

YJ-HF500

Area-Imaging Scanner

User's Guide

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Sample Symbols

Programming Chart

Getting Started

About This Manual

This User's Guide provides installation and programming instructions for the Youjie HF500 corded area-imaging scanners. Product specifications, dimensions, warranty, and customer support information are also included.

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

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

Unpacking Your Device

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

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

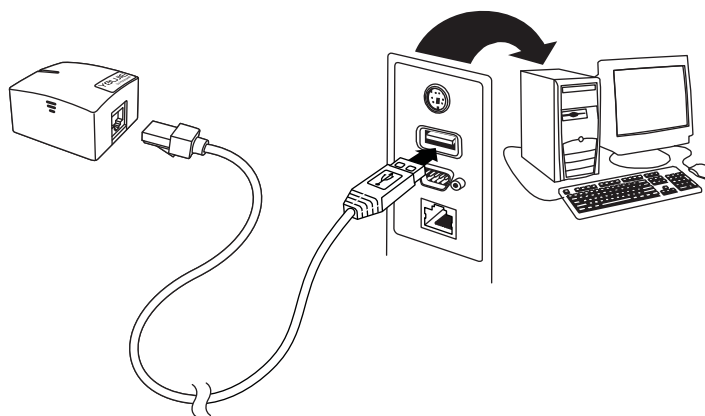
Connecting the Device

Connecting 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.

**YJ-HF500 USB
Connection:**



Note: The power supply must be ordered separately, if needed.

2. The scanner beeps.
3. Verify the scanner operation by scanning a bar code from the [Sample Symbols](#) in the back of this manual.

The unit defaults to a USB PC Keyboard. Refer to [page 2-2](#) for other USB terminal settings.

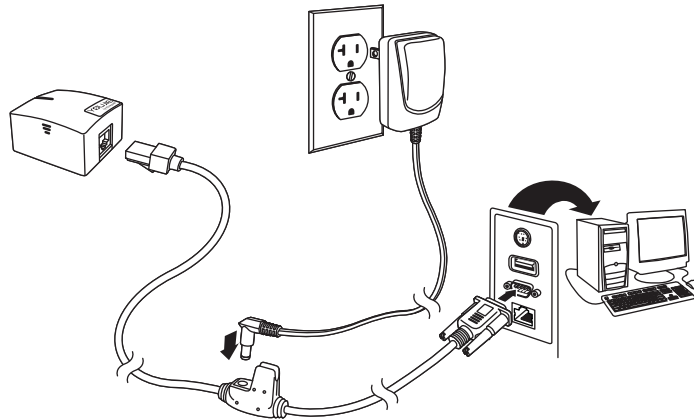
Connecting with RS232 Serial Port

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

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

YJ-HF500

RS232 Serial Port Connection:



Note: The power supply must be ordered separately, if needed.

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

This interface programs 115,200 baud, 8 data bits, no parity, and 1 stop bit.

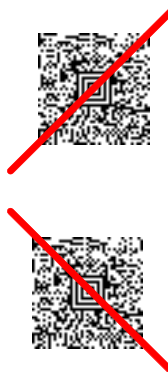
Reading Techniques

The scanner has a view finder that projects a bright red aiming beam that corresponds to the scanner's horizontal field of view. The aiming beam should be centered over the bar code, but it can be positioned in any direction for a good read.

Linear bar code



2D Matrix symbol



The aiming beam or pattern is smaller when the scanner is closer to the code and larger when it is farther from the code. Symbolologies with smaller bars or elements (mil size) should be read closer to the unit. Symbolologies with larger bars or elements (mil size) should be read farther from the unit. To read single or multiple symbols (on a page or on an object), hold the scanner at an appropriate distance from the target and center the aiming beam or pattern 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 Bar Code Security Settings

Youjie scanners are programmed by scanning menu bar codes or by sending serial commands to the scanner. If you want to restrict the ability to scan menu codes, you can use the Menu Bar Code Security settings. Please contact the nearest technical support office (see [Technical Assistance](#) on page 12-1) for further information.

Setting Custom Defaults

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



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** bar code, then scan the Beeper Volume High menu code, and then **Save Custom Defaults**. The rest of the custom defaults will remain, but the beeper volume setting will be updated.

Resetting the Custom Defaults

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



DEFAULT.

Activate Custom Defaults

Programming the Interface

Introduction

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

Programming the Interface - Plug and Play

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

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

RS232 Serial Port

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

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



USB IBM SurePos

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

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



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

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

USB PC or Macintosh Keyboard

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



PAP124.
USB Keyboard (PC)



PAP125.
USB Keyboard (Mac)



TRMUSB134.
USB Japanese Keyboard (PC)

USB HID

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



PAP131.
USB HID Bar Code Scanner

USB Serial

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



TRMUSB130.
USB Serial

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

ACK/NAK Mode



USBACK1.
ACK/NAK Mode On



USBACK0.
* ACK/NAK Mode Off

Verifone® Ruby Terminal Default Settings

Scan the following Plug and Play code to program the scanner for a Verifone Ruby terminal. This bar code sets the baud rate to 1200 bps and the data format to 8 data bits, mark parity bit, 1 stop bit. It also adds a line feed (LF) suffix and programs the following prefixes for each symbology:

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



PAPRBY.

Verifone Ruby Settings

Gilbarco® Terminal Default Settings

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

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



PAPGLB.

Gilbarco Settings

Bioptic Aux Port Configuration

Scan the following Plug and Play code to program the scanner for a Youjie bioptic scanner auxiliary port configuration. This bar code sets the baud rate to 38400 bps and the data format to 8 data bits, no parity, 1 stop bit.



PAPBIO.

Youjie Bioptic Settings

Datalogic™ Magellan® Bioptic Aux Port Configuration

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



PAPMAG.

Datalogic Magellan Bioptic Settings

NCR Bioptic Aux Port Configuration

Scan the following Plug and Play code to program the scanner for an NCR bioptic scanner auxiliary port configuration. The following prefixes are programmed for each symbology:

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



PAPNCR.
NCR Bioptic Settings

Wincor Nixdorf Terminal Default Settings

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



PAPWNX.
Wincor Nixdorf Terminal Settings

Wincor Nixdorf Beetle™ Terminal Default Settings

Scan the following Plug and Play code to program the scanner for a Wincor Nixdorf Beetle terminal. This bar code sets the baud rate to 115200 bps and the data format to 8 data bits, no parity, 1 stop bit. The following prefixes are programmed for each symbology:

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



PAPBTL.
Wincor Nixdorf Beetle Settings

Wincor Nixdorf RS232 Mode A

Scan the following Plug and Play code to program the scanner for a Wincor Nixdorf RS232 Mode A terminal. This bar code sets the baud rate to 9600 bps and the data format to 8 data bits, odd parity, 1 stop bit. The following prefixes are programmed for each symbology:

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



PAPWMA.
Wincor Nixdorf RS232 Mode A
Settings

Keyboard Country Layout

If your interface is USB Keyboard, your keyboard layout default is a US keyboard. To change this layout, refer to the chart below for your keyboard country. Scan the appropriate bar code below to change the layout.

By default, national character replacements are used for the following characters: # \$ @ [\] ^ ' { | } ~ See [ISO 2022/ISO 646 Character Replacements](#) on page A-7 to view the character replacements for each country.

Keyboard Countries



KBDCTY0.
* United States



KBDCTY35.
Albania



KBDCTY81.
Azeri (Cyrillic)



KBDCTY80.
Azeri (Latin)



KBDCTY82.
Belarus

Keyboard Countries (Continued)



KBDCTY33.
Bosnia



KBDCTY59.
Brazil (MS)



KBDCTY53.
Bulgaria (Latin)



KBDCTY18.
Canada (French)



KBDCTY32.
Croatia



KBDCTY1.
Belgium



KBDCTY16.
Brazil



KBDCTY52.
Bulgaria (Cyrillic)



KBDCTY54.
Canada (French legacy)



KBDCTY55.
Canada (Multilingual)



KBDCTY15.
Czech

Keyboard Countries (Continued)



KBDCTY40.
Czech (Programmers)



KBDCTY38.
Czech (QWERTZ)



KBDCTY11.
Dutch (Netherlands)



KBDCTY83.
Faroese



KBDCTY3.
France



KBDCTY4.
Germany



KBDCTY39.
Czech (QWERTY)



KBDCTY8.
Denmark



KBDCTY41.
Estonia



KBDCTY2.
Finland



KBDCTY84.
Gaelic

Keyboard Countries (Continued)



KBDCTY64.
Greek (220 Latin)



KBDCTY65.
Greek (319 Latin)



KBDCTY63.
Greek (Latin)



KBDCTY60.
Greek (Polytonic)



KBDCTY50.
Hungarian (101 key)



KBDCTY17.
Greek



KBDCTY61.
Greek (220)



KBDCTY62.
Greek (319)



KBDCTY66.
Greek (MS)



KBDCTY12.
Hebrew



KBDCTY19.
Hungary

Keyboard Countries (Continued)



KBDCTY75.
Iceland



KBDCTY56.
Italian (142)



KBDCTY28.
Japan ASCII



KBDCTY79.
Kyrgyz (Cyrillic)



KBDCTY42.
Latvia



KBDCTY44.
Lithuania



KBDCTY73.
Irish



KBDCTY5.
Italy



KBDCTY78.
Kazakh



KBDCTY14.
Latin America



KBDCTY43.
Latvia (QWERTY)

Keyboard Countries (Continued)



KBDCTY34.
Macedonia



KBDCTY86.
Mongolian (Cyrillic)



KBDCTY20.
Poland



KBDCTY58.
Polish (Programmers)



KBDCTY25.
Romania



KBDCTY45.
Lithuania (IBM)



KBDCTY74.
Malta



KBDCTY9.
Norway



KBDCTY57.
Polish (214)



KBDCTY13.
Portugal



KBDCTY26.
Russia

Keyboard Countries (Continued)



KBDCTY67.
Russian (MS)



KBDCTY21.
SCS



KBDCTY36.
Serbia (Latin)



KBDCTY49.
Slovakia (QWERTY)



KBDCTY31.
Slovenia



KBDCTY51.
Spanish variation



KBDCTY68.
Russian (Typewriter)



KBDCTY37.
Serbia (Cyrillic)



KBDCTY22.
Slovakia



KBDCTY48.
Slovakia (QWERTZ)



KBDCTY10.
Spain

Keyboard Countries (Continued)



KBDCTY29.
Switzerland (French)



KBDCTY85.
Tatar



KBDCTY24.
Turkey Q



KBDCTY7.
United Kingdom



KBDCTY88.
United States (Dvorak left)



KBDCTY23.
Sweden



KBDCTY6.
Switzerland (German)



KBDCTY27.
Turkey F



KBDCTY76.
Ukrainian



KBDCTY87.
United States (Dvorak)



KBDCTY89.
United Stated (Dvorak right)

Keyboard Countries (Continued)



KBDCTY30.
United States (International)



KBDCTY77.
Uzbek (Cyrillic)

Keyboard Style

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

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



KBDSTY0.
* Regular

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



KBDSTY1.
Caps Lock

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



KBDSTY2.
Shift Lock

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



KBDSTY6.
Automatic Caps Lock

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



KBDSTY7.
Autocaps via NumLock

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



KBDSTY5.

Emulate External Keyboard

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

Keyboard Conversion

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

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

Default = Keyboard Conversion Off.



KBDCNV0.

*** Keyboard Conversion Off**



KBDCNV1.

**Convert All Characters
to Upper Case**



KBDCNV2.

**Convert All Characters
to Lower Case**

Control Character Output

This selection sends a text string instead of a control character. For example, when the control character for a carriage return is expected, the output would display [CR] instead of the ASCII code of 0D. Refer to [ASCII Conversion Chart \(Code Page 1252\)](#) on page A-3. Only codes 00 through 1F are converted (the first column of the chart). *Default = Off.*

Note: Control + ASCII Mode overrides this mode.



KBDNPE1.

Control Character Output On



KBDNPE0.

*** Control Character Output Off**

Keyboard Modifiers

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

Control + ASCII Mode On: The scanner sends key combinations for ASCII control characters for values 00-1F. Windows is the preferred mode. All keyboard country codes are supported. DOS mode is a legacy mode, and it does not support all keyboard country codes. New users should use the Windows mode. Refer to [Keyboard Function Relationships](#), page 7-1 for CTRL+ ASCII Values.

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

Default = Control + ASCII Mode Off.



KBDCAS2.

**Windows Mode Control + X
Mode On**



KBDCAS0.

*** Control + X Mode Off**



KBDCAS1.

DOS Mode Control + X Mode On



KBDCAS3.

Windows Mode Prefix/Suffix Off

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

Default = Off.



KBDTMD1.

Turbo Mode On



KBDTMD0.

*** Turbo Mode Off**

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



KBDNPS1.

Numeric Keypad Mode On



KBDNPS0.

*** Numeric Keypad Mode Off**

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



KBDADC1.

Automatic Direct Connect Mode
On



KBDADC0.

* Automatic Direct Connect
Mode Off

RS232 Modifiers

RS232 Baud Rate

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



232BAD0.

300



232BAD1.

600



232BAD2.

1200



232BAD3.

2400



232BAD4.

4800



232BAD5.

* 9600



232BAD6.

19200



232BAD8.

57,600



232BAD7.

38400



232BAD9.

115,200

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

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

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

Parity provides a means of checking character bit patterns for validity.

Default = None.



232WRD3.

7 Data, 1 Stop, Parity Even



232WRD0.

7 Data, 1 Stop, Parity None



232WRD6.

7 Data, 1 Stop, Parity Odd



232WRD4.

7 Data, 2 Stop, Parity Even



232WRD1.

7 Data, 2 Stop Parity None



232WRD7.

7 Data, 2 Stop, Parity Odd



232WRD5.
8 Data, 1 Stop, Parity Even



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



232WRD8.
8 Data, 1 Stop, Parity Odd

RS232 Receiver Time-Out

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



232LPT.
RS232 Receiver Time-Out

RS232 Handshaking

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

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

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

Flow Control with Timeout: The scanner asserts RTS when it has data to send and waits for a delay (see [RS232 Timeout](#) on page 2-19) for CTS to be asserted by the host. If the delay time expires and CTS is not asserted, the device transmit buffer is cleared and scanning may resume. *Default = RTS/CTS Off.*



232CTS1.
Flow Control, No Timeout



232CTS2.
Two-Direction Flow Control



232CTS3.
Flow Control with Timeout



232CTS0.
* RTS/CTS Off

RS232 Timeout

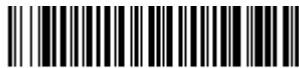
When using Flow Control with Timeout, you must program the length of the delay you want to wait for CTS from the host. Set the length (in milliseconds) for a timeout by scanning the bar code below, then setting the timeout (from 1-5100 milliseconds) by scanning digits from the inside back cover, then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



232DEL.
RS232 Timeout

XON/XOFF

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



232XON1.
XON/XOFF On



232XON0.
* XON/XOFF Off

ACK/NAK

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



232ACK1.
ACK/NAK On



232ACK0.
* ACK/NAK Off

Scanner to Bioptic Communication

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

Note: The scanner's baud rate must be set to 38400 and the RS232 timeout must be set to 3000 in order to communicate with a bioptic scanner. See "RS232 Baud Rate" on page 2-16, and [RS232 Timeout](#) on page 2-19 for further information.

Scanner-Bioptic Packet Mode

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



* Packet Mode Off



Packet Mode On

Scanner-Bioptic ACK/NAK Mode

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



* Bioptic ACK/NAK Off



Bioptic ACK/NAK On

Scanner-Bioptic ACK/NAK Timeout

This allows you to set the length (in milliseconds) for a timeout for a bioptic scanner's ACK/NAK response. Scan the bar code below, then set the timeout (from 1-30,000 milliseconds) by scanning digits from the inside back cover, then scanning **Save**. *Default = 5100.*



ACK/NAK Timeout

Input/Output Settings

Power Up Beeper

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



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** bar code below, the scanner will beep every time a BEL character is received from the host. *Default = Beep on BEL Off.*



BELBEP0.

***Beep on BEL Off**



BELBEP1.

Beep on BEL On

Good Read 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)



BEPFQ12700.
* Medium (2700 Hz)



BEPFQ14200.
High (4200 Hz)

Beeper Pitch – Error

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



BEPFQ2250.
* Razz (250 Hz)



BEPFQ23250.
Medium (3250 Hz)



BEPFQ24200.
High (4200 Hz)

Beeper Duration – Good Read

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



BEPBIP0.
* Normal Beep



BEPBIP1.
Short Beep

LED – Good Read

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



BEPLED1.
* LED - Good Read On



BEPLED0.
LED - Good Read Off

Number of Beeps – Good Read

The number of beeps of a good read can be programmed from 1 - 9. The same number of beeps will be applied to the beeper and LED in response to a good read. For example, if you program this option to have five beeps, there will be five beeps and five LED flashes in response to a good read. The beeps and LED flashes are in sync with one another. To change the number of beeps, scan the bar code below and then scan a digit (1-9) bar code and the **Save** bar code on the [Programming Chart](#) inside the back cover of this manual. *Default = 1.*



BEPRPT.
Number of Good Read Beeps/LED Flashes

Number of Beeps – Error

The number of beeps 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 in response to an error. To change the number of error beeps, scan the bar code below and then scan a digit (1-9) bar code and the **Save** bar code on the [Programming Chart](#) inside the back cover of this manual. *Default = 1.*



BEPERR.
Number of Error Beeps

Good Read Delay

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



DLYGRD0.

* No Delay



DLYGRD500.

Short Delay (500 ms)



DLYGRD1000.

Medium Delay (1,000 ms)



DLYGRD1500.

Long Delay (1,500 ms)

User-Specified Good Read Delay

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



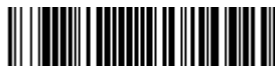
DLYGRD.

User-Specified Good Read Delay

Presentation Mode

Presentation Mode uses ambient light to detect bar codes. The LED dims until a bar code is presented to the scanner, then the LED brightens to read the code. If the light level in the room is not high enough, Presentation Mode may not work properly.

Scan the following bar code to program your scanner for Presentation Mode.



PAPPST.

Presentation Mode

LED Illumination

If you wish to set the illumination LED brightness, scan one of the bar codes below. This sets the LED illumination for the scanner when the scanner is activated. *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 bar codes.



PWRNOL7.

Low



Idle Illumination - Presentation Mode

Scan one of the bar codes below to set the LED illumination for the scanner when it is in an idle state in Presentation Mode. *Default = High.*

Note: If you use one of the lower Idle Illumination settings, and there is not enough ambient light, the scanner may have difficulty detecting when a bar code is presented to it. If the scanner has difficulty "waking up" to read bar codes, you may need to set the Idle Illumination to a brighter setting.



Presentation Sensitivity

Presentation Sensitivity is a numeric range that increases or decreases the scanner's reaction time to bar code presentation. To set the sensitivity, scan the **Sensitivity** bar code, then scan the degree of sensitivity (from 0-10) from the inside back cover, and **Save**. 0 is the most sensitive setting, and 10 is the least sensitive. *Default = 1.*



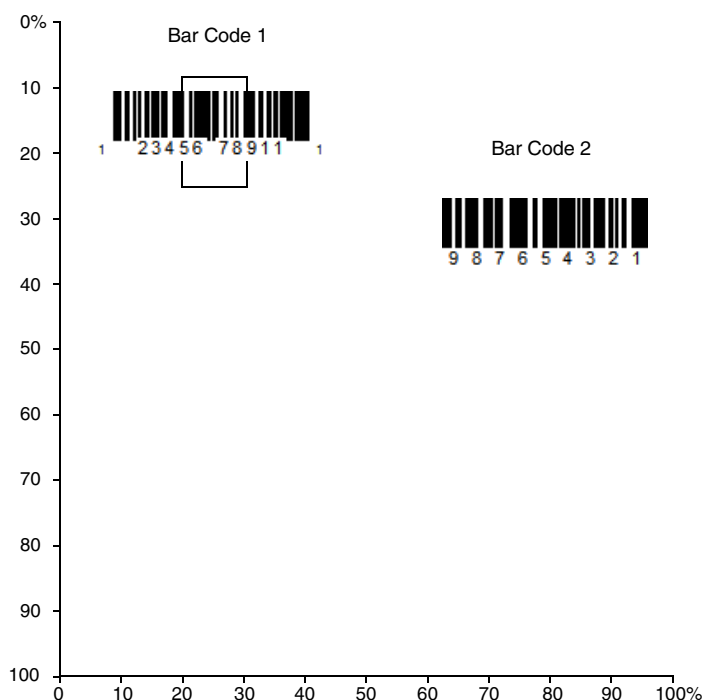
Presentation Centering

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 bar codes intended by the user. For instance, if multiple codes are placed closely together, Presentation Centering will insure that only the desired codes are read.

Note: To adjust centering when the scanner is hand-held, see [Centering](#) (page 3-11).

If a bar code 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** bar codes.

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 Bar Code 1 passes through the centering window, it will be read. Bar Code 2 does not pass through the centering window, so it will not be read.



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

Scan **Presentation Centering On**, then scan one of the following bar codes to change the top, bottom, left, or right of the centering window. Then scan the percent you want to shift the centering window using digits on the inside back cover of this manual. Scan **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



PDCLFT.
Left of
Presentation Centering
Window



PDCBOT.
Bottom of Presentation
Centering Window



PDCRGT.
Right of Presentation Centering
Window

Poor Quality Codes

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. When **Poor Quality PDF On** is scanned, poor quality PDF code reading is improved, but the scanner's snap-piness is decreased, making it less aggressive when reading good quality bar codes. This setting does not affect 1D bar code reading. *Default = Poor Quality PDF Reading Off.*



PDFXPR1.
Poor Quality PDF Reading On



PDFXPR0.
* Poor Quality PDF Reading Off

Mobile Phone Read Mode

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



PAPPSC.
Hands Free Scanning - Mobile
Phone

Note: To turn off Mobile Phone Read Mode, scan the Presentation Mode bar code (see page 3-4).

Reread Delay

This sets the time period before the scanner can read the *same* bar code a second time. Setting a reread delay protects against accidental rereads of the same bar code. Longer delays are effective in minimizing accidental rereads. Use shorter delays in applications where repetitive bar code scanning is required. Reread Delay only works when in [Presentation Mode](#) (see page 3-4). *Default = Medium.*



DLYRRD500.
Short (500 ms)



DLYRRD750.
* Medium (750 ms)



DLYRRD1000.
Long (1000 ms)



DLYRRD2000.
Extra Long (2000 ms)

User-Specified Reread Delay

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



DLYRRD.
User-Specified Reread Delay

2D Reread Delay

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



DLY2RR0.
* 2D Reread Delay Off



DLY2RR1000.
Short (1000ms)



DLY2RR2000.
Medium (2000ms)



DLY2RR3000.

Long (3000ms)



DLY2RR4000.

Extra Long (4000ms)

Character Activation Mode

You may use a character sent from the host to trigger the scanner to begin scanning. When the activation character is received, the scanner continues scanning until either the [Character Activation Laser Timeout](#) (page 3-10), the deactivation character is received (see [Deactivation Character](#) on page 3-10), or a bar code is transmitted. Scan the following **On** bar code to use character activation, then use Activation Character (following) to select the character you will send from the host to start scanning.

Default = Off.



HSTCEN0.

* Off



HSTCEN1.

On

Activation Character

This sets the character used to trigger scanning when using Character Activation Mode. On the [ASCII Conversion Chart \(Code Page 1252\)](#), page A-3, find the hex value that represents the character you want to use to trigger scanning. Scan the following bar code, then use the [Programming Chart](#) to read the alphanumeric combination that represents that ASCII character. Scan **Save** to finish.



HSTACH.

Activation Character

End Character Activation After Good Read

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



HSTCGD0.

Do Not End Character Activation
After Good Read



HSTCGD1.

* End Character Activation After
Good Read

Character Activation Laser Timeout

You can set a timeout for the length of time the laser remains on and attempting to decode bar codes when using Character Activation Mode. Set the length (in milliseconds) for a timeout by scanning the following bar code, then setting the timeout (from 1-65535 milliseconds) by scanning digits from the [Programming Chart](#), then scanning [Save](#). *Default = 5000 ms.*



Character Deactivation Mode

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



Deactivation Character

This sets the character used to terminate scanning when using Character Deactivation Mode. On the [ASCII Conversion Chart \(Code Page 1252\)](#), page A-3, find the hex value that represents the character you want to use to terminate scanning. Scan the following bar code, then use the [Programming Chart](#) to read the alphanumeric combination that represents that ASCII character. Scan [Save](#) to finish.



Illumination Lights

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

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



Aimer Mode

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



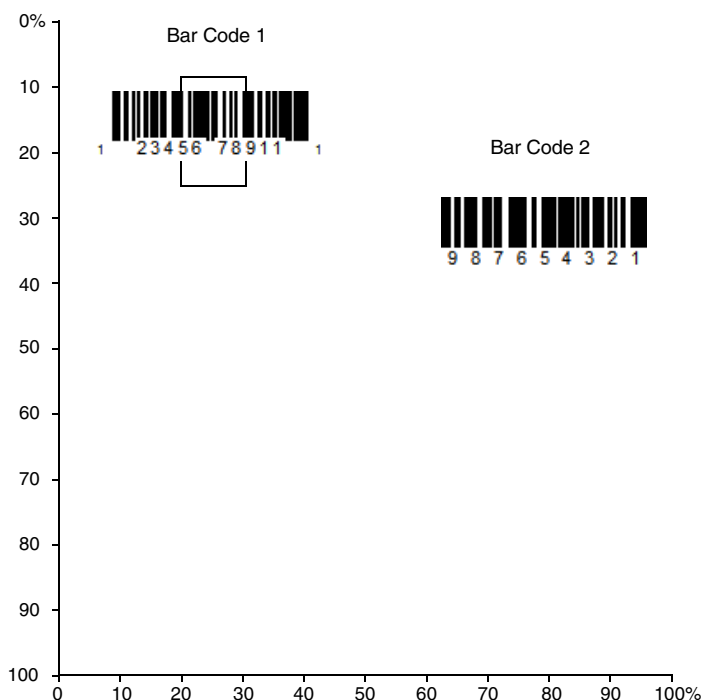
Centering

Use Centering to narrow the scanner's field of view to make sure that when the scanner is hand-held, it reads only those bar codes intended by the user. For instance, if multiple codes are placed closely together, centering will insure that only the desired codes are read.

Note: To adjust centering when the scanner is in the stand, see [Presentation Centering](#) (page 3-6).

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

In the example below, the white box is the centering window. The centering window has been set to 20% left, 30% right, 8% top, and 25% bottom. Since Bar Code 1 passes through the centering window, it will be read. Bar Code 2 does not pass through the centering window, so it will not be read.



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

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



DECWIN1.
Centering On



DECWIND.
* Centering Off



DECTOP.
Top of Centering Window



DECBOT.
Bottom of Centering Window



DECLFT.
Left of Centering Window



DECRGT.
Right of Centering Window

Video Reverse

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

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

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 Bar
Codes



* Video Reverse Off

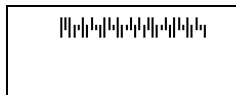
Working Orientation

Some bar codes 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°)



* Upright



Upside Down



Vertical, Bottom to Top

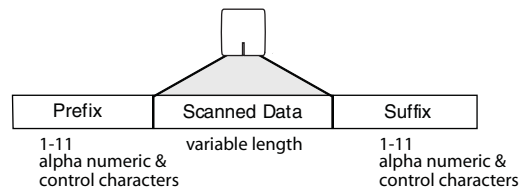


Vertical, Top to Bottom

Prefix/Suffix Overview

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

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



Points to Keep In Mind

- It is not necessary to build a message string. The selections in this chapter are only used if you wish to alter the default settings. *Default prefix = None. Default suffix = None.*
- A prefix or suffix may be added or cleared from one symbology or all symbologies.
- You can add any prefix or suffix from the [ASCII Conversion Chart \(Code Page 1252\)](#), beginning on page A-3, plus Code I.D. and AIM I.D.
- You can string together several entries for several symbologies at one time.
- Enter prefixes and suffixes in the order in which you want them to appear on the output.
- When setting up for specific symbologies (as opposed to all symbologies), the specific symbology ID value counts as an added prefix or suffix character.
- The maximum size of a prefix or suffix configuration is 200 characters, which includes header information.

To Add a Prefix or Suffix:

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

Step 2. Determine the 2 digit Hex value from the Symbology Chart (included in the [Symbology Charts](#), beginning on page A-1) for the symbology to which you want to apply the prefix or suffix. For example, for Code 128, Code ID is “j” and Hex ID is “6A”.

Step 3. Scan the 2 hex digits from the [Programming Chart](#) inside the back cover of this manual or scan **9, 9** for all symbologies.

Step 4. Determine the hex value from the [ASCII Conversion Chart \(Code Page 1252\)](#), beginning on page A-3, for the prefix or suffix you wish to enter.

Note: To add the Code I.D., scan 5, C, 8, 0.

To add AIM I.D., scan 5, C, 8, 1.

To add a backslash (\), scan 5, C, 5, C.

To add a backslash (\), you must scan 5C twice – once to created the leading backslash and then to created the backslash itself.

Step 5. Scan the 2 digit hex value from the [Programming Chart](#) inside the back cover of this manual.

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

Step 7. Scan **Save** to exit and save, or scan **Discard** to exit without saving.

Repeat Steps 1-6 to add a prefix or suffix for another symbology.

Example: Add a Tab Suffix to All Symbologies

Step 1. Scan **Add Suffix**.

Step 2. Scan **9, 9** from the [Programming Chart](#) inside the back cover of this manual to apply this suffix to all symbologies.

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

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

To Clear One or All Prefixes or Suffixes

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

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

Step 2. Determine the 2 digit Hex value from the Symbology Chart (included in the [Symbology Charts](#), beginning on page A-1) for the symbology from which you want to clear the prefix or suffix.

Step 3. Scan the 2 digit hex value from the [Programming Chart](#) inside the back cover of this manual or scan **9, 9** for all symbologies.

Your change is automatically saved.

To Add a Carriage Return Suffix to All Symbologies

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



Prefix Selections



Suffix Selections





Function Code Transmit

When this selection is enabled and function codes are contained within the scanned data, the scanner transmits the function code to the terminal. Charts of these function codes are provided in [Supported Interface Keys](#) starting on [page 7-2](#). *Default = Enable.*

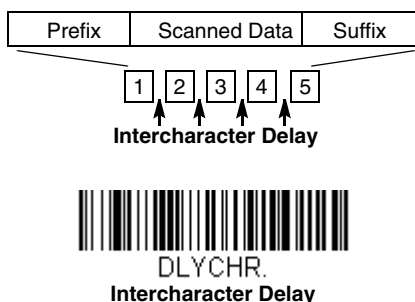


Intercharacter, Interfunction, and Intermassage Delays

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

Intercharacter Delay

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



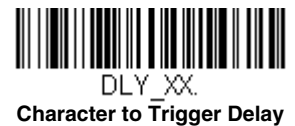
To remove this delay, scan the **Intercharacter Delay** bar code, then set the number of delays to 0. Scan the **Save** bar code using the [Programming Chart](#) inside the back cover of this manual.

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

User Specified Intercharacter Delay

An intercharacter delay of up to 5000 milliseconds (in 5ms increments) may be placed after the transmission of a particular character of scanned data. Scan the **Delay Length** bar code below, then scan the number of 5ms delays, and the **Save** bar code using the [Programming Chart](#) inside the back cover of this manual.

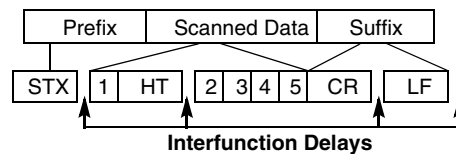
Next, scan the **Character to Trigger Delay** bar code, then the 2-digit hex value for a printable character to trigger the delay (see [Lower ASCII Reference Table](#) on page A-4).



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

Interfunction Delay

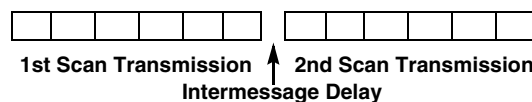
An interfunction delay of up to 5000 milliseconds (in 5ms increments) may be placed between the transmission of each segment of the message string. Scan the **Interfunction Delay** bar code below, then scan the number of 5ms delays, and the **Save** bar code using the [Programming Chart](#) inside the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



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

Intermessage Delay

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



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

Data Formatting

Data Format Editor Introduction

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

Normally, when you scan a bar code, it gets outputted automatically; however when you create a format, you must use a "send" command (see [Send Commands](#) on page 5-3) within the format program to output data.

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

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

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

If 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.



Add a Data Format

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

Step 2. Select **Primary/Alternate Format**

Determine if this will be your primary data format, or one of 3 alternate formats. This allows you to save a total of 4 different data formats. To program your primary format, scan **0** using the [Programming Chart](#) inside the back cover of this manual. If you are programming an alternate format, scan **1**, **2**, or **3**, depending on which alternate format you are programming. (See "Primary/Alternate Data Formats" on page 5-9 for further information.)

Step 3. **Terminal Type**

Refer to [Terminal ID Table](#) (page 5-3) and locate the Terminal ID number for your PC. Scan three numeric bar codes on the inside back cover to program the scanner for your terminal ID (you must enter 3 digits). For example, scan **0 0 3** for an AT wedge.

Note: The wildcard for all terminal types is 099.

Step 4. **Code I.D.**

In the [Symbology Charts](#), beginning on page A-1, find the symbology to which you want to apply the data format. Locate the Hex value for that symbology and scan the 2 digit hex value from the [Programming Chart](#) inside the back cover of this manual.

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

Step 5. **Length**

Specify what length (up to 9999 characters) of data will be acceptable for this symbology. Scan the four digit data length

from the [Programming Chart](#) inside the back cover of this manual. (Note: 50 characters is entered as 0050. 9999 is a universal number, indicating all lengths.)

Step 6. Editor Commands

Refer to [Data Format Editor Commands](#) (page 5-3). Scan the symbols that represent the command you want to enter.

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



DFMBK3.
Enter Data Format



MNUSAV.
Save



MNUABT.
Discard

Other Programming Selections

Clear One Data Format

This deletes one data format for one symbology. If you are clearing the primary format, scan **0** from the [Programming Chart](#) inside the back cover of this manual. If you are clearing an alternate format, scan **1**, **2**, or **3**, depending on the format you are clearing. Scan the Terminal Type and Code I.D. (see [Symbology Charts](#) on page A-1), and the bar code data length for the specific data format that you want to delete. All other formats remain unaffected.

Clear all Data Formats

This clears all data formats.

Save to exit and save your data format changes.

Discard to exit without saving any data format changes.



DFMCL3.
Clear One Data Format



DFMCA3.
Clear All Data Formats



MNUSAV.
Save



MNUABT.
Discard

Terminal ID Table

| Terminal | Model(s) | Terminal ID |
|----------|------------------------------|-------------|
| USB | PC keyboard (HID) | 124 |
| | Mac Keyboard | 125 |
| | PC Keyboard (Japanese) | 134 |
| | Serial (COM driver required) | 130 |
| | HID POS | 131 |
| | USB SurePOS Handheld | 128 |
| | USB SurePOS Tabletop | 129 |
| Serial | RS232 TTL | 000 |
| | RS232 True | 000 |

Data Format Editor Commands

Send Commands

Send all characters

- F1 Include in the output message all of the characters from the input message, starting from current cursor position, followed by an insert character. *Syntax = F1xx* where xx stands for the insert character's hex value for its ASCII code. Refer to the [ASCII Conversion Chart \(Code Page 1252\)](#), beginning on page A-3 for decimal, hex and character codes.

Send a number of characters

- F2 Include in the output message a number of characters followed by an insert character. Start from the current cursor position and continue for "nn" characters or through the last character in the input message, followed by character "xx." *Syntax = F2nnxx* where nn stands for the numeric value (00-99) for the number of characters, and xx stands for the insert character's hex value for its ASCII code. Refer to the [ASCII Conversion Chart \(Code Page 1252\)](#), beginning on page A-3 for decimal, hex and character codes.

F2 Example: Send a number of characters



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

F2 is the "Send a number of characters" command

10 is the number of characters to send

0D is the hex value for a CR

The data is output as: **1234567890**

F2 and F1 Example: Split characters into 2 lines

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

Command string: **F2100DF10D**

F2 is the "Send a number of characters" command

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

0D is the hex value for a CR

F1 is the "Send all characters" command

0D is the hex value for a CR

The data is output as:

1234567890
ABCDEFGHIJ
<CR>

Send all characters up to a particular character

- F3 Include in the output message all characters from the input message, starting with the character at the current cursor position and continuing to, but not including, the search character “ss,” followed by an insert character. The cursor is moved forward to the “ss” character. *Syntax = F3ssxx* where ss stands for the search character’s hex value for its ASCII code, and xx stands for the insert character’s hex value for its ASCII code. Refer to the [ASCII Conversion Chart \(Code Page 1252\)](#), beginning on page A-3 for decimal, hex and character codes.

F3 Example: Send all characters up to a particular character



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

Command string: **F3440D**

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

44 is the hex value for a 'D'

0D is the hex value for a CR

The data is output as:

1234567890ABC

<CR>

Send all but the last characters

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

Insert a character multiple times

- F4 Send “xx” character “nn” times in the output message, leaving the cursor in the current position. *Syntax = F4xxnn* where xx stands for the insert character’s hex value for its ASCII code, and nn is the numeric value (00-99) for the number of times it should be sent. Refer to the [ASCII Conversion Chart \(Code Page 1252\)](#), beginning on page A-3 for decimal, hex and character codes.

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



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

Command string: **E908F40902**

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

08 is the number of characters at the end to ignore

F4 is the “Insert a character multiple times” command

09 is the hex value for a horizontal tab

02 is the number of times the tab character is sent

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

Move Commands

Move the cursor forward a number of characters

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

F5 Example: Move the cursor forward and send the data



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

Command string: **F503F10D**

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

03 is the number of characters to move the cursor

F1 is the "Send all characters" command

0D is the hex value for a CR

The data is output as:

4567890ABCDEFGHIJ
<CR>

Move the cursor backward a number of characters

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

Move the cursor to the beginning

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

FE and F7 Example: Manipulate bar codes that begin with a 1



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

Command string: **FE31F7F2060D**

FE is the "Compare characters" command

31 is the hex value for 1

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

F2 is the "Send a number of characters" command

06 is the number of characters to send

0D is the hex value for a CR

The data is output as:

123456
<CR>

Move the cursor to the end

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

Search Commands

Search forward for a character

- F8 Search the input message forward for "xx" character from the current cursor position, leaving the cursor pointing to the "xx" character. *Syntax = F8xx* where xx stands for the search character's hex value for its ASCII code.
Refer to the [ASCII Conversion Chart \(Code Page 1252\)](#), beginning on page A-3 for decimal, hex and character codes.

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



Search for the letter "D" in bar codes and send all the data that follows, including the "D." Using the bar code above:

Command string: **F844F10D**

F8 is the "Search forward for a character" command

44 is the hex value for "D"

F1 is the "Send all characters" command

0D is the hex value for a CR

The data is output as:

DEFGHIJ

<CR>

Search backward for a character

- F9 Search the input message backward for "xx" character from the current cursor position, leaving the cursor pointing to the "xx" character. *Syntax = F9xx* where xx stands for the search character's hex value for its ASCII code. Refer to the [ASCII Conversion Chart \(Code Page 1252\)](#), beginning on page A-3 for decimal, hex and character codes.

Search forward for a non-matching character

- E6 Search the input message forward for the first non-"xx" character from the current cursor position, leaving the cursor pointing to the non-"xx" character. *Syntax = E6xx* where xx stands for the search character's hex value for its ASCII code. Refer to the [ASCII Conversion Chart \(Code Page 1252\)](#), beginning on page A-3 for decimal, hex and character codes.

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



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

Command string: **E630F10D**

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

30 is the hex value for 0

F1 is the "Send all characters" command

0D is the hex value for a CR

The data is output as:

37692

<CR>

Search backward for a non-matching character

- E7 Search the input message backward for the first non-"xx" character from the current cursor position, leaving the cursor pointing to the non-"xx" character. *Syntax = E7xx* where xx stands for the search character's hex value for its ASCII code. Refer to the [ASCII Conversion Chart \(Code Page 1252\)](#), beginning on page A-3 for decimal, hex and character codes.

Miscellaneous Commands

Suppress characters

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

FB Example: Remove spaces in bar code data



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

Command string: **FB0120F10D**

FB is the “Suppress characters” command

01 is the number of character types to be suppressed

20 is the hex value for a space

F1 is the “Send all characters” command

0D is the hex value for a CR

The data is output as:

34567890

<CR>

Stop suppressing characters

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

Replace characters

E4 Replaces up to 15 characters in the output message, without moving the cursor. Replacement continues until the E5 command is encountered. *Syntax = E4nnxx₁xx₂yy₁yy₂...zz₁zz₂* where nn is the total count of the number of characters in the list (characters to be replaced plus replacement characters); xx₁ defines characters to be replaced and xx₂ defines replacement characters, continuing through zz₁ and zz₂.

E4 Example: Replace zeroes with CRs in bar code data



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

Command string: **E402300DF10D**

E4 is the “Replace characters” command

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

30 is the hex value for 0

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

F1 is the “Send all characters” command

0D is the hex value for a CR

The data is output as:

1234

5678

ABC

<CR>

Stop replacing characters

E5 Terminates character replacement. *Syntax = E5.*

Compare characters

FE Compare the character in the current cursor position to the character “xx.” If characters are equal, move the cursor forward one position. *Syntax = FExx* where xx stands for the comparison character’s hex value for its ASCII code. Refer to the [ASCII Conversion Chart \(Code Page 1252\)](#), beginning on page A-3 for decimal, hex and character codes.

Check for a number

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

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


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

Command string: **ECF10D**

EC is the “Check for a number” command

F1 is the “Send all characters” command

0D is the hex value for a CR

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

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

1234AB
<CR>

Check for non-numeric character

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

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


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

Command string: **EDF10D**

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

F1 is the “Send all characters” command

0D is the hex value for a CR

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

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

AB1234
<CR>

Insert a delay

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

Data Formatter

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



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

Data Formatter On, Not Required, Keep Prefix/Suffix

Scanned data is modified according to your data format, and prefixes and suffixes are transmitted.

Data Format Required, Keep Prefix/Suffix

Scanned data is modified according to your data format, and prefixes and suffixes are transmitted. Any data that does not match your data format requirements generates an error tone and the data in that bar code is not transmitted.

Default = Data Formatter On, Not Required, Keep Prefix/Suffix.



DFM_EN1.

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



DFM_EN2.

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

Primary/Alternate Data Formats

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



ALTFNM0.

Primary Data Format



ALTFNM1.

Data Format 1



ALTFNM2.

Data Format 2



ALTFNM3.

Data Format 3

Symbologies

This programming section contains the following menu selections. Refer to [Chapter 9](#) for settings and defaults.

- All Symbologies
- Aztec Code
- China Post (Hong Kong 2 of 5)
- Chinese Sensible (Han Xin) Code
- Codabar
- Codablock A
- Codablock F
- Code 11
- Code 128
- Code 32 Pharmaceutical (PARAF)
- Code 39
- Code 93
- Data Matrix
- EAN/JAN-13
- EAN/JAN-8
- GS1 Composite Codes
- GS1 DataBar Expanded
- GS1 DataBar Limited
- GS1 DataBar Omnidirectional
- GS1 Emulation
- GS1-128
- Interleaved 2 of 5
- Korea Post
- Matrix 2 of 5
- MaxiCode
- MicroPDF417
- MSI
- NEC 2 of 5
- Postal Codes - 2D
- Postal Codes - Linear
- PDF417
- GS1 DataBar Omnidirectional
- QR Code
- Straight 2 of 5 IATA (two-bar start/stop)
- Straight 2 of 5 Industrial (three-bar start/stop)
- TCIF Linked Code 39 (TLC39)
- UPC-A
- UPC-A/EAN-13 with Extended Coupon Code
- UPC-E0
- UPC-E1

All Symbologies

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

Note: Scanner performance may reduce by scanning All Symbologies On. Only scan All Symbologies On when needed.



ALLENA1.
All Symbologies On



ALLENA0.
All Symbologies Off

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

Message Length Description

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

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

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

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

Codabar

<Default All Codabar Settings>



Codabar On/Off



Codabar Start/Stop Characters

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



Codabar Check Character

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

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

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

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





CBRCK22.
Validate Modulo 16
and Transmit



CBRCK21.
Validate Modulo 16, but
Don't Transmit

Codabar Concatenation

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



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



CBRCCT1.
On



CBRCCT0.
* Off



CBRCCT2.
Require

Codabar Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 6-1) for additional information. Minimum and Maximum lengths = 2-60. Minimum Default = 4, Maximum Default = 60.



CBRMIN.
Minimum Message Length



CBRMAX.
Maximum Message Length

Code 39

< Default All Code 39 Settings >



Code 39 On/Off



Code 39 Start/Stop Characters

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



Code 39 Check Character

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

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

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



Code 39 Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 6-1) for additional information. Minimum and Maximum lengths = 0-48. Minimum Default = 0, Maximum Default = 48.



C39MIN.

Minimum Message Length



C39MAX.

Maximum Message Length

Code 39 Append

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



C39APP1.

On



C39APP0.

* 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.



C39B321.

On



C39B320.

* Off

Full ASCII

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

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

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

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



C39ASC1.
Full ASCII On



C39ASC0.
* Full ASCII Off

Code 39 Code Page

Code pages define the mapping of character codes to characters. If the data received does not display with the proper characters, it may be because the bar code being scanned was created using a code page that is different from the one the host program is expecting. If this is the case, scan the bar code below, select the code page with which the bar codes were created (see [ISO 2022/ISO 646 Character Replacements](#) on page A-7), and scan the value and the **Save** bar code from the [Programming Chart](#) on the inside the back cover of this manual. The data characters should then appear properly.



C39DCP.
Code 39 Code Page

Interleaved 2 of 5

< Default All Interleaved 2 of 5 Settings >



Interleaved 2 of 5 On/Off



Check Digit

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

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

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



Interleaved 2 of 5 Message Length

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





NEC 2 of 5

< Default All NEC 2 of 5 Settings >



NEC 2 of 5 On/Off



Check Digit

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

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

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



NEC 2 of 5 Message Length

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



C93MIN.

Minimum Message Length



C93MAX.

Maximum Message Length

Code 93 Append

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



Code 93 Code Page

Code pages define the mapping of character codes to characters. If the data received does not display with the proper characters, it may be because the bar code being scanned was created using a code page that is different from the one the host program is expecting. If this is the case, scan the bar code below, select the code page with which the bar codes were created (see [ISO 2022/ISO 646 Character Replacements](#) on page A-7), and scan the value and the **Save** bar code from the [Programming Chart](#) on the inside the back cover of this manual. The data characters should then appear properly.



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

<Default All Straight 2 of 5 Industrial Settings>



R25DFT.

Straight 2 of 5 Industrial On/Off



R25ENA1.

On



R25ENA0.

* Off

Straight 2 of 5 Industrial Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 6-1) for additional information. Minimum and Maximum lengths = 1-48. Minimum Default = 4, Maximum Default = 48.



R25MIN.

Minimum Message Length



R25MAX.

Maximum Message Length

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

<Default All Straight 2 of 5 IATA Settings>



A25DFT.

Straight 2 of 5 IATA On/Off



A25ENA1.

On



A25ENA0.

* Off

Straight 2 of 5 IATA Message Length

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



X25MIN.

Minimum Message Length



X25MAX.

Maximum Message Length

Code 11

<Default All Code 11 Settings>



Code 11 On/Off



Check Digits Required

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



Code 11 Message Length

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



Code 128

<Default All Code 128 Settings>



Code 128 On/Off



ISBT 128 Concatenation

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



Code 128 Message Length

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



Code 128 Append

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



128APP1.

* On



128APP0.

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 bar code being scanned was created using a code page that is different from the one the host program is expecting. If this is the case, scan the bar code below, select the code page with which the bar codes were created (see [ISO 2022/ISO 646 Character Replacements](#) on page A-7), and scan the value and the **Save** bar code from the [Programming Chart](#) on the inside the back cover of this manual. The data characters should then appear properly.



128DCP.

Code 128 Code Page

GS1-128

<Default All GS1-128 Settings>



GS1-128 On/Off



GS1-128 Message Length

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



UPC-A

<Default All UPC-A Settings>



UPC-A On/Off



Note: To convert UPC-A bar codes to EAN-13, see [Convert UPC-A to EAN-13](#) on page 6-23.

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 the unit can be programmed so it will not transmit it. *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 bar codes that have addenda. You must then turn on a 2 or 5 digit addenda listed on [page 6-18](#). *Default = Not Required.*



UPC-A Addenda Separator

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



UPC-A/EAN-13 with Extended Coupon Code

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

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

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



Coupon GS1 DataBar Output

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



CPNGS10.
* GS1 Output Off



CPNGS11.
GS1 Output On

UPC-E0

<Default All UPC-E Settings>



UPEDFT.

UPC-E0 On/Off

Most U.P.C. bar codes 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 6-22). *Default = On.*



UPEEND1.
* UPC-E0 On



UPEEND0.
UPC-E0 Off

UPC-E0 Expand

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



UPEEXP1.
On



UPEEXP0.
* Off

UPC-E0 Addenda Required

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



UPEARQ1.

Required



UPEARQ0.

*** Not Required**

UPC-E0 Addenda Separator

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



UPEADS1.

*** On**



UPEADS0.

Off

UPC-E0 Check Digit

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



UPECKX1.

*** On**



UPECKX0.

Off

UPC-E0 Leading Zero

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



UPENSX1.

*** On**



UPENSX0.

Off

UPC-E0 Addenda

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



UPEAD21.

2 Digit Addenda On



UPEAD20.

*** 2 Digit Addenda Off**



UPEAD51.

5 Digit Addenda On



UPEAD50.

*** 5 Digit Addenda Off**

UPC-E1

Most U.P.C. bar codes lead with the 0 number system. For these codes, use [UPC-E0](#) (page 6-20). If you need to read codes that lead with the 1 number system, use the **UPC-E1 On** selection. *Default = Off.*



UPEEN11.

UPC-E1 On



UPEEN10.

*** UPC-E1 Off**

EAN/JAN-13

<Default All EAN/JAN Settings>



EAN/JAN-13 On/Off



Convert UPC-A to EAN-13

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



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.



EAN/JAN-13 Addenda

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



E13AD21.
2 Digit Addenda On



E13AD20.
* 2 Digit Addenda Off



E13AD51.
5 Digit Addenda On



E13AD50.
* 5 Digit Addenda Off

EAN/JAN-13 Addenda Required

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



E13ARQ1.
Required



E13ARQ0.
* Not Required

EAN/JAN-13 Addenda Separator

When this feature is **On**, there is a space between the data from the bar code and the data from the addenda. When turned **Off**, there is no space. *Default = 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 6-19).

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 the check digit should be transmitted at the end of the scanned data or not.
Default = On.



EA8CKX1.

*** On**



EA8CKX0.

Off

EAN/JAN-8 Addenda

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



EA8AD21.
2 Digit Addenda On



EA8AD20.
* 2 Digit Addenda Off



EA8AD51.
5 Digit Addenda On



EA8AD50.
* 5 Digit Addenda Off

EAN/JAN-8 Addenda Required

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



EA8ARQ1.
Required



EA8ARQ0.
* Not Required

EAN/JAN-8 Addenda Separator

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



EA8ADS1.
* On



EA8ADS0.
Off

MSI

<Default All MSI Settings>



MSI On/Off



MSI Check Character

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

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

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



* Validate Type 10, but Don't Transmit



Validate Type 10 and Transmit



Validate 2 Type 10 Characters,
but Don't Transmit



Validate 2 Type 10 Characters
and Transmit



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



MSICLK6.

Disable MSI Check Characters



MSICLK5.

**Validate Type 11 then
Type 10 Character and Transmit**

MSI Message Length

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



GS1 DataBar Omnidirectional On/Off



GS1 DataBar Limited

< Default All GS1 DataBar Limited Settings >



GS1 DataBar Limited On/Off



GS1 DataBar Expanded

< Default All GS1 DataBar Expanded Settings >



GS1 DataBar Expanded On/Off



GS1 DataBar Expanded Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 6-1) for additional information. Minimum and Maximum lengths = 4-74. Minimum Default = 4, Maximum Default = 74.



Codablock A

<Default All Codablock A Settings>



Codablock A On/Off



Codablock A Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 6-1) for additional information. Minimum and Maximum lengths = 1-600. 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**

Codablock F Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 6-1) for additional information. Minimum and Maximum lengths = 1-2048. Minimum Default = 1, Maximum Default = 2048.



CBFMIN.

Minimum Message Length



CBFMAX.

Maximum Message Length

PDF417

< Default All PDF417 Settings >



PDF417 On/Off



PDF417 Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 6-1) for additional information. Minimum and Maximum lengths = 1-2750. Minimum Default = 1, Maximum Default = 2750.



MacroPDF417

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



MicroPDF417

< Default All MicroPDF417 Settings >



MicroPDF417 On/Off



MicroPDF417 Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 6-1) for additional information. Minimum and Maximum lengths = 1-366. Minimum Default = 1, Maximum Default = 366.



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.*



UPC/EAN Version

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



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 6-20) for further information.

GS1 Composite Code Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 6-1) for additional information. Minimum and Maximum lengths = 1-2435. Minimum Default = 1, Maximum Default = 2435.



GS1 Emulation

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

If **GS1-128 Emulation** is scanned, all retail codes (U.P.C., UPC-E, EAN8, EAN13) are expanded out to 16 digits. If the AIM ID is enabled, the value will be the GS1-128 AIM ID, Jc1 (see [Symbology Charts](#) on page A-1).

If **GS1 DataBar Emulation** is scanned, all retail codes (U.P.C., UPC-E, EAN8, EAN13) are expanded out to 16 digits. If the AIM ID is enabled, the value will be the GS1-DataBar AIM ID, Jem (see [Symbology Charts](#) on page A-1).

If **GS1 Code Expansion Off** is scanned, retail code expansion is disabled, and UPC-E expansion is controlled by the [UPC-E0 Expand](#) (page 6-20) setting. If the AIM ID is enabled, the value will be the GS1-128 AIM ID, Jc1 (see [Symbology Charts](#) on page A-1).

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

Default = GS1 Emulation Off.





TCIF Linked Code 39 (TLC39)

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



QR Code

< Default All QR Code Settings >



QR Code On/Off

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



QR Code Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 6-1) for additional information. Minimum and Maximum lengths = 1-7089. Minimum Default = 1, Maximum Default = 7089.



QRCMIN.

Minimum Message Length



QRCMAX.

Maximum Message Length

QR Code Append

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



QRCAPP1.

* On



QRCAPP0.

Off

QR Code Page

QR Code pages define the mapping of character codes to characters. If the data received does not display with the proper characters, it may be because the bar code being scanned was created using a code page that is different from the one the host program is expecting. If this is the case, scan the bar code below, select the code page with which the bar codes were created (see [ISO 2022/ISO 646 Character Replacements](#) on page A-7), and scan the value and the **Save** bar code from the [Programming Chart](#) on the inside the back cover of this manual. The data characters should then appear properly.



QRCDP.

QR Code Page

Data Matrix

< Default All Data Matrix Settings >



Data Matrix On/Off



Data Matrix Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 6-1) for additional information. Minimum and Maximum lengths = 1-3116. Minimum Default = 1, Maximum Default = 3116.



Data Matrix Append

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



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 bar code being scanned was created using a code page that is different from the one the host program is expecting. If this is the case, scan the bar code below, select the code page with which the bar

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



MaxiCode

< Default All MaxiCode Settings >



MaxiCode On/Off



MaxiCode Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 6-1) for additional information. Minimum and Maximum lengths = 1-150. Minimum Default = 1, Maximum Default = 150.



Aztec Code

< Default All Aztec Code Settings >



Aztec Code On/Off



Aztec Code Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 6-1) for additional information. Minimum and Maximum lengths = 1-3832. Minimum Default = 1, Maximum Default = 3832.



Aztec Append

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



Aztec Code Page

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

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



Chinese Sensible (Han Xin) Code

< Default All Han Xin Settings >



Han Xin Code On/Off



Han Xin Code Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 6-1) for additional information. Minimum and Maximum lengths = 1-7833. Minimum Default = 1, Maximum Default = 7833.



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 Bar Code On



POSTAL3.

Japanese Post On



POSTAL4.

KIX Post On



POSTAL5.

Planet Code On

Also see [Planet Code Check Digit](#), page 6-44.



POSTAL9.

Postal-4i On



POSTAL6.
Postnet On

Also see [Postnet Check Digit](#), page 6-44.



POSTAL11.
Postnet with B and B' Fields On



POSTAL2.
InfoMail On

Combination 2D Postal Codes:



POSTAL8.
InfoMail and British
Post On



POSTAL20.
Intelligent Mail Bar Code and
Postnet with B and B' Fields On



POSTAL14.
Postnet and
Postal-4i On



POSTAL16.
Postnet and
Intelligent Mail Bar Code On



POSTAL17.
Postal-4i and
Intelligent Mail Bar Code On



POSTAL19.
Postal-4i and
Postnet with B and B' Fields On



POSTAL12.
Planet Code and
Postnet On



POSTAL13.
Planet Code and
Postal-4i On



POSTAL21.
Planet Code,
Postnet, and
Postal-4i On



POSTAL23.
Planet Code,
Postal-4i, and
Intelligent Mail Bar Code On



POSTAL25.
Planet Code,
Postal-4i, and
Postnet with B and B' Fields On



POSTAL27.
Postal-4i,
Intelligent Mail Bar Code, and
Postnet with B and B' Fields On



POSTAL18.
Planet Code and
Postnet with B and B' Fields On



POSTAL15.
Planet Code and
Intelligent Mail Bar Code On



POSTAL22.
Planet Code,
Postnet, and
Intelligent Mail Bar Code On



POSTAL24.
Postnet,
Postal-4i, and
Intelligent Mail Bar Code On



POSTAL26.
Planet Code,
Intelligent Mail Bar Code, and
Postnet with B and B' Fields On



POSTAL29.
Planet Code,
Postal-4i,
Intelligent Mail Bar Code, and
Postnet with B and B' Fields On



POSTAL28.
Planet Code,
Postal-4i,
Intelligent Mail Bar Code, and
Postnet 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



PLNCKXD.
* 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



NETCKXD.
* 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



CPCENAD.

* Off

China Post (Hong Kong 2 of 5) Message Length

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



CPCMIN.

Minimum Message Length



Korea Post

<Default All Korea Post Settings>



Korea Post



Korea Post Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 6-1) for additional information. Minimum and Maximum lengths = 2-80. Minimum Default = 4, Maximum Default = 48.



Korea Post Check Digit

This selection allows you to specify whether the check digit should be transmitted. *Default = Don't Transmit.*



Interface Keys

Keyboard Function Relationships

The following Keyboard Function Code, Hex/ASCII Value, and Full ASCII “CTRL”+ relationships apply to all terminals that can be used with the scanner. Refer to [page 2-15](#) enable Control + X (Control + ASCII) Mode.

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

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

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

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

Supported Interface Keys

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

To Add a Test Code I.D. Prefix to All Symbolologies

This selection allows you to turn on transmission of a Code I.D. before the decoded symbology. (See the [Symbology Charts](#), beginning on page A-1) for the single character code that identifies each symbology.) This action first clears all current prefixes, then programs a Code I.D. prefix for all symbolologies. This is a temporary setting that will be removed when the unit is power cycled.



PRECA2,BK2995C80!

**Add Code I.D. Prefix to
All Symbolologies (Temporary)**

Show Decoder Revision

Scan the bar code below to output the decoder revision.



REV_DR.

Show Decoder Revision

Show Scan Driver Revision

Scan the bar code below to output the scan driver revision. The scan driver controls image capture.



REV_SD.

Show Scan Driver Revision

Show Software Revision

Scan the bar code below to output the current software revision, unit serial number, and other product information for the scanner.



REVIN.

Show Revision

Show Data Format

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



DFMBK3?.

Data Format Settings

Test Menu

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

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



EZConfig-Scanning Introduction

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

EZConfig-Scanning Operations

The EZConfig-Scanning software performs the following operations:

Scan Data

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

Configure

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

Installing EZConfig-Scanning from the Web

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

1. Access the Youjie web site at www.youjieaidc.com.
2. Click on the **Resources** tab. Select **Software**.
3. Click on the dropdown for **Select Product Number**. Click on your product number.
4. Click on the listing for **EZConfig-Scanning**.
5. When prompted, select **Save File**, and save the files to the **c:\windows\temp** directory.
6. Once you have finished downloading the file, exit the web site.
7. Using Explorer, go to the **c:\windows\temp** file.

-
8. Double click on the **Setup.exe** file. Follow the screen prompts to install the EZConfig-Scanning program.
 9. If you've selected the defaults during installation, you can click on **Start Menu-All Programs-Honeywell-EZConfig-Scanning**.

Resetting the Factory Defaults



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

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



DEFOVR.

Remove Custom Defaults



DEFAULT.

Activate Defaults

The [Menu Commands](#), beginning on page 9-3 list the factory default settings for each of the commands (indicated by an asterisk (*) on the programming pages).

Serial Programming Commands

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

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

Conventions

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

parameter A label representing the actual value you should send as part of a command.

[*option*] An optional part of a command.

{*Data*} Alternatives in a command.

bold Names of menus, menu commands, buttons, dialog boxes, and windows that appear on the screen.

Menu Command Syntax

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

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

Prefix Three ASCII characters: **SYN M CR** (ASCII 22,77,13).

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

SubTag A 3 character case-insensitive field that identifies the desired menu command within the tag group. For example, the SubTag for the RS232 baud rate is **BAD**.

Data The new value for a menu setting, identified by the Tag and SubTag.

Storage A single character that specifies the storage table to which the command is applied. An exclamation point (!) performs the command's operation on the device's volatile menu configuration table. A period (.) performs the command's operation on the device's non-volatile menu configuration table. Use the non-volatile table only for semi-permanent changes you want saved through a power cycle.

Query Commands

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

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

:Name: Field Usage (Optional)

This command returns the query information from the scanner.

Tag Field Usage

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

SubTag Field Usage

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

Data Field Usage

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

Concatenation of Multiple Commands

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

Responses

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

ACK Indicates a good command which has been processed.

ENQ Indicates an invalid Tag or SubTag command.

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

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

Examples of Query Commands

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

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

Enter: **cbrena*.**

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

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

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

Enter: **cbrena^.**

Response: **CBRENA1[ACK]**

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

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

Enter: **cbrena?.**

Response: **CBRENA1[ACK]**

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

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

Enter: **cbr?.**

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

This response indicates that the device's Codabar Coding Enable (CBRENA) is set to 1, or on;
the Start/Stop Character (SSX) is set to 0, or Don't Transmit;
the Check Character (CK2) is set to 0, or Not Required;
concatenation (CCT) is set to 1, or Enabled;

the Minimum Message Length (MIN) is set to 2 characters;
the Maximum Message Length (MAX) is set to 60 characters;
and the Default setting (DFT) has no value.

Resetting the Custom Defaults

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



DEFAULT.

Activate Custom Defaults

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

Menu Commands

| Selection | Setting <i>* Indicates default</i> | Serial Command <i># Indicates a numeric entry</i> | Page |
|----------------------------------|---------------------------------------|--|------|
| Product Default Settings | | | |
| Setting Custom Defaults | Set Custom Defaults | MNUCDP | 1-3 |
| | Save Custom Defaults | MNUCDS | 1-3 |
| Resetting the Custom Defaults | Activate Custom Defaults | DEFAULT | 1-4 |
| Programming the Interface | | | |
| Plug and Play Codes | RS232 Serial Port | PAP232 | 2-1 |
| Plug and Play Codes: IBM SurePos | USB IBM SurePos Handheld | PAPSPH | 2-1 |
| | USB IBM SurePos Tabletop | PAPSPT | 2-1 |
| Plug and Play Codes: USB | USB Keyboard (PC) | PAP124 | 2-2 |
| | USB Keyboard (Mac) | PAP125 | 2-2 |
| | USB Japanese Keyboard (PC) | TRMUSB134 | 2-2 |
| | USB HID | PAP131 | 2-2 |
| | USB Serial | TRMUSB130 | 2-2 |
| | ACK/NAK Mode On | USBACK1 | 2-2 |
| | ACK/NAK Mode Off* | USBACK0 | 2-2 |
| | | | |
| Plug and Play Codes | Verifone Ruby Terminal | PAPRBY | 2-3 |
| | Gilbarco Terminal | PAPGLB | 2-3 |
| | Bioptic Aux Port | PAPBIO | 2-3 |
| | Datalogic Magellan Bioptic Aux Port | PAPMAG | 2-3 |
| | NCR Bioptic Aux Port | PAPNCR | 2-4 |
| | Wincor Nixdorf Terminal | PAPWNX | 2-4 |
| | Wincor Nixdorf Beetle | PAPBTL | 2-4 |
| | Wincor Nixdorf RS232 Mode A | PAPWMA | 2-5 |
| | | | |
| Program Keyboard Country | *U.S.A. | KBDCTY0 | 2-5 |
| | Albania | KBDCTY35 | 2-5 |
| | Azeri (Cyrillic) | KBDCTY81 | 2-5 |

| Selection | Setting | Serial Command | Page |
|-----------|----------------------------|------------------------------------|---------------------|
| | <i>* Indicates default</i> | <i># Indicates a numeric entry</i> | |
| | Azeri (Latin) | KBDCTY80 | 2-5 |
| | Belarus | KBDCTY82 | 2-5 |
| | Belgium | KBDCTY1 | 2-6 |
| | Bosnia | KBDCTY33 | 2-6 |
| | Brazil | KBDCTY16 | 2-6 |
| | Brazil (MS) | KBDCTY59 | 2-6 |
| | Bulgaria (Cyrillic) | KBDCTY52 | 2-6 |
| | Bulgaria (Latin) | KBDCTY53 | 2-6 |
| | Canada (French legacy) | KBDCTY54 | 2-6 |
| | Canada (French) | KBDCTY18 | 2-6 |
| | Canada (Multilingual) | KBDCTY55 | 2-6 |
| | Croatia | KBDCTY32 | 2-6 |
| | Czech | KBDCTY15 | 2-6 |
| | Czech (Programmers) | KBDCTY40 | 2-7 |
| | Czech (QWERTY) | KBDCTY39 | 2-7 |
| | Czech (QWERTZ) | KBDCTY38 | 2-7 |
| | Denmark | KBDCTY8 | 2-7 |
| | Dutch (Netherlands) | KBDCTY11 | 2-7 |
| | Estonia | KBDCTY41 | 2-7 |
| | Faroese | KBDCTY83 | 2-7 |
| | Finland | KBDCTY2 | 2-7 |
| | France | KBDCTY3 | 2-7 |
| | Gaelic | KBDCTY84 | 2-7 |
| | Germany | KBDCTY4 | 2-7 |
| | Greek | KBDCTY17 | 2-8 |
| | Greek (220 Latin) | KBDCTY64 | 2-8 |
| | Greek (220) | KBDCTY61 | 2-8 |
| | Greek (319 Latin) | KBDCTY65 | 2-8 |
| | Greek (319) | KBDCTY62 | 2-8 |
| | Greek (Latin) | KBDCTY63 | 2-8 |
| | Greek (MS) | KBDCTY66 | 2-8 |
| | Greek (Polytonic) | KBDCTY60 | 2-8 |
| | Hebrew | KBDCTY12 | 2-8 |
| | Hungarian (101 key) | KBDCTY50 | 2-8 |
| | Hungary | KBDCTY19 | 2-8 |
| | Iceland | KBDCTY75 | 2-9 |
| | Irish | KBDCTY73 | 2-9 |
| | Italian (142) | KBDCTY56 | 2-9 |
| | Italy | KBDCTY5 | 2-9 |
| | Japan ASCII | KBDCTY28 | 2-9 |
| | Kazakh | KBDCTY78 | 2-9 |
| | Kyrgyz (Cyrillic) | KBDCTY79 | 2-9 |
| | Latin America | KBDCTY14 | 2-9 |

| Selection | Setting <i>* Indicates default</i> | Serial Command <i># Indicates a numeric entry</i> | Page |
|---------------------|---------------------------------------|--|----------------------|
| | Latvia | KBDCTY42 | 2-9 |
| | Latvia (QWERTY) | KBDCTY43 | 2-9 |
| | Lithuania | KBDCTY44 | 2-9 |
| | Lithuania (IBM) | KBDCTY45 | 2-10 |
| | Macedonia | KBDCTY34 | 2-10 |
| | Malta | KBDCTY74 | 2-10 |
| | Mongolian (Cyrillic) | KBDCTY86 | 2-10 |
| | Norway | KBDCTY9 | 2-10 |
| | Poland | KBDCTY20 | 2-10 |
| | Polish (214) | KBDCTY57 | 2-10 |
| | Polish (Programmers) | KBDCTY58 | 2-10 |
| | Portugal | KBDCTY13 | 2-10 |
| | Romania | KBDCTY25 | 2-10 |
| | Russia | KBDCTY26 | 2-10 |
| | Russian (MS) | KBDCTY67 | 2-11 |
| | Russian (Typewriter) | KBDCTY68 | 2-11 |
| | SCS | KBDCTY21 | 2-11 |
| | Serbia (Cyrillic) | KBDCTY37 | 2-11 |
| | Serbia (Latin) | KBDCTY36 | 2-11 |
| | Slovakia | KBDCTY22 | 2-11 |
| | Slovakia (QWERTY) | KBDCTY49 | 2-11 |
| | Slovakia (QWERTZ) | KBDCTY48 | 2-11 |
| | Slovenia | KBDCTY31 | 2-11 |
| | Spain | KBDCTY10 | 2-11 |
| | Spanish variation | KBDCTY51 | 2-11 |
| | Sweden | KBDCTY23 | 2-12 |
| | Switzerland (French) | KBDCTY29 | 2-12 |
| | Switzerland (German) | KBDCTY6 | 2-12 |
| | Tatar | KBDCTY85 | 2-12 |
| | Turkey F | KBDCTY27 | 2-12 |
| | Turkey Q | KBDCTY24 | 2-12 |
| | Ukrainian | KBDCTY76 | 2-12 |
| | United Kingdom | KBDCTY7 | 2-12 |
| | United States (Dvorak right) | KBDCTY89 | 2-12 |
| | United States (Dvorak left) | KBDCTY88 | 2-12 |
| | United States (Dvorak) | KBDCTY87 | 2-12 |
| | United States (International) | KBDCTY30 | 2-13 |
| | Uzbek (Cyrillic) | KBDCTY77 | 2-13 |
| Keyboard Conversion | *Keyboard Conversion Off | KBDCNV0 | 2-14 |
| | Convert all Characters to Upper Case | KBDCNV1 | 2-14 |
| | Convert all Characters to Lower Case | KBDCNV1 | 2-14 |
| Keyboard Style | *Regular | KBDSTY0 | 2-13 |
| | Caps Lock | KBDSTY1 | 2-13 |

| Selection | Setting <i>* Indicates default</i> | Serial Command <i># Indicates a numeric entry</i> | Page |
|---|---------------------------------------|--|----------------------|
| | Shift Lock | KBDSTY2 | 2-13 |
| | Automatic Caps Lock | KBDSTY6 | 2-13 |
| | Emulate External Keyboard | KBDSTY5 | 2-14 |
| | | | |
| Control Character Output | *Control Character Output Off | KBDNPE0 | 2-14 |
| | *Control Character Output On | KBDNPE1 | 2-14 |
| Keyboard Modifiers | *Control + ASCII Off | KBDCAS0 | 2-15 |
| | DOS Mode Control + ASCII | KBDCAS1 | 2-15 |
| | Windows Mode Control + ASCII | KBDCAS2 | 2-15 |
| | Windows Mode Prefix/Suffix Off | KBDCAS3 | 2-15 |
| | *Turbo Mode Off | KBDTMD0 | 2-15 |
| | Turbo Mode On | KBDTMD1 | 2-15 |
| | *Numeric Keypad Off | KBDNPS0 | 2-15 |
| | Numeric Keypad On | KBDNPS1 | 2-15 |
| | *Auto Direct Connect Off | KBDADC0 | 2-16 |
| | Auto Direct Connect On | KBDADC1 | 2-16 |
| Baud Rate | 300 BPS | 232BAD0 | 2-16 |
| | 600 BPS | 232BAD1 | 2-16 |
| | 1200 BPS | 232BAD2 | 2-16 |
| | 2400 BPS | 232BAD3 | 2-16 |
| | 4800 BPS | 232BAD4 | 2-16 |
| | *9600 BPS | 232BAD5 | 2-17 |
| | 19200 BPS | 232BAD6 | 2-16 |
| | 38400 BPS | 232BAD7 | 2-17 |
| | 57600 BPS | 232BAD8 | 2-17 |
| | 115200 BPS | 232BAD9 | 2-17 |
| Word Length: Data Bits, Stop Bits, and Parity | 7 Data, 1 Stop, Parity Even | 232WRD3 | 2-17 |
| | 7 Data, 1 Stop, Parity None | 232WRD0 | 2-17 |
| | 7 Data, 1 Stop, Parity Odd | 232WRD6 | 2-17 |
| | 7 Data, 2 Stop, Parity Even | 232WRD4 | 2-17 |
| | 7 Data, 2 Stop, Parity None | 232WRD1 | 2-17 |
| | 7 Data, 2 Stop, Parity Odd | 232WRD7 | 2-17 |
| | 8 Data, 1 Stop, Parity Even | 232WRD5 | 2-18 |
| | *8 Data, 1 Stop, Parity None | 232WRD2 | 2-18 |
| | 8 Data, 1 Stop, Parity Odd | 232WRD8 | 2-18 |
| RS232 Receiver Time-out | Range 0 - 300 seconds | 232LPT### | 2-18 |
| RS232 Handshaking | *RTS/CTS Off | 232CTS0 | 2-19 |
| | Flow Control, No Timeout | 232CTS1 | 2-18 |
| | Two-Direction Flow Control | 232CTS2 | 2-18 |
| | Flow Control with Timeout | 232CTS3 | 2-18 |
| | RS232 Timeout | 232DEL#### | 2-19 |
| | *XON/XOFF Off | 232XON0 | 2-19 |

| Selection | Setting <i>* Indicates default</i> | Serial Command <i># Indicates a numeric entry</i> | Page |
|--------------------------------------|---------------------------------------|--|----------------------|
| | XON/XOFF On | 232XON1 | 2-19 |
| | *ACK/NAK Off | 232ACK0 | 2-19 |
| | ACK/NAK On | 232ACK1 | 2-19 |
| Scanner-Bioptic Packet Mode | *Packet Mode Off | 232PKT0 | 2-20 |
| | Packet Mode On | 232PKT2 | 2-20 |
| Scanner-Bioptic ACK/NAK Mode | *Bioptic ACK/NAK Off | 232NAK0 | 2-20 |
| | Bioptic ACK/NAK On | 232NAK1 | 2-20 |
| Scanner-Bioptic ACK/NAK Timeout | ACK/NAK Timeout *5100 | 232DLK##### | 2-20 |
| Input/Output Selections | | | |
| Power Up Beeper | Power Up Beeper Off - Scanner | BEPPWR0 | 3-1 |
| | *Power Up Beeper On - Scanner | BEPPWR1 | 3-1 |
| Beep on BEL Character | Beep on BEL On | BELBEP1 | 3-1 |
| | *Beep on BEL Off | BELBEP0 | 3-1 |
| Beep on BEL Character | Beep on BEL On | BELBEP1 | 3-1 |
| | *Beep on BEL Off | BELBEP0 | 3-1 |
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| Selection | Setting <i>* Indicates default</i> | Serial Command <i># Indicates a numeric entry</i> | Page |
|---|---|---|----------------------|
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Product Specifications

YJ-HF500 Scanner Product Specifications

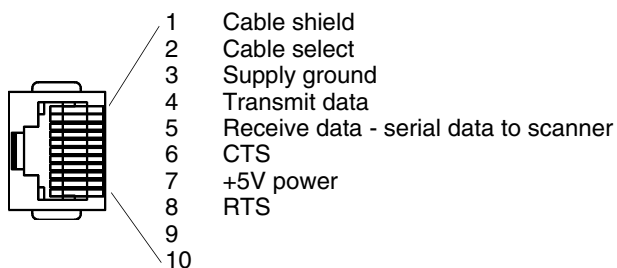
| Parameter | Specification |
|--|--|
| Mechanical | |
| Height | 1.14 in. (29mm) |
| Length | 2.06 in. (52.3mm) |
| Width | 1.92 in. (49mm) |
| Weight | 1.76 oz. (50g) |
| Electrical | |
| Input Voltage | 4.5 - 5.5VDC |
| Operating Power | 2.25W (450mA @ 5VDC) |
| Standby Power | 1.25W (250mA @ 5VDC) |
| Illumination LED | White emitting color |
| Aiming | 624nm peak wavelength |
| Environmental | |
| Operating Temperature | 14°F to 104°F (-10°C to 40°C) |
| Storage Temperature | -40°F to 140°F (-40°C to 60°C) |
| Humidity | 0 to 95% relative humidity, non-condensing |
| Drop | Withstands 1.5m drops (2 times) |
| Environmental Sealing | IP40 |
| Light Levels | 0 to 100,000 lux (9,290 foot-candles) |
| ESD | 10kV Air, 6kV contact |
| Image | |
| Image Size | 640 x 480 pixels |
| Scan Performance | |
| Pitch, Skew | ±60°, ±70° |
| Motion Tolerance: Presentation Mode | up to 10cm per second for 13 mil UPC |
| Symbol Contrast | 35% |
| Depth of Field | |
| Typical Performance | |
| 5 mil Code 39 | 56 - 118mm (2.2 - 4.6 in.) |
| 7.5 mil Code 39 | 46 - 176mm (1.8 - 6.9 in.) |
| 10 mil Code 39 | 31 - 236mm (1.2 - 9.3 in.) |
| 20mil Code 39 | 53 - 371mm (2.1 - 14.6 in.) |
| 13 mil UPC-A | 48 - 271mm (1.9 - 10.7 in.) |
| Guaranteed Performance | |
| 5 mil Code 39 | 68 - 113mm (2.7 - 4.4 in.) |
| 7.5 mil Code 39 | 50 - 167mm (2.0 - 6.6 in.) |
| 10 mil Code 39 | 36 - 201mm (1.4 - 7.9 in.) |
| 20mil Code 39 | 56 - 311mm (2.2 - 12.2 in.) |
| 13 mil UPC-A | 52 - 218mm (2.0 - 8.6 in.) |

Standard Cable Pinouts

Note: The following pin assignments are not compatible with Youjie 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.

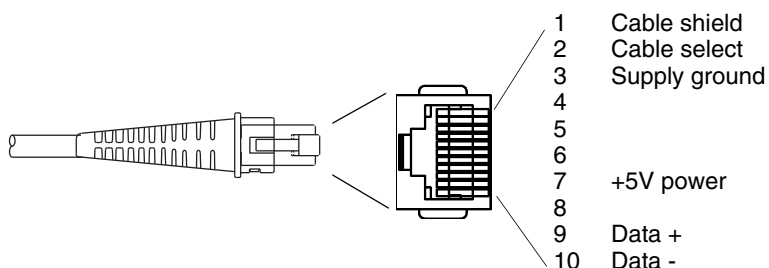
Serial Output

10 Pin RJ41 Modular Plug



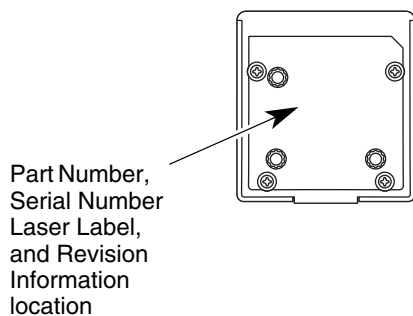
USB

10 Pin Modular Plug



Required Safety Labels

YJ-HF500 Scanner



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 [Technical Assistance](#) on page 12-1).

Maintenance

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

Cleaning the Device

Reading performance may degrade if the scanner's window is not clean. If the window is visibly dirty, or if the scanner isn't operating well, clean the window with a soft cloth or lens tissue dampened with water (or a mild detergent- water solution). If a detergent solution is used, rinse with a clean lens tissue dampened with water only.

The scanner housing may also be cleaned the same way.



Caution:

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

Do not use abrasive wipes or tissues on the scanner's window – abrasive wipes may scratch the window. Never use solvents (e.g., alcohol or acetone) on the housing or window – solvents may damage the finish or the window.

Inspecting Cords and Connectors

Inspect the interface cable and connector for wear or other signs of damage. A badly worn cable or damaged connector may interfere with scanner operation. Contact your distributor for information about cable replacement. Cable replacement instructions are on [page 11-1](#).

Replacing Cable in the Scanner

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

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

Troubleshooting the Scanner

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

Is the power on? Is the aimer on?

If the aimer isn't illuminated, check that:

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

Is the scanner having trouble reading your symbols?

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

- Aren't smeared, rough, scratched, or exhibiting voids.

-
- Aren't coated with frost or water droplets on the surface.
 - Are enabled in the scanner or in the decoder to which the scanner connects.

Is the bar code displayed but not entered?

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

- You need to program a suffix. Programming a suffix enables the scanner to output the bar code data plus the key you need (such as "CR") to enter the data into your application. Refer to [Prefix/Suffix Overview](#) beginning on page 4-1 for further information.

Does the scanner read the bar code incorrectly?

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

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

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

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

Reprogram the scanner with the proper symbology selections. See [Chapter 6](#).

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

1. Scan the sample bar codes in the back of this manual. If the scanner reads the sample bar codes, check that your bar code is readable.
Verify that your bar code symbology is enabled (see [Chapter 6](#)).

If the scanner still can't read the sample bar codes, scan [All Symbologies](#) (page 6-1).

If you aren't sure what programming options have been set in the scanner, or if you want the factory default settings restored, refer to [Resetting the Custom Defaults](#) on page 9-3.

Contact information for technical support, product service, and repair can be found at www.youjieaidc.com.

Limited Warranty

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

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

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

YOUJIE'S RESPONSIBILITY AND PURCHASER'S EXCLUSIVE REMEDY UNDER THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT WITH NEW OR REFURBISHED PARTS. IN NO EVENT SHALL YOUJIE BE LIABLE FOR INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, AND, IN NO EVENT, SHALL ANY LIABILITY OF YOUJIE ARISING IN CONNECTION WITH ANY PRODUCT SOLD HEREUNDER (WHETHER SUCH LIABILITY ARISES FROM A CLAIM BASED ON CONTRACT, WARRANTY, TORT, OR OTHERWISE) EXCEED THE ACTUAL AMOUNT PAID TO YOUJIE FOR THE PRODUCT. THESE LIMITATIONS ON LIABILITY SHALL REMAIN IN FULL FORCE AND EFFECT EVEN WHEN YOUJIE MAY HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH INJURIES, LOSSES, OR DAMAGES. SOME STATES, PROVINCES, OR COUNTRIES DO NOT ALLOW THE EXCLUSION OR LIMITATIONS OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

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

The duration of the limited warranty for the YJ-HF500 scanner is ninety (90) days.

Reference Charts

Symbology Charts

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

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

Refer to [Data Editing](#) beginning on page 4-1 and [Data Formatting](#) beginning on page 5-1 for information about using Code ID and AIM ID.

Linear Symbologies

| Symbology | AIM | | Honeywell | |
|------------------------------------|-----|---------------------------|-----------|-----|
| | ID | Possible modifiers (m) | ID | Hex |
| All Symbologies | | | | 99 |
| Codabar |]Fm | 0-1 | a | 61 |
| Code 11 |]H3 | | h | 68 |
| Code 128 |]Cm | 0, 1, 2, 4 | j | 6A |
| Code 32 Pharmaceutical (PARAF) |]X0 | | < | 3C |
| Code 39 (supports Full ASCII mode) |]Am | 0, 1, 3, 4, 5, 7 | b | 62 |
| TCIF Linked Code 39 (TLC39) |]L2 | | T | 54 |
| Code 93 and 93i |]Gm | 0-9, A-Z, a-m | i | 69 |
| EAN |]Em | 0, 1, 3, 4 | d | 64 |
| EAN-13 (including Bookland EAN) |]E0 | | d | 64 |
| EAN-13 with Add-On |]E3 | | d | 64 |
| EAN-13 with Extended Coupon Code |]E3 | | d | 64 |
| EAN-8 |]E4 | | D | 44 |
| EAN-8 with Add-On |]E3 | | D | 44 |
| GS1 | | | | |
| GS1 DataBar |]em | 0 | y | 79 |
| GS1 DataBar Limited |]em | | { | 7B |
| GS1 DataBar Expanded |]em | | } | 7D |
| GS1-128 |]C1 | | l | 49 |
| 2 of 5 | | | | |
| China Post (Hong Kong 2 of 5) |]X0 | | Q | 51 |
| Interleaved 2 of 5 |]Im | 0, 1, 3 | e | 65 |
| Matrix 2 of 5 |]X0 | | m | 6D |
| NEC 2 of 5 |]X0 | | Y | 59 |
| Straight 2 of 5 IATA |]Rm | 0, 1, 3 | f | 66 |
| Straight 2 of 5 Industrial |]S0 | | f | 66 |
| MSI |]Mm | 0, 1 | g | 67 |
| UPC | | 0, 1, 2, 3, 8, 9, A, B, C | | |
| UPC-A |]E0 | | c | 63 |

| Symbology | AIM | | Honeywell | |
|---------------------------------|-----|------------------------|-----------|-----|
| | ID | Possible modifiers (m) | ID | Hex |
| UPC-A with Add-On |]E3 | | c | 63 |
| UPC-A with Extended Coupon Code |]E3 | | c | 63 |
| UPC-E |]E0 | | E | 45 |
| UPC-E with Add-On |]E3 | | E | 45 |
| UPC-E1 |]X0 | | E | 45 |

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

2D Symbologies

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

Postal Symbologies

| Symbology | AIM | | Honeywell | |
|------------------------|-----|------------------------|-----------|-----|
| | ID | Possible modifiers (m) | ID | Hex |
| <i>All Symbologies</i> | | | | 99 |
| Australian Post |]X0 | | A | 41 |
| British Post |]X0 | | B | 42 |

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

ASCII Conversion Chart (Code Page 1252)

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

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

| Non-printable characters | | | Keyboard Control + ASCII (CTRL+X) Mode | | |
|--------------------------|-----|------|--|--|-------------------|
| | | | | Windows Mode Control + X Mode On (KBDCAS2) | |
| DEC | HEX | Char | Control + X Mode Off (KBDCAS0) | CTRL + X | CTRL + X function |
| 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 | f | 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 | ^ | ê | Page Up | 0x49 |
| 137 | 89 | ‰ | ë | Page Down | 0x51 |
| 138 | 8A | Š | è | Right ALT | 0x38 |
| 139 | 8B | ‹ | ï | Right CTRL | 0x1D |
| 140 | 8C | Œ | î | Reserved | n/a |
| 141 | 8D | | ì | Reserved | n/a |
| 142 | 8E | Ž | Ä | Numeric Keypad Enter | 0x1C |
| 143 | 8F | | Å | Numeric Keypad / | 0x35 |
| 144 | 90 | | É | F1 | 0x3B |
| 145 | 91 | ‘ | æ | F2 | 0x3C |
| 146 | 92 | ’ | Æ | F3 | 0x3D |
| 147 | 93 | “ | ô | F4 | 0x3E |
| 148 | 94 | ” | ö | F5 | 0x3F |
| 149 | 95 | • | ò | F6 | 0x40 |
| 150 | 96 | — | ù | F7 | 0x41 |
| 151 | 97 | — | û | F8 | 0x42 |
| 152 | 98 | ~ | ÿ | F9 | 0x43 |
| 153 | 99 | ™ | Ö | F10 | 0x44 |
| 154 | 9A | š | Ü | F11 | 0x57 |
| 155 | 9B | › | ø | F12 | 0x58 |
| 156 | 9C | œ | £ | Numeric Keypad + | 0x4E |
| 157 | 9D | | ¥ | Numeric Keypad - | 0x4A |
| 158 | 9E | ž | Þ | Numeric Keypad * | 0x37 |
| 159 | 9F | Ÿ | ƒ | Caps Lock | 0x3A |
| 160 | A0 | | á | Num Lock | 0x45 |
| 161 | A1 | í | í | Left Alt | 0x38 |
| 162 | A2 | ç | ó | Left Ctrl | 0x1D |
| 163 | A3 | £ | ú | Left Shift | 0x2A |
| 164 | A4 | α | 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 | ▓ | | |

| Extended ASCII Characters (Continued) | | | | | |
|---------------------------------------|-----|---------|-------|--------------------|---------------|
| DEC | HEX | CP 1252 | ASCII | Alternate Extended | PS2 Scan Code |
| 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 | ª | | |
| 190 | BE | ¾ | « | | |
| 191 | BF | ¿ | ¬ | | |
| 192 | C0 | À |  | | |
| 193 | C1 | Á |  | | |
| 194 | C2 | Â |  | | |
| 195 | C3 | Ã |  | | |
| 196 | C4 | Ä |  | | |
| 197 | C5 | Å |  | | |
| 198 | C6 | Æ |  | | |
| 199 | C7 | Ç |  | | |
| 200 | C8 | È |  | | |
| 201 | C9 | É |  | | |
| 202 | CA | Ê |  | | |
| 203 | CB | Ë |  | | |
| 204 | CC | Ì |  | | |
| 205 | CD | Í |  | | |
| 206 | CE | Î |  | | |
| 207 | CF | Ï |  | | |
| 208 | D0 | Ð | | | |
| 209 | D1 | Ñ | ¡ | | |
| 210 | D2 | Ò | ¢ | | |
| 211 | D3 | Ó | £ | | |
| 212 | D4 | Ô | ¤ | | |
| 213 | D5 | Õ | ¥ | | |
| 214 | D6 | Ö | ¦ | | |
| 215 | D7 | × | § | | |
| 216 | D8 | Ø | ¨ | | |
| 217 | D9 | Ù | © | | |
| 218 | DA | Ú |  | | |
| 219 | DB | Û |  | | |
| 220 | DC | Ü |  | | |
| 221 | DD | Ý |  | | |
| 222 | DE | Þ |  | | |
| 223 | DF | ß |  | | |
| 224 | E0 | à |  | | |
| 225 | E1 | á |  | | |
| 226 | E2 | â |  | | |
| 227 | E3 | ã |  | | |
| 228 | E4 | ä | | | |
| 229 | E5 | å |  | | |
| 230 | E6 | æ |  | | |

| Extended ASCII Characters (Continued) | | | | | |
|---------------------------------------|-----|---------|-------|--------------------|---------------|
| DEC | HEX | CP 1252 | ASCII | Alternate Extended | PS2 Scan Code |
| 231 | E7 | ç | τ | | |
| 232 | E8 | è | Φ | | |
| 233 | E9 | é | Θ | | |
| 234 | EA | ê | Ω | | |
| 235 | EB | ë | δ | | |
| 236 | EC | ì | ∞ | | |
| 237 | ED | í | φ | | |
| 238 | EE | î | ε | | |
| 239 | EF | ï | ∩ | | |
| 240 | F0 | ð | ≡ | | |
| 241 | F1 | ñ | ± | | |
| 242 | F2 | ò | ≥ | | |
| 243 | F3 | ó | ≤ | | |
| 244 | F4 | ô | ∫ | | |
| 245 | F5 | õ | ∫ | | |
| 246 | F6 | ö | ÷ | | |
| 247 | F7 | ÷ | ≈ | | |
| 248 | F8 | ø | ° | | |
| 249 | F9 | ù | · | | |
| 250 | FA | ú | · | | |
| 251 | FB | û | √ | | |
| 252 | FC | ü | ⁿ | | |
| 253 | FD | ý | ² | | |
| 254 | FE | þ | ■ | | |
| 255 | FF | ÿ | | | |

ISO 2022/ISO 646 Character Replacements

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

| Code Page Selection Method/Country | Standard | Keyboard Country | Honeywell Code Page Option |
|--|------------------|------------------|----------------------------|
| United States (standard ASCII) | ISO/IEC 646-IRV | n/a | 1 |
| Automatic National Character Replacement | ISO/IEC 2022 | n/a | 2 (default) |
| Binary Code page | n/a | n/a | 3 |
| <i>Default "Automatic National Character replacement" will select the below Honeywell Code Page options for Code 128, Code 39 and Code 93.</i> | | | |
| United States | ISO/IEC 646-06 | 0 | 1 |
| Canada | ISO /IEC 646-121 | 54 | 95 |
| Canada | ISO /IEC 646-122 | 18 | 96 |
| Japan | ISO/IEC 646-14 | 28 | 98 |
| China | ISO/IEC 646-57 | 92 | 99 |
| Great Britain (UK) | ISO /IEC 646-04 | 7 | 87 |
| France | ISO /IEC 646-69 | 3 | 83 |

| Code Page Selection Method/Country | Standard | Keyboard Country | Honeywell Code Page Option |
|-------------------------------------|------------------|------------------|----------------------------|
| Germany | ISO/IEC646-21 | 4 | 84 |
| Switzerland | ISO /IEC 646-CH | 6 | 86 |
| Sweden / Finland (extended Annex C) | ISO/IEC 646-11 | 2 | 82 |
| Ireland | ISO /IEC 646-207 | 73 | 97 |
| Denmark | ISO/IEC 646-08 | 8 | 88 |
| Norway | ISO/IEC 646-60 | 9 | 94 |
| Italy | ISO/IEC 646-15 | 5 | 85 |
| Portugal | ISO/IEC 646-16 | 13 | 92 |
| Spain | ISO/IEC 646-17 | 10 | 90 |
| Spain | ISO/IEC 646-85 | 51 | 91 |

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

Unicode Key Maps

| | | | | | | | | | | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 6E | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 7A | 7B | 7C | 7D | 7E | | | | | |
| 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 | 6A |
| 1E | 1F | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 2B | | | | | 5C | 61 | 66 | |
| 2C | 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 | |

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 | 6A |
| 1E | 1F | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 2A | | | | | 5C | 61 | 66 | |
| 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



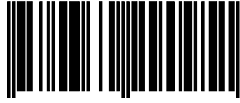
0 123456 7890

Interleaved 2 of 5



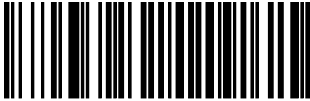
1234567890

EAN-13



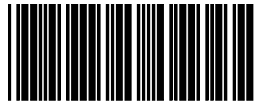
9 780330 290951

Code 128



Code 128

Code 39



BC321

Codabar



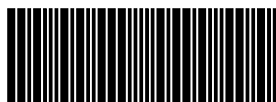
A13579B

Code 93



123456-9\$

Straight 2 of 5 Industrial



123456

Matrix 2 of 5



6543210

GS1 DataBar



(01)00123456789012

PDF417



Car Registration

Data Matrix



Test Symbol

QR Code



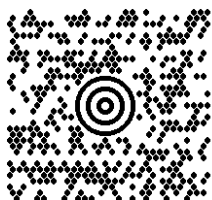
Numbers

Aztec



Package Label

MaxiCode



Test Message

Micro PDF417



Test Message

Postnet



Zip Code

4-CB (4-State Customer Bar Code)



01,234,567094,987654321,01234567891

ID-tag (UPU 4-State)



J18CUSA8E6N062315014880T

Programming Chart



K0K
0



K2K
2



K4K
4



K6K
6



K8K
8



K1K
1



K3K
3



K5K
5



K7K
7



K9K
9

Programming Chart



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.*

