Honeywell

HH492

Wireless Area–Imaging Scanner

User Guide

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Patents

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

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Customer Support

Technical Assistance

To search our knowledge base for a solution or to log in to the Technical Support portal and report a problem, go to honeywell.com/PSStechnicalsupport.

For our latest contact information, see sps.honeywell.com.

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 then select **Support** > **Warranties**.

1 GET STARTED

About This Manual

This User Guide provides installation and programming instructions for the HH492 cordless area-imaging scanner. Product specifications, dimensions, warranty, and customer support information are also included.

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

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

Unpack Your Device

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

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

Connect the Device

Connect with USB

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

1. Connect the appropriate interface cable to the device first, then to the computer.
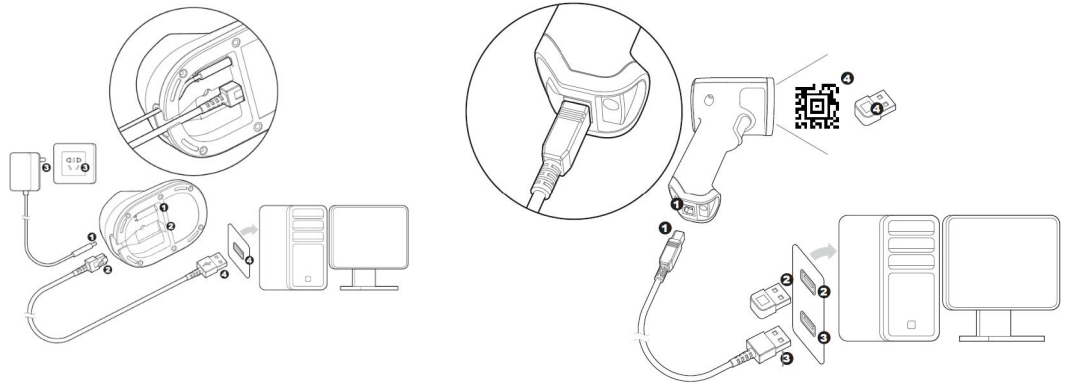
Note: *The power supply must be ordered separately, if needed.*

2. If you are connecting a base, make sure the cables are secured in the wireways in the bottom of the cordless base and the base sits flat on a horizontal surface.

3. The scanner beeps.

4. Verify the scanner operation by scanning a barcode from the Sample Symbols, beginning on page 131.

5. The unit defaults to a USB HID.

Mount a Charge Base
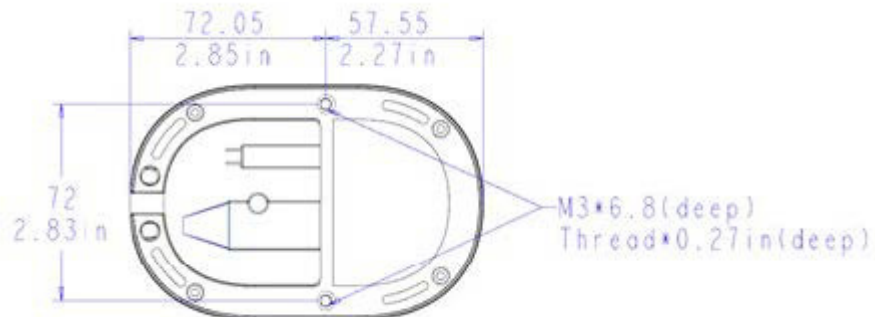
Reading Techniques

The view finder projects a red aiming dot that should be centered over the barcode, but it can be positioned in any direction for a good read.

Hold the scanner over the barcode, press the button, and center the aiming dot on the barcode.

The aiming dot is smaller when the scanner is closer to the code and larger when it is farther from the code. Hold the scanner close to smaller barcodes, and farther away from large barcodes to get a proper read.

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 trigger, and center the aiming dot on the symbol. If the code being scanned is highly reflective (e.g., laminated), it may be necessary to tilt the code up 15° to 18° to prevent unwanted reflection.

Menu Barcode Security Settings

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

Set Custom Defaults

You have the ability to create a set of menu commands as your own, custom defaults. To do so, scan the **Set Custom Defaults** barcode below before scanning the menu commands for your custom defaults. If a menu command requires scanning numeric codes from the Programming Chart, beginning on page 133, 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

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.

Reset 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

2 | PROGRAM THE INTERFACE

Note: The HH492's base only supports USB HID. No other interface is supported.

USB HID

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

TERMID0.

USB HID Barcode Scanner

3 CORDLESS SYSTEM OPERATION

How the Cordless Communication Base Works

A cordless charge base provides the link between the cordless scanner and the host system. The base contains an interface assembly and an RF communication module. The RF communication module performs the data exchange between the cordless scanner and the interface assembly. The control assembly coordinates the central interface activities including: transmitting/receiving commands and data to/from the host system.

Link the Scanner to a Communication Base

Turn off power before connecting a base, then power up the computer once the base is fully connected. When the base is connected and powered up, use the scanner to scan the 2D MAC address code on the bottom of the base. The green LED on the scanner flash and two beeps when connected successfully.

Unlink/Replace a Linked Scanner

If you need to replace a broken or lost scanner that is linked to a base, scan the **Unlink Scanner** barcode to unlink the scanner. Use the new scanner to scan the 2D MAC barcode on the bottom of the base to start a new link.

BT_DIS.
Unlink Scanner

RF (Radio Frequency) Module Operation

The cordless system uses a two-way Bluetooth® radio to transmit and receive data between the scanner and the base. Designed for point-to-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, makes the cordless system highly responsive to a wide variety of data collection applications and resistant to noisy RF environments. The base provides a communication range of 100 feet (30m) between the scanner and base.

System Conditions

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

Link Process

Once a scanner scans the 2D MAC address on the bottom of the base, a new link will start and you will hear 2 beeps when it is linked.

Scanner Is Out of Range

The cordless scanner is in communication with its base, even when it is not transmitting barcode data. Whenever the scanner can't communicate with the base 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 no communication with the base.

Scanner Is Moved Back Into Range

The scanner relinks if the scanner or the base comes back into range. If the scanner relinks, you will hear 2 chirps when the relinking process is complete.

Out of Range and Back into Range with Batch Mode On

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 base or Access Point when back in range (see Batch Mode on page 11).

You will not hear a communication error tone in this mode, but you will hear a short buzz when you press the trigger 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 base.

Charge Information

The battery is designed to charge while the scanner is positioned in the cordless base unit. Refer to Scanner LED Sequences and Beeper, page 10, for an interpretation of the Charge Status indicators.

Place the scanner in the base that is connected to an appropriate power supply. Use only 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 base through the interface cable (for example, a USB cable) and not using an external power supply plugged into the aux port, the current available for charging is reduced and charge times are increased.*

Battery Information for HH492

Power is supplied to the scanner by a rechargeable battery that is integrated in the scanner handle. 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.

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.
- Keep the base connected to power when the host is not in use.
- 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 on page xi for additional information.

⚠ **Caution:** **Use only Honeywell Li-ion battery packs, model number BAT-SCN04, rated 3.7 Vdc, 7.4Whr 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 an LED ring on the back of the unit that indicates linking status, decoding state, and battery condition. The base has LEDs on the top of the unit that indicate its power up condition: red LED = error; green LED = success of any type. Scanners have audible indicators as well: 1 razz or error tone = error; 2 beeps = menu change; 1 beep = all other successes.

Scanner LED Sequences and Beeper

LED	Beeper	Indication
Normal Operating		
Red, on	None	Battery low
Green, flash	1 beep	Successful communication or linking
None	Razz or error tone	Failed communication or unlink
Green, flash, 1s on, 1s off	None	Pre-charge or charging
Green, on continuously	None	Charge done
Red, flash, 1s on, 1s off	None	Charge error
Menu Operating		
Green, flash	2 beeps	Successful menu change
Red, blinking	Razz or error tone	Unsuccessful menu change

Base LED Meaning

LED Indications	Cause
Green, on continuously	Base power on successfully

LED Indications	Cause
Green, off	Base has no power input

Reset Scanner

Scanning this barcode reboots the scanner and causes it to relink with the base or Access Point.

RESET_.
Reset Scanner

Batch Mode

Batch mode is used to store barcode data when a scanner is out of range of its base, or when performing inventory. The data is transmitted to the base once the scanner is back in range.

Note: *Batch Mode is only supported by the Honeywell Communication Base (CCB).*

Automatic Batch Mode stores barcode data when the scanner is out of range of the base. The data is automatically transmitted to the base 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 base so data can be transmitted.

Default = Batch Mode Off.

BATENA0.
* Batch Mode Off

BATENA1.
Automatic Batch Mode

INPUT/OUTPUT SETTINGS

Power Up Beeper

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

BEPPWR0.
Power Up Beeper Off – Scanner

BEPPWR1.
* Power Up Beeper On – Scanner

Beep on BEL Character

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

BELBEP0.
*Beep on BEL Off

BELBEP1.
Beep on BEL On

Trigger Click

To hear an audible click every time the scanner trigger 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

BEPBEP1.
* Beeper – Good Read On

Beeper Volume – Good Read

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

BEPLVL1.
Low

BEPLVL2.
Medium

```
BEPLVL3.
```
* High

```
BEPLVL0.
```
Off

Beeper Pitch – Good Read

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

```
BEPFQ11600.
```
Low (1600 Hz)

```
BEPFQ12400.
```
* Medium (2400 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 from the Programming Chart, beginning on page 133, then **Save.** *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 from the Programming Chart, beginning on page 133, then **Save**. *Default = 1.*

Number of Error Beeps/LED Flashes

Good Read Delay

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

* No Delay

Short Delay (500 ms)

Medium Delay (1,000 ms)

Long Delay (1,500 ms)
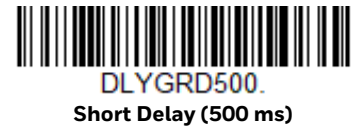
User-Specified Good Read Delay

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, beginning on page 133, then **Save**.

User-Specified Good Read Delay

Trigger Modes

Manual Trigger

In manual trigger mode, the scanner scans until a barcode is read, or until the scan trigger 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.*

PAPHHF.

*Manual Trigger – Normal

LED Illumination - Manual Trigger

If you wish to set the illumination LED brightens, scan on e of the barcodes below. This sets the LED illumination for the scanner when the trigger is pressed. *Default = High*.

Note: *The LEDs are like a flash on a camera. The lower the ambient light in the room, the brighter the LEDs need to be so the scanner can "see" the barcodes.*

PWRNOL0.

Low

PWRNOL1.

Medium

PWRNOL2.

* High

Read Time-Out

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

TRGSTO.

Read Time-Out

Presentation Mode

Presentation Mode uses ambient light and scanner illumination to detect barcodes. When in Presentation Mode, the LEDs remain dim until a barcode is presented to the scanner, then the aimer turns on and the LEDs turn up to read the code. If the light level in the room is not high enough, Presentation Mode may not work properly.

Note: *If you are using a cordless charge base in Presentation Mode, the battery will not charge unless the power supply is plugged into the base's auxiliary power port.*

Scan the following barcode to program your scanner for Presentation Mode.

TRGMOD3.

Presentation Mode

Presentation Centering

Use Presentation Centering to narrow the scanner's field of view when it is in the stand to make sure the scanner reads only those barcodes intended by the user. For instance, if multiple codes are placed closely together, Presentation Centering will ensure that only the desired codes are read.

Note: *To adjust centering when the scanner is hand-held, see Centering (page 4-25).*

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

0%
10
20 Barcode 1
30 Barcode 2
...

```
   0%
   10      Barcode 1
   20                        Barcode 2
        1   23456 78911    1
   30                        9 8 7 6 5 4 3 2 1
   40
   50
   60
   70
   80
   90
  100
      0  10  20  30  40  50  60  70  80  90  100%
```
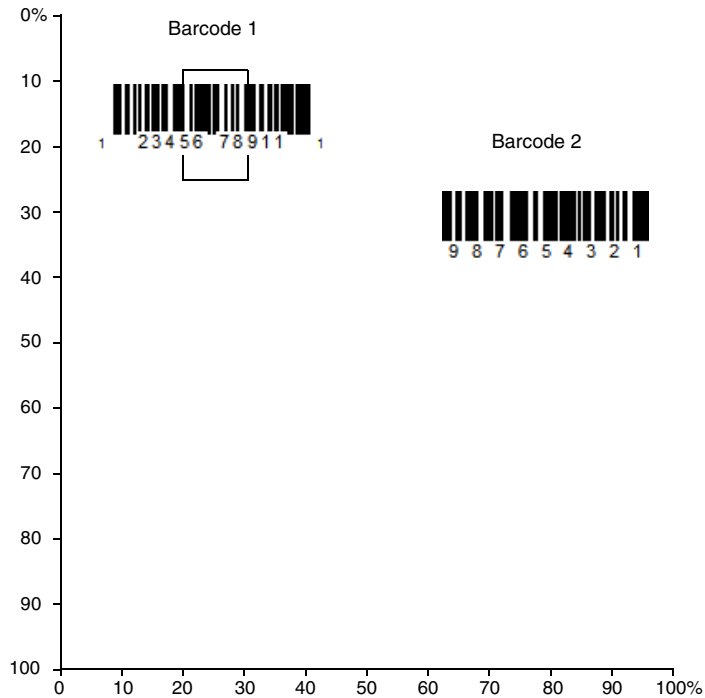
Note: *A barcode needs only to be touched by the centering window in order to be read. It does not need to pass completely through the centering window.*

Scan **Presentation 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 from the Programming Chart, beginning on page 133, then **Save**. *Default Presentation Centering = 40% for Top and Left, 60% for Bottom and Right.*

PDCWIN1.
Presentation Centering On

PDCWIN0.
* Presentation Centering Off

PDCTOP.
**Top of Presentation
Centering Window**

PDCBOT.
**Bottom of Presentation
Centering Window**

**Left of
Presentation Centering
Window**

**Right of Presentation
Centering Window**

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 barcode 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 complete barcode cannot be seen in one image. This setting does not affect 1D barcode reading. *Default = Poor Quality PDF Reading Off.*

Poor Quality PDF Reading On

*Poor Quality PDF Reading Off

CodeGate™

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

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

**CodeGate On
Out-of-Stand**

Hands Free Time-Out

The Scan Stand and Presentation Modes are referred to as "hands free" modes. If the scanner's trigger is pulled when using a hands free mode, the scanner changes to manual trigger mode. You can set the time the scanner should remain in manual trigger mode by setting the Hands Free Time-Out. Once the time-out value is reached, (if there have been no further trigger pulls) the scanner reverts to the original hands free mode.

Scan the **Hands Free Time-Out** barcode, then scan the time-out duration (from 0-300,000 milliseconds) from the Programming Chart, beginning on page 133, then **Save**. *Default = 5,000 ms.*

Hands Free Time-Out

Reread Delay

This sets the time period before the scanner can read the *same* barcode a second time. Setting a reread delay protects against accidental rereads of the same barcode. Longer delays are effective in minimizing accidental rereads. Use shorter delays in applications where repetitive barcode scanning is required. Reread Delay only works when in a Presentation Mode (see page 19). *Default = Medium.*

Short (500 ms)

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

```
DLYRRD1000.
```
Long (1000 ms)

```
DLYRRD2000.
```
Extra Long (2000 ms)

User-Specified Reread Delay

If you want to set your own length for the reread delay, scan the barcode below, then set the delay (from 0-30,000 milliseconds) by scanning digits from the Programming Chart, beginning on page 133, then **Save**.

```
DLYRRD.
```
User-Specified Reread Delay

2D Reread Delay

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

```
DLY2RR0.
```
* 2D Reread Delay Off

```
DLY2RR1000.
```
Short (1000ms)

```
DLY2RR2000.
```
Medium (2000ms)

```
DLY2RR3000.
```
Long (3000ms)

DLY2RR4000.

Extra Long (4000ms)

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 *(page 25).*

SCNLED1.

* Lights On

SCNLED0.

Lights Off

Aimer Delay

The aimer delay allows a delay time for the operator to aim the scanner before the picture is taken. Use these codes to set the time between when the trigger is pulled and when the picture is taken. 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 millisecond

SCNDLY400.

400 millisecond

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, beginning on page 133, then **Save**.

SCNDLY.
Delay Duration

Aimer Mode

This feature allows you to turn the aimer on and off. *Default = On.*

SCNAIM0.
Off

SCNAIM2.
*On

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 24, for the most error-free operation in applications where multiple codes are spaced closely together. Using the Aimer Delay and Centering features, the scanner can emulate the operation of older systems, such as linear laser barcode scanners.)

Note: *To adjust centering when the scanner is in a stand, see Presentation Centering (page 4-19).*

Custom Centering

Use the following settings to customize your centering window. 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.

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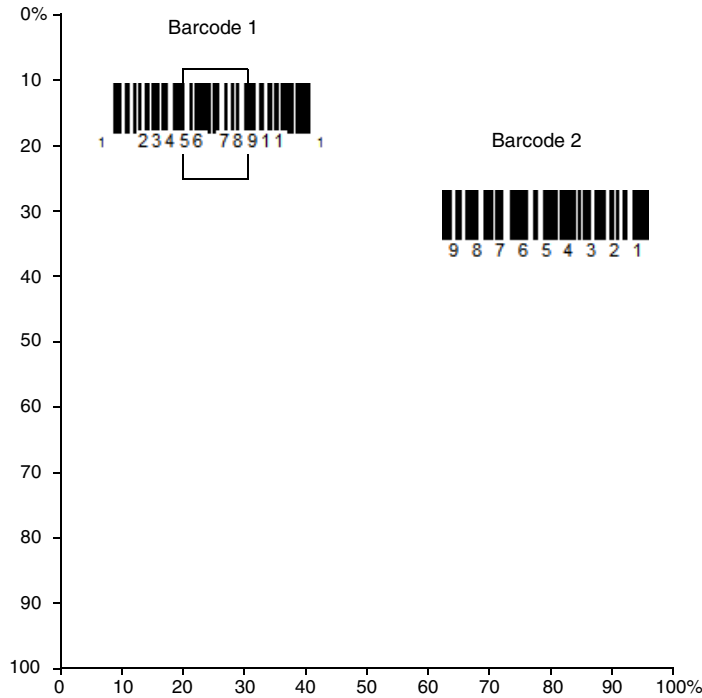
Note: *A barcode needs only to be touched by the centering window in order to be read. It does not need to pass completely through the centering window.*

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 from the Programming Chart, beginning on page 133, then **Save**. *Default Centering = 40% for Top and Left, 60% for Bottom and Right.*

DECWIN1.
Centering On

DECWIN0.
* Centering Off

DECTOP.
Top of Centering Window

```
||||| ||| | ||| ||||| |||| |||||
DECBOT.
```
Bottom of Centering Window

```
||||| || | ||| || ||| || |||||
DECLFT.
```
Left of Centering Window

```
||| || | ||| ||| ||| ||| |||||
DECRGT.
```
Right of Centering Window

No Read

With No Read turned **On**, the scanner notifies you if a code cannot be read. If using an Scanning Tool Scan Data Window, 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 with NRDSTR menu command, such as: NRDSTRError or NRDSTRBad Code.

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.*

VIDREV1.
Video Reverse Only

VIDREV2.
Video Reverse and Standard Barcodes

VIDREV0.
* Video Reverse Off

Working Orientation

Some barcodes are direction-sensitive. For example, KIX codes and OCR 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:

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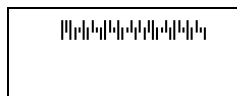
Vertical, Top to Bottom:
(Rotate CW 90°)
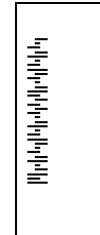
Vertical, Bottom to Top:
(Rotate CCW 90°)

ROTATN0.
* Upright

||| | ||| ||||| |||| ||| ||||| |||| |||
ROTATN1.
Vertical, Bottom to Top

||| | ||| ||||| |||| ||| ||||| |||| |||
ROTATN2.
Upside Down

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

5 DATA EDIT

Prefix/Suffix Overview

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

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

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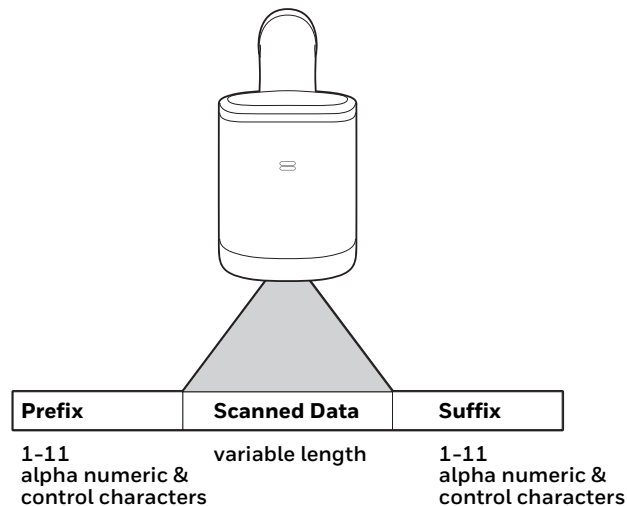
Points to Keep In Mind

- 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 124, 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.

Add a Prefix or Suffix:

Step 1.   Scan the **Add Prefix** or **Add Suffix** symbol (page 33).

Step 2.   Determine the 2 digit hex value from the Symbology Charts (beginning on page 121) 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 133, 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 133 to apply this suffix to all symbologies.

Step 3.   Scan **0, 9** from the Programming Chart, beginning on page 133. This corresponds with the hex value for a horizontal tab, shown in the ASCII Conversion Chart (Code Page 1252), beginning on page 124.

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 121) 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 133 or scan **9, 9** for all symbologies.

Your change is automatically saved.

Add a Carriage Return Suffix to All Symbologies

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

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 124). 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 37) 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 133, then **Save**.

Prefix	Scanned Data	Suffix

1 2 3 4 5

Intercharacter Delay

DLYCHR.

Intercharacter Delay
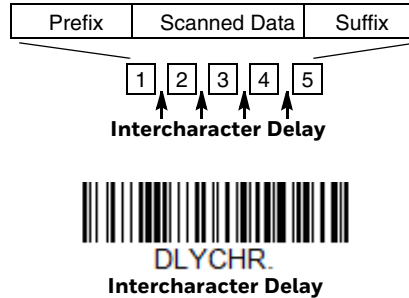
To remove this delay, scan the **Intercharacter Delay** barcode, then set the number of delays to 0. Scan the **Save** barcode from the Programming Chart, beginning on page 133.

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 133, 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 125.)

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 133.

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 133.

Interfunction Delays
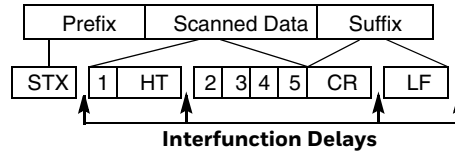
DLYFNC.
Interfunction Delay

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 133.

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 133.

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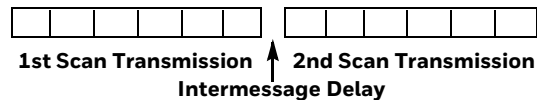
DLYMSG.
Intermessage Delay

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 133.

DATA FORMAT

Data Format Editor Introduction

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

Normally, when you scan a barcode, it is output automatically. However, when you create a format, you must use a "send" command (see Send Commands on page 40) 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 39).

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 133. 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 55 for further information.)

Step 3.   **Terminal Type**
Refer to Terminal ID Table (page 40) and locate the Terminal ID number for your PC. Scan three numeric barcodes from the Programming Chart, beginning on page 133, 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 121, 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 133.

If you wish to create a data format for all symbologies, with the exception of some specific symbologies, refer to B8 (page 53).

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

Note: *99 indicates all symbologies.*

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

Chart, beginning on page 133. For example, 50 characters is entered as **0050**.

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

Step 6. **Editor Commands**
Refer to Data Format Editor Commands (page 40). 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 133. 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 121), 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 124 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 124 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 124 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 124 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 124 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 124 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:
1234567890**ABCDEFGHIJ
<CR>

Insert symbology name

B3 Insert the name of the barcode's symbology in the output message, without moving the cursor. Only symbologies with a Honeywell ID are included (see Symbology Charts on page 121). Refer to the ASCII Conversion Chart (Code Page 1252), beginning on page 124 for decimal, hex and character codes.

Insert barcode length

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

B3 and B4 Example: Insert the symbology name and length

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 130). 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 130.

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

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

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

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

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

Move Commands

Move the cursor forward a number of characters

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

F5 Example: Move the cursor forward and send the data

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 124 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 124 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 124 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, including "FGH." Using the barcode above:

Command string: **B00003464748F10D**

B0 is the "Search forward for a string" command

0003 is the string length (3 characters)

46 is the hex value for "F"

47 is the hex value for "G"

48 is the hex value for "H"

F1 is the "Send all characters" command

0D is the hex value for a CR

The data is output as:
FGHIJ
<CR>

Search backward for a string

B1 Search backward for "s" string from the current cursor position, leaving cursor pointing to "s" string. Syntax = B1nnnnS where nnnn is the string length (up to 9999), and S consists of the ASCII hex value of each character in the match string. For example, 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 124 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 124 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 124 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$_1$xx$_2$yy$_1$yy$_2$...zz$_1$zz$_2$* where nn is the total count of the number of characters in the list (characters to be replaced plus replacement characters); xx$_1$ defines characters to be replaced and xx$_2$ defines replacement characters, continuing through zz$_1$ and zz$_2$.

E4 Example: Replace zeros with CRs in barcode data

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 124 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 124 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, AB1234 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: 1234AB 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, 1234AB 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: AB1234 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 38), 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 53) in order for the B8 command to work.*
If Data Format is On, but Not Required (page 54), barcode data that meets the B8 format is scanned and output as usual.
Because the data format needs to be **On** *and* **Required** *(page 54) 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 54), 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**

**Data Format Non-Match
Error Tone Off**

Primary/Alternate Data Formats

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

Primary Data Format

Data Format 1

Data Format 2

Data Format 3

Single Scan Data Format Change

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

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

**Single Scan–Primary
Data Format**

```
||| ||||||| | |||| ||||||||| ||| |||
```
VSAF_1.
Single Scan–Data Format 1

```
||| ||||||| | |||| | ||||||| ||| |||
```
VSAF_2.
Single Scan–Data Format 2

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

7 SYMBOLOGIES

This programming section contains the following menu selections.

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 133. 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
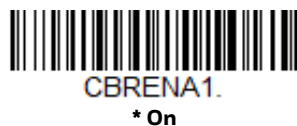
Codabar Start/Stop Characters

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.

CBRCCT1.
On

CBRCCT0.
* Off

CBRCCT2.
Require

Codabar Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 58) 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

< Default All Code 39 Settings >

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 89), 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 58) 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 pharmacies. This symbology is also known as PARAF.

Note: *Trioptic Code () must be turned off while scanning Code 32 Pharmaceutical codes.*

On

* Off

Full ASCII

If Full ASCII Code 39 decoding is enabled, certain character pairs within the barcode 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.

Full ASCII On

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 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 128), and scan the value and the **Save** barcode from the Programming Chart, beginning on page 133. The data characters should then appear properly.

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

C39DCP.

Code 39 Code Page

Suppress Code 39

Note: *It is recommended if you are reading Code 39 barcodes, Codablock A should remain disabled.*

The Do Not Suppress Code 39 setting allows you to scan a mix of Code 39 and Codablock A barcodes. Once Codablock A is enabled, scan the **Do Not Suppress Code 39** barcode. *Default = Suppress Code 39*.

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

C39SCC1.

* Suppress Code 39

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

C39SCC0.

Do Not Suppress Code 39

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 Interleaved 2 of 5 barcodes printed with a check digit, but will not transmit the check digit with the scanned data.

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

```
I25CK20.
```
* No Check Digit

```
I25CK21.
```
Validate, but Don't Transmit

```
I25CK22.
```
Validate and Transmit

Interleaved 2 of 5 Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 58) for additional information. Minimum and Maximum lengths = 2-80. Minimum Default = 6, Maximum Default = 80.

Minimum Message Length

Maximum Message Length

NEC 2 of 5

< Default All NEC 2 of 5 Settings >

NEC 2 of 5 On/Off

* On

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 58) 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

< Default All Code 93 Settings >

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
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 58) 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 barcodes 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 128), and scan the value and the **Save** barcode from the Programming Chart, beginning on page 133. The data characters should then appear properly.

Code 93 Code Page

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

<Default All Straight 2 of 5 Industrial Settings>

Straight 2 of 5 Industrial On/Off

On

* Off

Straight 2 of 5 Industrial Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 58) for additional information. Minimum and Maximum lengths = 1-48. Minimum Default = 4, Maximum Default = 48.

Minimum Message Length

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 58) 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

<Default All Matrix 2 of 5 Settings>

||| || ||||| || ||| |||||| ||||
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 58) 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 58) 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 90), 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 recommendation to use Code 128 due to its high degree of security and its space-efficient design, 3) a variation of Code 128 that supports concatenation of neighboring symbols, and 4) the standard layout for 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 58) 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 128), and scan the value and the **Save** barcode from the Programming Chart, beginning on page 133. 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 58) for additional information. Minimum and Maximum lengths = 1-80. Minimum Default = 1, Maximum Default = 80.

‖‖‖‖‖‖‖‖‖‖‖‖
GS1MIN.
Minimum Message Length

‖‖‖‖‖‖‖‖‖‖‖‖
GS1MAX.
Maximum Message Length

UPC-A

||||||||||||||||||||||||
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 82*.

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

UPAARQ0.
* Not 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

||||| ||||| ||| |||| ||||| |||
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 81). *Default = On.*

||||| ||||| |||| ||| ||||| |||
UPEEN01.
* UPC-E0 On

||||| ||||| ||| |||| ||||| |||
UPEEN00.
UPC-E0 Off

UPC-E0 Expand

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

||||| ||||| ||||| |||| ||||| |||
UPEEXP1.
On

||||| ||||| ||| |||| ||||| |||
UPEEXP0.
* Off

UPC-E0 Addenda Required

When **Required** is scanned, the scanner will only read UPC-E 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.*

2 Digit Addenda On

* 2 Digit Addenda Off

5 Digit Addenda On

* 5 Digit Addenda Off

UPC-E1

Most U.P.C. barcodes lead with the 0 number system. For these codes, use UPC-E0 (page 79). If you need to read codes that lead with the 1 number system, use the **UPC-E1 On** selection. *Default = Off.*

UPC-E1 On

* UPC-E1 Off

EAN/JAN-13

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.

UPAENA0.
UPC-A Converted to EAN-13

UPAENA1.
* Do not Convert UPC-A

EAN/JAN-13 Check Digit

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

E13CKX1.
* On

E13CKX0.
Off

EAN/JAN-13 Addenda

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

E13AD21.
2 Digit Addenda On

E13AD20.
* 2 Digit Addenda Off

E13AD51.
5 Digit Addenda On

E13AD50.
* 5 Digit Addenda Off

EAN/JAN-13 Addenda Required

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

E13ARQ1.
Required

E13ARQ0.
* Not Required

EAN/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 78).*

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
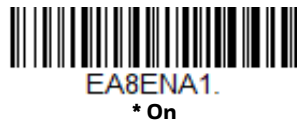
EAN/JAN-8 Check Digit

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
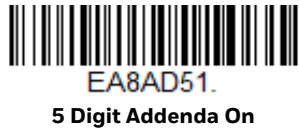
EAN/JAN-8 Addenda Required

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
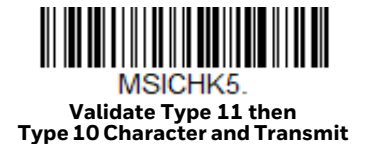
MSI Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 58) for additional information. Minimum and Maximum lengths = 4–48. Minimum Default = 4, Maximum Default = 48.
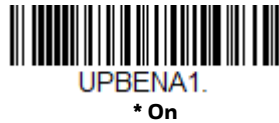
```
MSIMIN.
```
Minimum Message Length

```
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

||||||||||||||||||||||||||||
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 58) for additional information. Minimum and Maximum lengths = 4–74. Minimum Default = 4, Maximum Default = 74.
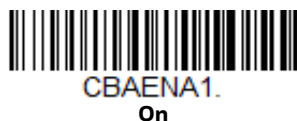
||||||||||||||||||||||||||||
RSEMIN.
Minimum Message Length

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

Codablock A

||||||||||||||||||||||||||||
CBADFT.

Codablock A On/Off

||||||||||||||||||||||||||||
CBAENA1.
On

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 61).

Codablock A Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 58) 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

<Default All Codablock F Settings>

||||| ||||| ||||| ||||| |||||
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 73).

Codablock F Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 58) for additional information. Minimum and Maximum lengths = 1-2048. Minimum Default = 1, Maximum Default = 2048.

CBFMIN.
Minimum Message Length

CBFMAX.
Maximum Message Length

PDF417

< Default All PDF417 Settings >

PDFDFT.
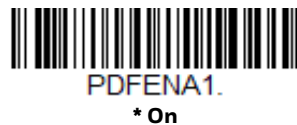
PDF417 On/Off

PDFENA1.
* On

PDFENA0.
Off

PDF417 Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 58) for additional information. Minimum and Maximum lengths = 1-2750. Minimum Default = 1, Maximum Default = 2750.

PDFMIN.
Minimum 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 58) for additional information. Minimum and Maximum lengths = 1–366. Minimum Default = 1, Maximum Default = 366.

MPDMIN.

Minimum Message Length

MPDMAX.

Maximum Message Length

GS1 Composite Codes

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

COMENA1.

On

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 Coupon GS1 DataBar Output (page 78) for further information.*

GS1 Composite Code Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 58) for additional information. Minimum and Maximum lengths = 1-2435. Minimum Default = 1, Maximum Default = 2435.

COMMIN.
Minimum Message Length

COMMAX.
Maximum Message Length

GS1 Emulation

The scanner can automatically format the output from any GS1 data carrier to emulate what would be encoded in an equivalent GS1-128 or GS1 DataBar symbol. GS1 data carriers include UPC-A and UPC-E, EAN-13 and EAN-8, ITF-14, GS1-128, and GS1 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 121).

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 121).

If **GS1 Code Expansion Off** is scanned, retail code expansion is disabled, and UPC-E expansion is controlled by the UPC-E0 Expand (page 79) setting. If the AIM ID is enabled, the value will be the GS1-128 AIM ID,]C1 (see Symbology Charts on page 121).

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
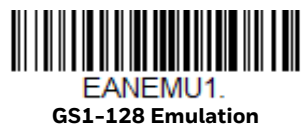
||||| ||| ||||| ||||||| ||||| |||||
EANEMU3.
GS1 Code Expansion Off
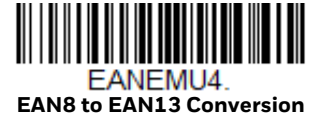
||| |||| ||||| ||||||| |||||| ||||
EANEMU4.
EAN8 to EAN13 Conversion
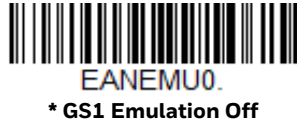
||| |||| ||||| |||||||| ||| ||||
EANEMU0.
* GS1 Emulation Off

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 58) for additional information. Minimum and Maximum lengths = 1–7089. Minimum Default = 1, Maximum Default = 7089.

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

QRCMIN.
Minimum Message Length

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

QRCMAX.
Maximum Message Length

QR Code Append

This function allows the scanner to append the data from several QR Code barcodes 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 barcodes. 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.

Swipe: Pull and hold down the trigger and scan all appended QR Codes while keeping the trigger pressed. The scanner emits short beeps for each partial QR Code that is scanned and buffered. One long beep is emitted after the last QR Code is scanned and the data is complete. Not compatible with Presentation mode.

Point and Shoot: Pull the trigger one time for each image. The scanner emits a short beep for each partial QR Code that is scanned and buffered. One long beep is emitted after the last QR Code is scanned and the data is complete. Not compatible with Presentation mode.

Default = One Scan.

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

QRCAPP1.
* One Scan

||||||| ||| | ||||| | ||| |||||||
QRCAPP2.
Swipe

||||||| ||| | ||||| | ||| |||||||
QRCAPP3.
Point and Shoot

||||||| ||| | ||||| | ||| |||||||
QRCAPP0.
Off
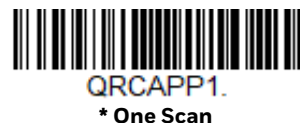
QR Code Page

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 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 128), and scan the value and the **Save** barcode from the Programming Chart, beginning on page 133. The data characters should then appear properly.

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

Data Matrix

< Default All Data Matrix Settings >

||||||| ||| | ||||| | ||| |||||||
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 58) 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 128), and scan the value and the **Save** barcode from the Programming Chart, beginning on page 133. The data characters should then appear properly.

IDMDCP.
Data Matrix Code Page

MaxiCode

< Default All MaxiCode Settings >

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 58) for additional information. Minimum and Maximum lengths = 1–150. Minimum Default = 1, Maximum Default = 150.

Minimum Message Length

Maximum Message Length

Aztec Code

< Default All Aztec Code Settings >

Aztec Code On/Off

* On

Off

Aztec Code Message Length

Scan the barcodes below to change the message length. Refer to Message Length Description (page 58) for additional information. Minimum and Maximum lengths = 1–3832. Minimum Default = 1, Maximum Default = 3832.

Minimum Message Length

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. There are 3 ways to scan appended Aztec Code:

- **One scan**—Pull the trigger one time and all appended Aztec Codes in the same image are decoded

- **Swipe**—Pull and hold down the trigger and scan all appended Aztec Codes while keeping the trigger pressed. The scanner emits short beeps for each partial Aztec Code that is scanned and buffered. One long beep is emitted after the last Aztec Code is scanned and the data is complete. Not compatible with Presentation mode.

- **Point and shoot**—Pull the trigger one time for each image. The scanner emits a short beep for each partial Aztec Code that is scanned and buffered. One long beep is emitted after the last Aztec Code is scanned and the data is complete. Not compatible with Presentation mode.

Default = One Scan.

AZTAPP1.
* One Scan

AZTAPP2.
Swipe

AZTAPP3.
Point and Shoot

AZTAPP0.
Off
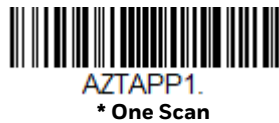
Aztec Code Page

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 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 128), and scan the value and the **Save** barcode from the Programming Chart, beginning on page 133. 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 58) 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 105.

POSTAL9.
Postal-4i On

POSTAL6.
Postnet On
Also see Postnet Check
Digit, page 105.

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**

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.
* Don't Transmit Check Digit

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.

AUSINT0.

* Bar Output

AUSINT1.

Numeric N Table

AUSINT2.

Alphanumeric C Table

AUSINT3.

Combination C and N Tables

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 58) 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

<Default All Korea Post Settings>

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 58) 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 121 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 Software Revision

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

REVINF.

Show Software Boot Revision

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

Reset the Factory Defaults

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

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

```
║█║║║ █║║ ║█║█║ █║║██ █║║█
DEFOVR.
```
Remove Custom Defaults

```
║█║║║║ █║ ║██║█║ █║║██ █║║█
DEFALT.
```
Activate Defaults

Note: *If using a cordless system, scanning the **Activate Defaults** barcode also causes both the scanner and the base or Access Point to perform a reset and become unlinked. The scanner must be placed in its base to re-establish the link before any setup codes are entered. See Cordless System Operation beginning on page 41 for additional information.*

The Menu Commands, beginning on page 244, list the factory default settings for each of the commands (indicated by an asterisk (*) on the programming pages).

PRODUCT SPECIFICATIONS

HH492 Scanner Product Specifications

Parameter	Specification
Mechanical	
Height	6.53 inches (165.78mm)
Length	3.33 inches (84.72mm)
Width	2.52 inches (64mm)
Weight	6.7 oz. (190g)
Electrical	
Battery: Lithium Ion	2850 mAH lithium-ion
Number of Scans	Up to 50,000 per charge
Expected Hours of Operation	14
Expected Charge Time	4.5 hours
Illumination LED	White color (CCT 2700K)
Aiming LED	Red LED, 624nm (Peak Wavelength)
Radio	
Frequency	2.4 to 2.5 GHz (ISM Band) Frequency Hopping Bluetooth 5.0+
Range	100 ft. (30 m) typical
Data Rate	Up to 1 Mbps
Environmental	
Temperature Ranges:	
Operating (Non-Charging)	-4°F to 122°F (-20°C to 50°C)
Operating (Charging)	41°F to 104°F (5°C to 40°C)
Storage with Battery*	-40°F to 140°F (-40°C to 60°C)
Humidity	Up to 95% non-condensing
Drop	Operation after 5 drops to concrete from 4.9 ft (1.5m)

Parameter (Continued)	Specification
ESD Tolerance	Up to 12kV air Up to 8 kV contact
Sealant Rating	IP40
Image	
Image Size	1040 x 720 pixels
Scan Performance	
Pitch, Skew	±65°, ±70°
Motion Tolerance	Up to 70 cm/s for 13 mil UPC at optimal focus
Symbol Contrast	25% or greater (Grade A)

*Storage outside of this temperature range could be detrimental to battery life.

Communication Base Product Specifications

Parameter	Specification
Mechanical	
Height	3.34 inches (84.87mm)
Length	5.1 inches (129.62mm)
Width	3.38 inches (86mm)
Weight	5.22 oz. (148g)
Electrical	
Voltage	4.5 to 5.5 volts
Current Draw: Host Terminal Port AUX Power Port	 500mA 1A
Charge Time	5 hours
Radio	
Frequency	2.4 to 2.5 GHz (ISM Band) Frequency Hopping Bluetooth v2.1
Range	33 ft. (10 m) typical
Data Rate	Up to 1 MBps
Environmental	
Temperature Ranges: Operating Battery Charge Storage	 32° F to +122° F (0° C to +50° C) 41° F to +104° F (5° C to +40° C) –40° F to +140° F (–40° C to +60° C)
Humidity	Up to 95% non–condensing
Mechanical Drop	Operational after 2 drops from 3.3 feet (1 m) to concrete

Parameter (Continued)	Specification
Sealant Rating	IP40
ESD Sensitivity	Up to 15kV direct air Up to 8 kV indirect coupling plane

Depth of Field Charts

Typical Performance

Focus		Standard Range	
Symbology		Near Distance	Far Distance
5 mil Code 39	in.	0.8	8.1
	mm	20	205
10 mil Code 39	in.	0.2	14.4
	mm	5	365
13 mil UPC-A	in.	0.7	15.7
	mm	18	400
20 mil Code 39	in.	1	24.2
	mm	25	615
6.7 mil PDF417	in.	0.6	7.3
	mm	15	185
10 mil PDF417	in.	0.8	11
	mm	20	280
10 mil Data Matrix	in.	0.4	6.5
	mm	10	165
10 mil QR Code	in.	0.2	6.9
	mm	5	175
20 mil QR Code	in.	0.2	12.8
	mm	5	325
NYS DL	in.	3.1	8.7
	mm	80	220

Guaranteed Performance

Focus		Standard Range	
Symbology		**Near Distance**	**Far Distance**
5 mil Code 39	in.	1	7.9
	mm	25	200
10 mil Code 39	in.	0.2	13
	mm	5	330
13 mil UPC-A	in.	0.8	14.6
	mm	20	370
20 mil Code 39	in.	1.2	17.9
	mm	30	455
6.7 mil PDF417	in.	1	6.9
	mm	25	175
10 mil PDF417	in.	1	10.2
	mm	25	260
10 mil Data Matrix	in.	0.6	6.1
	mm	15	155
10 mil QR Code	in.	0.4	6.3
	mm	10	160
20 mil QR Code	in.	0.4	12
	mm	10	305
NYS DL	in.	3.1	7.9
	mm	80	200

Standard Connector Pinouts

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

USB

10 Pin Modular Plug – connects to the base

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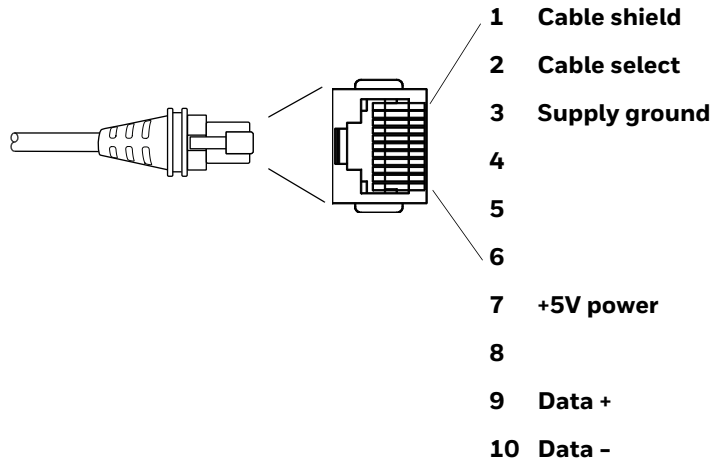
Required Safety Labels

Scanner

Illumination output

Part Number,
Serial Number
and Revision
Information
location

Compliance
Label
location

Base

Part
Number,
Serial Number,
Revision, and
Compliance
Information
location
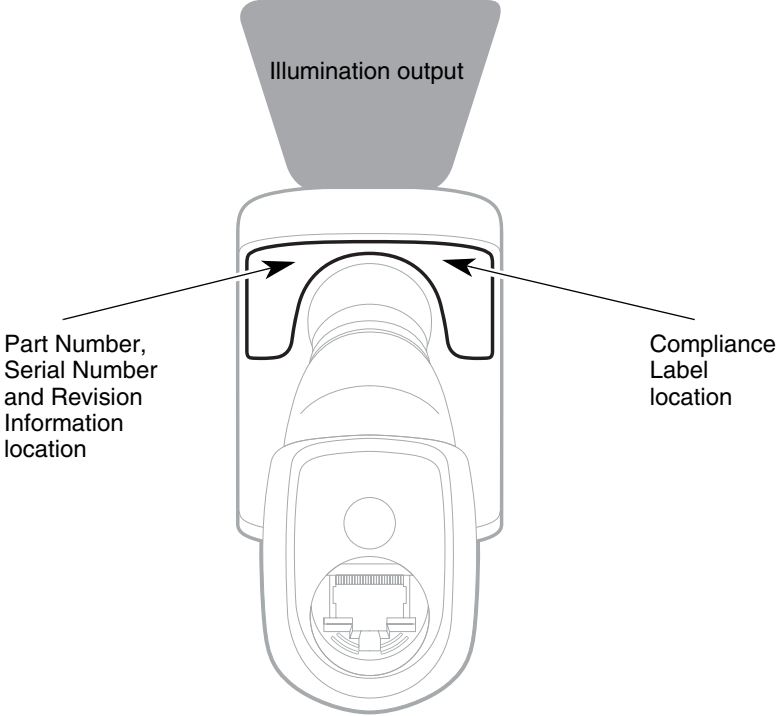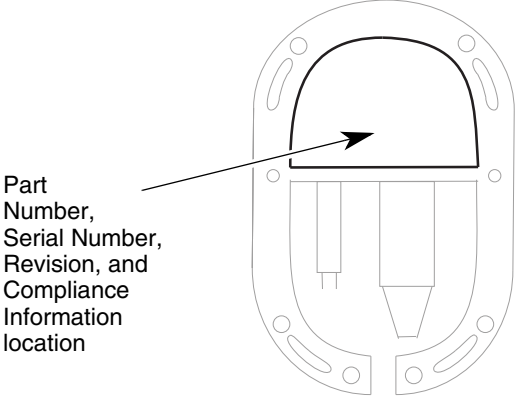
MAINTENANCE AND
TROUBLESHOOTING

Repairs

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

Maintenance

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

Clean the Scanner

The scanner or base's 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 or base with a clean cloth dampened only with water to remove any detergent residue.

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

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

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.

Inspect Cords and Connectors

Inspect the interface cable and connector for wear or other signs of damage. A badly worn cable or damaged connector may interfere with scanner operation. Contact your distributor for information about cable replacement. Cable replacement instructions are on page 118.

Replace Cable

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

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

Replace an Interface Cable

1. Turn off the power to the host system.
2. Disconnect the scanner's cable from the terminal or computer.
3. Locate the small hole on the back of the scanner's handle. This is the cable release.
4. Straighten one end of a paper clip.
5. Insert the end of the paper clip into the small hole and press in. This depresses the retention tab, releasing the connector. Pull the connector out while maintaining pressure on the paper clip, then remove the paper clip.
6. Replace with the new cable.
   Insert the connector into the opening and press firmly. The connector is keyed to go in only one way and will click into place.
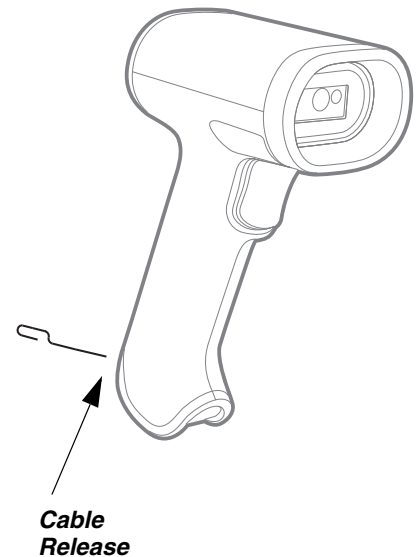
Cable Release

Replace an Interface Cable in a Base

1. Turn the power to the host system OFF.
2. Disconnect the base's cable from the terminal or computer.
3. Turn the base upside down.

4. Pull the connector out while maintaining pressure on the connector release clip.
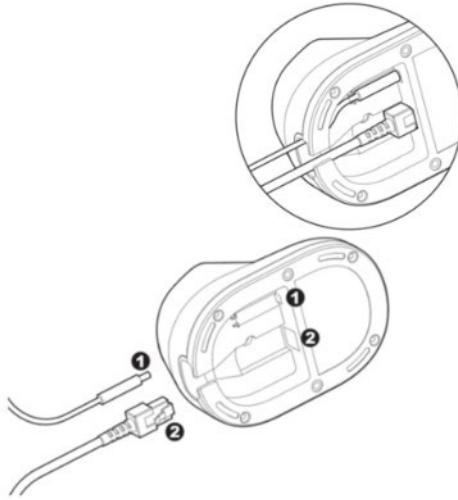
5. Replace with the new cable.
    Insert the connector into the opening and press firmly. The connector is keyed to go in only one way, and will click into place.

Troubleshoot

Troubleshoot a Base

Note: *Visit the Services and Support section of our website (sps.honeywell.com) to check for the latest software for both the scanner and the base.*

If your base is not functioning properly, review the following troubleshooting guidelines to try to isolate the problem.

Is the green LED on?

If the *green* LED isn't illuminated, check that:

- The scanner is correctly placed in the base.

- The power cable is connected properly and there is power at the power source.

Troubleshoot a Cordless Scanner

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 base or Access Point.

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 base or Access Point 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 125 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 8).

A

REFERENCE CHARTS

Symbology Charts

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

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

Refer to Data Edit beginning on page 31 and Data Format beginning on page 37 for information about using Code ID and AIM ID.

Linear Symbologies

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

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

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

2D Symbologies

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

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

Postal Symbologies

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

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

Lower ASCII Reference Table

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

Printable Characters

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

Extended ASCII Characters

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

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

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

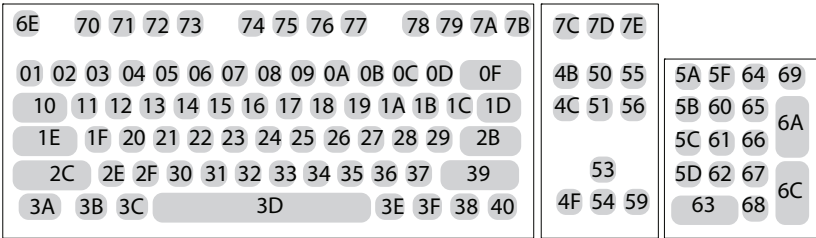| Extended ASCII Characters (Continued)					
DEC	HEX	CP 1252	ASCII	Alternate Extended	PS2 Scan Code
248	F8	ø	°		
249	F9	ù	·		
250	FA	ú	·		
251	FB	û	√		
252	FC	ü	^{n}		
253	FD	ý	^{2}		
254	FE	þ	■		
255	FF	ÿ			

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 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, select the code page with which the barcodes were created. The data characters should then appear properly.

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

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

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

Keyboard Key References

```
6E    70 71 72 73    74 75 76 77    78 79 7A 7B    7C 7D 7E

01 02 03 04 05 06 07 08 09 0A 0B 0C 0D   0F    4B 50 55    5A 5F 64 69
  10  11 12 13 14 15 16 17 18 19 1A 1B 1C 1D    4C 51 56    5B 60 65
                                                            5C 61 66   6A
  1E  1F 20 21 22 23 24 25 26 27 28 29   2B              53  5D 62 67
  2C  2E 2F 30 31 32 33 34 35 36 37    39    4F 54 59     63  68   6C
3A  3B 3C          3D          3E 3F 38 40
```
104 Key U.S. Style Keyboard

```
6E    70 71 72 73    74 75 76 77    78 79 7A 7B    7C 7D 7E

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

SAMPLE SYMBOLS

UPC-A

0 123456 7890

Interleaved 2 of 5
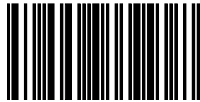
01234567890

EAN-13

9 780330 290951

Code 128
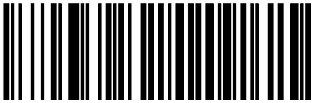
Code 128

Code 39
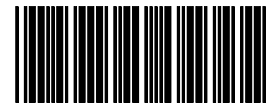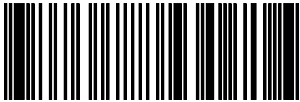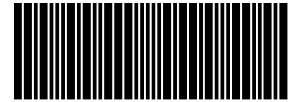
BC321

Codabar

A13579B

Code 93

123456-9$

Straight 2 of 5 Industrial

123456

Matrix 2 of 5

6543210

RSS-14

(01) 00123456789012

PDF417

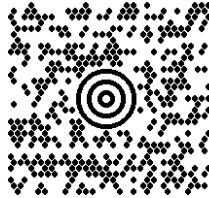Car Registration

Postnet

Zip Code

SAMPLE SYMBOLS (CONTINUED)

Data Matrix

Test Symbol

QR Code

Numbers

MaxiCode

Test Message

Micro PDF417

Test Message

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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Charlotte, NC 28202

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