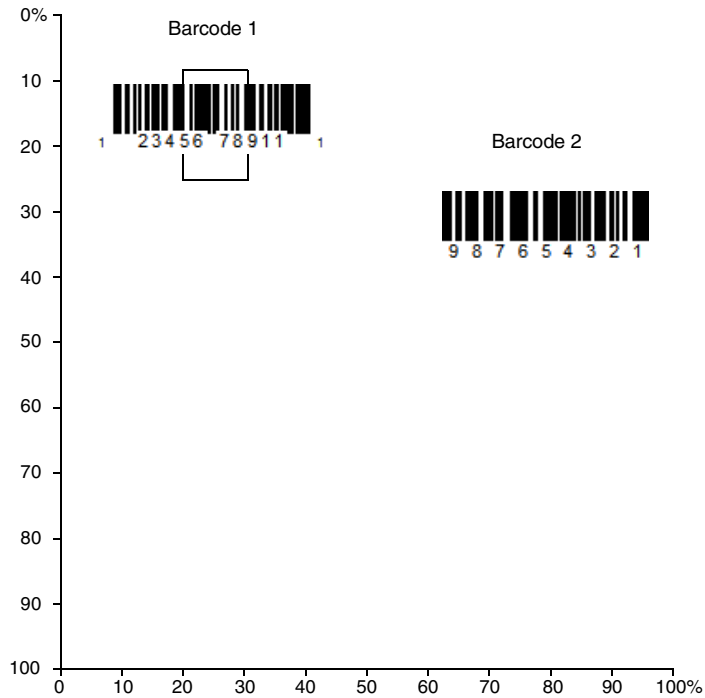
Note: *A barcode needs only to be touched by the centering window in order to be read. It does not need to pass completely through the centering window.*

Scan **Centering On**, then scan one of the following barcodes to change the top, bottom, left, or right of the centering window. Then scan the percent you want to shift the centering window using digits on the Programming Chart. Scan **Save**. *Default Centering = 40% for Top and Left, 60% for Bottom and Right.*

DECWIN0.
Centering On

DECWIN1.
* Centering Off

DECTOP.
Top of Centering Window

DECBOT.
Bottom of Centering Window

||||||||||||||||||||||||||

DECLFT.
Left of Centering Window

||||||||||||||||||||||||||

DECRGT.
Right of Centering Window

Preferred Symbology

The scanner can be programmed to specify one symbology as a higher priority over other symbologies in situations where both barcode symbologies appear on the same label, but the lower priority symbology cannot be disabled.

For example, you may be using the scanner in a retail setting to read U.P.C. symbols, but have occasional need to read a code on a drivers license. Since some licenses have a Code 39 symbol as well as the PDF417 symbol, you can use Preferred Symbology to specify that the PDF417 symbol be read instead of the Code 39.

Preferred Symbology classifies each symbology as **high priority**, **low priority**, or as an **unspecified type**. When a low priority symbology is presented, the scanner ignores it for a set period of time (see Preferred Symbology Time-out on page 84) while it searches for the high priority symbology. If a high priority symbology is located during this period, then that data is read immediately.

If the time-out period expires before a high priority symbology is read, the scanner will read any barcode in its view (low priority or unspecified). If there is no barcode in the scanner's view after the time-out period expires, then no data is reported.

Note: *A low priority symbol must be centered on the aiming pattern to be read.*

Scan a barcode below to enable or disable Preferred Symbology. *Default = Preferred Symbology Off.*

||||||||||||||||||||||||||

PRFENA1.
Preferred Symbology On

||||||||||||||||||||||||||

PRFENA0.
* Preferred Symbology Off

High Priority Symbology

To specify the high priority symbology, scan the High Priority Symbology barcode below. On the Symbology Charts on page 213, find the symbology you want to set as high priority. Locate the Hex value for that symbology and scan the 2 digit hex value from the Programming Chart (inside back cover). Scan **Save** to save your selection. *Default = None*

PRFCOD.

High Priority Symbology

Low Priority Symbology

To specify the low priority symbology, scan the Low Priority Symbology barcode below. On the Symbology Charts on page 213, find the symbology you want to set as low priority. Locate the Hex value for that symbology and scan the 2 digit hex value from the Programming Chart (inside back cover).

If you want to set additional low priority symbologies, scan **FF**, then scan the 2 digit hex value from the Programming Chart for the next symbology. You can program up to 5 low priority symbologies. Scan **Save** to save your selection. *Default = None.*

PRFBLK.

Low Priority Symbology

Preferred Symbology Time-out

Once you have enabled Preferred Symbology and entered the high and low priority symbologies, you must set the time-out period. This is the period of time the scanner will search for a high priority barcode after a low priority barcode has been encountered. Scan the barcode below, then set the delay (from 1-3,000 milliseconds) by scanning digits from the inside back cover, then scanning **Save**. *Default = 500 ms.*

PRFPTO.

Preferred Symbology Time-out

Preferred Symbology Default

Scan the barcode below to set all Preferred Symbology entries to their default values.

Preferred Symbology Default

Output Sequence Overview

Output Sequence Editor

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

Note: *To make Output Sequence Editor selections, you'll need to know the code I.D., code length, and character match(es) your application requires. Use the Alphanumeric symbols (inside back cover) to read these options. You must hold the scan button while reading each barcode in the sequence.*

To Add an Output Sequence

1. Scan the **Enter Sequence** symbol (see Require Output Sequence, page 88).

2. **Code I.D**.
   On the Symbology Charts on page 213, 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 216, 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 barcodes, but you want the scanner to output Code 39 1st, Code 128 2nd, and Code 93 3rd, as shown below.

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

A - Code 39

B - Code 128

C - Code 93

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

SEQBLK62999941FF6A999942FF69999943FF

The breakdown of the command line is shown below:

SEQBLK sequence editor start command

62	code identifier for **Code 39**
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 , 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:

SEQBLK sequence 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

Partial Sequence

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

Scan **Discard Partial Sequence** to discard partial sequences when the output sequence operation is terminated before completion. Scan **Transmit Partial Sequence** to transmit partial sequences. (Any fields in the sequence where no data match occurred will be skipped in the output.)

||| ||| ||| ||| ||| ||| ||| ||| |||
SEQTTS1.
Transmit Partial Sequence

||| ||| ||| ||| ||| ||| ||| ||| |||
SEQTTS0.
* Discard Partial Sequence

Require Output Sequence

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

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

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

||| ||| ||| ||| ||| ||| ||| ||| |||
SEQ_EN2.
Required

||| ||| ||| ||| ||| ||| ||| ||| |||
SEQ_EN1.
On/Not Required

||| ||| ||| ||| ||| ||| ||| ||| |||
SEQ_EN0.
*Off

Multiple Symbols

When this programming selection is turned **On**, it allows you to read multiple sym-bols with a single press of the scanner's button. If you press and hold the button, aiming the scanner at a series of symbols, it reads unique symbols once, beeping

(if turned on) for each read. The scanner attempts to find and decode new symbols as long as the scan button is pressed. When this programming selection is turned **Off**, the scanner will only read the symbol closest to the aiming beam. *Default = Off.*

SHOTGN1.
On

SHOTGN0.
* Off

No Read

With No Read turned **On**, the scanner notifies you if a code cannot be read. If using an EZConfig for Scanning Tool Scan Data Window (see page 173), an "NR" appears when a code cannot be read. If No Read is turned **Off**, the "NR" will not appear. *Default = Off.*

SHWNRD1.
On

SHWNRD0.
* Off

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

Video Reverse

Video Reverse is used to allow the scanner to read barcodes that are inverted. The **Video Reverse Off** barcode below is an example of this type of barcode. Scan **Video Reverse Only** to read *only* inverted barcodes. Scan **Video Reverse and Standard Barcodes** to read both types of codes.

Note: *After scanning **Video Reverse Only**, menu barcodes cannot be read. You must scan **Video Reverse Off** or **Video Reverse and Standard Barcodes** in order to read menu barcodes.*

Note: *Images downloaded from the unit are not reversed. This is a setting for decoding only.*

Video Reverse Only

Video Reverse and Standard Barcodes

* Video Reverse Off

Working Orientation

Some barcodes are direction-sensitive. For example, KIX codes can misread when scanned sideways or upside down. Use the working orientation settings if your direction-sensitive codes will not usually be presented upright to the scanner. *Default = Upright.*

Upright:

Vertical, Top to Bottom:
(Rotate CW 90°)

Upside Down:

Vertical, Bottom to Top:
(Rotate CCW 90°)

* Upright

||||| |||| ||||||| || |||||| ||| ||
ROTATN1.
Vertical, Bottom to Top
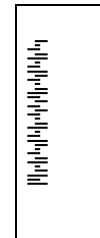
||||| |||| ||||||| || ||||||| ||| ||
ROTATN2.
Upside Down

||||| |||| ||||||| || |||||| ||| ||
ROTATN3.
Vertical, Top to Bottom

DATA EDITING

Prefix/Suffix Overview

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

Prefix and Suffix characters are data characters that can be sent before and after scanned data. You can specify if they should be sent with all symbologies, or only with specific symbologies. The following illustration shows the breakdown of a message string:

Prefix	Scanned Data	Suffix
1-11 alpha numeric & control characters	variable length	1-11 alpha numeric & control characters
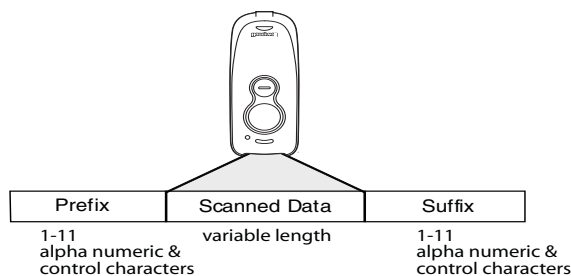
Points to Keep In Mind

- 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 216, 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.

Step 1.   Scan the **Add Prefix** or **Add Suffix** symbol (page 95).

Step 2.   Determine the 2 digit hex value from the Symbology Charts (beginning on page 213) for the symbology to which you want to apply the prefix or suffix. For example, for Code 128, Code ID is "j" and Hex ID is "6A".

Step 3.   Scan the 2 hex digits from the Programming Chart, beginning on page 225, or scan **9, 9** for all symbologies.

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

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

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

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

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

Example: Add a Tab Suffix to All Symbologies

Step 1.   Scan **Add Suffix**.

Step 2.   Scan **9, 9** from the Programming Chart, beginning on page 225 to apply this suffix to all symbologies.

Step 3.   Scan **0, 9** from the Programming Chart, beginning on page 225. This corresponds with the hex value for a horizontal tab, shown in the ASCII Conversion Chart (Code Page 1252), beginning on page 216.

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

Clear One or All Prefixes or Suffixes

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

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

Step 2.   Determine the 2 digit hex value from the Symbology Chart (included in the Symbology Charts, beginning on page 213) for the symbology from which you want to clear the prefix or suffix.

Step 3.   Scan the 2 digit hex value from the Programming Chart, beginning on page 225 or scan **9, 9** for all symbologies.

Your change is automatically saved.

Add a Carriage Return Suffix to All Symbologies

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

VSUFCR.
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

Function Code Transmit

By default, all ASCII control characters are transmitted with barcode data. These non-printable characters are translated into predefined key strokes, or CTRL+X functions (see ASCII Conversion Chart (Code Page 1252), beginning on page 216). If these key strokes interfere with your host's software application, scan **Disable** to keep these ASCII control characters from being transmitted. *Default = Enable.*

RMVFNC0.
* Enable

RMVFNC1.
Disable

Note: You can also use a custom data format (see Data Format beginning on page 99) to translate these characters into a more meaningful output.

Intercharacter, Interfunction, and Intermessage Delays

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

Intercharacter Delay

An intercharacter delay of up to 5000 milliseconds (in 5ms increments) may be placed between the transmission of each character of scanned data. Scan the **Intercharacter Delay** barcode below, then scan the number of 5ms delays from the Programming Chart, beginning on page 225, then **Save**.

| Prefix | Scanned Data | Suffix |

1 2 3 4 5
Intercharacter Delay

DLYCHR.
Intercharacter Delay
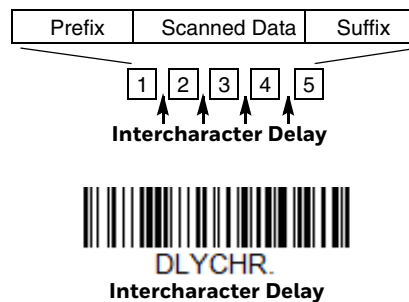
To remove this delay, scan the **Intercharacter Delay** barcode, then set the number of delays to 0. Scan the **Save** barcode from the Programming Chart, beginning on page 225.

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

User Specified Intercharacter Delay

An intercharacter delay of up to 5000 milliseconds (in 5ms increments) may be placed after the transmission of a particular character of scanned data. Scan the **Delay Length** barcode below, then scan the number of 5ms delays from the Programming Chart, beginning on page 225, then **Save**.

Next, scan the **Character to Trigger Delay** barcode, then the 2-digit hex value for a printable character to trigger the delay (see Lower ASCII Reference Table, page 217.)

DLYCRX.

Delay Length

DLY_XX.

Character to Trigger Delay

To remove this delay, scan the **Delay Length** barcode, and set the number of delays to **0**. Scan the **Save** barcode from the Programming Chart, beginning on page 225.

Interfunction Delay

An interfunction delay of up to 5000 milliseconds (in 5ms increments) may be placed between the transmission of each control character in the message string. Scan the **Interfunction Delay** barcode below, then scan the number of 5ms delays, and the **Save** barcode from the Programming Chart, beginning on page 225.

Prefix	Scanned Data	Suffix
STX	1	HT	2	3	4	5	CR	LF

Interfunction Delays

DLYFNC.

Interfunction Delay
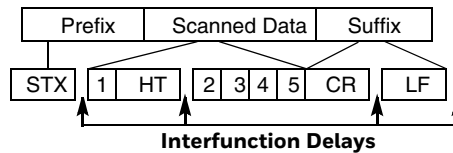
To remove this delay, scan the **Interfunction Delay** barcode, then set the number of delays to 0. Scan the **Save** barcode from the Programming Chart, beginning on page 225.

Intermessage Delay

An intermessage delay of up to 5000 milliseconds (in 5ms increments) may be placed between each scan transmission. Scan the **Intermessage Delay** barcode below, then scan the number of 5ms delays, and the **Save** barcode from the Programming Chart, beginning on page 225.

1st Scan Transmission   2nd Scan Transmission
Intermessage Delay
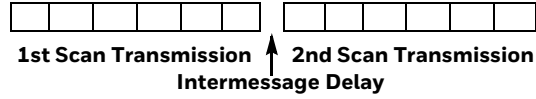
DLYMSG.
Intermessage Delay

To remove this delay, scan the **Intermessage Delay** barcode, then set the number of delays to **0**. Scan the **Save** barcode from the Programming Chart, beginning on page 225.

DATA FORMAT

Data Format Editor Introduction

You may use the Data Format Editor to change the scanner's output. For example, you can use the Data Format Editor to insert characters at certain points in 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 barcode, it is output automatically. However, when you create a format, you must use a "send" command (see Send Commands on page 102) within the format program to output data.

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

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

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

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

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

DFMDF3.

* Default Data Format

Show Data Format

Scan the barcode below to show current data format settings.

DFMBK3.

Data Format Settings

Add a Data Format

Step 1.   Scan the **Enter Data Format** symbol (page 101).

Step 2.   Select **Primary/Alternate Format**
Determine if this will be your primary data format, or one of 3 alternate formats. This allows you to save a total of 4 different data formats. To program your primary format, scan **0** from the Programming Chart, beginning on page 225. 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 117 for further information.)

Step 3.   **Terminal Type**
Refer to Terminal ID Table (page 102) and locate the Terminal ID number for your PC. Scan three numeric barcodes from the Programming Chart, beginning on page 225, 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 213, find the symbology to which you want to apply the data format. Locate the Hex value for that symbology and scan the 2 digit hex value from the Programming Chart, beginning on page 225.

If you wish to create a data format for all symbologies, with the exception of some specific symbologies, refer to B8 (page 115).

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

beginning on page 225. For example, 50 characters is entered as **0050**.

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

Step 6.   **Editor Commands**
Refer to Data Format Editor Commands (page 102). Scan the symbols that represent the command you want to enter.

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

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, beginning on page 225. 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 213), and the barcode data length for the specific data format that you want to delete. All other formats remain unaffected.

- **Clear all Data Formats**
  This clears all data formats.

- **Save**
  Exit and save your data format changes.

- **Discard**
  Exit without saving any data format changes.

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
Serial	RS232 TTL	000
	RS232 True	000
	RS485 (IBM-HHBCR 1+2, 46xx)	051
Keyboard	PS2 compatibles	003
	AT compatibles	002

Data Format Editor Commands

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

Send Commands

Send all characters

F1 Include in the output message all of the characters from the input message, starting from current cursor position, followed by an insert character. *Syntax = F1xx* where xx stands for the insert character's hex value for its ASCII code. Refer to the ASCII Conversion Chart (Code Page 1252), beginning on page 216 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 216 for decimal, hex and character codes.

F2 Example: Send a number of characters

1234567890ABCDEFGHIJ

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

F2 is the "Send a number of characters" command

10 is the number of characters to send

0D is the hex value for a CR

The data is output as: **1234567890**

F2 and F1 Example: Split characters into 2 lines

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

Command string: **F2100DF10D**

F2 is the "Send a number of characters" command

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

0D is the hex value for a CR

F1 is the "Send all characters" command

0D is the hex value for a CR

The data is output as:
1234567890
ABCDEFGHIJ
<CR>

Send all characters up to a particular character

F3 Include in the output message all characters from the input message, starting with the character at the current cursor position and continuing to, but not including, the search character "ss," followed by an insert character. The cursor is moved forward to the "ss" character. *Syntax = F3ssxx* where ss stands for the search character's hex value for its ASCII code, and xx stands for the insert character's hex value for its ASCII code.
Refer to the ASCII Conversion Chart (Code Page 1252), beginning on page 216 for decimal, hex and character codes.

F3 Example: Send all characters up to a particular character

1234567890ABCDEFGHIJ

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

Command string: **F3440D**

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

44 is the hex value for a 'D"

0D is the hex value for a CR

The data is output as:
1234567890ABC
<CR>

Send all characters up to a string

B9 Include in the output message all characters from the input message, starting with the character at the current cursor position and continuing to, but not including, the search string "s...s." The cursor is moved forward to the beginning of the "s...s" string. *Syntax = B9nnnns...s* where nnnn stands for the length of the string, and s...s stands for the string to be matched. The string is made up of hex values for the characters in the string. Refer to the ASCII Conversion Chart (Code Page 1252), beginning on page 216 for decimal, hex and character codes.

B9 Example: Send all characters up to a defined string

1234567890ABCDEFGHIJ

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

Command string: **B900024142**

B9 is the "Send all characters up to a string" command

0002 is the length of the string (2 characters)

41 is the hex value for A

42 is the hex value for B

The data is output as: **1234567890**

Send all but the last characters

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

Insert a character multiple times

F4 Send "xx" character "nn" times in the output message, leaving the cursor in the current position. *Syntax = F4xxnn* where xx stands for the insert character's hex value for its ASCII code, and nn is the numeric value (00-99) for the number of times it should be sent. Refer to the ASCII Conversion Chart (Code Page 1252), beginning on page 216 for decimal, hex and character codes.

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

1234567890ABCDEFGHIJ

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

Command string: **E908F40902**

E9 is the "Send all but the last characters" command

08 is the number of characters at the end to ignore

F4 is the "Insert a character multiple times" command

09 is the hex value for a horizontal tab

02 is the number of times the tab character is sent

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

Insert a string

BA Send "ss" string of "nn" length in the output message, leaving the cursor in the current position. *Syntax = BAnnnns...s* where nnnn stands for the length of the string, and s...s stands for the string. The string is made up of hex values for the characters in the string. Refer to the ASCII Conversion Chart (Code Page 1252), beginning on page 216 for decimal, hex and character codes.

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

1234567890ABCDEFGHIJ

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

Command string: **B900024142BA00022A2AF10D**

B9 is the "Send all characters up to a string" command

0002 is the length of the string (2 characters)

41 is the hex value for A

42 is the hex value for B

BA is the "Insert a string" command

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

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

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

F1 is the "Send all characters" command

0D is the hex value for a CR

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

Insert symbology name

B3 Insert the name of the barcode symbology in the output message, without moving the cursor. Only symbologies with a Honeywell ID are included (see Symbology Charts on page 213). Refer to the ASCII Conversion Chart (Code Page 1252), beginning on page 216 for decimal, hex and character codes.

Insert barcode length

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

B3 and B4 Example: Insert the symbology name and length

1234567890ABCDEFGHIJ

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

Command string: **B3F42001B4F42001F10D**

B3 is the "Insert symbology name" command

F4 is the "Insert a character multiple times" command

20 is the hex value for a space

01 is the number of times the space character is sent

B4 is the "Insert barcode length" command

F4 is the "Insert a character multiple times" command

20 is the hex value for a space

01 is the number of times the space character is sent

F1 is the "Send all characters" command

0D is the hex value for a CR

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

Insert key strokes

B5 Insert a key stroke or combination of key strokes. Key strokes are dependent on your keyboard (see Keyboard Key References on page 222). Any key can be inserted, including arrows and functions. *Syntax = 5CB5xxssnn* where xx is the number of keys pressed (without key modifiers), ss is the key modifier from the table below, and nn is the key number from the Keyboard Key References, page 222.

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

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

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

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

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

Move Commands

Move the cursor forward a number of characters

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

F5 Example: Move the cursor forward and send the data

1234567890ABCDEFGHIJ

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

Command string: **F503F10D**

F5 is the "Move the cursor forward a number of characters" command

03 is the number of characters to move the cursor

F1 is the "Send all characters" command

0D is the hex value for a CR

The data is output as:
4567890ABCDEFGHIJ
<CR>

Move the cursor backward a number of characters

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

Move the cursor to the beginning

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

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

1234567890ABCDEFGHIJ

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

Command string: **FE31F7F2060D**

FE is the "Compare characters" command

31 is the hex value for 1

F7 is the "Move the cursor to the beginning" command

F2 is the "Send a number of characters" command

06 is the number of characters to send

0D is the hex value for a CR

The data is output as:
123456
<CR>

Move the cursor to the end

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

Search Commands

Search forward for a character

F8 Search the input message forward for "xx" character from the current cursor position, leaving the cursor pointing to the "xx" character. *Syntax = F8xx* where xx stands for the search character's hex value for its ASCII code.
Refer to the ASCII Conversion Chart (Code Page 1252), beginning on page 216 for decimal, hex and character codes.

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

1234567890ABCDEFGHIJ

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

Command string: **F844F10D**

F8 is the "Search forward for a character" command

44 is the hex value for "D"

F1 is the "Send all characters" command

0D is the hex value for a CR

The data is output as:
DEFGHIJ
<CR>

Search backward for a character

F9 Search the input message backward for "xx" character from the current cursor position, leaving the cursor pointing to the "xx" character. *Syntax = F9xx where xx* stands for the search character's hex value for its ASCII code.
Refer to the ASCII Conversion Chart (Code Page 1252), beginning on page 216 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, B00000454657374 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 216 for decimal, hex and character codes.

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

1234567890ABCDEFGHIJ

Search for the letters "FGH" in barcodes and send all the data that follows, includ-ing "FGH." Using the barcode above:

Command string: **B00003464748F10D**

B0 is the "Search forward for a string" command

0003 is the string length (3 characters)

46 is the hex value for "F"

47 is the hex value for "G"

48 is the hex value for "H"

F1 is the "Send all characters" command

0D is the hex value for a CR

The data is output as:
FGHIJ
<CR>

Search backward for a string

B1 Search backward for "s" string from the current cursor position, leaving cursor pointing to "s" string. Syntax = B1nnnnS where nnnn is the string length (up to 9999), and S consists of the ASCII hex value of each character in the match string. For example, B10004454657374 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 216 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 216 for decimal, hex and character codes.

E6 Example: Remove zeros at the beginning of barcode data

J00037692

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

Command string: **E630F10D**

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

30 is the hex value for 0

F1 is the "Send all characters" command

0D is the hex value for a CR

The data is output as:
37692
<CR>

Search backward for a non-matching character

E7 Search the input message backward for the first non-"xx" character from the current cursor position, leaving the cursor pointing to the non-"xx" character. *Syntax = E7xx* where xx stands for the search character's hex value for its ASCII code. Refer to the ASCII Conversion Chart (Code Page 1252), beginning on page 216 for decimal, hex and character codes.

Miscellaneous Commands

Suppress characters

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

FB Example: Remove spaces in barcode data

345 678 90

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

Command string: **FB0120F10D**

FB is the "Suppress characters" command

01 is the number of character types to be suppressed

20 is the hex value for a space

F1 is the "Send all characters" command

0D is the hex value for a CR

The data is output as:
34567890
<CR>

Stop suppressing characters

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

Replace characters

E4 Replaces up to 15 characters in the output message, without moving the cursor. Replacement continues until the E5 command is encountered. *Syntax = E4nnxx_1xx_2yy_1yy_2...zz_1zz_2* where nn is the total count of the number of characters in the list (characters to be replaced plus replacement characters); xx_1 defines characters to be replaced and xx_2 defines replacement characters, continuing through zz_1 and zz_2.

E4 Example: Replace zeros with CRs in barcode data

1234056780ABC

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

Command string: **E402300DF10D**

E4 is the "Replace characters" command

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

30 is the hex value for 0

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

F1 is the "Send all characters" command

0D is the hex value for a CR

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

Stop replacing characters

E5 Terminates character replacement. *Syntax = E5.*

Compare characters

FE Compare the character in the current cursor position to the character "xx." If characters are equal, move the cursor forward one position. *Syntax = FExx* where xx stands for the comparison character's hex value for its ASCII code.
Refer to the ASCII Conversion Chart (Code Page 1252), beginning on page 216 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 216 for decimal, hex and character codes.

Check for a number

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

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

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

Command string: **ECF10D**

EC is the "Check for a number" command

F1 is the "Send all characters" command

0D is the hex value for a CR

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

If this barcode is read: the data is output as:

1234AB
<CR>

Check for non-numeric character

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

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

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

Command string: **EDF10D**

ED is the "Check for a non-numeric character" command

F1 is the "Send all characters" command

0D is the hex value for a CR

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

If this barcode is read: the data is output as:

AB1234
<CR>

Insert a delay

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

Discard Data

B8 Discards types of data. For example, you may want to discard Code 128 barcodes that begin with the letter A. In step 4 (page 100), select 6A (for Code 128), and in step 5, select 9999 (for all lengths). Enter FE41B8 to compare and discard Code 128 barcodes that begin with the letter A. *Syntax = B8.*

Note: *The B8 command must be entered after all other commands.*
*The Data Format must be **Required** (see page 115) in order for the B8 command to work.*
If Data Format is On, but Not Required (page 116), barcode data that meets the B8 format is scanned and output as usual.
*Because the data format needs to be **On** and **Required** (page 116) for the B8 command, you must input data formats for all barcodes you wish to discard as well as all barcodes you wish to output.*
Other data format settings impact the B8 command. If Data Format Non-Match Error Tone is On (page 116), the scanner emits an error tone. If Data format Non-Match Error Tone is Off, the code is disabled for reading and no tone is sounded.

Data Formatter

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

DFM_EN0.
Data Formatter Off

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

- **Data Formatter On, Not Required, Keep Prefix/Suffix**
  Scanned data is modified according to your data format, and prefixes and suffixes are transmitted.

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

- **Data Format Required, Keep Prefix/Suffix**
  Scanned data is modified according to your data format, and prefixes and suffixes are transmitted. Any data that does not match your data format

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

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

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

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

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

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

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

Data Format Non-Match Error Tone

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

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

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 barcodes below.

ALTFNM0.
Primary Data Format

ALTFNM1.
Data Format 1

ALTFNM2.
Data Format 2

ALTFNM3.
Data Format 3

Single Scan Data Format Change

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

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

VSAF_0.
**Single Scan–Primary
Data Format**

```
║║║║║║║║║║║║║║║║║║║║
VSAF_1.
```
Single Scan–Data Format 1
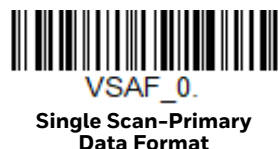
```
║║║║║║║║║║║║║║║║║║║║
VSAF_2.
```
Single Scan–Data Format 2

```
║║║║║║║║║║║║║║║║║║║║
VSAF_3.
```
Single Scan–Data Format 3

CHAPTER
7

SYMBOLOGIES

This programming section contains the following menu selections. Refer to Chapter 9 for settings and defaults.

- All Symbologies
- Aztec Code
- China Post (Hong Kong 2 of 5)
- 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

- Interleaved 2 of 5
- Korea Post
- Matrix 2 of 5
- MaxiCode
- MicroPDF417
- MSI
- NEC 2 of 5
- Postal Codes - 2D
- Postal Codes - Linear
- PDF417
- GS1 DataBar Omnidirectional
- 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
- UPC-E1

Note: *The selections in this User Guide are dependent on the Voyager 1602g model you have purchased. PDF and 2 dimensional barcodes can only be read by model 1602g2D and cannot be read by model 1602g1D.*

All Symbologies

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

```
ALLENA0.
```
All Symbologies Off

Message Length Description

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

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

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

For a value other than the minimum and maximum message length defaults, scan the barcodes included in the explanation of the symbology, then scan the digit value of the message length and **Save** barcodes from the Programming Chart, beginning on page 225. The minimum and maximum lengths and the defaults are included with the respective symbologies.

Codabar

<Default All Codabar Settings>

```
CBRDFT.
```
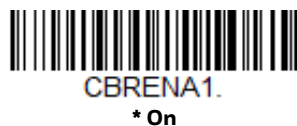
Codabar On/Off

```
CBRENA1.
```
* On

CBRENA0.
Off

Codabar Start/Stop Characters

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

CBRSSX1.
Transmit

CBRSSX0.
* Don't Transmit

Codabar Check Character

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

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

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

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

CBRCK20.
* No Check Character

CBRCK21.
**Validate Modulo 16, but
Don't Transmit**

CBRCK22.
**Validate Modulo 16
and Transmit**

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.

A 1 2 3 4 D   D 5 6 7 8 A

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. *Default = Off.*

CBRCCT1.
On

CBRCCT0.
* Off

CBRCCT2.
Require

Codabar Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 120) for additional information. Minimum and Maximum lengths = 2-60. *Minimum Default = 4, Maximum Default = 60.*

CBRMIN.
Minimum Message Length

CBRMAX.
Maximum Message Length

Code 39

||| || ||| || ||| ||| ||||
C39DFT.

Code 39 On/Off

||| ||| ||| ||| || ||| |||
C39ENA1.
* On

||| || ||| ||| ||| ||| |||
C39ENA0.
Off

If you are reading Code 39 barcodes, Codablock A should remain disabled. If you are enabling Codablock A (see Codablock A on page 152), you should disable Code 39.

Code 39 Start / Stop Characters

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

||| ||| ||| ||| || ||| |||
C39SSX1.
Transmit

||| ||| ||| ||| || || ||||
C39SSX0.
* Don't Transmit

Code 39 Check Character

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

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

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

* No Check Character

Validate, but Don't Transmit

Validate and Transmit

Code 39 Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 120) for additional information. Minimum and Maximum lengths = 0-48. *Minimum Default = 0, Maximum Default = 48.*

Minimum Message Length

Maximum Message Length

Code 39 Append

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

On

* Off

Code 32 Pharmaceutical (PARAF)

Code 32 Pharmaceutical is a form of the Code 39 symbology used by Italian phar-macies. This symbology is also known as PARAF. *Default = Off.*

Note: *Trioptic Code (*page 151*) 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.*

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

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

C39ASC1.
Full ASCII On

```
|||||||||||||||||||||||||
C39ASC0.
```
* Full ASCII Off

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 barcode below, select the code page with which the barcodes were created (see ISO 2022/ISO 646 Character Replacements on page 220), and scan the value and the **Save** barcode from the Programming Chart, beginning on page 225. The data characters should then appear properly.

```
|||||||||||||||||||||||||
C39DCP.
```
Code 39 Code Page

Interleaved 2 of 5

< Default All Interleaved 2 of 5 Settings >

```
|||||||||||||||||||||||||
I25DFT.
```

Interleaved 2 of 5 On/Off

```
|||||||||||||||||||||||||
I25ENA1.
```
* On

```
|||||||||||||||||||||||||
I25ENA0.
```
Off

Check Digit

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

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

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

I25CK20.
* No Check Digit

I25CK21.
Validate, but Don't Transmit

I25CK22.
Validate and Transmit

Interleaved 2 of 5 Message Length

Scan the barcode to change the message length. Refer to for additional information. Minimum and Maximum lengths = 2–80. *Minimum Default = 4, Maximum Default = 80.*

I25MIN.
Minimum Message Length

I25MAX.
Maximum Message Length

NEC 2 of 5

< Default All NEC 2 of 5 Settings >

N25DFT.

NEC 2 of 5 On/Off

N25ENA1.
* On

||||||||||||||||||||||||
N25ENA0.
Off

Check Digit

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

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

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

||||||||||||||||||||||||
N25CK20.
* No Check Digit

||||||||||||||||||||||||
N25CK21.
Validate, but Don't Transmit

||||||||||||||||||||||||
N25CK22.
Validate and Transmit

NEC 2 of 5 Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 120) for additional information. Minimum and Maximum lengths = 2–80. *Minimum Default = 4, Maximum Default = 80.*

||||||||||||||||||||||||
N25MIN.
Minimum Message Length

||||||||||||||||||||||||
N25MAX.
Maximum Message Length

Code 93

||| ||||| ||| ||| |||| ||||
C93DFT.

Code 93 On/Off

||| |||||| ||| ||| ||||| |||
C93ENA1.
* On

||| |||||| ||| ||| ||||| |||
C93ENA0.
Off

Code 93 Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 120) for additional information. Minimum and Maximum lengths = 0–80. *Minimum Default = 0, Maximum Default = 80.*

||| ||||| ||| ||| |||| ||||
C93MIN.
Minimum Message Length

||| |||||| ||| ||| ||||| |||
C93MAX.
Maximum Message Length

Code 93 Append

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

||| ||||| ||| ||| |||| ||||
C93APP1.
On

```
||||| || ||||| ||||| ||||||| ||| |||
C93APP0.
```
* Off

Code 93 Code Page

Code pages define the mapping of character codes to characters. If the data received does not display with the proper characters, it may be because the barcode 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 barcode below, select the code page with which the barcodes were created (see ISO 2022/ISO 646 Character Replacements on page 220), and scan the value and the **Save** barcode from the Programming Chart, beginning on page 225. The data characters should then appear properly.

```
||| ||||||| || ||||| ||||| ||
C93DCP.
```
Code 93 Code Page

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

<Default All Straight 2 of 5 Industrial Settings>

```
||| |||||||| || |||| ||||| ||||
R25DFT.
```

Straight 2 of 5 Industrial On/Off

```
||| |||||||| ||| ||||| ||||| ||| |||
R25ENA1.
```
On

```
||| || ||||| ||| ||||| ||||| ||| |||
R25ENA0.
```
* Off

Straight 2 of 5 Industrial Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 120) for additional information. Minimum and Maximum lengths = 1-48. *Minimum Default = 4, Maximum Default = 48.*

R25MIN.
Minimum Message Length

R25MAX.
Maximum Message Length

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

<Default All Straight 2 of 5 IATA Settings>

A25DFT.

Straight 2 of 5 IATA On/Off

A25ENA1.
On

A25ENA0.
* Off

Straight 2 of 5 IATA Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 120) for additional information. Minimum and Maximum lengths = 1-48. *Minimum Default = 4, Maximum Default = 48.*

A25MIN.
Minimum Message Length

A25MAX.
Maximum Message Length

Matrix 2 of 5

‖‖‖‖‖‖‖‖‖‖‖‖
X25DFT.

Matrix 2 of 5 On/Off

‖‖‖‖‖‖‖‖‖‖‖‖
X25ENA1.
On

‖‖‖‖‖‖‖‖‖‖‖‖
X25ENA0.
* Off

Matrix 2 of 5 Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 120) for additional information. Minimum and Maximum lengths = 1–80. *Minimum Default = 4, Maximum Default = 80.*

‖‖‖‖‖‖‖‖‖‖‖‖
X25MIN.
Minimum Message Length

‖‖‖‖‖‖‖‖‖‖‖‖
X25MAX.
Maximum Message Length

Code 11

||||||||||||||||||||
C11DFT.

Code 11 On/Off

||||||||||||||||||||
C11ENA1.
On

||||||||||||||||||||
C11ENA0.
* Off

Check Digits Required

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

||||||||||||||||||||
C11CK20.
One Check Digit

||||||||||||||||||||
C11CK21.
* Two Check Digits

Code 11 Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 120) for additional information. Minimum and Maximum lengths = 1-80. *Minimum Default = 4, Maximum Default = 80.*

||||||||||||||||||||
C11MIN.
Minimum Message Length

||||||||||||||||||||
C11MAX.
Maximum Message Length

Code 128

||| ||||||| || ||| ||||| || ||||
128DFT.

Code 128 On/Off

||| |||||| || ||| | |||||| |||| |||
128ENA1.
* On

||| |||||| || ||| | |||||| |||| |||
128ENA0.
Off

If you are reading Code 128 barcodes, Codablock F should remain disabled. If you are enabling Codablock F (see Codablock F on page 153), you should disable Code 128.

ISBT 128 Concatenation

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

||| ||| || ||| | ||||| |||| ||| |||
ISBENA1.
On

||| | ||| || ||| | ||||| |||| ||| |||
ISBENA0.
* Off

Code 128 Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 120) for additional information. Minimum and Maximum lengths = 0-80. *Minimum Default = 0, Maximum Default = 80.*

Minimum Message Length

Maximum Message Length

Code 128 Append

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

On

* Off

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 barcode 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 barcode below, select the code page with which the barcodes were created (see ISO 2022/ISO 646 Character Replacements on page 220), and scan the value and the **Save** barcode from the Programming Chart, beginning on page 225. The data characters should then appear properly.

Code 128 Code Page

GS1-128

||||||||||||||||||||||
GS1DFT.

GS1-128 On/Off

||||||||||||||||||||||
GS1ENA1.
* On

||||||||||||||||||||||
GS1ENA0.
Off

GS1-128 Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 120) for additional information. Minimum and Maximum lengths = 1-80. *Minimum Default = 1, Maximum Default = 80.*

||||||||||||||||||||||
GS1MIN.
Minimum Message Length

||||||||||||||||||||||
GS1MAX.
Maximum Message Length

Telepen

TELDFT.

Telepen On/Off

TELENA1.
On

TELENA0.
* Off

Telepen Output

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

TELOLD0.
* AIM Telepen Output

TELOLD1.
Original Telepen Output

Telepen Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 120) for additional information. Minimum and Maximum lengths = 1–60. *Minimum Default = 1, Maximum Default = 60.*

TELMIN.
Minimum Message Length

UPC-A

<Default All UPC-A Settings>

||||||||||||||||||||||||
UPADFT.

UPC-A On/Off

||||||||||||||||||||||||
UPBENA1.
* On

||||||||||||||||||||||||
UPBENA0.
Off

Note: To convert UPC-A barcodes to EAN-13, see *Convert UPC-A to EAN-13 on page 144.*

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

||||||||||||||||||||||||
UPACKX0.
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 can be programmed so it is not transmitted (**Off**). *Default = On.*

UPANSX1.
* On

UPANSX0.
Off

UPC-A Addenda

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

UPAAD21.
2 Digit Addenda On

UPAAD20.
* 2 Digit Addenda Off

UPAAD51.
5 Digit Addenda On

UPAAD50.
* 5 Digit Addenda Off

UPC-A Addenda Required

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

UPAARQ1.
Required

UPC-A Addenda Separator

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

|||| ||||||| |||| ||| |||| ||||
UPAADS1.
* On

|||| ||||||| |||| ||| |||| ||||
UPAADS0.
Off

UPC-A/EAN-13 with Extended Coupon Code

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

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

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

UPC-E0

<Default All UPC-E Settings>

||| UPEDFT.

UPC-E0 On/Off

Most U.P.C. barcodes lead with the 0 number system. To read these codes, use the **UPC-E0 On** selection. If you need to read codes that lead with the 1 number system, use UPC-E1 (page 143). *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

UPC-E0 Addenda Required

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

```
UPEARQ1.
```
Required

```
UPEARQ0.
```
* Not Required

UPC-E0 Addenda Separator

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

```
UPECKX1.
```
* On

```
UPECKX0.
```
Off

UPC-E0 Leading Zero

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

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-E1

Most U.P.C. barcodes lead with the 0 number system. For these codes, use UPC-E0 (page 141). If you need to read codes that lead with the 1 number system, use the **UPC-E1 On** selection. *Default = Off.*

UPEEN11.
UPC-E1 On

||||||||||||||||||||||||
UPEEN10.
* UPC-E1 Off

EAN/JAN-13

<Default All EAN/JAN Settings>

||||||||||||||||||||||||
E13DFT.

EAN/JAN-13 On/Off

||||||||||||||||||||||||
E13ENA1.
* On

||||||||||||||||||||||||
E13ENA0.
Off

Convert UPC-A to EAN-13

When **UPC-A Converted to EAN-13** is selected, UPC-A barcodes are converted to 13 digit EAN-13 codes by adding a zero to the front. When **Do not Convert UPC-A** is selected, UPC-A codes are read as UPC-A. *Default = Do no Convert UPC-A.*

||||||||||||||||||||||||
UPAENA0.
UPC-A Converted to EAN-13

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

EAN/JAN-13 Check Digit

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

||||||||||| barcode |||||||||||
E13CKX1.
* On

||||||||||| barcode |||||||||||
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.*

||||||||||| barcode |||||||||||
E13AD21.
2 Digit Addenda On

||||||||||| barcode |||||||||||
E13AD20.
* 2 Digit Addenda Off

||||||||||| barcode |||||||||||
E13AD51.
5 Digit Addenda On

||||||||||| barcode |||||||||||
E13AD50.
* 5 Digit Addenda Off

EAN/JAN-13 Addenda Required

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

||||||||||| barcode |||||||||||
E13ARQ1.
Required

||||||||||| barcode |||||||||||
E13ARQ0.
* Not Required

EAN/JAN-13 Addenda Separator

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

||| ||| || |||| || |||| || ||||| |||||
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 140).*

ISBN Translate

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

||| ||| || |||| || |||| || ||||| |||||
E13ISB1.
On

||| ||| || |||| || |||| || ||||| |||||
E13ISB0.
* Off

EAN/JAN-8

<Default All EAN/JAN-8 Settings>

||| ||| || |||| || |||| || ||||| |||||
EA8DFT.

EAN/JAN-8 On/Off

||| ||| || |||| || |||| || ||||| |||||
EA8ENA1.
* On

||| ||| || |||| || |||| || ||||| |||||
EA8ENA0.
Off

EAN/JAN-8 Check Digit

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

EA8CKX1.
***On**

EA8CKX0.
Off

EAN/JAN-8 Addenda

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

EA8AD21.
2 Digit Addenda On

EA8AD20.
***2 Digit Addenda Off**

EA8AD51.
5 Digit Addenda On

EA8AD50.
***5 Digit Addenda Off**

EAN/JAN-8 Addenda Required

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

EA8ARQ1.
Required

EA8ARQ0.
***Not Required**

EAN/JAN-8 Addenda Separator

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

EA8ADS1.
* On

EA8ADS0.
Off

MSI

<Default All MSI Settings>

MSIDFT.

MSI On/Off

MSIENA1.
On

MSIENA0.
* Off

MSI Check Character

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

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

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

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

MSICHK1.
Validate Type 10 and Transmit

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

MSICHK3.
Validate 2 Type 10 Characters and Transmit

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

MSICHK5.
Validate Type 11 then Type 10 Character and Transmit

MSICHK6.
Disable MSI Check Characters
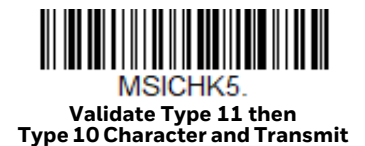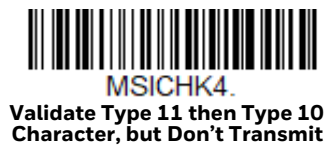
MSI Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 120) for additional information. Minimum and Maximum lengths = 4–48. *Minimum Default = 4, Maximum Default = 48.*

MSIMIN.
Minimum Message Length

MSIMAX.
Maximum Message Length

GS1 DataBar Omnidirectional

< Default All GS1 DataBar Omnidirectional Settings >

RSSDFT.

GS1 DataBar Omnidirectional On/Off

RSSENA1.
* On

RSSENA0.
Off

GS1 DataBar Limited

< Default All GS1 DataBar Limited Settings >

RSLDFT.

GS1 DataBar Limited On/Off

RSLENA1.
* On

RSLENA0.
Off

GS1 DataBar Expanded

< Default All GS1 DataBar Expanded Settings >

||| ||| ||| ||| ||| |||
RSEDFT.

GS1 DataBar Expanded On/Off

||| ||| ||| ||| ||| |||
RSEENA1.
* On

||| ||| ||| ||| ||| |||
RSEENA0.
Off

GS1 DataBar Expanded Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 120) for additional information. Minimum and Maximum lengths = 4–74. *Minimum Default = 4, Maximum Default = 74.*
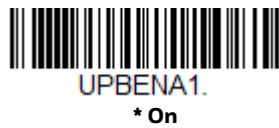
||| ||| ||| ||| ||| |||
RSEMIN.
Minimum Message Length

||| ||| ||| ||| ||| |||
RSEMAX.
Maximum Message Length

Trioptic Code

Note: *If you are going to scan Code 32 Pharmaceutical codes (page 125), Trioptic Code must be off.*

Trioptic Code is used for labeling magnetic storage media.
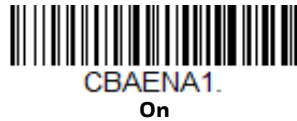
||| ||| ||| ||| ||| |||
TRIENA1.
On

||| ||| ||| ||| ||| |||
TRIENA0.
* Off

Codablock A

‖‖‖‖‖‖‖‖‖‖‖‖‖‖
CBADFT.

Codablock A On/Off

‖‖‖‖‖‖‖‖‖‖‖‖‖‖
CBAENA1.
On

‖‖‖‖‖‖‖‖‖‖‖‖‖‖
CBAENA0.
* Off

If you are reading Code 39 barcodes, Codablock A should remain disabled. If you are enabling Codablock A, you should disable Code 39 (see Code 39 on page 123).

Codablock A Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 120) 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

||||||||||||||||||||
CBFDFT.

Codablock F On/Off

||||||||||||||||||||
CBFENA1.
On

||||||||||||||||||||
CBFENA0.
* Off

If you are reading Code 128 barcodes, Codablock F should remain disabled. If you are enabling Codablock F, you should disable Code 128 (see Code 128 on page 134).

Codablock F Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 120) for additional information. Minimum and Maximum lengths = 1-2048. *Minimum Default = 1, Maximum Default = 2048.*

||||||||||||||||||||
CBFMIN.
Minimum Message Length

||||||||||||||||||||
CBFMAX.
Maximum Message Length

Label Code

The standard Label Code is used in libraries. *Default = Off.*

||||||||||||||||||||
LBLENA1.
On

PDF417

< Default All PDF417 Settings >

PDFDFT.

PDF417 On/Off

PDFENA1.

* On

PDFENA0.

Off

PDF417 Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 120) 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 barcodes. When this selection is enabled, these multiple barcodes are assembled into a single data string. *Default = On.*

PDFMAC1.
* On

PDFMAC0.
Off

MicroPDF417

< Default All MicroPDF417 Settings >

MPDDFT.

MicroPDF417 On/Off

MPDENA1.
On

MPDENA0.
* Off

MicroPDF417 Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 120) for additional information. Minimum and Maximum lengths = 1-366. *Minimum Default = 1, Maximum Default = 366.*

MPDMIN.
Minimum 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

|||||||||||||||||||||||||||
COMENA0.
* Off

UPC/EAN Version

Scan the **UPC/EAN Version On** barcode 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 for further information.*

GS1 Composite Code Message Length

Scan the barcodes below to change the message length. Refer to for additional information. Minimum and Maximum lengths = 1-2435. *Minimum Default = 1, Maximum Default = 2435.*

|||||||||||||||||||||||||||
COMMIN.
Minimum 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 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 213).

If **GS1 DataBar Emulation** is scanned, all retail codes (U.P.C., UPC-E, EAN8, EAN13) are expanded out to 16 digits. If the AIM ID is enabled, the value will be the GS1-DataBar AIM ID,]e*m* (see Symbology Charts on page 213).

If **GS1 Code Expansion Off** is scanned, retail code expansion is disabled, and UPC-E expansion is controlled by the UPC-E0 Expand (page 141) setting. If the AIM ID is enabled, the value will be the GS1-128 AIM ID,]C1 (see Symbology Charts on page 213).

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

Default = GS1 Emulation Off.

||||||||||||||||||||
EANEMU1.
GS1-128 Emulation

||||||||||||||||||||
EANEMU2.
GS1 DataBar Emulation

||||||||||||||||||||
EANEMU3.
GS1 Code Expansion Off

||||||||||||||||||||
EANEMU4.
EAN8 to EAN13 Conversion

||||||||||||||||||||
EANEMU0.
* GS1 Emulation Off
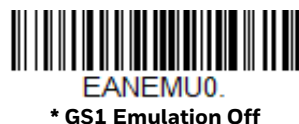
TCIF Linked Code 39 (TLC39)

This code is a composite code since it has a Code 39 linear component and a MicroPDF417 stacked code component. All barcode 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

< Default All QR Code Settings >

QRCDFT.

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 barcodes below to change the message length. Refer to Message Length Description (page 120) for additional information. Minimum and Maximum lengths = 1-7089. *Minimum Default = 1, Maximum Default = 7089.*

QRCMIN.
Minimum 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 barcode with the append trigger character(s), it buffers the number of QR Code barcodes 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 barcodes. There are 3 ways to scan appended QR Code:

One Scan: Pull the trigger one time and all appended QR Codes in the same image are decoded.

Default = One Scan.

||||| ||| |||| ||| ||||||||| |||||
QRCAPP1.
* One Scan

||| ||| ||| ||| |||||||||| |||||
QRCAPP0.
Off

QR Code Page

QR 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 barcode below, select the code page with which the barcodes were created (see ISO 2022/ISO 646 Character Replacements on page 220), and scan the value and the **Save** barcode from the Programming Chart, beginning on page 225. The data characters should then appear properly.

||||| ||| ||| || |||||| |||| |||
QRCDCP.
QR Code Page

Data Matrix

||| ||| || ||| || | ||| |||| ||| ||
IDMDFT.

Data Matrix On/Off

||| || || ||| || | ||| ||| ||||| || ||
IDMENA1.
* On

||| | ||| ||| || ||| || | ||||| ||| ||
IDMENA0.
Off

Data Matrix Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 120) 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 Code Page

Data Matrix 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 barcode 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 barcode below, select the code page with which the barcodes were created (see ISO 2022/ISO 646 Character Replacements on page 220), and scan the value and the **Save** barcode from the Programming Chart, beginning on page 225. The data characters should then appear properly.

||| | ||| || ||| || | || ||| |||| || ||
IDMDCP.
Data Matrix Code Page

MaxiCode

MAXDFT.

MaxiCode On/Off

MAXENA1.
On

MAXENA0.
* Off

MaxiCode Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 120) 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.

Aztec Code On/Off

||| ||| ||| ||| |||
AZTENA1.
* On

||| ||| ||| ||| |||
AZTENA0.
Off
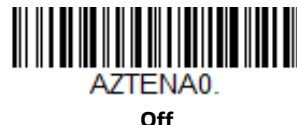
Aztec Code Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 120) 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 barcodes together before transmitting them to the host computer. When the scanner encounters an Aztec barcode with the append trigger character(s), it buffers the number of Aztec barcodes determined by information encoded in those barcodes. Once the proper number of codes is reached, the data is output in the order specified in the barcodes. *Default = On.*

||| ||| ||| ||| |||
AZTAPP1.
* On

AZTAPP0.

Off

Aztec Code Page

Aztec 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 barcode below, select the code page with which the barcodes were created (see ISO 2022/ISO 646 Character Replacements on page 220), and scan the value and the **Save** barcode from the Programming Chart, beginning on page 225. The data characters should then appear properly.

AZTDCP.

Aztec Code Page

Chinese Sensible (Han Xin) Code

< Default All Han Xin Settings >

HX_DFT.

Han Xin Code On/Off

HX_ENA1.

On

HX_ENA0.

* Off

Han Xin Code Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 120) 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

Postal Codes - 2D

The following lists the possible 2D postal codes, and 2D postal code combinations that are allowed. Only one 2D postal code selection can be active at a time. If you scan a second 2D postal code selection, the first selection is overwritten. *Default = 2D Postal Codes Off.*

POSTAL0.
* 2D Postal Codes Off

Single 2D Postal Codes:

POSTAL1.
Australian Post On

POSTAL7.
British Post On

POSTAL30.
Canadian Post On

POSTAL10.
Intelligent Mail Barcode On

POSTAL3.
Japanese Post On

POSTAL4.
KIX Post On

POSTAL5.
Planet Code On
Also see Planet Code Check Digit, page 167.

POSTAL9.
Postal-4i On

POSTAL6.
Postnet On
Also see Postnet Check Digit, page 168.

POSTAL11.
Postnet with B and B' Fields On

POSTAL2.
InfoMail On

Combination 2D Postal Codes:

POSTAL8.
InfoMail and British Post On

POSTAL20.
Intelligent Mail Barcode and Postnet with B and B' Fields On

POSTAL14.

**Postnet and
Postal-4i On**

POSTAL16.

**Postnet and
Intelligent Mail Barcode On**

POSTAL17.

**Postal-4i and
Intelligent Mail Barcode On**

POSTAL19.

**Postal-4i and
Postnet with B and B' Fields On**

POSTAL12.

**Planet Code and
Postnet On**

POSTAL18.

**Planet Code and
Postnet with B and B' Fields On**

POSTAL13.

**Planet Code and
Postal-4i On**

POSTAL15.

**Planet Code and
Intelligent Mail Barcode
On**

POSTAL21.

**Planet Code,
Postnet, and
Postal-4i On**

POSTAL22.

**Planet Code,
Postnet, and
Intelligent Mail Barcode On**

POSTAL23.
Planet Code,
Postal-4i, and
Intelligent Mail Barcode On

POSTAL24.
Postnet,
Postal-4i, and
Intelligent Mail Barcode On

POSTAL25.
Planet Code,
Postal-4i, and
Postnet with B and B' Fields On

POSTAL26.
Planet Code,
Intelligent Mail Barcode, and
Postnet with B and B' Fields On

POSTAL27.
Postal-4i,
Intelligent Mail Barcode, and
Postnet with B and B' Fields On

POSTAL28.
Planet Code,
Postal-4i,
Intelligent Mail Barcode, and
Postnet On

POSTAL29.
Planet Code,
Postal-4i,
Intelligent Mail Barcode, and
Postnet with B and B' Fields On

Planet Code Check Digit

This selection allows you to specify whether the check digit should be transmitted at the end of Planet Code data. *Default = Don't Transmit.*

PLNCKX1.
Transmit Check Digit

PLNCKX0.

Postnet Check Digit

This selection allows you to specify whether the check digit should be transmitted at the end of Postnet data. *Default = Don't Transmit.*

NETCKX1.
Transmit Check Digit

NETCKX0.
* Don't Transmit Check Digit

Australian Post Interpretation

This option controls what interpretation is applied to customer fields in Australian 4-State symbols.

Bar Output lists the bar patterns in "0123" format.

Numeric N Table causes that field to be interpreted as numeric data using the N Table.

Alphanumeric C Table causes the field to be interpreted as alphanumeric data using the C Table. Refer to the Australian Post Specification Tables.

Combination C and N Tables causes the field to be interpreted using either the C or N Tables.

Default = Bar Output.

AUSINT0.
* Bar Output

AUSINT1.
Numeric N Table

AUSINT2.
Alphanumeric C Table

Postal Codes - Linear

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

China Post (Hong Kong 2 of 5)

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

CPCDFT.

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

CPCENA1.
On

CPCENA0.
* Off

China Post (Hong Kong 2 of 5) Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 120) for additional information. Minimum and Maximum lengths = 2-80. *Minimum Default = 4, Maximum Default = 80*.

CPCMIN.
Minimum Message Length

CPCMAX.
Maximum Message Length

Korea Post

```
KPCDFT.
```

Korea Post

```
KPCENA1.
```
On

```
KPCENA0.
```
* Off

Korea Post Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 120) for additional information. Minimum and Maximum lengths = 2–80. *Minimum Default = 4, Maximum Default = 48*.

```
KPCMIN.
```
Minimum Message Length

```
KPCMAX.
```
Maximum Message Length

Korea Post Check Digit

This selection allows you to specify whether the check digit should be transmitted or not. *Default = Don't Transmit.*

```
KPCCHK1.
```
Transmit Check Digit

```
KPCCHK0.
```
* Don't Transmit Check Digit

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 213) 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.

PRECA2,BK2995C80!

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

Show Decoder Revision

Scan the barcode below to output the decoder revision.

REV_DR.
Show Decoder Revision

Show Scan Driver Revision

Scan the barcode below to output the scan driver revision.

REV_SD.
Show Scan Driver Revision

Show Software Revision

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

REVINF.

Show Software Revision

Show Data Format

Scan the barcode below to show current data format settings.

DFMBK3?.

DFMBK3?.

Data Format Settings

Test Menu

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

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

TSTMNU1.

On

TSTMNU0.

* Off

TotalFreedom

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

Application Plug-Ins (Apps)

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

PLGDCE1.
* Decoding Apps On

PLGDCE0.
Decoding Apps Off

PLGFOE1.
* Formatting Apps On

PLGFOE0.
Formatting Apps Off

PLGINF.
List Apps

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

EZConfig-Scanning Introduction

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

Configure with EZConfig for Scanning

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

1. Access the Honeywell Technical Support Downloads Portal at honeywell.com/PSSsoftware-downloads.

2. Go to **Software** > **Barcode Scanners** > **Software** > **Tools and Utilities** > **EZConfig for Scanning** > **Current**.
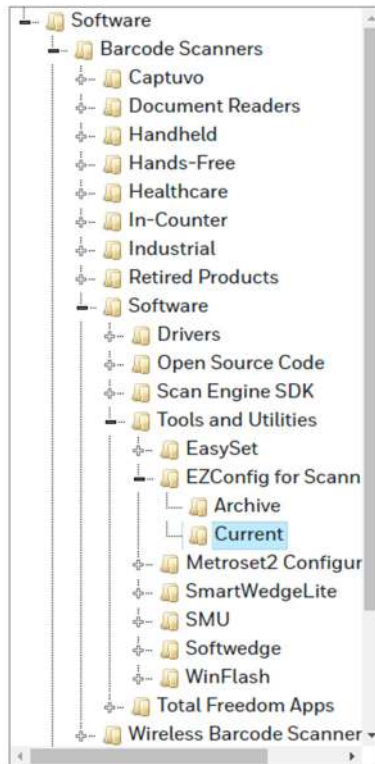
3. Download the **Setup** version of EZConfig for Scanning.

4. Open EZConfig to configure your scanner.

Reset the Factory Defaults

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

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

Remove Custom Defaults

Activate Defaults

Note: *Scanning the **Activate Defaults** barcode also causes both the scanner and the host to perform a reset and become unlinked. You must relink (pair) the scanner to the host. See Wireless System Operation for additional information.*

The Menu Commands, beginning on page 182, list the factory default settings for each of the commands (indicated by an asterisk (*) on the programming pages).

9 SERIAL PROGRAMMING COMMANDS

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

The device must be set to an RS232 interface (see page 21). The following commands can be sent via a PC COM port using terminal emulation software.

Conventions

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

parameter   A label representing the actual value you should send as part of a command.

[*option*]   An optional part of a command.

{Data}   Alternatives in a command.

bold   Names of menus, menu commands, buttons, dialog boxes, and windows that appear on the screen.

Menu Command Syntax

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

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

Prefix   Three ASCII characters: SYN M CR (ASCII 22,77,13).

:Name: This command is only used with wireless devices. It is used to specify whether you're communicating with the host or the scanner. To send information to the scanner (connected to host), use :Voyager: The default factory setting for a Voyager scanner is Voyager scanner. This

setting is changed by using the BT_NAM command, which accepts alphanumeric values. If the name is not known, a wildcard (*) can be used :*

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

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

SubTag   A 3 character case-insensitive field that identifies the desired menu command within the tag group. For example, the SubTag for the RS232 baud rate is **BAD**.

Data   The new value for a menu setting, identified by the Tag and SubTag.

Storage   A single character that specifies the storage table to which the com-mand 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 PAP sub command.

Note: *When using the >, all other commands will return NAK.*

?   What is the device's current value for the setting(s).

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

:Name: Field Usage (Optional)

This command returns the query information from the scanner.

Tag Field Usage

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

SubTag Field Usage

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

Data Field Usage

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

Concatenation of Multiple Commands

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

Responses

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

ACK <06>   Indicates a good command which has been processed.

ENQ <15>   Indicates an invalid Tag or SubTag command.

NAK <05>   Indicates the command was good, but the Data field entry was out of the allowable range for this Tag and SubTag combination, e.g., an entry for a minimum message length of 100 when the field will only accept 2 characters.

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

Examples of Query Commands

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

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

Enter: cbrena*.

Response: CBRENA0-1[ACK]

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

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

> **Enter:**   **cbrena^.**
>
> **Response:**   **CBRENA1[ACK]**

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

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

> **Enter:**   **cbrena?.**
>
> **Response:**   **CBRENA1[ACK]**

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

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

> **Enter:**   **cbr?.**
>
> **Response:**   **CBRENA1[ACK],**
>   **SSX0[ACK],**
>   **CK20[ACK],**
>   **CCT1[ACK],**
>   **MIN2[ACK],**
>   **MAX60[ACK],**
>   **DFT[ACK].**

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

Trigger Commands

You can activate and deactivate the scanner with serial trigger commands. First, the scanner must be put in Manual Trigger Mode by scanning a Manual Trigger Mode barcode (page 74), or by sending a serial menu command for triggering (page 75). Once the scanner is in serial trigger mode, the trigger is activated and deactivated by sending the following commands:

Activate: **SYN T CR**

Deactivate: **SYN U CR**

The scanner scans until a barcode has been read, until the deactivate command is sent, or until the serial time-out has been reached (see Read Time-Out on page 75 for a description, and the serial command on).

Reset the Custom Defaults

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

DEFALT.

Activate Custom Defaults

Note: *The Custom Defaults settings apply to all work groups. Scanning the **Activate Custom Defaults** barcode also causes both the scanner and the host to perform a restart and become unlinked. You must relink (pair) the scanner to the host. See Wireless System Operation for additional information.*

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

Menu Commands

Selection	Setting * Indicates default	Serial Command # Indicates a numeric entry	Page
Product Default Settings			
Pairing the Scanner with Bluetooth Devices	Bluetooth HID Keyboard Connect	PAPBTH	3
	Bluetooth HID Japanese Keyboard Connect	PAPJKB	3
	Pairing the Scanner with an Apple Device Using SPP	PAPMFI	5
Setting Custom Defaults	Set Custom Defaults	MNUCDP	7
	Save Custom Defaults	MNUCDS	7
Resetting the Custom Defaults	Activate Custom Defaults	DEFALT	8
Programming the Interface			
Program Keyboard Country	*U.S.A.	KBDCTY0	9
	Albania	KBDCTY35	9
	Azeri (Cyrillic)	KBDCTY81	9
	Azeri (Latin)	KBDCTY80	10
	Belarus	KBDCTY82	10
	Belgium	KBDCTY1	10
	Bosnia	KBDCTY33	10
	Brazil	KBDCTY16	10
	Brazil (MS)	KBDCTY59	10
	Bulgaria (Cyrillic)	KBDCTY52	10
	Bulgaria (Latin)	KBDCTY53	10
	Canada (French legacy)	KBDCTY54	10
	Canada (French)	KBDCTY18	10
	Canada (Multilingual)	KBDCTY55	10
	Croatia	KBDCTY32	10
	Czech	KBDCTY15	11
	Czech (Programmers)	KBDCTY40	11
	Czech (QWERTY)	KBDCTY39	11
	Czech (QWERTZ)	KBDCTY38	11
	Denmark	KBDCTY8	11
	Dutch (Netherlands)	KBDCTY11	11
	Estonia	KBDCTY41	11
	Faroese	KBDCTY83	11
	Finland	KBDCTY2	11
	France	KBDCTY3	11

Selection	Setting * Indicates default	Serial Command # Indicates a numeric entry	Page
	Gaelic	KBDCTY84	11
	Germany	KBDCTY4	11
	Greek	KBDCTY17	12
	Greek (220 Latin)	KBDCTY64	12
	Greek (220)	KBDCTY61	12
	Greek (319 Latin)	KBDCTY65	12
	Greek (319)	KBDCTY62	12
	Greek (Latin)	KBDCTY63	12
	Greek (MS)	KBDCTY66	12
	Greek (Polytonic)	KBDCTY60	12
	Hebrew	KBDCTY12	12
	Hungarian (101 key)	KBDCTY50	12
	Hungary	KBDCTY19	12
	Iceland	KBDCTY75	12
	Irish	KBDCTY73	13
	Italian (142)	KBDCTY56	13
	Italy	KBDCTY5	13
	Japan ASCII	KBDCTY28	13
	Kazakh	KBDCTY78	13
	Kyrgyz (Cyrillic)	KBDCTY79	13
	Latin America	KBDCTY14	13
	Latvia	KBDCTY42	13
	Latvia (QWERTY)	KBDCTY43	13
	Lithuania	KBDCTY44	13
	Lithuania (IBM)	KBDCTY45	13
	Macedonia	KBDCTY34	13
	Malta	KBDCTY74	14
	Mongolian (Cyrillic)	KBDCTY86	14
	Norway	KBDCTY9	14
	Poland	KBDCTY20	14
	Polish (214)	KBDCTY57	14
	Polish (Programmers)	KBDCTY58	14
	Portugal	KBDCTY13	14
	Romania	KBDCTY25	14
	Russia	KBDCTY26	14
	Russian (MS)	KBDCTY67	14
	Russian (Typewriter)	KBDCTY68	14

Selection	Setting * Indicates default	Serial Command # Indicates a numeric entry	Page
	SCS	KBDCTY21	14
	Serbia (Cyrillic)	KBDCTY37	15
	Serbia (Latin)	KBDCTY36	15
	Slovakia	KBDCTY22	15
	Slovakia (QWERTY)	KBDCTY49	15
	Slovakia (QWERTZ)	KBDCTY48	15
	Slovenia	KBDCTY31	15
	Spain	KBDCTY10	15
	Spanish variation	KBDCTY51	15
	Sweden	KBDCTY23	15
	Switzerland (French)	KBDCTY29	15
	Switzerland (German)	KBDCTY6	15
	Tatar	KBDCTY85	15
	Turkey F	KBDCTY27	16
	Turkey Q	KBDCTY24	16
	Ukrainian	KBDCTY76	16
	United Kingdom	KBDCTY7	16
	United Stated (Dvorak right)	KBDCTY89	16
	United States (Dvorak left)	KBDCTY88	16
	United States (Dvorak)	KBDCTY87	16
	United States (International)	KBDCTY30	16
	Uzbek (Cyrillic)	KBDCTY77	16
Keyboard Style	*Regular	KBDSTY0	17
	Caps Lock	KBDSTY1	17
	Shift Lock	KBDSTY2	17
	Automatic Caps Lock	KBDSTY6	17
	Emulate External Keyboard	KBDSTY5	17
Keyboard Conversion	*Keyboard Conversion Off	KBDCNV0	18
	Convert all Characters to Upper Case	KBDCNV1	18
	Convert all Characters to Lower Case	KBDCNV2	18
Control Character Output	*Control Character Output Off	KBDNPE0	18
	*Control Character Output On	KBDNPE1	18

Selection	Setting * Indicates default	Serial Command # Indicates a numeric entry	Page
Keyboard Modifiers	*Control + X Off	KBDCAS0	19
	DOS Mode Control + X	KBDCAS1	19
	Windows Mode Control + X	KBDCAS2	19
	Windows Mode Prefix/Suffix Off	KBDCAS3	19
	*Turbo Mode Off	KBDTMD0	19
	Turbo Mode On	KBDTMD1	19
	*Numeric Keypad Off	KBDNPS0	20
	Numeric Keypad On	KBDNPS1	20
	*Auto Direct Connect Off	KBDADC0	20
	Auto Direct Connect On	KBDADC1	20
Programming an Interface for an Access Point			
Plug and Play Codes	Keyboard Wedge: IBM PC AT and Compatibles with CR suffix	PAP_AT	21
	Laptop Direct Connect with CR suffix	PAPLTD	21
	RS232 Serial Port	PAP232	22
Plug and Play Codes: RS485	IBM Port 5B Interface	PAPP5B	22
	IBM Port 9B HHBCR-1 Interface	PAP9B1	22
	IBM Port 17 Interface	PAPP17	22
	IBM Port 9B HHBCR-2 Interface	PAP9B2	22
	RS485 Packet Mode On	RTLPDF1	23
	RS485 Packet Mode Off	RTLPDF0	23
	RS485 Packet Length (20-256)	RTLMPS	23
Plug and Play Codes: IBM SurePos	USB IBM SurePos Handheld	PAPSPH	23
	USB IBM SurePos Tabletop	PAPSPT	23
Plug and Play Codes: USB	USB Keyboard (PC)	PAP124	24
	USB Keyboard (Mac)	PAP125	24
	USB Japanese Keyboard (PC)	TRMUSB134	24
	USB HID	PAP131	24
	USB Serial	TRMUSB130	25
	CTS/RTS Emulation On	USBCTS1	25
	CTS/RTS Emulation Off*	USBCTS0	25
	ACK/NAK Mode On	USBACK1	25
	ACK/NAK Mode Off*	USBACK0	25
Remote MasterMind for USB	ReM Off	REMIFC0	25
	ReM On	REMIFC1	25
Plug and Play Codes	Gilbarco Terminal	PAPGLB	26

Selection	Setting * Indicates default	Serial Command # Indicates a numeric entry	Page
	Honeywell Bioptic Aux Port	PAPBIO	26
	Datalogic Magellan Aux Port	PAPMAG	26
	NCR Bioptic Aux Port	PAPNCR	27
	Wincor Nixdorf Terminal	PAPWNX	27
	Wincor Nixdorf Beetle	PAPBTL	28
	Wincor Nixdorf RS232 Mode A	PAPWMA	28
Baud Rate	300 BPS	232BAD0	29
	600 BPS	232BAD1	29
	1200 BPS	232BAD2	29
	2400 BPS	232BAD3	29
	4800 BPS	232BAD4	29
	9600 BPS	232BAD5	30
	19200 BPS	232BAD6	29
	38400 BPS	232BAD7	29
	57600 BPS	232BAD8	29
	*115200 BPS	232BAD9	30
Word Length: Data Bits, Stop Bits, and Parity	7 Data, 1 Stop, Parity Even	232WRD3	30
	7 Data, 1 Stop, Parity None	232WRD0	30
	7 Data, 1 Stop, Parity Odd	232WRD6	30
	7 Data, 2 Stop, Parity Even	232WRD4	30
	7 Data, 2 Stop, Parity None	232WRD1	30
	7 Data, 2 Stop, Parity Odd	232WRD7	30
	8 Data, 1 Stop, Parity Even	232WRD5	30
	*8 Data, 1 Stop, Parity None	232WRD2	30
	8 Data, 1 Stop, Parity Odd	232WRD8	31
	8 Data, 1 Stop, Parity Mark	232WRD14	31
RS232 Receiver Time-out	Range 0 - 300 seconds	232LPT###	31
RS232 Handshaking	*RTS/CTS Off	232CTS0	32
	Flow Control, No Timeout	232CTS1	31
	Two-Direction Flow Control	232CTS2	31
	Flow Control with Timeout	232CTS3	32
	RS232 Timeout	232DEL####	32
	*XON/XOFF Off	232XON0	32
	XON/XOFF On	232XON1	32
	*ACK/NAK Off	232ACK0	33
	ACK/NAK On	232ACK1	33

Selection	Setting * Indicates default	Serial Command # Indicates a numeric entry	Page
Scanner-Bioptic Packet Mode	*Packet Mode Off	232PKT0	33
	Packet Mode On	232PKT2	23
Scanner-Bioptic ACK/NAK Mode	*Bioptic ACK/NAK Off	232NAK0	34
	Bioptic ACK/NAK On	232NAK1	34
Scanner-Bioptic ACK/NAK Timeout	ACK/NAK Timeout *5100	232DLK#####	34
Programming the VG1602 Corded Interface			
Setting the VG1602 Corded Interface	USB Communication (Corded Scanner)	BTUENA1.	35
	Bluetooth Communication (Cordless Scanner)	BTUENA0.	35
Corded USB PC or Macintosh Keyboard	Corded USB Keyboard (PC)	BTUMID124.	35
	Corded USB Keyboard (Mac)	BTUMID125.	35
Corded USB HID POS	Corded USB HID POS Interface	BTUMID131.	35
Corded USB Serial	Corded USB Serial	BTUMID130.	36
Corded CTS/RTS Emulation	Corded CTS/RTS Emulation On	BTUCTS1.	36
	*Corded CTS/RTS Emulation Off	BTUCTS0.	36
Corded ACK/NAK Mode	Corded ACK/NAK Mode On	BTUACK1.	36
	*Corded ACK/NAK Mode Off	BTUACK0.	36
Wireless System Operation			
Bluetooth Connection	Bluetooth HID Keyboard Disconnect	PAPSPP	37
	Bluetooth Serial Port - PCs/ Laptops	BT_TRM0;BT_DNG5	37
	BT Connection - PDA/Mobility Systems Device	BT_TRM0;BT_DNG1	37
Bluetooth PIN Code	Bluetooth PIN	BT_PIN	38
Auto Reconnect Mode	*Auto Reconnect On	BT_ACM1	39
	Auto Reconnect Off	BT_ACM0	39
Maximum Link Attempts	Maximum Link Attempts	BT_MLA	40
Relink Time-Out	Relink Time-Out	BT_RLT	40
Reset Scanner	Reset Scanner	RESET_	46
Scanner Report	Scanner Report	RPTSCN	46
Scanner Address	Scanner Address	BT_LDA	46
Linked Modes	Locked Link Mode	BASCON0,DNG1	47
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Selection	Setting * Indicates default	Serial Command # Indicates a numeric entry	Page
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Straight 2 of 5 IATA	*Off	A25ENA0	131
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Selection	Setting * Indicates default	Serial Command # Indicates a numeric entry	Page
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EAN/JAN-8	Default All EAN/ JAN 8 Settings	EA8DFT	146
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EAN/JAN-8 Check Digit	Off	EA8CKX0	147
	*On	EA8CKX1	147
EAN/JAN-8 Addenda	*2 Digit Addenda Off	EA8AD20	147
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GS1 DataBar Expanded Msg. Length	Minimum (4 – 74) *4	RSEMIN##	151
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Codablock A	Default All Codablock A Settings	CBADFT	152
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MaxiCode	Default All MaxiCode Settings	MAXDFT	161
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MaxiCode Msg. Length	Minimum (1-150) *1	MAXMIN###	161
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Aztec Append	*On	AZTAPP1	162
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Selection	Setting * Indicates default	Serial Command # Indicates a numeric entry	Page
Single 2D Postal Codes	Australian Post On	POSTAL1	164
	British Post On	POSTAL7	164
	Canadian Post On	POSTAL30	164
	Intelligent Mail Barcode On	POSTAL10	164
	Japanese Post On	POSTAL3	165
	KIX Post On	POSTAL4	165
	Planet Code On	POSTAL5	165
	Postal-4i On	POSTAL9	165
	Postnet On	POSTAL6	165
	Postnet with B and B' Fields On	POSTAL11	165
	InfoMail On	POSTAL2	165
Combination 2D Postal Codes	InfoMail and British Post On	POSTAL8	165
	Intelligent Mail Barcode and Postnet with B and B' Fields On	POSTAL20	165
	Postnet and Postal-4i On	POSTAL14	166
	Postnet and Intelligent Mail Barcode On	POSTAL16	166
	Postal-4i and Intelligent Mail Barcode On	POSTAL17	166
	Postal-4i and Postnet with B and B' Fields On	POSTAL19	166
	Planet and Postnet On	POSTAL12	166
	Planet and Postnet with B and B' Fields On	POSTAL18	166
	Planet and Postal-4i On	POSTAL13	166
	Planet and Intelligent Mail Barcode On	POSTAL15	166
	Planet, Postnet, and Postal-4i On	POSTAL21	166
	Planet, Postnet, and Intelligent Mail Barcode On	POSTAL22	166
	Planet, Postal-4i, and Intelligent Mail Barcode On	POSTAL23	167

Selection	Setting * Indicates default	Serial Command # Indicates a numeric entry	Page
Combination 2D Postal Codes (continued)	Postnet, Postal-4i, and Intelligent Mail Barcode On	POSTAL24	167
	Planet, Postal-4i, and Postnet with B and B' Fields On	POSTAL25	167
	Planet, Intelligent Mail Barcode, and Postnet with B and B' Fields On	POSTAL26	167
	Postal-4i, Intelligent Mail Barcode, and Postnet with B and B' Fields On	POSTAL27	167
	Planet, Postal-4i, Intelligent Mail Barcode, and Postnet On	POSTAL28	167
	Planet, Postal-4i, Intelligent Mail Barcode, and Postnet with B and B' Fields On	POSTAL29	167
Planet Code Check Digit	Transmit	PLNCKX1	167
	*Don't Transmit	PLNCKX0	168
Postnet Check Digit	Transmit	NETCKX1	168
	*Don't Transmit	NETCKX0	168
Australian Post Interpretation	Bar Output	AUSINT0	168
	Numeric N Table	AUSINT1	168
	Alphanumeric C Table	AUSINT2	168
	Combination N and C Tables	AUSINT3	169
Postal Codes – Linear			
China Post (Hong Kong 2 of 5)	Default All China Post (Hong Kong 2 of 5) Settings	CPCDFT	169
	*Off	CPCENA0	169
	On	CPCENA1	169
China Post (Hong Kong 2 of 5) Msg. Length	Minimum (2 - 80) *4	CPCMIN##	169
	Maximum (2 - 80) *80	CPCMAX##	169
Korea Post	Default All Korea Post Settings	KPCDFT	170
	*Off	KPCENA0	170
	On	KPCENA1	170
Korea Post Msg. Length	Minimum (2 - 80) *4	KPCMIN##	170
	Maximum (2 - 80) *48	KPCMAX##	170
Korea Post Check Digit	Transmit Check Digit	KPCCHK1	170
	*Don't Transmit Check Digit	KPCCHK0	170
Utilities			
Add Code I.D. Prefix to All Symbologies (Temporary)		PRECA2,BK2995C80!	171
Show Decoder Revision		REV_DR	171

Selection	Setting * Indicates default	Serial Command # Indicates a numeric entry	Page
Show Scan Driver Revision		REV_SD	171
Show Software Revision		REVINF	172
Show Data Format		DFMBK3?	172
Test Menu	On	TSTMNU1	172
	*Off	TSTMNU0	172
Application Plug-Ins (Apps)	*Decoding Apps On	PLGDCE1	173
	Decoding Apps Off	PLGDCE0	173
	*Formatting Apps On	PLGFOE1	173
	Formatting Apps Off	PLGFOE0	173
	List Apps	PLGINF	173
Resetting the Factory Defaults	Remove Custom Defaults	DEFOVR	175
	Activate Defaults	DEFALT	175

PRODUCT SPECIFICATIONS

Voyager 1602g Product Specifications

Parameter	Specification
Mechanical	
Height	.9 in. (22mm)
Length	4.7 in. (120mm)
Width	1.9 in. (48mm)
Weight	3.5 oz. (100g)
Electrical	
Battery:	
Lithium Ion	3.7v 750mAh
Number of Scans	up to 2250 from full charge
Expected Hours of Operation	12 from full charge
Expected Charge Time	3 - 5 hours
Illumination LED	White emitting color
Aiming	624nm peak wavelength
Radio	
Frequency	2.4 to 2.5 GHz (ISM Band) Frequency Hopping Bluetooth v.2.1
Range	33 ft. (10m) line of sight
Data Rate	Up to 1 MBps
Environmental	
Operating Temperature	32° to 122°F (0° to 50°C)
Storage Temperature*	4° to 140°F (-20° to 60°C)
Charging Temperature	32° to 104°F (0° to 40°C)
Humidity	Up to 95%, non-condensing
Drop	Operational after 30 drops from 4 feet (1.2m) to concrete
Environmental Sealing	IP52

Parameter (Continued)	Specification
Vibration	Withstands 10G peak from 10 to 500 Hz
ESD	12kV air, 8kV direct
Image	
Image Size	1040 x 720 pixels
Scan Performance	
Pitch, Skew	±60°, ±70°
Motion Tolerance:	up to 10cm per second for 13 mil UPC
Symbol Contrast	Grade 1.0 (20% or greater)
Depth of Field	
Typical Performance 5 mil Code 39	24 – 202mm (1.0 -7.9 in.)
13 mil UPC-A	39 – 324mm (1.6 - 12.7 in.)
20 mil Code 39	42 – 511mm (1.7 - 20.01 in.)
6.7 mil PDF417	23 – 177mm (0.9 - 6.9 in.)
10mil Data Matrix	12 – 168mm (0.5 - 6.6 in.)
20mil QR Code	24 – 262mm (1.0 - 10.3 in.)
Guaranteed Performance 5 mil Code 39	32 – 179mm (1.3 - 7.0 in.)
13 mil UPC-A	42 – 281mm (1.7 - 11.0 in.)
20 mil Code 39	46 – 356mm (1.8– 14.0 in.)
6.7 mil PDF417	28 – 155mm (1.1 - 6.1 in.)
10mil Data Matrix	18 – 149mm (0.7 - 5.8 in.)
20mil QR Code	27 – 220mm (1.1 - 8.6 in.)

*Storage outside of this temperature range could be detrimental to battery life.

Required Safety Labels

Illumination output

Compliance label locations

Part number, serial number and revision information location
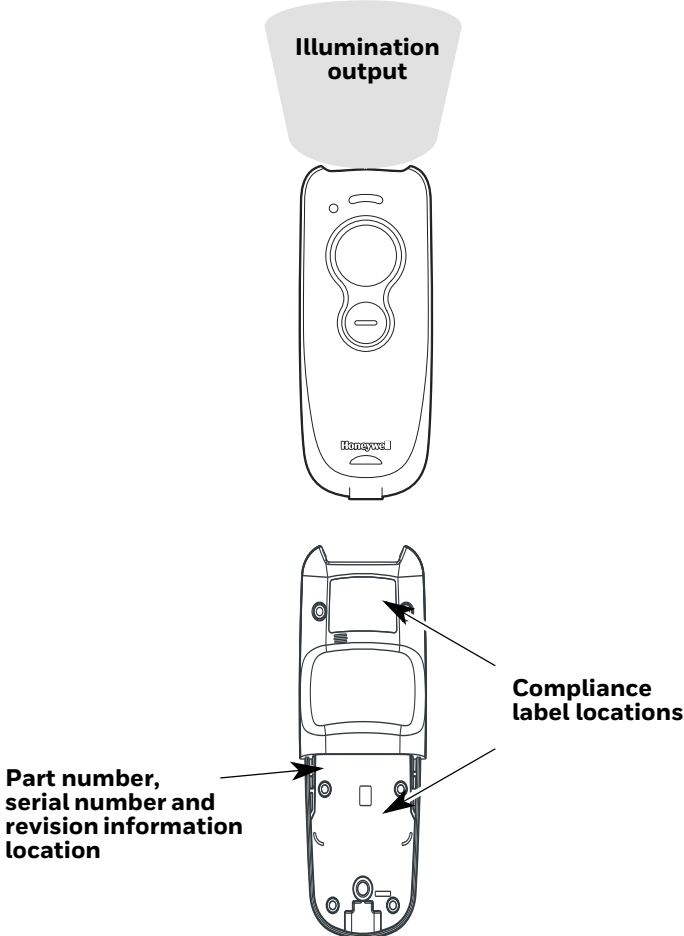
Standard Connector Pinout

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.*

Micro-B USB

1 2 3 4 5
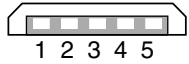
1 Vcc

2 Data –

3 Data +

4 ID

5 Ground

11 MAINTENANCE

Repairs

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

Maintenance

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

Clean the Scanner

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

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

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

Caution: **Ensure all components are dry prior to mating the scanner with charging accessories or other peripheral devices. Mating wet components may cause damage not covered by the warranty.**

Inspecting Cords and Connectors

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

Replacing a Battery

Step 1.　Use a Phillips head screwdriver to remove the back cover of the scanner.
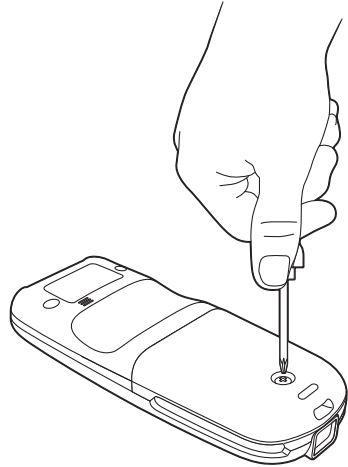
Step 2.　Lift the back cover up and out to expose the battery.
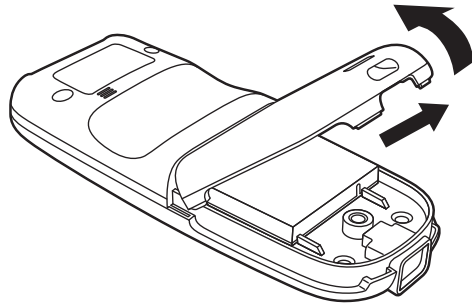
Step 3.   Lift out the battery and replace, making sure the contacts on the battery line up with the contacts in the scanner.
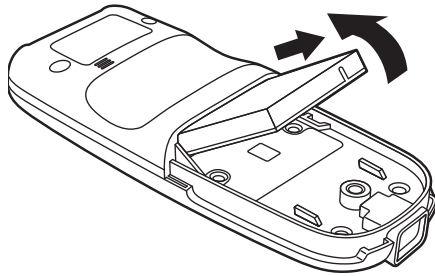
Step 4.   Replace the back cover and secure with the Phillips head screw.

Troubleshooting

Note: *Make sure that your scanner's battery is charged.*
Visit the Services and Support section of our website (sps.honeywell.com) to check for the latest software for both the scanner and the host.

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 host to which the scanner connects.

Is the barcode displayed but not entered into the application?

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

• You need to program a suffix. Programming a suffix enables the scanner to output the barcode data plus the key you need (such as "CR") to enter the data into your application. Refer to Prefix/Suffix Overview on page 93 for further information.

The scanner won't read your barcode at all.

• Scan the sample barcodes in the back of this manual. If the scanner reads the sample barcodes, check that your barcode is readable.

Verify that your barcode symbology is enabled (see Chapter 7).

If the scanner still can't read the sample barcodes, scan All Symbologies on page 120.

A REFERENCE CHARTS

Symbology Charts

> **Note:** *"m" represents the AIM modifier character. Refer to International Technical Specification, Symbology Identifiers, for AIM modifier character details.*
>
> *Prefix/Suffix entries for specific symbologies override the universal (All Symbologies, 99) entry.*
>
> Refer to Data Editing beginning on page 93 and Data Format beginning on page 99 for information about using Code ID and AIM ID.

Linear Symbologies

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

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

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

2D Symbologies

2D Symbology	AIM		Honeywell	
	ID	Possible modifiers (m)	ID	Hex
All Symbologies				99
Aztec Code	]z*m*	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	]O*m*	0, 1, 4, 5, 6	q	71
Data Matrix	]d*m*	0-6	w	77
Dot Code	]J0		.	2E
GS1	]e*m*	0-3	y	79
GS1 Composite	]e*m*	0-3	y	79
GS1 DataBar Omnidirectional	]e*m*	0-3	y	79
MaxiCode	]U*m*	0-3	x	78
PDF417	]L*m*	0-2	r	72
MicroPDF417	]L*m*	0-5	R	52
QR Code	]Q*m*	0-6	s	73
Micro QR Code	]Q*m*		s	73

Postal Symbologies

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

ASCII Conversion Chart (Code Page 1252)

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

Lower ASCII Reference Table

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

Printable Characters

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

Extended ASCII Characters

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

Extended ASCII Characters (Continued)

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

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

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

ISO 2022/ISO 646 Character Replacements

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

Code Page Selection Method/ Country	Standard	Keyboard Country	Honeywell Code Page Option
United States (standard ASCII)	ISO/IEC 646-IRV	n/a	1
Automatic National Character Replacement	ISO/IEC 2022	n/a	2 (default)
Binary Code page	n/a	n/a	3
Default "Automatic National Character replacement" will select the below Honeywell Code Page options for Code128, Code 39 and Code 93.			
United States	ISO/IEC 646-06	0	1
Canada	ISO /IEC 646-121	54	95
Canada	ISO /IEC 646-122	18	96
Japan	ISO/IEC 646-14	28	98
China	ISO/IEC 646-57	92	99
Great Britain (UK)	ISO /IEC 646-04	7	87
France	ISO /IEC 646-69	3	83
Germany	ISO/IEC646-21	4	84
Switzerland	ISO /IEC 646-CH	6	86
Sweden / Finland (extended Annex C)	ISO/IEC 646-11	2	82
Ireland	ISO /IEC 646-207	73	97
Denmark	ISO/IEC 646-08	8	88
Norway	ISO/IEC 646-60	9	94
Italy	ISO/IEC 646-15	5	85
Portugal	ISO/IEC 646-16	13	92
Spain	ISO/IEC 646-17	10	90
Spain	ISO/IEC 646-85	51	91

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

Keyboard Key References

104 Key U.S. Style Keyboard

105 Key European Style Keyboard
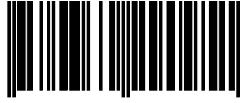
SAMPLE SYMBOLS

UPC-A

0 123456 7890

Interleaved 2 of 5
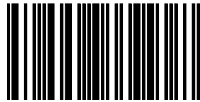
01234567890

EAN-13

9 780330 290951

Code 128

Code 128

Code 39
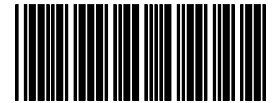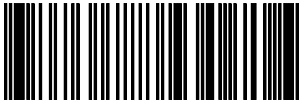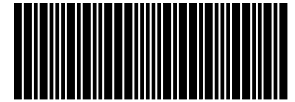
BC321

Codabar

A13579B

Code 93

123456-9$

Straight 2 of 5 Industrial

123456

Matrix 2 of 5

6543210

GS1 DataBar

(01) 00123456789012

PDF417

Car Registration

Data Matrix
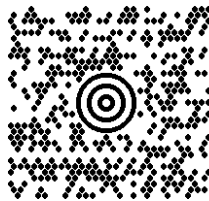
Test Symbol

SAMPLE SYMBOLS (CONTINUED)

QR Code

Numbers

Aztec

**Package
Label**

MaxiCode

Test Message

Micro PDF417

Test Message

Postnet

Zip Code

4-CB (4-State Customer Barcode)

01,234,567094,987654321,01234567891

ID-tag (UPU 4-State)

J18CUSA8E6N062315014880T

PROGRAMMING CHART

K0K
0

K1K
1

K2K
2

K3K
3

K4K
4

K5K
5

K6K
6

K7K
7

K8K
8

K9K
9

PROGRAMMING CHART (CONTINUED)

‖‖‖‖‖‖‖‖
KAK
A

‖‖‖‖‖‖‖‖
KBK
B

‖‖‖‖‖‖‖‖
KCK
C

‖‖‖‖‖‖‖‖
KDK
D

‖‖‖‖‖‖‖‖
KEK
E

‖‖‖‖‖‖‖‖
KFK
F

‖‖‖‖‖‖‖‖
MNUSAV.
Save

‖‖‖‖‖‖‖‖
MNUABT.
Discard

‖‖‖‖‖‖‖‖
RESET_.
Reset

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

Honeywell
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