Programmer's Reference Manual

SR60 Scanner

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Document Change Record

This page records changes to this document. The document was originally released as version 001.

Version Number	Date	Description of Change
002	6/2006	Revised to support RoHS compliance. New information includes an updated list of supported interface cables, scanners supported interfaces, and minor changes to the factory default configuration settings.
003	10/2006	• Incorporated the *SR60 Scanner Instructions – Important USB Information!* (P/N 943-091-001) and the *SR60 Programmer's Reference Manual Addendum* (P/N 941-003-001). • Added the standard range (SR) version of the scanner. • Added specific information about the USB interface, including the Code 39 Emulate Functions Keys feature and setting and EOM. • Added the Full ASCII Chart and the ASCII Extended Chart to Appendix B.
004	12/2006	Corrected bar codes for the "To set pre-noise or post-noise transitions" procedure on page 17 and added a bar code to the "To set a prefix or suffix for a USB interface" procedure on page 54.

Contents

Before You Begin

This section provides you with safety information, technical support information, and sources for additional product information.

About Cautions and Notes

Read and follow all cautions in this document before handling and operating Intermec equipment. Equipment and data can be damaged if you do not follow the cautions.

This section explains how to identify and understand cautions and notes that are in this document.

A caution alerts you to an operating procedure, practice, condition, or statement that must be strictly observed to prevent equipment damage or destruction, or corruption or loss of data.

Note: Notes either provide extra information about a topic or contain special instructions for handling a particular condition or set of circumstances.

Global Services and Support

Warranty Information

To understand the warranty for your Intermec product, visit the Intermec web site at www.intermec.com and click **Service & Support** > **Warranty**.

Disclaimer of warranties: The sample code included in this document is presented for reference only. The code does not necessarily represent complete, tested programs. The code is provided "as is with all faults." All warranties are expressly disclaimed, including the implied warranties of merchantability and fitness for a particular purpose.

Web Support

Visit the Intermec web site at www.intermec.com to download our current manuals (in PDF). To order printed versions of the Intermec manuals, contact your local Intermec representative or distributor.

Visit the Intermec technical knowledge base (Knowledge Central) at intermec.custhelp.com to review technical information or to request technical support for your Intermec product.

Telephone Support

These services are available from Intermec Technologies Corporation.

Services	Description	In the U.S.A. and Canada call 1-800-755-5505 and choose this option
Order Intermec products	• Place an order. • Ask about an existing order.	1 and then choose 2
Order Intermec media	Order printer labels and ribbons.	1 and then choose 1
Order spare parts	Order spare parts.	1 or 2 and then choose 4
Technical Support	Talk to technical support about your Intermec product.	2 and then choose 2
Service	• Get a return authorization number for authorized service center repair. • Request an on-site repair technician.	2 and then choose 1
Service contracts	• Ask about an existing contract. • Renew a contract. • Inquire about repair billing or other service invoicing questions.	1 or 2 and then choose 3

Outside the U.S.A. and Canada, contact your local Intermec representative. To search for your local representative, from the Intermec web site, click **Contact**.

Who Should Read This Manual

This programmer's reference manual is for the person who is responsible for installing, programming, configuring, and maintaining the SR60 scanner.

This document explains how to program and configure the SR60 scanner.

Before you work with the SR60, you should be familiar with the host system to which you will connect the SR60.

Related Documents

The Intermec web site at www.intermec.com contains our documents (as PDF files) that you can download for free.

To download documents

1. Visit the Intermec web site at www.intermec.com.
2. Click **Service & Support** > **Manuals**.
3. In the **Select a Product** field, choose the product whose documentation you want to download.

To order printed versions of the Intermec manuals, contact your local Intermec representative or distributor.

1 Learning About Programming the SR60 Scanner

This chapter explains how and why you program your SR60 scanner. You will find these sections in this chapter:

- What Is the SR60?
- Customizing Your Scanner's Operation
- How to Program the SR60 Scanner
- About the Scanner LEDs and Beeper
- Integrating the Scanner With Your Host System
- Changing the Interface Cable
- Restoring Factory Default Settings
- Trouble Scanning the Bar Codes in This Manual
- Contacting Intermec Product Support

What Is the SR60?

The Intermec SR60 is a laser scanner that is available in a standard range (SR) version or extended long-range (XLR) version. The XLR version allows you to scan bar code labels from as far away as 11 m (36 ft) depending on the labels you are using.

To determine whether you have the SR version or XLR version, refer to the configuration number (C/N) on the label above the trigger. The scanner version of your SR60 is the sixth character of the configuration number:

- SR60BL. The letter "L" indicates the SR version.
- SR60BX. The letter "X" indicates the XLR version.

Unless otherwise noted, all information in this manual applies to both the SR and XLR versions.

Customizing Your Scanner's Operation

You can customize your SR60 scanner's operation using the programming bar codes in this manual.

- You can select and configure the settings that allow communication with your host terminal, such as setting the RS-232 baud rate and parity for the RS-232 interface. For help, see Chapter 2, "Configuring Interface Settings."
- You can configure the optional prefix, suffix, and label ID to be sent with bar code data if your scanner is configured for the RS-232 or Keyboard Wedge interface. For help, see Chapter 3, "Configuring Label Transmit Settings."
- You can select and configure bar code symbologies. You can give the scanner the capability to autodiscriminate as few as one, and as many as all available symbologies. For optimal scanner performance, enable only those symbologies required. You may also program the scanner with the standard options available for the symbologies, such as check digit, minimum label length, and fixed and variable length bar codes. For help, see Chapter 4, "Enabling and Configuring Symbologies."
- You can configure general features. For example, you may adjust the beeper volume. For help, see Chapter 5, "Configuring General Features."

How to Program the SR60 Scanner

There are two ways for you to program the scanner:

- You can scan programming bar codes to modify the scanner's programmable features and options. This manual provides the bar codes and instructions necessary to configure the features and options. To ensure full compatibility and proper function, use only the programming bar codes in this manual.
- You can send commands directly from the host. A limited set of host commands are available. For help, see "RS-232 Host Commands" on page 163.

When you program the scanner, the scanner stores the changes until reprogrammed or returned to factory defaults.

What Is Programming Mode?

The scanner must be placed in Programming mode in order to accept programming commands. You place the scanner in Programming mode by scanning the SET bar code, which appears first in each set of programming bar codes in this manual. While in the Programming mode, the scanner recognizes only the special programming bar codes contained in this manual.

To understand how the LEDs and beeper behave while the scanner is in Programming mode, see "About the Scanner LEDs and Beeper" on page 7.

What Is a Programming Session?

A typical programming session is conducted as follows:

1. Scan the SET bar code at the beginning of each set of programming bar codes to place the scanner in Programming mode. The scanner emits three beeps, indicating it has read the bar code, and the green LED flashes on and off slowly while the scanner remains in Programming mode. Normal scanning functions are disabled.
2. Scan the programming bar codes that are specially encoded to make changes. With few exceptions, the scanner emits a triple beep each time you scan a valid bar code. Be aware of these considerations:

- Some features, such as Minimum Label Length, require you to select the label length by scanning a series of single-digit bar codes. A single good read beep sounds when scanning these single digits in Programming mode. Only the final required digit in the sequence produces a triple beep when scanned, indicating a successfully programmed feature.
- Not all features are available for all interfaces. The scanner sounds an error tone if you scan programming bar codes for features invalid to the current interface. Only features supported by the currently active interface are implemented.
- If you scan a bar code that changes the interface type, all previous configuration items scanned in the programming session are lost.
- When programming a feature requiring you to scan single digits to set a multi-digit number, such as Minimum Label Length, scanning the END bar code (or any item tag/item value bar code) before completing all input results in an error tone and causes the scanner to exit Programming mode. Under these circumstances, the features you were trying to set are discarded; any previous bar codes scanned during the session take effect.
- Intermec recommends that you limit each programming session to one feature at a time. If you make a mistake in the programming sequence, it can be difficult to discover where an error has been made if several features are programmed at once. Additionally, it can be confusing to determine which features may or may not have been successfully set following such a session.

3 Scan the END bar code to save any new settings and exit Programming mode. The scanner sounds a beep and resets upon exiting Programming mode, and the green LED returns to its usual state (on steady or off).

Note: If you disconnect power before you scan the END bar code, all the new settings are discarded. On power-up, the scanner returns to the previous settings.

4 Maintain an accurate record of all changes you make. There is a worksheet in Appendix A, "Factory Default Configuration" on page 151, where you can record your changes.

Three Sample Programming Sequences

To modify a scanner feature, you must scan the programming bar codes in this manual in the correct sequence, depending upon the feature being programmed. There are three programming sequences, which are illustrated on the next page.

Sample A

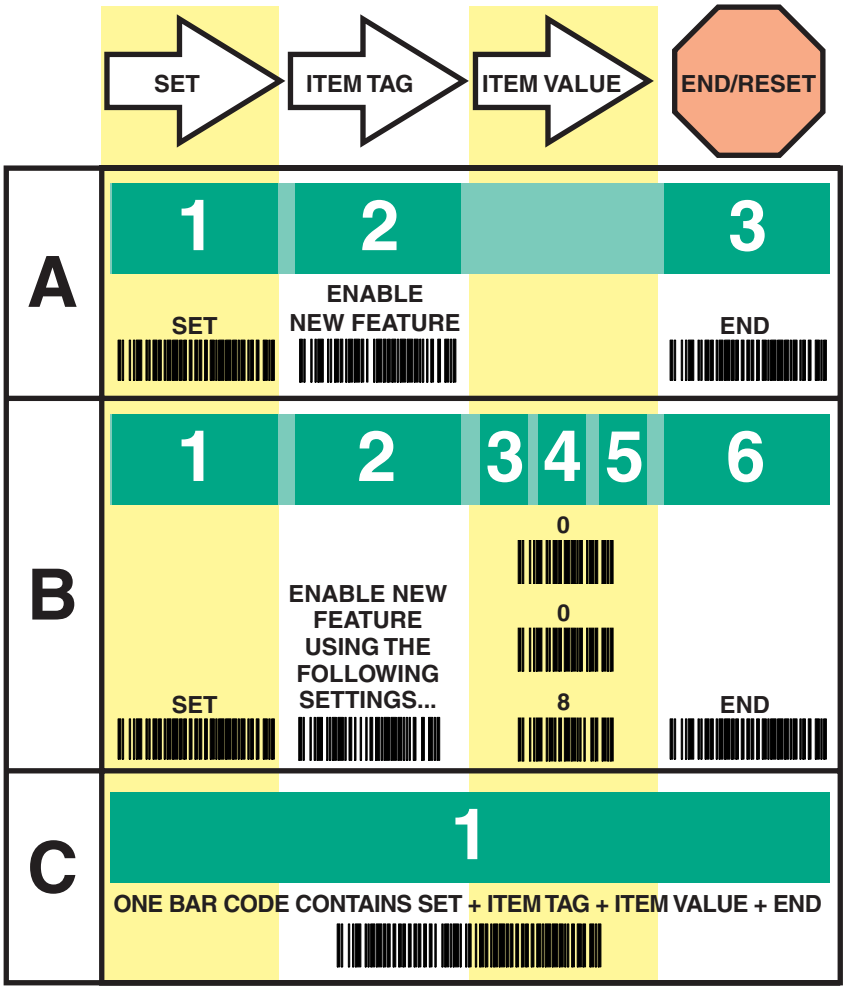
Programming sample A is the most commonly used sequence and demonstrates how three bar codes are scanned to accomplish these tasks:

1 Enter Programming mode with the SET bar code.

2 Scan the Item Tag that enables the new feature.

The term Item Tag describes an assigned number encoded in a programming bar code that selects, enables, or disables a specific feature.

3 Exit Programming mode and reset the scanner with the END bar code.



Three Sample Programming Sequences

Sample B

Programming sample B demonstrates how to enter a range value.

Like sample A, the scanner is placed in Programming mode and an Item Tag is scanned. Then, a value must be entered before ending the programming session. In the example, three digits must be scanned from “Keypad Bar Codes” on page 160.

This type of format may require up to six programming bar codes and is necessary to allow flexible programming with larger item-value numeric ranges.

Sample C

Programming sample C lets you scan a single, extended length bar code. This special bar code contains all the data necessary to enter Programming mode, set the Item Tag and Item Value, and exit Programming mode all in one step.

Roadmap for Programming the Scanner

Follow this roadmap to program the SR60 scanner.

To program the scanner

1. Scan any feature bar codes that are unique to the interface you are currently programming. These interface-specific programming bar codes immediately follow each interface selection bar code.
2. If you need to change any bar code symbologies or modify any symbology-related features, see "Enabling Symbologies" on page 70.
3. If you need to change or modify any other features (such as beeper settings), see Chapter 5, "Configuring General Features," on page 139.

Once the necessary changes have been made, and you have scanned the END bar code, you are ready to operate the SR60 scanner.

About the Scanner LEDs and Beeper

The scanner provides a set of indicators that verify or announce scanner functions.

Note: The green LED and beeper are configurable features which may have been modified or disabled. For help, see Chapter 5, "Configuring General Features," on page 139.

Scanner LEDs

The amber Laser On LED is located on top rear of the scanner and lights whenever laser power is on.

The green Good Read LED is located on top rear of the scanner and flashes:

- once to indicate when a good read has occurred.
- slowly on and off to indicate the scanner is in Programming mode.

Scanner Beeper

The beeper operates differently when the scanner is in Scanning mode and in Programming mode.

- When the scanner is in Scanning mode, the beeper sounds:
  - four times at power-up.
  - once following a good read.
  - six rapid chirps to indicate an error (error tone).
- When the scanner is in Programming mode, the beeper sounds:
  - once when entering or exiting Programming mode.
  - three times to indicate a successfully programmed feature.
  - an error tone if you scan programming bar codes for features that are not compatible with the current interface. For example, you can set baud rate and parity only when the current interface is RS-232.

Integrating the Scanner With Your Host System

Your scanner must be equipped with the correct hardware to properly communicate with your host system. Contact your local Intermec representative if you have questions about your scanner hardware compatibility.

Intermec offers the following interface cables for the SR60 scanner:

- Laser emulation
- Wand emulation
- RS-232
- Keyboard wedge
- USB

Note: The part numbers for the keyboard wedge cables available from Intermec are listed in the "PC Keyboard Interfaces and Cables Supported " table on page 20.

Changing the Interface Cable

If you need to move the scanner to a host terminal of a different interface type, you simply connect the scanner to the new host using the appropriate interface cable. The scanner automatically changes to the interface functions specific to that cable.

Verifying that Your Scanner Supports the Interface

You must make sure that your SR60 scanner supports the interface you want to change to. The following list indicates the interfaces each SR60 scanner supports:

- SR60 scanner with C/N SR60BX01 (XLR) or C/N SR60BL01 (SR) supports the Wand Emulation, RS-232, and Keyboard Wedge interfaces.
- SR60 scanner with C/N SR60BX02 (XLR) or C/N SR60BL02 (SR) supports the USB interface.
- SR60 scanner with C/N SR60BX03 (XLR) supports the Laser Emulation interface.

You can find the scanner C/N on the label above the trigger.

Removing and Replacing the Scanner Interface Cable

You can change your scanner interface cable by following these instructions.

To change the scanner interface cable

1 Loosen the screw at the bottom of the handle. This screw is captive and does not come all the way out.

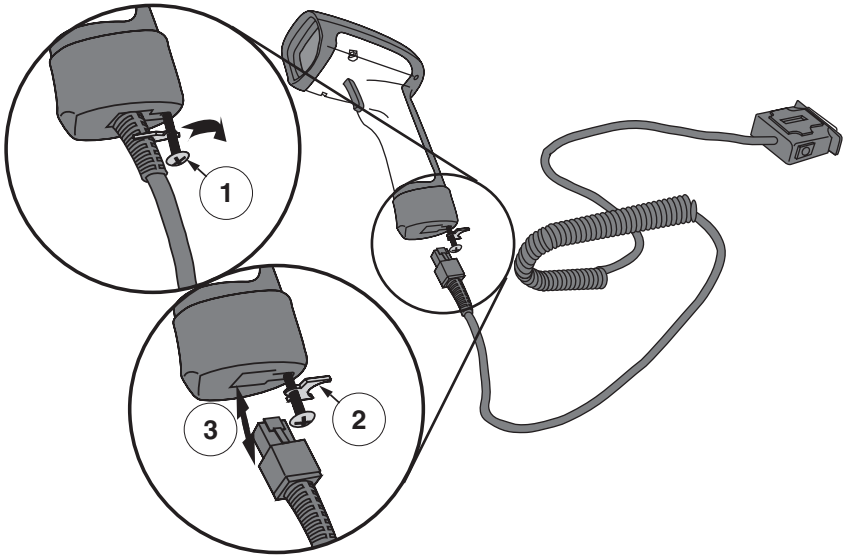
Caution

Do not try to pull the end cap off, as this may damage the scanner.

2 Swing the forked cable retainer clear of the square hole in the end cap and rotate away from the cable.

3 Holding the scanner handle and end cap together in one hand, pull the connector out of the handle end cap to free the interface cable.

4 Connect the new interface cable at the scanner and rotate the forked cable retainer to secure it. Tighten the screw to 0.67 to 1.13 Nm (6 to 10 in-lb).



Removing and Replacing an Interface Cable

Reconfiguring the Interface Settings

If you change the interface cable, you may need to reconfigure the interface settings. For help, see Chapter 2, "Configuring Interface Settings."

After you reconfigure the interface settings, you should scan a bar code to verify that the scanner communicates correctly with the new host system. For sample bar codes, see "Sample Bar Codes" on page 158.

Restoring Factory Default Settings

You can restore the factory default settings at any time by scanning the Return to Factory Default Settings bar code in this section. This bar code is typically used to return the scanner to a known operating state when the present programming status is not known, faulty, or suspect.

For a list of factory default settings, see Appendix A, "Factory Default Configuration" on page 151.

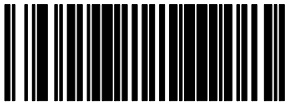
Use this bar code with caution, since it resets all changes made during previous programming sessions.

Note: This bar code does not reset Low Power mode or Half Angle. For details, see "Configuring the Low Power Mode" on page 146 or "Configuring the Half Angle" on page 149.

To restore factory defaults

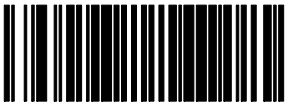
1. Scan the SET bar code.
2. Scan the Return to Factory Setting bar code.
3. Scan the END bar code.

SET----------



Return to Factory Default Settings ---------

END----------



Trouble Scanning the Bar Codes in This Manual

If you are having trouble scanning the bar codes in this manual, make sure you follow these guidelines:

- Review the scanning instructions in the *SR60 Scanner Quick Start Guide* (P/N 930-141-xxx) which shipped with the scanner.
- If you are using the XLR version, hold the scanner at least 1.2 m (4 ft) from the bar code because this is a long range scanner.
- If you see more than one red marker beam, aim the center beam on the bar code.
- Move the marker beam horizontally across the page toward the bar code to avoid passing the marker beam over other bar codes.

Note: By default, the marker beam is enabled for the XLR version and disabled for the SR version. For more information, see "Configuring the Marker Beam" on page 144.

Contacting Intermec Product Support

If you need to contact Intermec Product Support for help with your SR60 scanner, follow the instructions in "Global Services and Support" on page xi.

Make sure you have this information before you contact Intermec Product Support:

- Scanner configuration number: Look for the C/N number on the label above the trigger.
- Cable part number: Look for the part number on the label attached to the cable.

For help understanding your warranty, see "Warranty Information" on page xi.

2 Configuring Interface Settings

This chapter contains the programming bar codes for selecting an interface and programming the related interface settings. You will find these sections in this chapter:

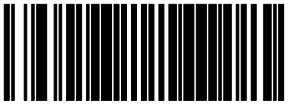
- Wand Emulation Interface
- Keyboard Wedge Interface
- RS-232 Communication Parameters
- USB Interface

Wand Emulation Interface

Scan the following bar codes to enable the Wand Emulation Interface.

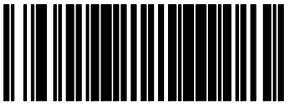
Note: Wand Emulation Interface is not supported by the USB interface.

SET----------



Enable Wand Emulation ---------

END----------

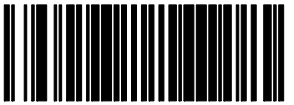


Wand Emulation Settings

Scan the following bar codes to configure the settings for the Wand Emulation Interface.

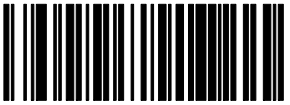
Note: You should enable Transmit C128 Function Characters only when Data Format is set to Transmit in Normal Format or Transmit in Code 128 Format.

SET----------

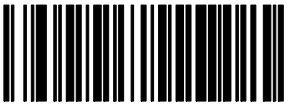


Polarity

Space Low, Bar High ---------

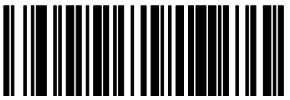


Space High, Bar Low ---------

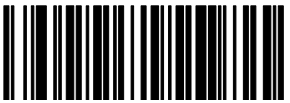


Signal Speed

Low (660 µs) ---------

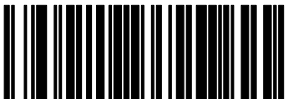


High (330 µs) ---------



Data Format

Transmit in Normal Format ---------



Transmit in C39 Format ---------

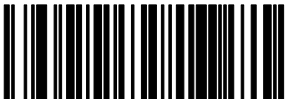
Transmit in C39 Full ASCII Format ---------

Transmit in C128 Format ---------

Idle State

Low ---------

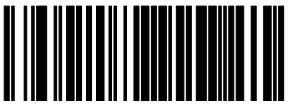
High ---------



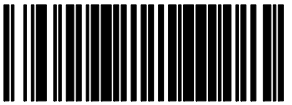
Transmit C128 Function Characters

Enable ---------

Disable ---------



END----------



Wand Emulation Pre/Post-Noise Settings

You can independently configure the number of noise transitions generated prior to or following label transitions.

To disable transmitting pre-noise or post-noise transitions

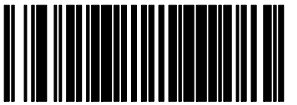
1. Scan the SET bar code.
2. Scan either the Don't Transmit Pre-Noise bar code on this page or the Don't Transmit Post-Noise bar code on page 18.
3. Scan the END bar code. You have disabled noise transitions.

To set pre-noise or post-noise transitions

1. Scan the SET bar code.
2. Scan either the Set Pre-Noise Transitions bar code on this page or the Set Post-Noise Transitions bar code on page 18.
3. From the "Keypad Bar Codes" on page 160, scan two digits that represent the appropriate number of noise transitions. You can choose from one to twenty noise transitions for either pre-noise or post-noise. For example, scan the 0 and the 3 bar codes for three transitions.
4. Scan the END bar code.

Pre-Noise Transitions Settings

SET----------

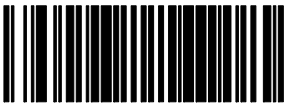


Don't Transmit Pre-Noise ---------

Set Pre-Noise Transitions ---------

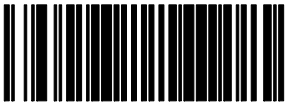
Use the bar codes in "Keypad Bar Codes" on page 160 to scan two digits representing the number of Pre-Noise Transitions padded with leading zeros. For example, 03 = three transitions, 08 = eight, and 15 = fifteen.

END----------

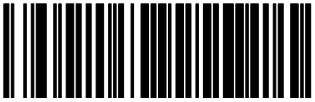


Post-Noise Transitions Settings

SET----------



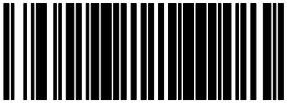
Don't Transmit Post-Noise ---------



Set Post-Noise Transitions ---------

Use the bar codes in "Keypad Bar Codes" on page 160 to scan two digits representing the number of Post-Noise Transitions padded with leading zeros. For example, 03 = three transitions, 08 = eight, and 15 = fifteen.

END----------



Keyboard Wedge Interface

This section describes these PC Keyboard Wedge interface parameters:

- Interface Selection
- Connect to a Laptop
- Caps Lock
- Country Mode
- Intercharacter Delay
- Quiet Interval

For help changing other settings for this interface, see:

- Chapter 3, "Configuring Label Transmit Settings," on page 47.
- "All Symbologies Supported by All Interfaces" on page 70.
- Chapter 5, "Configuring General Features," on page 139.

Note: If you configure the transmission parameters so that a label results in no actual data to send, the label will be accepted, beeped, and no data transmitted.

Note: Keyboard Wedge Interface is not supported by the USB interface.

PC Keyboard Interface Selection

The SR60 scanner supports a variety of PC keyboard interfaces. Find your PC Keyboard Interface in the first column and note the corresponding Interface Type in the second column.

For your convenience, the third column lists the corresponding cable or cables you can use to connect the SR60 scanner.

PC Keyboard Interfaces and Cables Supported

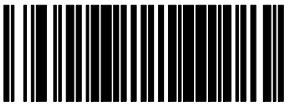
PC Keyboard Interface	Interface Type	Cable(s)
PC/XT with alternate key encoding	A	P/N 321-635-002
AT, PS/2 25-286, 30-286, 50, 50Z, 60, 70, 80, 90, and 95 with alternate key encoding	B	P/N 321-635-002 P/N 321-636-002
PS/2 25 and 30 with alternate key encoding	C	P/N 321-635-002 P/N 321-636-002
PC/XT with standard key encoding	D	P/N 321-635-002
AT, PS/2 25-286, 30-286, 50, 50Z, 60, 70, 80, 90, and 95 with standard key encoding	E	P/N 321-635-002 P/N 321-636-002
PS/2 25 and 30 with standard key encoding	F	P/N 321-635-002 P/N 321-636-002
PS/55 5530T with 104 keyboard	I	P/N 321-635-002 P/N 321-636-002

Intermec recommends that you disconnect power before plugging or unplugging cables to avoid any possibility of equipment damage.

Scan the following bar codes to select the interface type you identified from the previous table, “PC Keyboard Interfaces and Cables Supported.”

PC Keyboard Interface Type

SET----------



A ---------

B ---------

C ---------

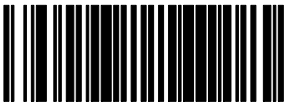
D ---------

E ---------

F ---------

I ---------

END----------



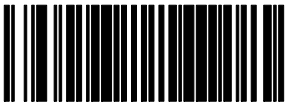
Connect to a Laptop or PC and Send Control/Function Characters

You need to know if the scanner will be connected to a laptop (with an integrated keyboard), connected to a PC (with an external keyboard), or operated with no external keyboard. You also need to know if you want to transmit control characters and function characters.

- The Laptop/No External Keyboard bar code on page 23 provides the acknowledge signal to the PC. You should enable this feature if the scanner is connected to a laptop or operated with no external keyboard.
- The Keyboard Attached bar code on page 23 should be enabled when the scanner is connected to a standard PC with an external keyboard.
- The Enable Control Characters bar code on page 23 transmits all ASCII characters except NUL (00h). Disabling this feature limits the transmission of ASCII characters to this list:
  - ASCII characters between 20h - 127h
  - Carriage Return (CR=0Dh)
  - BackSpace (BS=08h)
  - Right Tab (HT=09h)
  - Left Tab (0Bh)
  - Esc (1Bh)
- The Enable Function Characters bar code on this page transmits characters between 00H - IFH, which are not in the normal ASCII set.

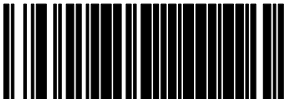
Scan the following bar codes to select the option for connecting to a laptop or PC.

SET----------

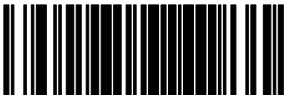


Connect to Laptop or PC

Laptop/No External Keyboard ---------

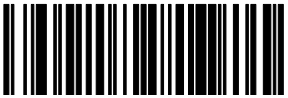


Keyboard Attached ---------



Send Control/Function Characters

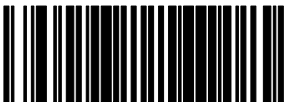
Enable Control Characters ---------



Enable Function Characters ---------

Disable ---------

END----------



Caps Lock

You can set three Caps Lock settings:

- The Caps Lock Off bar code sends character data to the host in normal format.
- The Caps Lock On bar code sends character data to the host in reverse case:
  - (a-z) = (A-Z)
  - (A-Z) = (a-z)

  Use this feature if your keyboard Caps Lock key is on.
- The Caps Lock = Shift-Lock bar code sends character data to the host in shifted case. This option may be used only with interface type G (IBM 3xxx 122-keyboard) with the Shift Lock key on.

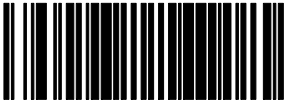
SET----------

Caps Lock Off **---------**

Caps Lock On **---------**

Caps Lock = ShiftLock **---------**

END----------



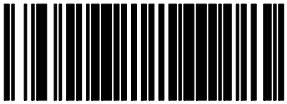
Country Mode

You can select the following countries only when the scanner is configured for Interface Type E:

- Belgium
- Britain
- Denmark
- France
- Germany
- Italy
- Japanese 106-Key
- Norway
- Portugal
- Spain
- Sweden
- Switzerland
- U.S.A.

Scan the following bar codes to select the desired country.

SET----------



Belgium ---------

Britain ---------

Denmark ---------

France ---------

Germany ---------

Italy ---------

Japanese 106-Key ---------

Norway ---------

Portugal ---------

Spain ---------

Sweden ---------

Switzerland ---------

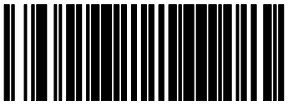
U.S.A. ---------

END----------

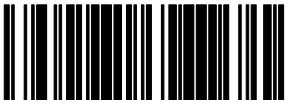
Intercharacter Delay

Intercharacter Delay refers to the pause, if any, between each character before it is sent to the host. This time delay controls the flow of data from the scanner. Scan the following bar codes to select the Intercharacter Delay.

SET----------



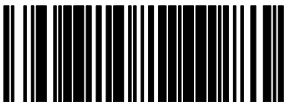
None **---------**



5 Milliseconds **---------**

10 Milliseconds **---------**

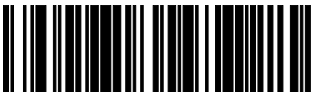
20 Milliseconds **---------**



30 Milliseconds **---------**

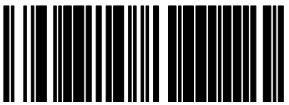
40 Milliseconds ---------

60 Milliseconds ---------

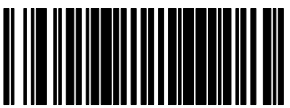


80 Milliseconds ---------

90 Milliseconds ---------



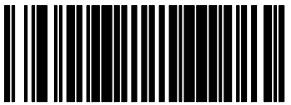
END----------



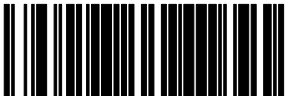
Quiet Interval

Quiet Interval is the amount of time to look for keyboard activity before the scanner breaks the keyboard connection in order to transmit data to the host.

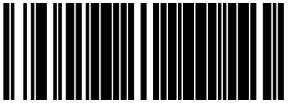
SET----------



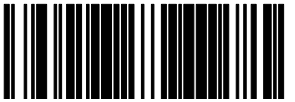
10 Milliseconds ---------



20 Milliseconds ---------

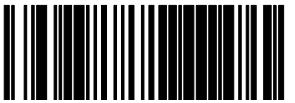


50 Milliseconds ---------

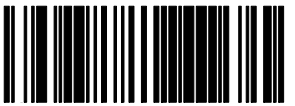


100 Milliseconds ---------

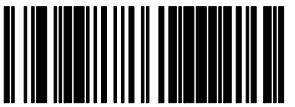
200 Milliseconds ---------



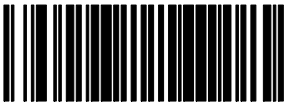
500 Milliseconds ---------



1 Second ---------



END----------



RS-232 Communication Parameters

This section describes these RS-232 communication parameters:

- Baud Rate
- Data Format Settings: Data Bit, Parity Bit, and Stop Bit(s)
- Handshaking
  - Hardware Handshaking (CTS/RTS)
  - Software Handshaking (XON/XOFF)
- ACK/NAK Options
- Intercharacter Delay

For help changing other settings for this interface, see:

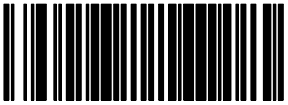
- Chapter 3, "Configuring Label Transmit Settings," on page 47.
- "All Symbologies Supported by All Interfaces" on page 70.
- Chapter 5, "Configuring General Features," on page 139.

Note: RS-232 Communication Parameters are not supported by the USB interface.

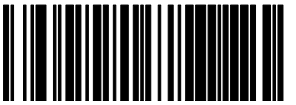
Baud Rate

Scan the following bar codes to select the Baud Rate. Only one Baud Rate selection may be active at any one time. The last Baud Rate bar code you scan during a programming session is the setting that is stored when you scan the END bar code.

SET----------



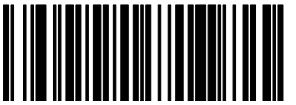
Baud Rate = 1200 ---------



Baud Rate = 2400 ---------

Baud Rate = 4800 ---------

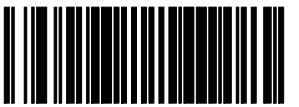
Baud Rate = 9600 ---------



Baud Rate = 19200 ---------

Baud Rate = 38400 ---------

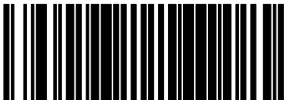
END----------



Data Format Settings

Scan the following bar codes to select the data format configuration needed to communicate with your system.

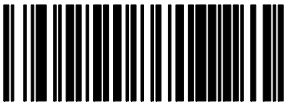
SET----------



Data Bit

Seven **---------**

Eight **---------**



Parity Bit

None **---------**

Even **---------**

Odd ---------

Mark ---------

Space ---------

Stop Bit(s)

One ---------

Two ---------

END----------

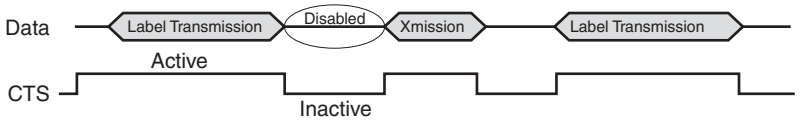
Handshaking

Review your system documentation to identify handshaking requirements, and scan the following bar codes to change the settings if required. The following descriptions briefly explain each selection.

Hardware Handshaking

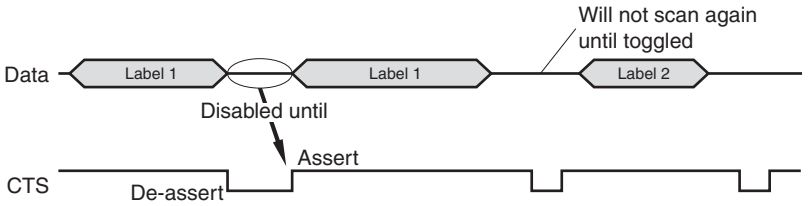
You can choose either CTS/RTS Flow Control or CTS Scan Control:

- CTS/RTS Flow Control is a type of hardware handshaking. The scanner activates the RTS (Request to Send) line when it is ready to send data to the host. The scanner waits for an active Clear to Send (CTS) signal from the host before transmitting data. If hardware control is disabled, CTS/RTS communication does not take place. If the host deactivates the CTS line during data transmission, the host receives additional characters for no more than 2 ms. (The timing varies slightly, depending on the baud rate you select.)



CTS/RTS Flow Control Illustration

- CTS Scan Control is a type of hardware handshaking. When scan control is enabled, label scanning is disabled until CTS is asserted and de-asserted, as shown in the next illustration.



CTS Scan Control Illustration

Handshaking controls are mutually exclusive. You cannot enable more than one of these features at a time, because enabling multiple controls produces unpredictable results.

Note: Each handshaking feature requires a series of bar codes in the sequence given. That is, you must enter Programming mode by scanning the SET bar code, scan the Step #1 bar code, scan the Step #2 bar code, and then scan the END bar code.

Enable CTS/RTS Flow Control

SET----------

Step #1 ---------

Step #2 ---------

END----------

Enable CTS Scan Control

SET----------

Step #1 ---------

Step #2 ---------

END----------

Software Handshaking

XON/XOFF is software handshaking that allows the host to control data transmission. If the host sends an XOFF command to the scanner, the scanner does not send the bar code data until it receives an XON command from the host. If the host sends the XOFF command during data transmission, the host receives additional characters for no more than 2 ms. (The timing varies slightly, depending on the baud rate you select.)

Enable XON/XOFF Control

SET----------

Step #1 ---------

Step #2 ---------

END----------

Disable both CTS/RTS and XON/XOFF Control

SET----------

Step #1 ---------

Step #2 ---------

END----------

To disable either CTS/RTS Control or XON/XOFF Control

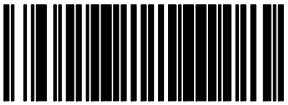
1. Disable both CTS/RTS Flow Control and XON/XOFF Control.
2. Enable one handshaking feature:
   - To enable CTS/RTS Flow Control, see page 36.
   - To enable XON/XOFF Control, see page 37.

RS-232 ACK/NAK Options

Scan the following bar codes to configure the RS-232 ACK/NAK parameters for your scanner.

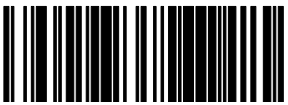
RS-232 ACK/NAK Options

SET----------

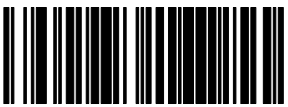


Disable ACK/NAK ---------

Enable for Bar Code Transmission ---------

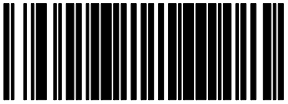


Enable for Host Command Acknowledge ---------



Enable for Bar Code Transmission and Host Command Acknowledge ---------

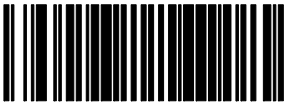
END----------



RS-232 Intercharacter Delay

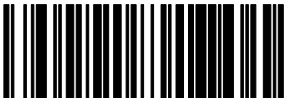
Intercharacter Delay refers to the pause, if any, between each character before it is sent to the host. This time delay controls the flow of data from the scanner.

SET----------



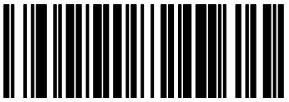
None ---------

10 Milliseconds ---------



20 Milliseconds ---------

30 Milliseconds ---------

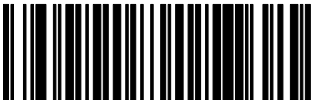


40 Milliseconds ---------

50 Milliseconds ---------

100 Milliseconds ---------

200 Milliseconds ---------



500 Milliseconds ---------

1 Second ---------

END----------

USB Interface

Scan the following bar codes to enable the USB interface and configure the keyboard country code.

Caution

If you have the USB interface, you must scan these bar codes to enable the interface, or certain conditions will result in data corruption.

To enable the USB interface and configure the keyboard country code

1. Identify the keyboard country code you will use. See the next table, "Keyboard Country Code for USB Interface."
2. Scan the START bar code on page 43.
3. Scan the Enable USB and Configure Keyboard Country Code bar code.
4. Using the Digits bar codes on page 44, scan the digits to set the keyboard country code you identified in Step 1.
5. Scan the Lower Case Enable bar code.
6. Scan the END bar code on page 43.

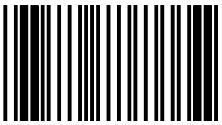
Keyboard Country Code for USB Interface

Country	Code for Windows 98/XP/2000	Code for IMAC
Belgium	734	742
Denmark	738	746
France	523	526
Germany	525	528
Italy	529	530
Japan	759	Not available
Norway	737	745
Poland	733	Not available

Keyboard Country Code for USB Interface (continued)

Country	Code for Windows 98/XP/2000	Code for IMAC
Spain	732	741
Switzerland	736	744
United Kingdom	731	740
United States	524	527

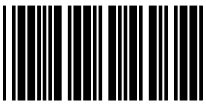
START----------



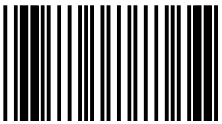
Enable USB and Configure Keyboard Country Code ---------

Use the bar codes on the next page to specify the three-digit keyboard country code you identified in Step 1.

Enable Lower Case Characters ---------

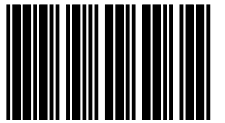


END----------

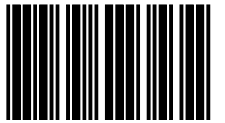


Digits

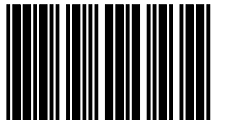
0 ---------



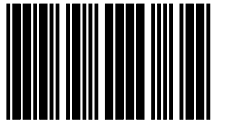
1 ---------



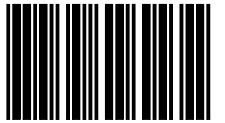
2 ---------



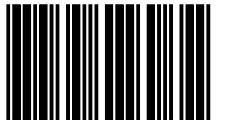
3 ---------



4 ---------



5 ---------



6 ---------

7 ---------

8 ---------

9 ---------

3 Configuring Label Transmit Settings

This chapter contains the programming bar codes for configuring the optional prefix, suffix, and label ID which may be sent in addition to bar code data if your SR60 scanner is configured for the RS-232 or Keyboard Wedge interface. You will find these sections in this chapter:

- When to Configure Label Transmit Settings
- How to Use the Prefix, Suffix, and Label ID
- Setting Global Prefixes and Suffixes
- Setting a Prefix or Suffix
- Setting a Label ID

When to Configure Label Transmit Settings

If you need to send information in addition to bar code label data, you can configure the scanner to transmit:

- global prefixes (or preambles).
- global suffixes (or postambles).
- symbology-specific identifier characters (or label IDs).

You may configure these Label Transmit settings only if your SR60 scanner has been configured to use either the RS-232 or Keyboard Wedge interface.

How to Use the Prefix, Suffix, and Label ID

The following table shows how you can use the prefix, suffix, and label ID characters.

Note: Using these features requires a thorough understanding of your specific system requirements. For help, contact Intermec Product Support.

Global Prefix		Label ID as Prefix		Label Data	Label ID as Suffix		Global Suffix		Resulting Label Format
1st Char	2nd Char	1st Char	2nd Char	Examples	1st Char	2nd Char	1st Char	2nd Char	Examples
00	00	None		0998875	None		00	00	0998875
50	51	None		0011223344	None		000	000	PQ0011223344
00	00	46	46	00210126	None		00	00	FF00210126
50	51	41	00[a]	00210126	None		00	00	PQA210126
00	00	None		$99.95	25	00[a]	00	00	$99.95%
50	51	None		998875	25	00[a]	00	00	PQ998875E
00	00	None		101234567891	None		53	57	10123456789SW
50	51	None		Code39Test	None		53	57	PQCode39TestSW
00	00	45	00[a]	Code128	None		53	00	ECode128S
50	00	45	46	0998875	None		53	57	PFF09988875SW
00	00	None		0998875	46	46	53	57	0998875FFSW
50	51	None		0011223344	46	00[a]	53	57	PQ0011223344FSW

a. The 00 indicates no second character.

Note: In the Global Prefix and the Global Suffix columns, 00 indicates no character.

Setting Global Prefixes and Suffixes

This section describes how to set global prefixes and suffixes.

Caution

Do not use these procedures if you have a USB interface. For a USB interface, see "Setting a Prefix or Suffix for a USB Interface" on page 54.

Setting Global Prefixes

You may add one or two prefix characters to the standard label format. To add more than two prefix characters, contact Intermec Product Support for Full Label Edit (FLE) options.

To set global prefixes

1. Identify your specific system requirements.
2. Using the ASCII table on page 164, identify the ASCII character(s) and the corresponding hex code(s) for the prefix.

   For example, suppose you want to send the two prefix characters STX (start transmit) and SP (Space). The ASCII chart shows that STX equals 02 hex and SP equals 20 hex.
3. Scan the SET bar code on page 50.
4. Scan the Set Prefix bar code.
5. Using the list of bar codes that starts on page 160, scan the four digits corresponding to the hex values you chose in Step 2.

   For this example, you would scan 0, 2, 2, and 0.

Note: Successful programming requires four digits for the label ID.

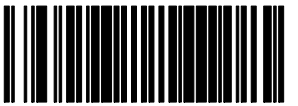
Note: If you make a mistake or lose your place while setting this option, scan the END bar code to exit Programming mode. The scanner sounds a two-beep error tone to indicate that programming was incomplete, and the setting remains as it was before entering Programming mode.

6 Scan the END bar code.

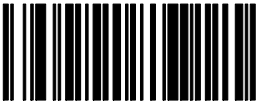
You have added a two-character prefix to all bar code data, regardless of label symbology. The prefix will be added to the label data before it is sent to the host.

Setting Global Prefix(es)

SET----------

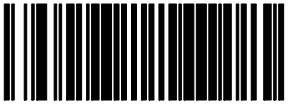


Set Prefix ---------



Use the ASCII chart on 68 to identify the ASCII character(s) and the corresponding hex code(s) for the prefix. Then use the bar codes on page 160 to scan the four digits corresponding to the hex values.

END----------



Setting Global Suffixes

You may add one or two suffix characters to the standard label format. To add more than two suffix characters, contact Intermec Product Support for Full Label Edit (FLE) options.

To set global suffixes

1. Identify your specific system requirements.
2. Using the ASCII table on page 164, identify the ASCII character(s) and the corresponding hex code(s) for the ASCII characters you plan to use as suffixes.
3. Scan the SET bar code below.
4. Scan the Set Suffix bar code.
5. Using the list of bar codes that starts on page 160, scan the four digits corresponding to the hex values you chose in Step 2.

   For this example, you would scan 0, A, 0, and D.

Note: Successful programming requires four digits for the label ID.

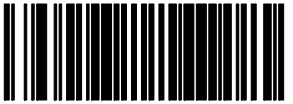
Note: If you make a mistake or lose your place while setting this option, scan the END bar code to exit Programming mode. The scanner sounds a two-beep error tone to indicate that programming was incomplete, and the setting remains as it was before entering Programming mode.

6. Scan the END bar code.

You have added a two-character suffix to all bar code data, regardless of label symbology, that will be added to the label data before it is sent to the host.

Setting Global Suffix(es)

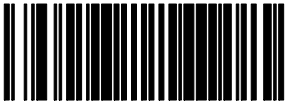
SET----------



Set Suffix ---------

Use the ASCII table on page 164 to identify the ASCII character(s) and the corresponding hex code(s) for the suffix. Then use the bar codes on page 160 to scan the four digits corresponding to the hex values.

END----------



Disabling a Global Prefix or Suffix

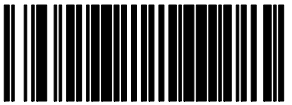
You can disable a global prefix or suffix.

To disable global prefix or suffix characters

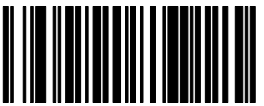
1. Scan the SET bar code on this page.
2. Scan the Set Prefix or Set Suffix bar code.
3. Scan the 0 digit four times to disable the prefix or suffix characters.
4. Scan the END bar code.

Disabling Global Prefix/Suffix Characters

SET----------



Set Prefix ---------



Set Suffix ---------

0 ---------

END----------

Setting a Prefix or Suffix

The method you use to set a prefix or suffix depends on your scanner interface:

- USB Interface
- Wand Emulation, Keyboard Wedge, RS-232, or Decoded Interface

The scanner does not transmit a prefix or suffix character if its hex value is set to zero.

Note: For the USB interface, the global character that is added at the end of every scan is an End of Message (EOM) character, not a Postamble (suffix). For help, see "Setting an EOM for a USB Interface" on page 56.

Setting a Prefix or Suffix for a USB Interface

Use this procedure to set a prefix or suffix.

To set a prefix or suffix for a USB interface

1 Scan these bar codes.

Code 39 Min Length = 1

Start

$ % /

Lower Case = Enable

D H I

EOM = None

D P 0

2 Scan the Preamble (prefix) or the Postamble (suffix) bar code.

Preamble

Q 0 1

Postamble

Q 0 2

3 Using the Full ASCII Chart on page 165, scan up to 19 characters. Use the Null character to clear the prefix or suffix.

4 Scan these bar codes.

End

Code 39 Min Length = 2

To clear the prefix and suffix

1 Scan this bar code.

Start

2 Scan this bar code to clear the Preamble (prefix) and Postamble (suffix).

Clear Ambles

3 Scan this bar code.

End

Setting an EOM for a USB Interface

For the USB interface, the global character that is added at the end of every scan is an End of Message (EOM) character, not a Postamble (suffix). However, if you use an EOM without a suffix, the EOM acts as the suffix.

The next procedure describes how to set an EOM for a USB interface. If the EOM you want to set is not in Step 2, set the EOM to None and set a suffix. For help, see "Setting a Prefix or Suffix for a USB Interface" on page 54.

To set an EOM for a USB interface

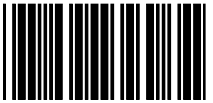
1 Scan this bar code.

Start

$ % /

2 Scan one of these EOM bar codes. The default setting is Return.

EOM=Enter



D P 5

EOM=Field Exit

D P 3

EOM=CR/LF

D P 6

EOM=Tab +

EOM=Return

EOM=LF

EOM=Field Advance

EOM=None

3 Scan this bar code.

End

Setting a Prefix or Suffix for a Multi or Decoded Interface

Use this procedure to set a prefix or suffix that has only one character.

Do not use this procedure if you have a USB interface. For a USB interface, see "Setting a Prefix or Suffix for a USB Interface" on page 54.

To set a prefix or suffix that has only one character

1. Using the ASCII table on page 164, identify the ASCII character and the corresponding hex code for the single-character prefix or suffix.

   For example, suppose you want to use the Space (SP) character. The ASCII charts shows that SP equals 20 hex.

2. Scan the SET bar code on page 59.
3. Scan the Set Prefix or Set Suffix bar code.
4. Using the list of bar codes that starts on page 160, scan the two digits corresponding to the hex value you chose in Step 1.
5. Scan the 0 digit twice to disable the transmission of a second character.
6. For this example, you would scan 2, 0, 0, and 0.

Note: Successful programming requires four digits for the label ID.

Note: If you make a mistake or lose your place while setting this option, scan the END bar code to exit Programming mode. The scanner sounds a two-beep error tone to indicate that programming was incomplete, and the setting remains as it was before entering Programming mode.

7. Scan the END bar code.

Setting a Single Character Prefix/Suffix

SET----------

Set Prefix ---------

Set Suffix ---------

END----------

Setting a Label ID

Setting the Label ID feature can be a complex task that requires multiple steps to enable all necessary options.

About Symbology-Specific Label Identifiers

Symbology-specific label identifiers consist of one or two ASCII characters that can precede or follow the bar code label data as it is transmitted to the host. The host may use these characters as a means of distinguishing between symbologies.

Industry standards have been established for symbology-specific label identifiers, which are listed in the next table. Most scanners have factory default identifiers preset to these standards.

Industry Standard Label Identifiers (Prefixes)

Symbology	Identifier (ID)
UPC-A	A
UPC-E	E
EAN-8	FF
EAN-13	F
UPC-A (with 2 add-ons)	A
UPC-A (with 5 add-ons)	A
UPC-A (with 8 add-ons)	A
UPC-E (with 2 add-ons)	E
UPC-E (with 5 add-ons)	E
UPC-E (with 8 add-ons)	E
EAN-8 (with 2 add-ons)	FF
EAN-8 (with 5 add-ons)	FF
EAN-8 (with 8 add-ons)	FF
EAN-13 (with 2 add-ons)	F
EAN-13 (with 5 add-ons)	F
EAN-13 (with 8 add-ons)	F
Code 39	*
PharmaCode	A
Codabar	%
Interleaved 2 of 5	i
Standard 2 of 5	i
Code 93	&
Code 128	#
UPC/EAN 128	None
MSI/Plessey	@

Setting the Label ID Location

You can specify the location where Label ID characters are to be placed in relation to scanned label data. The location you choose will be applied universally to all symbologies; you cannot specify a symbology-specific label ID location.

The locations include:

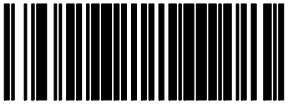
- None (for example, prefix, label data, suffix)
- Prefix (for example, prefix, label ID, label data, suffix)
- Suffix (for example, prefix, label data, label ID, suffix)

To set the label ID location

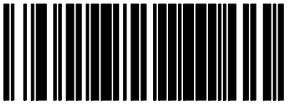
1. Scan the SET bar code.
2. Scan the bar code for the location you chose.
3. Scan the END bar code.

Setting Label ID Location

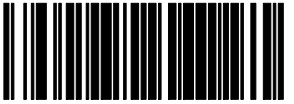
SET----------



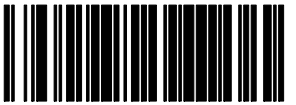
Label ID = None ---------



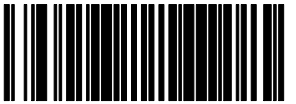
Position Label ID as Prefix ---------



Position Label ID as Suffix ---------



END----------



Setting a Symbology-Specific Label ID

You can configure a label ID for each symbology.

To set a symbology-specific label ID

1. Using the ASCII table on page 164, identify the ASCII character(s) and the corresponding hex code(s) for the ASCII characters you plan to use as the label ID.

   For example, suppose you want to change the label ID for UPC-A to A1. The ASCII chart shows that A equals 41 hex and 1 equals 31 hex.

2. Scan the SET bar code on page 63.

3. Using the bar codes in "Selecting the Symbology" on page 63, scan the bar code representing the symbology whose Label ID you want to change.

   For this example, you would scan the UPC-A symbology bar code.

4. Using the list of bar codes that starts on page 160, scan the four digits corresponding to the hex values you chose in Step 1.

   For this example, you would scan 4, 1, 3, and 1.

Note: Successful programming requires four digits for the label ID.

5 Scan the END bar code.

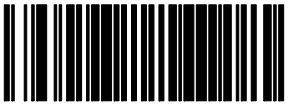
You have changed the default Label ID for UPC-A from A to A1.

Selecting the Symbology

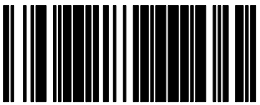
This section contains bar codes that represent each symbology. You scan these bar codes when, for example, you configure a symbology-specific label ID. You may scan only one symbology per programming session.

Setting Label ID Characters by Symbology

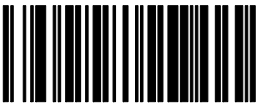
SET----------



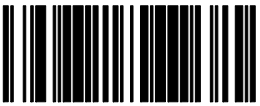
Code 39 **---------**



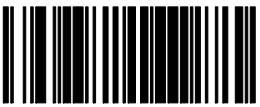
PharmaCode 39 **---------**



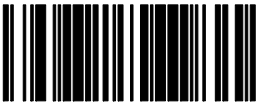
Code 128 **---------**



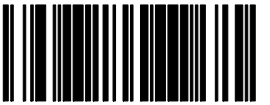
UCC/EAN 128 **---------**



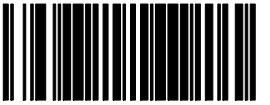
Interleaved 2 of 5 ---------



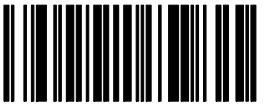
Codabar ---------



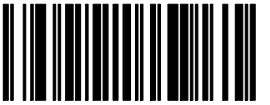
UPC-A ---------



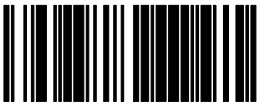
UPC-A
(2 digit add-ons) ---------



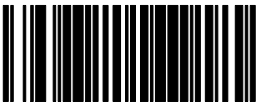
UPC-A
(with 5 digit
add-ons) ---------



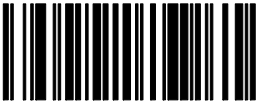
UPC-A
(with C128
add-ons) ---------



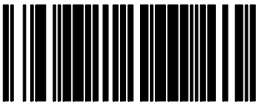
UPC-E ---------



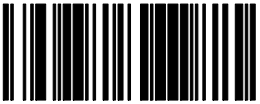
UPC-E (with 2 digit add-ons) ---------



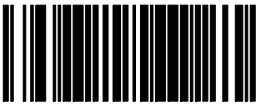
UPC-E (with 5 digit add-ons) ---------



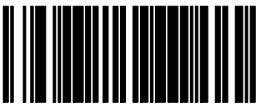
UPC-E (with C128 add-ons) ---------



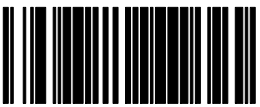
EAN-13 ---------



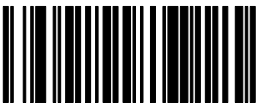
EAN-13 (with 2 digit add-ons) ---------



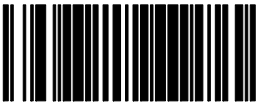
EAN-13 (with 5 digit add-ons) ---------



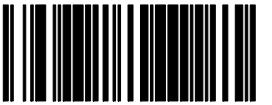
EAN-13 (with C128 add-ons) ---------



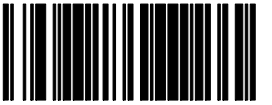
EAN-8 ---------



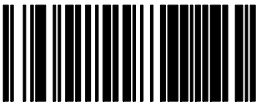
EAN-8 (with 2 digit add-ons) ---------



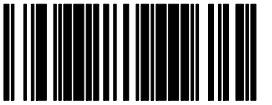
EAN-8 (with 5 digit add-ons) ---------



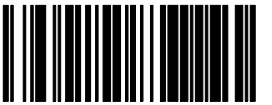
EAN-8 (C128 add-ons) ---------



Code 93 ---------

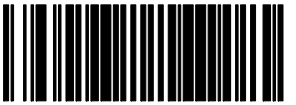


Standard 2 of 5 ---------



MSI/Plessey ---------

END----------



Setting a Single-Character Label ID

The scanner does not transmit a label ID character if its hex value is set to zero. If you need a Label ID that contains only a single character, you can set a single-character label ID.

To set a single-character label ID

1. Using the ASCII table on page 164, identify the ASCII character and the corresponding hex code for the single-character label ID.

   For example, suppose you want to change the Label ID for EAN-8 from the default setting FF to the single character 8. The ASCII chart shows that ASCII 8 equals 38 hex.

2. Scan the SET bar code on page 63.
3. Using the bar codes in "Selecting the Symbology" on page 63, scan the bar code representing the symbology whose Label ID you want to change.

   For this example, you would scan the EAN-8 bar code.

4. Using the list of bar codes that starts on page 160, scan the two digits corresponding to the hex value you chose in Step 1.
5. Scan the 0 digit twice to disable transmission of a second character.

   For this example, you would scan 3, 8, 0, and 0.

Note: Successful programming requires four digits for the label ID.

Note: If you make a mistake or lose your place while setting this option, scan the END bar code to exit Programming mode. The scanner sounds a two-beep error tone to indicate that programming was incomplete, and the setting remains as it was before entering Programming mode.

6 Scan the END bar code.

Disabling a Symbology-Specific Label ID

To disable a symbology-specific label ID, you follow the steps in the "To set a single-character label ID" procedure on page 67, except you must scan four zeros in Step 5.

4 Enabling and Configuring Symbologies

This chapter explains that all symbologies are supported by all the interfaces, describes the symbologies, and contains programming bar codes for configuring symbology features and options. You will find these sections in this chapter:

- All Symbologies Supported by All Interfaces
- Enabling Symbologies
- Code 39/PharmaCode 39 Options
- Code 128 and UCC/EAN 128 Options
- Interleaved 2 of 5 Options
- Codabar Options
- UPC/EAN Options
- Code 93 Options
- Standard 2 of 5/IATA Options
- IATA Options
- MSI/Plessey Options

All Symbologies Supported by All Interfaces

You can enable any bar code symbology described in this chapter because all the symbologies in this chapter are supported by all the SR60 scanner interface types.

Identify the symbologies you want to enable. Use the bar codes in this chapter to enable those symbologies and set the data format options (such as check digit or start/stop characters) required by your host system for each symbology type. You must enable the symbology format options settings that are compatible with your host system.

The factory default settings for each interface were chosen to meet the standard industry requirements. In most cases you do not need to change the symbology format settings.

If you are unsure of your system requirements, test the scanner using the factory settings before making any changes. For a list of factory default settings, see Appendix A, "Factory Default Configuration" on page 151.

Enabling Symbologies

You can enable specific symbologies or disable all symbologies using these programming bar codes:

- The Disable All Symbologies bar code on page 72 lets you disable all the symbologies currently enabled on the scanner. To optimize scanner performance, you should scan this bar code before you enable only the symbologies you require.
- The Enable Code 39 bar code on page 72 selects Code 39 as an active symbology and allows selection of check digit, start/stop and single digit options.
- The Enable PharmaCode 39 bar code on page 73 is a symbology subset of Code 39. Enabling PharmaCode 39 allows the scanner to read both PharmaCode 39 and Standard Code 39 labels.

Note: Standard Code 39 must be enabled before you can enable PharmaCode.

- The Enable Code 128 bar code on page 73 selects Code 128 as an active symbology. The scanner is preset to recognize all Code 128 bar codes that have between 1 and 50 characters.
- The Enable UCC/EAN 128 bar code on page 73 chooses EAN 128 as an active symbology. The Automatic Identification Manufacturers, Inc. of the United States (AIM U.S.A.) have standardized the reporting of data sources from bar code reading devices. Sending the AIM symbology prefix identifies the symbology to the host terminal, allowing it to specifically differentiate between UCC/EAN-128 (Code 128 with Function Character 1 in the first position) and standard Code 128 symbols. When this feature is disabled, the host cannot differentiate between these symbols.
- The Enable Interleaved 2 of 5 bar code on page 73 selects Interleaved 2 of 5 as an active symbology. Allows change of check digit or label format (fixed or variable length) options.
- The Enable Codabar bar code on page 73 selects Codabar as an active symbology. Allows selection of check digit, start/stop character and format, or label format (fixed or variable length) options.
- The Enable UPC-A bar code on page 73 enables UPC-A as an active symbology. If you enable this symbology, additional options for symbology expansion and reading add-on are available.
- The Enable UPC-E bar code on page 73 tells the scanner to recognize UPC-E as an active symbology. Like UPC-A, UPC-E offers options for symbology expansion and reading of add-ons.
- The Enable EAN-13 bar code on page 74 selects EAN-13 as an active symbology. EAN-13 options are similar to those of the EAN-8 symbology.
- The Enable EAN-8 bar code on page 74 selects EAN-8 as an active symbology. EAN-8 symbology selection also allows options for symbology expansion and reading of add-ons.
- The Enable Code 93 bar code on page 74 enables Code 93 as an active symbology. The scanner is preset to recognize all Code 93 bar codes that have between 1 and 50 characters.

- The Enable Standard 2 of 5 bar code on page 74 selects Standard 2 of 5 as an active symbology. Options for this symbology are similar to Interleaved 2 of 5 features.
- The Enable IATA bar code on page 74 selects the IATA custom code (which is a special symbology subset of Standard 2 of 5) as the active Standard 2 of 5 symbology, superseding any other Standard 2 of 5 features.

Note: Standard 2 of 5 must be enabled in order for IATA to be active. However, while IATA is enabled, Standard 2 of 5 is not decoded.

- The Enable MSI/Plessey bar code on page 74 selects MSI/Plessey as an active symbology. Allows selection of check digit or label format (fixed or variable length) options.

Scan the following bar codes to enable specific symbologies or disable all symbologies.

Note: If you enable a symbology that has additional features that should be set, turn to the pages that support that symbology and its programmable features.

SET----------

Disable All Symbologies ---------

Symbology Selections

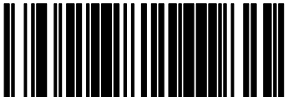
Enable Code 39 ---------

Enable PharmaCode 39 ---------

Enable Code 128 ---------

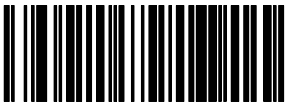
Enable UCC/ EAN 128 ---------

Enable Interleaved 2 of 5 ---------

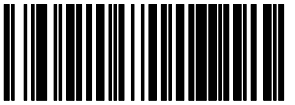


Enable Codabar ---------

Enable UPC-A ---------



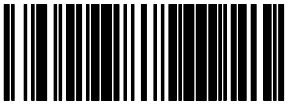
Enable UPC-E ---------



Enable EAN-13 ---------

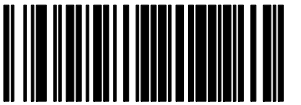
Enable EAN-8 ---------

Enable Code 93 ---------

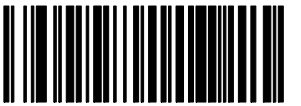


Enable Standard 2 of 5 ---------

Enable IATA ---------



Enable MSI/ Plessey ---------



END----------

After enabling one or more symbologies, you can use the bar codes in the following sections to configure the symbology options and features.

Code 39/PharmaCode 39 Options

This section describes the Code 39 options and contains the programming bar codes you can use to configure those options.

About Code 39 Options

The Code 39 symbology has the following programmable features:

- Check Digit
- Start/Stop Characters
- Code 39 Full ASCII
- Minimum Label Length
- Read Verification
- Code 39 Emulate Function Keys (USB interface only)

Check Digit

Check Digit calculates the check digit to verify that the check digit contained in the bar code label is correct. If you enable this feature, your bar codes must contain a check digit.

Start/Stop Characters

Start/Stop Characters selects either Send or Don't Send depending on your host's interface requirement.

Code 39 Full ASCII

Code 39 Full ASCII enables or disables the ability to decode Code 39 Full ASCII labels.

Minimum Label Length

Minimum Label Length sets the minimum label length required for the Code 39 symbology. This feature causes the scanner to ignore small label segments, reducing the possibility that a portion of a good label is incorrectly seen as an entire label.

Read Verification

Read Verification is the number of times the scanner is required to read the bar code data before sending the label data to the host.

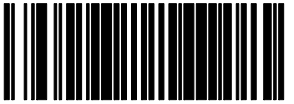
Code 39 Emulate Function Keys

(USB interface only) Code 39 Emulate Function Keys converts Code 39 character pairs to their equivalent ASCII extended values. For example, with this feature enabled, if you scan a Code 39 bar code that contains a period and capital N (.N), you get the F1 keyboard function. For a list of keyboard functions, see the "ASCII Extended Chart" on page 175.

Configuring the Code 39 Options

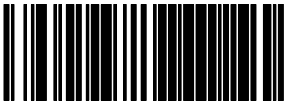
Scan the following bar codes to configure the Code 39 options.

SET----------

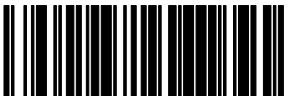


Check Digit

Don't Calculate **---------**



Calculate **---------**



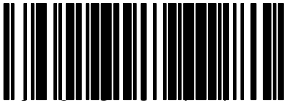
Don't Transmit **---------**

Transmit **---------**

Start/ Stop

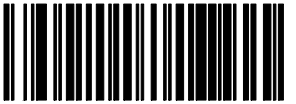
Don't Transmit ---------

Transmit ---------



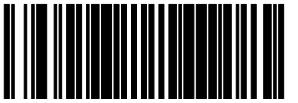
Code 39 Full ASCII

Enable ---------



Disable ---------

END----------



Minimum Label Length

The following procedure explains how to set the Code 39 Minimum Label Length.

To set Code 39 Minimum Label Length

1 Identify the minimum label length setting you want to make. The selectable range is 00 to 48 characters.

Note: For this symbology, the scanner decodes up to 48 characters, but the actual length read varies depending upon interface type, bar code physical size, and print quality. Code 39 bar codes containing one or more full ASCII characters can also limit the amount of characters that are decoded; in these circumstances, the scanner decodes at least 24 data characters.

2 Scan the SET bar code.

3 Scan the Set Minimum Label Length bar code.

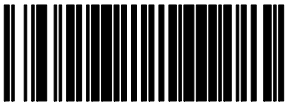
4 Using the Digits bar codes on page 79, scan the digits to set the minimum label length you identified in Step 1.

Note: To set a label length less than ten, you must scan a zero digit first and then the length digit (such as 04, 06, or 08).

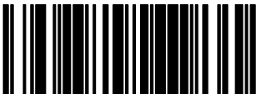
5 Scan the END bar code.

Minimum Label Length

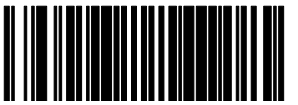
SET----------



Set Minimum Label Length ---------



END----------



Digits

0 ---------

1 ---------

2 ---------

3 ---------

4 ---------

5 ---------

6 ---------

7 ---------

8 ---------

9 ---------

Read Verification

Scan the following bar codes to set the minimum number of reads required to verify Code 39/Pharmacode 39 symbologies.

Note: The more times the scanner is required to read and compare the bar code data, the longer the scanner takes to validate and transmit a label.

SET----------

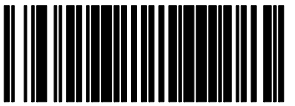
Set to One Read ---------

Set to Two Reads ---------

Set to Three Reads ---------

Set to Four Reads ---------

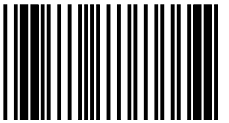
END----------



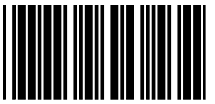
Code 39 Emulate Function Keys

(USB interface only) Scan the following bar codes to enable or disable Code 39 Emulate Function Keys.

START----------



Enable Code 39 Emulate Function Keys ---------



Disable Code 39 Emulate Function Keys ---------

END----------

About PharmaCode 39 Options

PharmaCode 39 symbology has the following programmable features:

- Transmit Check Digit
- Start/Stop Characters

Transmit Check Digit

Transmit Check Digit selects whether the check digit is transmitted to the host terminal.

Start/Stop Characters

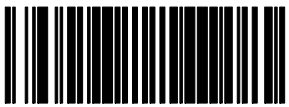
Start/Stop Characters directs the scanner to either Send or Don't Send depending on your host interface requirement.

Note: In order for PharmaCode 39 labels to be read and transmitted as PharmaCode 39, the Code 39 symbology must first be enabled.

Configuring the PharmaCode 39 Options

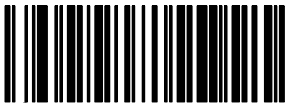
Scan the following bar codes to configure the PharmaCode 39 options for check digit and start/stop characters.

SET----------

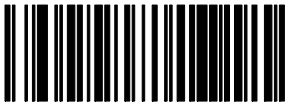


Check Digit

Don't Transmit ---------

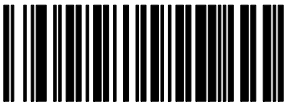


Transmit ---------

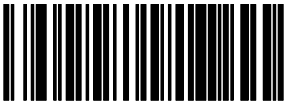


Start/Stop

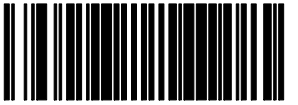
Don't Transit ---------



Transmit ---------



END----------



Code 128 and UCC/EAN 128 Options

This section describes the Code 128 and UCC/EAN 128 options and contains the programming bar code labels you can use to configure those options.

About Code 128 and UCC/EAN 128 Options

The Code 128 and UCC/EAN 128 symbologies have the following programmable features:

- Minimum Label Length
- Read Verification

Setting Minimum Label Length

Setting Minimum Label Length sets the minimum length required for Code 128 and UCC/EAN 128 symbology. This feature causes the scanner to ignore small label segments, reducing the possibility that a portion of a good label is incorrectly seen as an entire label.

Read Verification

Read Verification is the number of times the scanner is required to read the bar code data before sending the label data to the host.

Configuring the Code 128/and UCC/EAN 128 Options

Scan the following bar codes to configure the Code 128 and UCC/EAN 128 options.

Minimum Label Length

You can set the Code 128 and UCC/EAN 128 Minimum Label Length.

To set the Code 128 and UCC/EAN 128 Minimum Label Length

1 Identify the minimum length setting you want to make. The selectable range is 00 to 80 characters.

Note: The scanner decodes up to 80 characters, but the actual length read varies depending upon interface type, the physical size of the bar codes, print quality, and whether the bar code data consists of Code 128 code set A, set B, or set C characters. (Because the C128 character set C allows for more densely packed data, if the bar code includes all or mostly C128 set C characters, more characters can be decoded).

2 Scan the SET bar code.

3 Scan the Set Minimum Label Length bar code.

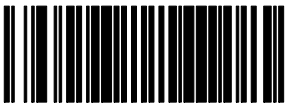
4 Using the Digits bar codes on page 85, scan the digits to set the minimum label length you identified in Step 1.

Note: To set a label length less than ten, you must scan a zero digit first and then the length digit (such as 04, 06, or 08).

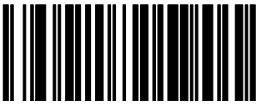
5 Scan the END bar code.

Minimum Label Length

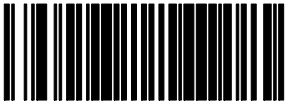
SET----------



Set Minimum Label Length ---------

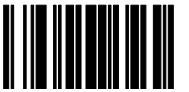


END----------

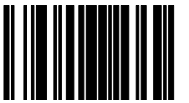


Digits

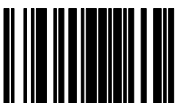
0 **---------**



1 **---------**

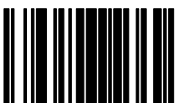


2 **---------**



3 **---------**

4 **---------**



5 **---------**

6 ---------

7 ---------

8 ---------

9 ---------

Read Verification

Scan the following bar codes to set the minimum number of reads required to verify Code 128 and UCC/EAN 128 symbologies.

Note: The more times the scanner is required to read and compare the bar code data, the longer the scanner takes to validate and transmit a label.

SET----------

Set to One Read ---------

Set to Two Reads ---------

Set to Three Reads ---------

Set to Four Reads ---------

END----------

Interleaved 2 of 5 Options

This section describes the Interleaved 2 of 5 options and contains the programming bar codes you can use to configure those options.

About Interleaved 2 of 5 Options

The Interleaved 2 of 5 symbology has the following programmable features:

- Check Digit
- Label Length Format
- Read Verification

Check Digit

Check Digit calculates the check digit to verify that the check digit contained in the bar code label is correct. If you enable this feature, your bar codes must contain a check digit.

If the check digit is not calculated, the digit will be sent regardless of settings for transmit or don't transmit. For example, if you choose to transmit check digit, but not calculate it, the scanner sends the check digit encoded in the bar code without verifying its accuracy.

Label Length Format

Label Length Format lets you choose between variable length or fixed length formats. For best performance, you should use the Fixed Length settings when your application requires only one or two label lengths.

Note: For this symbology, the scanner decodes up to 50 characters, but the actual length read varies depending upon the interface type, bar code physical size, and print quality.

- The Enable Variable Length Format bar code on page 91 directs the scanner to read all labels from the minimum label length to 50. If you select variable length format, there is one more bar code label to scan:
  - The Set Minimum Label Length bar code on page 91 selects the minimum label length that the scanner will recognize. The minimum label length for this symbology must be an even number of characters between 02 and 50. Set the Minimum Length as high as your application allows.
- The Enable Fixed Length Format bar code on page 92 directs the scanner to read only one or two label lengths. If you select fixed length format, there are three bar code labels for programming your scanner to read either one or two fixed lengths. The labels are:
  - The Set First Fixed Length bar code on page 92 instructs the scanner that the next two programming labels scanned will define the first fixed label length. This setting can be any even number of characters between 02 and 50 characters.

- The Set Second Fixed Length bar code on page 93 instructs the scanner that the next two programming labels scanned will define the second fixed label length. This setting can be any even number of characters between 02 and 50 characters.

Note: For this symbology, the scanner decodes up to 50 characters, but the actual length read varies depending upon the interface type, bar code physical size, and print quality.

- The No Second Fixed Length bar code on page 93 configures the scanner to recognize only the first fixed length.

Read Verification

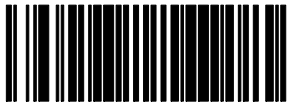
Read Verification is the number of times the scanner is required to read the bar code data before sending the label data to the host.

Configuring the Interleaved 2 of 5 Options

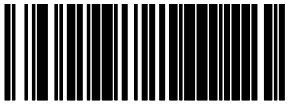
Scan the following bar codes to configure the Interleaved 2 of 5 symbology options.

Check Digit

SET----------



Don't Calculate ---------



Calculate ---------

Don't Transmit ---------

Transmit ---------

END----------

Label Length Format

The next two sections explain how to set the Interleaved 2 of 5 Label Length Format to either the Variable Length or Fixed Length Format.

Variable Length Format

You can set the Interleaved 2 of 5 symbology to Variable Length Format.

To set the Interleaved 2 of 5 Variable Length Format

1. Identify the minimum length setting you want to make. You may choose any even number between 02 to 50 characters.

   Note: For this symbology, the scanner decodes up to 50 characters, but the actual length read varies depending upon the interface type, bar code physical size, and print quality.

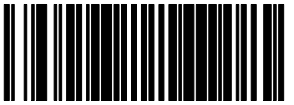
2. Scan the SET bar code.
3. Scan the Enable Variable Length Format bar code.
4. Scan the Set Minimum Label Length bar code.
5. Using the Digits bar codes on page 93, scan the digits to set the minimum label length you identified in Step 1.

Note: To set a label length less than ten, you must scan a zero digit first and then the length digit (such as 04, 06, or 08).

6 Scan the END bar code.

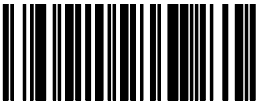
Variable Length Format

SET----------

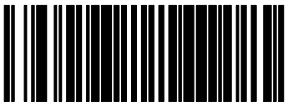


Enable Variable Length Format ---------

Set Minimum Label Length ---------



END----------



Fixed Length Format

All interfaces that are shipped with the standard factory configuration are set to read variable length labels. If you switch from the variable to fixed length format, the default label lengths are 14 characters and 8 digits. All fixed length settings must be an even number.

To set Interleaved 2 of 5 Fixed Length Format

1 Identify the fixed length settings you want to make.

2 Scan the SET bar code.

3 Scan the Enable Fixed Length Format bar code.

4 Scan the Set First Fixed Length bar code.

5 Using the Digits bar codes on page 93, scan the digits to set the first fixed label length. The length must be an even number.

Note: To set a label length less than ten, you must scan a zero digit first and then the length digit (such as 04, 06, or 08).

- If you need to set a second fixed length, continue with Step 6.
- If you do not need to set a second fixed length, scan the No Second Fixed Length bar code and skip to Step 8.

6 Scan the Set Second Fixed Length bar code.

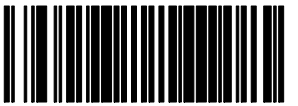
7 Using the Digits bar codes on page 93, scan the digits to set the second fixed label length.

Note: To set a label length less than ten, you must scan a zero digit first and then the length digit (such as 04, 06, or 08).

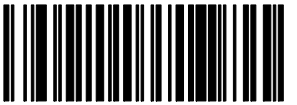
8 Scan the END bar code.

Fixed Length Format

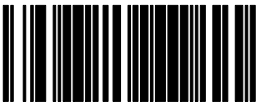
SET----------



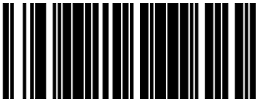
Enable Fixed Length Format ---------



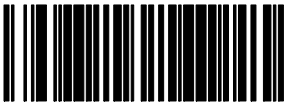
Set First Fixed Length ---------



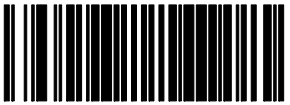
Set Second Fixed Length ---------



No Second Fixed Length ---------



END----------



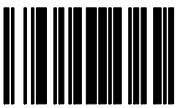
Digits

0 ---------

1 ---------

2 ---------

3 ---------



4 ---------

5 ---------

6 ---------

7 ---------

8 ---------

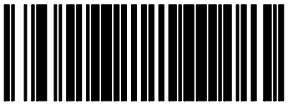
9 ---------

Read Verification

Scan the following bar codes to set the number of reads to verify Interleaved 2 of 5 symbology.

Note: The more times the scanner is required to read and compare the bar code data, the longer the scanner takes to validate and transmit a label.

SET----------



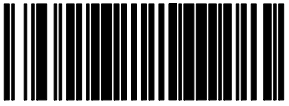
Set to One Read ---------

Set to Two Reads ---------

Set to Three Reads ---------

Set to Four Reads ---------

END----------



Codabar Options

This section describes the Codabar options and contains the programming bar codes you can use to configure those options.

About Codabar Options

The Codabar symbology has the following programmable features:

- Check Digit
- Gap Check
- Label Length Format
- Start/Stop Character
- Start/Stop Match
- Start/Stop Format
- Read Verification

Check Digit

Check Digit calculates the check digit to verify the label contents have been read correctly. If you enable this feature, your labels must include a check digit. You may also choose to transmit or not transmit the check digit.

If the check digit is not calculated, the digit will be sent regardless of settings for transmit or don't transmit. For example, if you choose to transmit check digit, but not calculate it, the scanner sends the check digit encoded in the label without verifying its accuracy.

Gap Check

Disabling Gap Check allows the scanner to combine two label halves printed in close proximity to each other that may have been printed at different times and perhaps different locations.

Label Length Format

Label length format permits the selection between variable length or fixed length formats. For best performance it is recommended to use the Fixed Length settings when your application requires only one or two label lengths.

Note: For this symbology, the scanner decodes up to 50 characters, but the actual length read varies depending upon the interface type, bar code physical size, and print quality.

- The Enable Variable Length Format bar code on page 100 directs the scanner to read all labels from minimum label length to 50. If you select variable length format, there is one more bar code label to scan:
  - The Set Minimum Label Length bar code on page 100 selects the minimum label length that the scanner will recognize. The minimum label length for this symbology must be between 03 and 50. Set the Minimum Length as high as your application allows.
- The Enable Fixed Length Format bar code on page 101 directs the scanner to read only one or two label lengths. If you select fixed length format, there are three bar code labels for programming your scanner to read either one or two fixed lengths. The labels are:
  - The Set First Fixed Length bar code on page 101 instructs the scanner that the next two programming labels scanned will define the first fixed label length. This setting must be between 03 and 50 characters.
  - The Set Second Fixed Length bar code on page 101 instructs the scanner that the next two programming labels scanned will define the second fixed label length. This setting must be between 03 and 50 characters.
  - The No Second Fixed Length bar code on page 102 configures the scanner to recognize only the first fixed length.

Start/Stop Characters

Start/Stop Characters can be either Send or Don't Send depending on your host's interface requirement. Refer to your host user's manual to identify your system requirements.

Start/Stop Match

Start/Stop Match can be enabled or disabled.

Start/Stop Format

Start/Stop Format can be set to one of four standard format options: ABCD/TN*E, ABCD/ABCD, abcd/tn*e, or abcd/abcd. This setting must match your system requirements. If you select one of these options, it determines how the ASCII characters A, B, C, D (used for Start/Stop characters) are translated before being sent to the host.

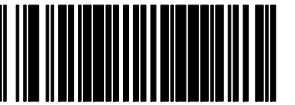
Read Verification

Read Verification is the number of times the scanner is required to read the bar code data before sending the label data to the host.

Configuring the Codabar Options

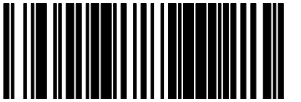
Scan the following bar codes to configure the Codabar symbology options.

SET----------

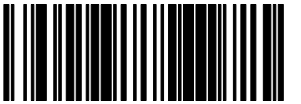


Check Digit

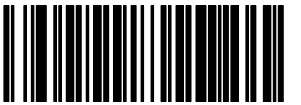
Don't Calculate **---------**



Calculate **---------**



Don't Transmit **---------**



Transmit **---------**

Gap Check

Enable ---------

Disable ---------

END----------

Label Length Format

The following two sections explain how to set the Codabar Label Length Format to either the Variable Length or Fixed Length Format.

Variable Length Format

You can set the Codabar symbology to Variable Length Format.

To set the Codabar symbology to Variable Length Format

1 Identify the minimum length setting you want to make. The selectable range is 03 to 50 characters.

Note: For this symbology, the scanner decodes up to 50 characters, but the actual length read varies depending upon the interface type, bar code physical size, and print quality.

2 Scan the SET bar code.

3 Scan the Enable Variable Length Format bar code.

4 Scan the Set Minimum Label bar code.

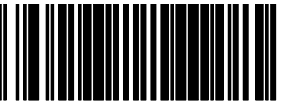
5 Using the Digits bar codes on page 102, scan the digits to set the minimum label length you identified in Step 1.

Note: To set a label length less than ten, you must scan a zero digit first and then the length digit (such as 04, 06, or 08).

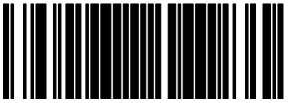
6 Scan the END bar code.

Variable Length Format

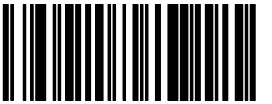
SET----------



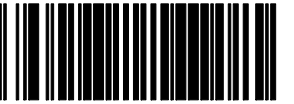
Enable Variable Length Format ---------



Set Minimum Label Length ---------



END----------



Fixed Length Format

The scanner offers the option of requiring Codabar labels to have one or two fixed lengths in the Fixed Label Format.

To set Codabar symbology to Fixed Length Format

1 Identify the fixed length settings you want to make.

2 Scan the SET bar code.

3 Scan the Enable Fixed Length Format bar code.

4 Scan the Set First Fixed Length bar code.

5 Using the Digits bar codes on page 102, scan the digits to set the first fixed label length you identified in Step 1.

Note: To set a label length less than ten, you must scan a zero digit first and then the length digit (such as 04, 06, or 08).

- If you need to set a second fixed length, continue with Step 6.
- If you do not need to set a second fixed length, scan the No Second Fixed Length bar code and skip to Step 8.

6 Scan the Set Second Fixed Length bar code.

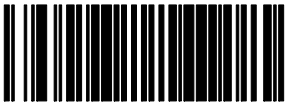
7 Using the Digits bar codes on page 102, scan the digits to set the second fixed label length you identified in Step 1.

Note: To set a label length less than ten, you must scan a zero digit first and then the length digit (such as 04, 06, or 08).

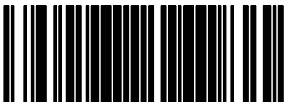
8 Scan the END bar code.

Fixed Length Format

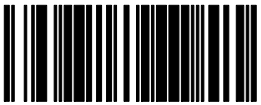
SET----------



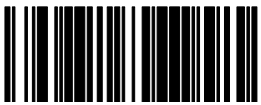
Enable Fixed Length Format ---------



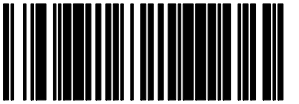
Set First Fixed Length ---------



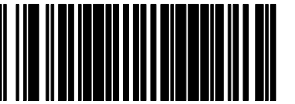
Set Second Fixed Length ---------



No Second Fixed Length ---------



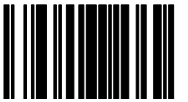
END----------



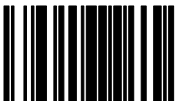
Digits

0 ---------

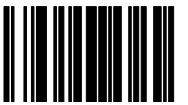
1 ---------



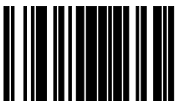
2 ---------



3 ---------



4 ---------



5 ---------

6 ---------

7 ---------

8 ---------

9 ---------

Start/Stop Characters

SET----------

Match Not Required ---------

Match Required ---------

Don't Transmit ---------

Transmit (Requires a format. For help, see the next Note.) ---------

Format = ABCD/ TN*E ---------

Format = abcd/ tn*e ---------

Format = ABCD/ ABCD ---------

Format = abcd/ abcd ---------

END----------

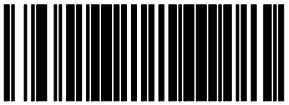
Note: If you choose Transmit, you must also choose one of these data formats: ABCD/TN*E, abcd/tn*e, ABCD/ABCD, or abcd/abcd by scanning the appropriate bar code.

Read Verification

Scan the following bar codes to set the number of reads to verify Codabar symbology.

Note: The more times the scanner is required to read and compare the bar code data, the longer the scanner takes to validate and transmit a label.

SET----------



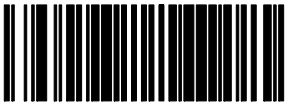
Set to One Read ---------

Set to Two Reads ---------

Set to Three Reads ---------

Set to Four Reads ---------

END----------



UPC/EAN Options

This section describes the UPC/EAN options and contains the programming bar codes you can use to configure those options.

About UPC/EAN Options

The UPC/EAN symbologies have the following programmable features:

- Data Format Settings
- UPC/EAN Expansion
- UPC/EAN Add-ons
- Price/Weight Check Digit
- Read Verification

Data Format Settings

UPC/EAN Data Format Settings provides options for transmitting check digits or Number System Digits (NSD).

UPC/EAN Expansion

Expand UPC-A to EAN-13 adds a leading zero to a UPC-A label which expands the label to the EAN-13 data format. Selecting this feature also changes the symbology ID to match those required for EAN-13.

Expand UPC-E to UPC-A expands UPC-E labels to UPC-A data format. Selecting this feature also changes the symbology ID to match those required for UPC-A.

Expand EAN-8 to EAN-13 adds five zeros in front of an EAN-8 label. Data is sent in EAN-13 data format. Selecting this feature also changes the symbology ID to match those required for EAN-13.

Expand UPC-E to EAN-13 expands UPC-E labels to EAN-13 data format. Selecting this feature also changes the symbology ID to match those required for EAN-13.

UPC/EAN Add-ons

UPC-A or UPC-E and EAN-8 or EAN-13 Two and Five Digit Add-ons filters:

- Required means UPC/EAN bar codes must have add-ons or label will not be read.

- Optional means scanner reads UPC/EAN bar codes with or without add-ons.
- Disable directs the scanner not to recognize or read add-on portions of UPC/EAN labels, but to read the main body of the label.

Price/Weight Check Digit

Price/Weight Check Digit provides options for enabling price/weight check digits. The feature includes selections for domestic four or five digit, and European four or five digit, as well as the option to disable the price/weight check.

Read Verification

Read Verification is the number of times the scanner is required to read the bar code data before sending the label data to the host.

Configuring the UPC/EAN Options

Use the following bar codes to configure the UPC/EAN options.

UPC Data Format Settings

These settings affect UPC data format. Scan the following bar codes to send or not send the check digit and the Number System Digit (NSD).

Note: The NSD settings operate only with RS-232 and Keyboard Wedge interfaces.

The NSD is the character that precedes the UPC bar code. Common NSDs are:

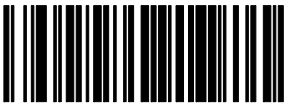
- 0 is used for regular UPC-A bar codes.
- 2 is used for random weight items such as meat and produce.
- 3 is used for the drug and health items.
- 4 is used for in-store non-food items.
- 5 is used for coupons.

The Location of the NSD: *This UPC-A bar code contains an NSD of 0.*

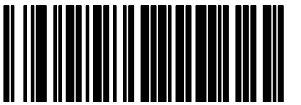
SET----------

UPC-A

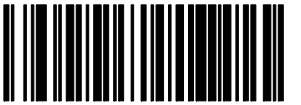
Send Check Digit ---------



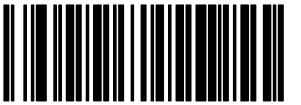
Don't Send Check Digit ---------



Send NSD ---------

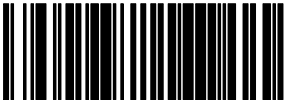


Don't Send NSD ---------



UPC-E

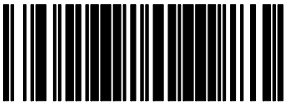
Send Check Digit ---------



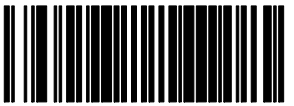
Don't Send Check Digit ---------

Send NSD ---------

Don't Send NSD ---------



END----------

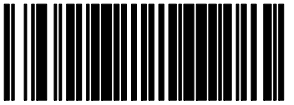


Note: If UPC-E is expanded to UPC-A, the transmission of the check digit and the NSD is determined by the UPC-A settings on this page.

EAN Data Format Settings

These settings affect EAN data format.

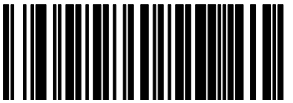
SET----------



EAN-13

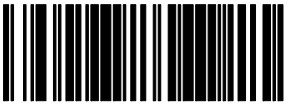
Send Check Digit ---------

Don't Send Check Digit ---------



Send NSD ---------

Don't Send NSD ---------

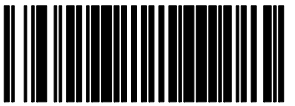


EAN-8

Send Check Digit ---------

Don't Send Check Digit ---------

END----------



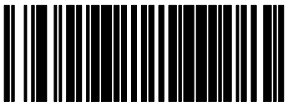
UPC/EAN Expansion

Scan the following bar codes to activate UPC/EAN Expansion:

- Expand UPC-A to EAN-13
- Expand UPC-E to UPC-A
- Expand EAN-8 to EAN-13
- Expand UPC-E to EAN-13

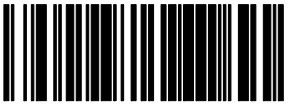
Note: If you choose Expand for any of the following features, the transmission of the prefix, suffix, check digit, and NSD will be controlled by your selections for the symbology expanded to rather than the symbology expanded from. For example, if you expand OPC-E to UPC-A, the settings for UPC-A determine how the scanner sends the bar code contents.

SET----------



UPC-A to EAN-13 Expansion

Expand ---------



Don't Expand ---------

UPC-E to UPC-A Expansion

Expand ---------

Don't Expand ---------

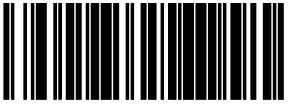
EAN-8 to EAN-13 Expansion

Expand ---------

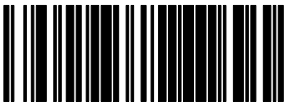
Don't Expand ---------

UPC-E to EAN-13 Expansion

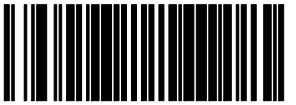
Expand ---------



Don't Expand ---------



END----------



UPC/EAN Add-ons

There are many ways to configure the scanner to handle add-ons. The scanner uses four filters that can be specified to define how add-ons are handled. The following is true for each filter:

- Each add-on type can be disabled, required or optional.
- Any combination of the four UPC/EAN symbologies can be affected.
- The 2-digit, 5-digit and C128 add-ons can be individually configured.
- The leading digits of the base labels affected can be specified.

Note: These settings represent only a small portion of the options available for this feature. For help with advanced add-on settings, contact Intermec Product Support.

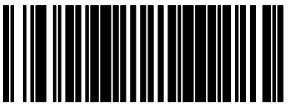
The following add-on filters for UPC/EAN are supported:

- Add-ons Required means that UPC/EAN labels must contain a 2-digit, 5-digit, or C128 add-on segment in order for the scanner to recognize or decode them.
- Add-ons Optional directs the scanner to recognize UPC/EAN bar codes with or without P2, P5, or C128 2-digit add-on segments.
- Disable Add-ons means the scanner will not recognize or decode any add-on segment of UPC/EAN labels, but will read and decode the standard UPC/EAN portion of the label.

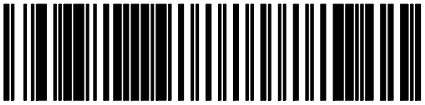
Note: Due to the structure of add-on codes, selecting the optional setting makes it impossible to ensure that the scanner will always read the add-on portion of the label. Intermec makes no guarantee, either written or implied, that scanners with optional add-on decoding enabled will perform with the speed and accuracy required for any given application.

The following bar codes affect all four UPC/EAN symbologies, and are applied to all labels regardless of the leading digits of the base label.

SET----------

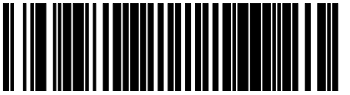


Add-ons Required ---------

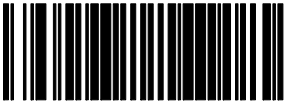


Add-ons Optional ---------

Disable Add-ons ---------



END----------



Custom Add-ons

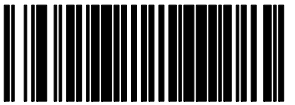
A wide array of add-on options are available to streamline your installation to its best advantage. For help with custom add-ons, contact Intermec Product Support.

Price/Weight Check Digit

The Price/Weight Check Digit selections allow you to specify whether the scanner should calculate an extra check digit based on a four or five-digit price/weight block and compare it with the price/weight check digit contained in the bar code. If the calculated check digit does not match the value of the check digit contained in the bar code, the label will be rejected as invalid.

Use the following bar codes to select domestic four or five digit, select European four or five digit, or disable the price/weight check.

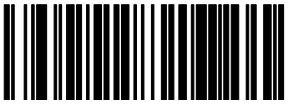
SET----------



Disable Price/ Weight Check Digit ---------

Enable 4-Digit Check Digit ---------

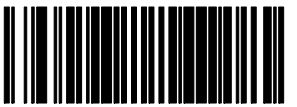
Enable 5-Digit ---------



Enable Euro 4-Digit ---------

Enable Euro 5-Digit ---------

END----------



Read Verification

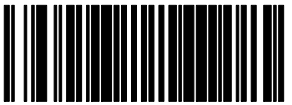
You can set the number of minimum reads required to verify UPC/EAN symbologies.

To set the number of minimum reads

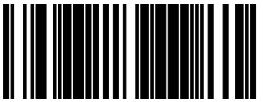
1. Scan the SET bar code.
2. Scan a bar code to select which symbology to verify.
3. Scan the bar code on page 116 that represents the number of times you wish a bar codes label of that symbology type to be read before transmission to the host from the list.
4. Repeat Steps 2 and 3 until read verification has been modified for each symbology you enabled.
5. Scan the END bar code.

Read Verification

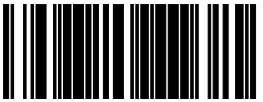
SET----------



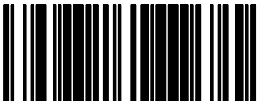
Verify UPC-A ---------



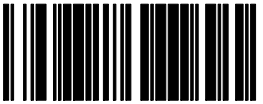
Verify UPC-E ---------



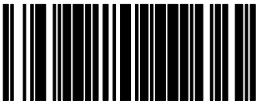
Verify EAN-13 ---------



Verify EAN-8 ---------

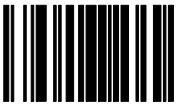


Verify Instore Label ---------



Number of Reads to Verify

One Read ---------



Two Reads ---------

Three Reads ---------

Four Reads ---------

END----------

Code 93 Options

This section describes the Code 93 options and contains the programming bar codes you can use to configure those options.

About Code 93 Options

The Code 93 symbology has the following programmable features:

- Minimum Label Length
- Read Verification

Minimum Label Length

Minimum Label Length sets the minimum label length required for Code 93 symbology. This feature causes the scanner to ignore small label segments, reducing the possibility that a portion of a good label is incorrectly seen as an entire label.

Read Verification

Read Verification is the number of times the scanner is required to read the bar code data before sending the label data to the host.

Configuring the Code 93 Options

Scan the following bar codes to configure the Code 93 options.

Minimum Label Length

You can set the Minimum Label Length.

Note: For this symbology, the scanner decodes up to 50 characters, but the actual length read varies depending upon interface type, bar code physical size, and print quality. The IBM POS interface is limited to 32 character labels. Code 93 bar codes containing one or more shift characters can also limit the amount of characters that are decoded; in these circumstances, the scanner decodes at least 39 data characters.

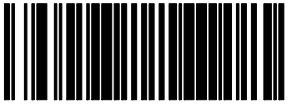
To set the Minimum Label Length

1. Identify the minimum length setting you want to make. The selectable range is 01 to 50 characters.
2. Scan the SET bar code.
3. Scan the Set Minimum Label Length bar code.
4. Using the Digits bar codes on page 119, scan the digits to set the minimum label length you identified in Step 1. The range is 01 to 50 characters.

Note: To set a label length less than ten, you must scan a zero digit first and then the length digit (such as 04, 06, or 08).

5. Scan the END bar code.

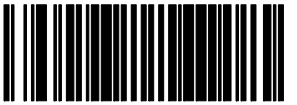
SET----------



Set Minimum Label Length ---------

Use the Digits bar codes to specify the two-digit minimum length value you identified in Step 1.

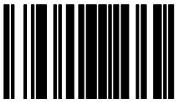
END----------



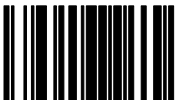
Digits

0 **---------**

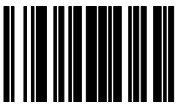
1 **---------**



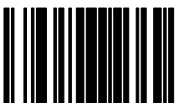
2 **---------**



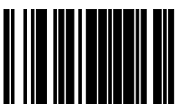
3 **---------**



4 **---------**



5 **---------**



6 ---------

7 ---------

8 ---------

9 ---------

Read Verification

Scan the following bar codes to set the number of reads to verify Code 93 symbology.

Note: The more times the scanner is required to read and compare the bar code data, the longer the scanner takes to validate and transmit a label.

SET----------

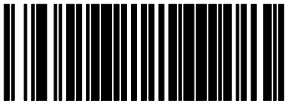
Set to One Read ---------

Set to Two Reads ---------

Set to Three Reads ---------

Set to Four Reads ---------

END----------



Standard 2 of 5/IATA Options

This section describes the Code 39 options and contains the programming bar codes you can use to configure those options.

About Standard 2 of 5/IATA Options

The Standard 2 of 5/IATA symbologies have the following programmable features:

- Check Digit
- Label Length Format
- Read Verification

Check Digit

Check Digit calculates the check digit to verify that the check digit contained in the bar code label is correct. If you enable this feature, your bar codes must contain a check digit.

If the check digit is not calculated, the digit will be sent regardless of settings for transmit or don't transmit. For example, if you choose to transmit check digit, but not calculate it, the scanner sends the check digit encoded in the bar code without verifying its accuracy.

Label Length Format

Label Length Format lets you choose either variable length or fixed length formats. For best performance, you should use the Fixed Length settings when your application requires only one or two label lengths.

Note: For this symbology, the scanner decodes up to 50 characters, but the actual length read varies depending upon the interface type, bar code physical size, and print quality.

- The Enable Variable Length Format bar code on page 124 directs the scanner to read all labels from the minimum label length to 50. If you select variable length format, there is one more bar code label to scan:
  - The Set Minimum Label Length bar code on page 124 selects the minimum label length that the scanner will recognize. The minimum label length for this symbology must be between 01 and 50. Set the Minimum Length as high as your application allows.
- The Enable Fixed Length Format bar code on page 126 directs the scanner to read only one or two label lengths. If you select fixed length format, there are three bar code labels for programming your scanner to read either one or two fixed lengths. The labels are:
  - The Set First Fixed Length bar code on page 126 instructs the scanner that the next two programming labels scanned will define the first fixed label length. This setting must be between 01 and 50 characters.
  - The Set Second Fixed Length bar code on page 126 instructs the scanner that the next two programming labels scanned will define the second fixed label length. This setting must be between 01 and 50 characters.

- The No Second Fixed Length bar code on page 126 configures the scanner to recognize only the first fixed length.

Read Verification

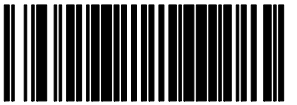
Read Verification is the number of times the scanner is required to read the bar code data before sending the label data to the host.

Configuring the Standard 2 of 5/IATA Options

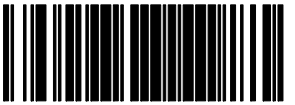
Scan the following bar codes to configure the Standard 2 of 5/IATA symbology options.

Check Digit

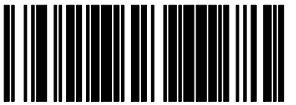
SET----------



Don't Calculate ---------



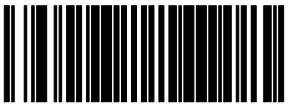
Calculate ---------



Don't Transmit ---------

Transmit ---------

END----------



Label Length Format

The next two sections let you set the Standard 2 of 5/IATA label length format to either Variable Length or Fixed Length format.

Variable Length Format

You can set the Standard 2 of 5/IATA symbology to read Variable Length Format.

Note: For this symbology, the scanner decodes up to 50 characters, but the actual length read varies depending upon the interface type, bar code physical size, and print quality.

To set Standard 2 of 5/IATA symbology to read Variable Length Format

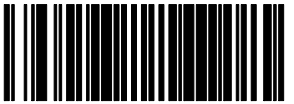
1. Identify the minimum length setting you want to make. The selectable range is 02 to 50 characters.
2. Scan the SET bar code.
3. Scan the Enable Variable Length Format bar code.
4. Scan the Set Minimum Label Length bar code.
5. Using the Digits bar codes on page 127, scan the digits to set the minimum label length you identified in Step 1.

   Note: To set a label length less than ten, you must scan a zero digit first and then the length digit (such as 04, 06, or 08).

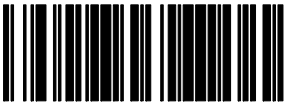
6. Scan the END bar code.

Variable Length Format

SET----------



Enable Variable Length Format ---------



Set Minimum Label Length ---------

END----------

Fixed Length Format

All interfaces that are shipped with the standard factory configuration are set to read variable length labels. If you switch from variable length to fixed length format, the default fixed labels are 14 characters and 8 digits.

To change the defaults for the Standard 2 of 5/IATA symbology

1. Identify the fixed length settings you want to make.
2. Scan the SET bar code.
3. Scan the Enable Fixed Length Format bar code.
4. Scan the Set First Fixed Length bar code.
5. Using the Digits bar codes on page 127, scan the digits to set the first fixed label length you identified in Step 1.

Note: To set a label length less than ten, you must scan a zero digit first and then the length digit (such as 04, 06, or 08).

- If you need to set a second fixed length, continue with Step 6.
- If you do not need to set a second fixed length, scan the No Second Fixed Length bar code and skip to Step 8.

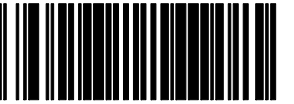
6. Scan the Set Second Fixed Length bar code.
7. Using the Digits bar codes on page 127, scan the digits to set the second fixed label length you identified in Step 1.

Note: To set a label length less than ten, you must scan a zero digit first and then the length digit (such as 04, 06, or 08).

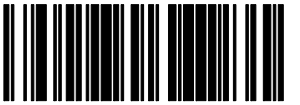
8. Scan the END bar code.

Fixed Length Format

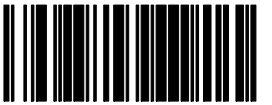
SET----------



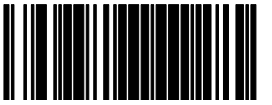
Enable Fixed Length Format ---------



Set First Fixed Length ---------

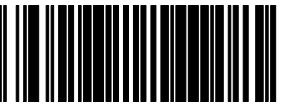


Set Second Fixed Length ---------



No Second Fixed Length ---------

END----------



Digits

0 ---------

1 ---------

2 ---------

3 ---------

4 ---------

5 ---------

6 ---------

7 ---------

8 ---------

9 ---------

Read Verification

Scan the following bar codes to set the number of reads to verify Standard 2 of 5/IATA symbologies.

Note: The more times the scanner is required to read and compare the bar code data, the longer the scanner takes to validate and transmit a label.

SET----------

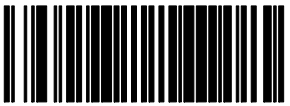
Set to One Read ---------

Set to Two Reads ---------

Set to Three Reads ---------

Set to Four Reads ---------

END----------

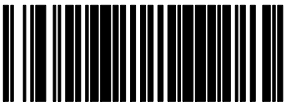


IATA Options

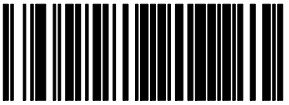
IATA is a special symbology subset of Standard 2 of 5. Enabling IATA selects this custom code as the active Standard 2 of 5 symbology. When IATA is enabled, Standard 2 of 5 labels are not read.

Scan the following bar codes to enable or disable IATA.

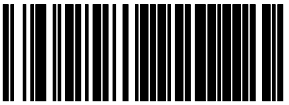
SET----------



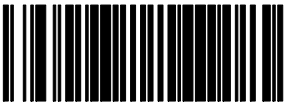
Enable ---------



Disable ---------



END----------



MSI/Plessey Options

This section describes the MSI/Plessey options and contains the programming bar codes you can use to configure those options.

About MSI/Plessey Options

The MSI/Plessey symbology has the following programmable features:

- Check Digit
- Label Length Format
- Read Verification

Check Digit

Check Digit calculates the check digit(s) to verify the labels contents have been read correctly. If you enable this feature, your bar codes must include one or two check digits. You may also choose to transmit or not transmit the check digit(s).

- The Calculate bar code on page 132 enables calculation of the check digits. The Don't Calculate bar code disables calculation.
- The Transmit bar code on page 132 enables transmission of MSI/Plessey check digit(s). The Don't Transmit bar code disables transmission.
- The One Check Digit bar code and the Two Check Digits bar code on page 132 specifies either one or two check digits.

Label Length Format

Label length format permits the selection between variable length or fixed length formats. For best performance, Intermec recommends that you use the Fixed Length settings when your application requires only one or two label lengths.

- The Enable Variable Length Format bar code on page 133 directs the scanner to read all labels from the minimum label

length to 16. If you select variable length format, there is one more bar code label to scan:

- The Set Minimum Label Length bar code on page 133 selects the minimum label length that the scanner will recognize. The minimum label length for this symbology must be between 04 and 16. Set the Minimum Length as high as your application allows.

- The Enable Fixed Length Format bar code on page 134 directs the scanner to read only one or two label lengths. If you select fixed length format, there are three bar code labels for programming your scanner to read either one or two fixed lengths. The labels are:
  - The Set First Fixed Length bar code on page 135 instructs the scanner that the next two programming labels scanned will define the first fixed label length. This setting must be between 04 and 16 characters.
  - The Set Second Fixed Length bar code on page 135 instructs the scanner that the next two programming labels scanned will define the second fixed label length. This setting must be between 04 and 16 characters.
  - The No Second Fixed Length bar code on page 135 configures the scanner to recognize only the label length chosen as the first fixed length.

Read Verification

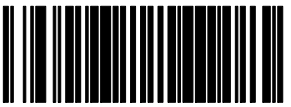
Read Verification is the number of times the scanner is required to read the bar code data before sending the label data to the host.

Configuring the MSI /Plessey Options

Scan the following bar codes to configure the MSI/Plessey symbology options.

Check Digit

SET----------



Calculate ---------

Don't Calculate ---------

Transmit ---------

Don't Transmit ---------

One Check Digit ---------

Two Check Digits ---------

END----------

Label Length Format

The next two sections explain how to set the MSI/Plessey label length format to either the Variable Length or Fixed Length format.

Variable Length Format

You can set the MSI/Plessey to read Variable Length Format.

To set the MSI/Plessey to read Variable Length Format

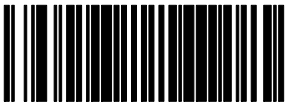
1. Identify the minimum length setting you want to make. The selectable range is 04 to 16 characters.
2. Scan the SET bar code.
3. Scan the Enable Variable Length Format bar code.
4. Scan the Set Minimum Label Length bar code.
5. Using the Digits bar codes on page 135, scan the digits to set the minimum label length you identified in Step 1.

Note: To set a label length less than ten, you must scan a zero digit first and then the length digit (such as 04, 06, or 08).

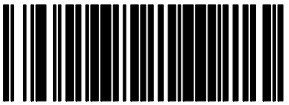
6. Scan the END bar code.

Variable Length

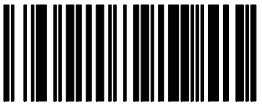
SET----------



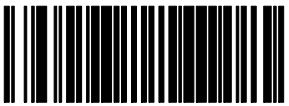
Enable Variable Length Format ---------



Set Minimum Label Length ---------



END----------



Fixed Length Format

The scanner offers the option of requiring MSI/Plessey labels to have one or two fixed length(s) in the Fixed Label Format.

To set the MSI/Plessey symbology to fixed length format

1. Identify the fixed length setting(s) you wish to make. Fixed lengths can be set from 04 to 16 characters.
2. Scan the SET bar code.
3. Scan the Enable Fixed Length Format bar code.
4. Scan the Set First Fixed Length bar code.
5. Using the Digits bar codes on page 135, scan the digits to set the first fixed label length you identified in Step 1.

Note: To set a label length less than ten, you must scan a zero digit first and then the length digit (such as 04, 06, or 08).

- If you need to set a second fixed length, continue with Step 6.
- If you do not need a second fixed length, scan the No Second Fixed Length bar code and skip to Step 8.

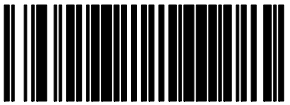
6. Scan the Set Second Fixed Length bar code.
7. Using the Digits bar codes on page 135, scan the digits to set the second fixed label length you identified in Step 1.

Note: To set a label length less than ten, you must scan a zero digit first and then the length digit (such as 04, 06, or 08).

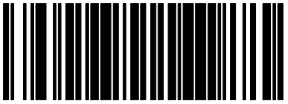
8. Scan the END bar code on page 135.

Fixed Length

SET----------

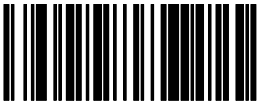


Enable Fixed Length Format ---------



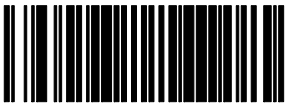
Set First Fixed Length ---------

Set Second Fixed Length ---------



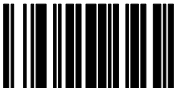
No Second Fixed Length ---------

END----------

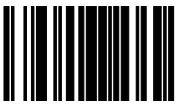


Digits

0 ---------

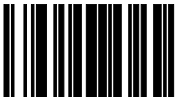


1 ---------

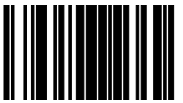


2 ---------

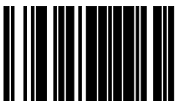
3 ---------



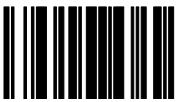
4 ---------



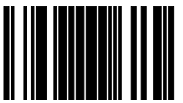
5 ---------



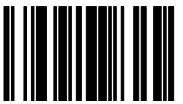
6 ---------



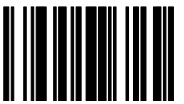
7 ---------



8 ---------



9 ---------

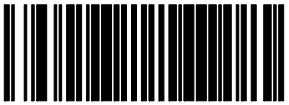


Read Verification

Scan the following bar codes to set the number of reads to verify MSI/Plessey symbologies.

Note: The more times the scanner is required to read and compare the bar code data, the longer the scanner takes to validate and transmit a label.

SET----------



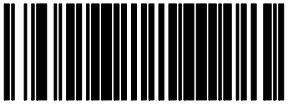
Set to One Read ---------

Set to Two Reads ---------

Set to Three Reads ---------

Set to Four Reads ---------

END----------



5 Configuring General Features

This chapter explains how to configure the scanner features that are common to all interfaces. You will find these sections in this chapter:

- Configuring the Green LED Idle State
- Configuring the Beeper Settings
- Configuring the Marker Beam
- Configuring the Low Power Mode
- Configuring the Low Power Shutdown Delay
- Configuring the Half Angle

Configuring the Green LED Idle State

You can program the green LED to be either On or Off to indicate that the scanner is idle.

SET----------

LED Off **---------**

LED On **---------**

END----------

Configuring the Beeper Settings

You can configure the audible beep signal using these programming bar codes:

- The Beep On on page 142 and Beep Off bar codes on page 141 enable or disable the beep upon completion of a good read.

Note: Intermec strongly recommends that you do not disable this feature. The good read beep provides the best scanning status feedback to the user. You cannot disable error tones.

- The Power-up Beep Enable and Disable bar codes on page 142 enable or disable the audible tone at power-up.
- The Beep Volume bar codes on page 142 let you set the beeper to three different volume settings.

Note: For the loudest beep signal, set the beeper volume to 3 and the good read beep frequency to high.

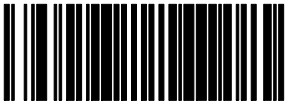
- The Good Read Beep Frequency bar codes on page 142 adjust the pitch of the beeper to low, medium, or high.
- The Good Read Beep Duration bar codes on page 143 can be adjusted to short (100 msec), medium (250 msec), or long (500 msec).
- The When to Beep bar codes on page 143 let you configure the scanner to emit the good read beep when one of these events completes:
  - Decode of a bar code label.
  - Transmission of data from the scanner to the host.
  - (RS-232 interface only) CTS activation at the host terminal.

For more details about the beeper, see "About the Scanner LEDs and Beeper" on page 7.

To set the beeper options

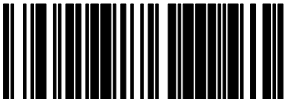
1. Scan the SET bar code.
2. Scan the bar code(s) for the options. you want to configure.
3. Scan the END bar code.

SET----------

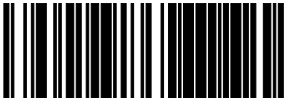


Beep Signal

Beep Off **---------**

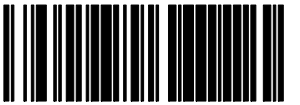


Beep On ---------

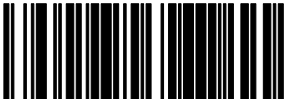


Power-up Beep

Enable ---------

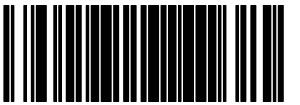


Disable ---------

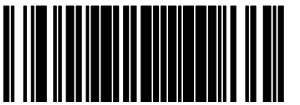


Beep Volume

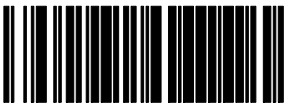
Volume 1 ---------



Volume 2 ---------

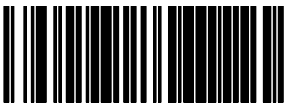


Volume 3 ---------

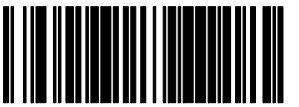


Good Read Beep Frequency

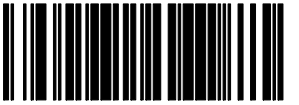
Low ---------



Medium ---------

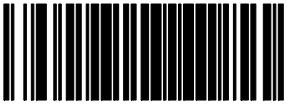


High ---------



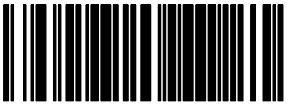
Good Read Beep Duration

Short ---------



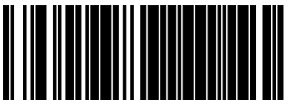
Medium ---------

Long ---------

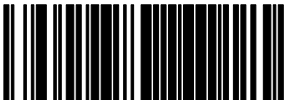


When to Beep

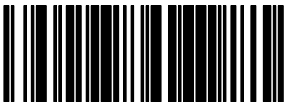
After Decode ---------



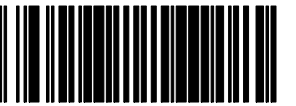
After Transmission to Host ---------



After CTS Activation (RS-232 Only) ---------



END----------



Configuring the Marker Beam

The Marker Beam feature provides the user with a spotter beam for improved aiming at distant bar code labels and/or in extremely bright environments. A Marker Beam can also be useful when scanning through showcase glass or scanning bar code menus containing bar codes printed with little space between them.

Note: By default, the marker beam is enabled for the XLR version and disabled for the SR version.

To enable the Marker Beam

1. Scan the SET bar code.
2. Scan the Enable Marker Beam bar code.
3. Scan one of the Marker Beam Duration bar codes to set the duration for the beam to be illuminated.
4. Scan the END bar code.

SET----------

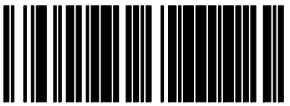
Marker Beam Enable/Disable

Marker Beam Enabled **---------**

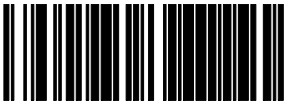
Marker Beam Disabled **---------**

Marker Beam Duration

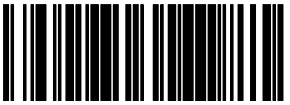
0 Seconds ---------



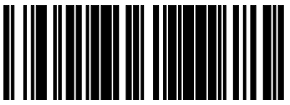
0.2 Seconds ---------



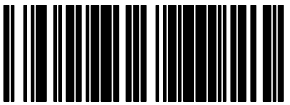
0.3 Seconds ---------



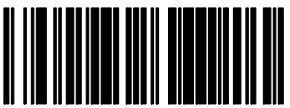
0.4 Seconds ---------



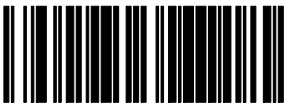
0.5 Seconds ---------



0.6 Seconds ---------



0.8 Seconds ---------



1 Seconds ---------

1.2 Seconds ---------

1.5 Seconds ---------

END----------

Configuring the Low Power Mode

When enabled, Low Power mode causes the scanner to power down completely between trigger pulls. This results in very low idle current, lowering the energy needs of the scanner. However, the microcontroller must reboot with every trigger pull, which causes a very small delay in scanning. Intermec recommends that you use this mode only when the scanner is connected to a battery-powered terminal.

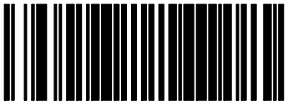
Note: This feature is not affected when you restore the factory defaults by scanning the Return to Factory Defaults programming bar code. You must manually enable or disable this feature.

Note: Low Power mode is not supported by the USB interface.

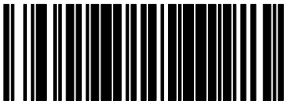
To enable or disable the Low Power mode

1. Scan the SET bar code.
2. Scan the both the Step #1 and Step #2 bar codes to enable or disable the option.
3. Scan the END bar code.

SET----------

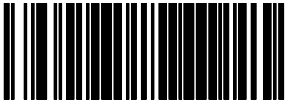


Enable Step #1 ---------



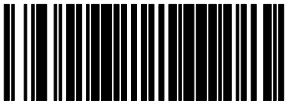
Enable Step #2 ---------

Disable Step #1 ---------



Disable Step #2 ---------

END----------



Configuring the Low Power Shutdown Delay

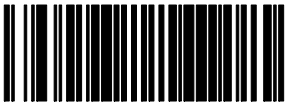
This feature allows for quick successive reads in the Low Power mode. Low Power Shutdown Delay is the amount of delay after the trigger is released before the scanner transitions into shutdown. The following bar codes provide for transition times of 0 (no delay), 2, 5, or 10 seconds delay.

For other Low Power Shutdown Delay settings, contact Intermec Product Support.

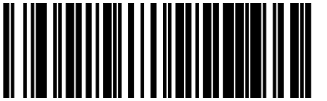
To set the Low Power Shutdown Delay option

1. Scan the SET bar code.
2. Scan the bar code for the delay.
3. Scan the END bar code.

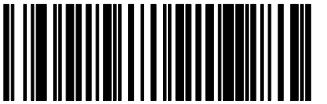
SET----------



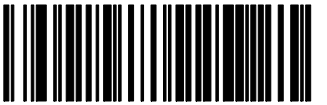
0 Seconds (No Delay) ---------



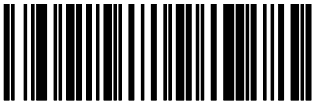
2 Seconds ---------



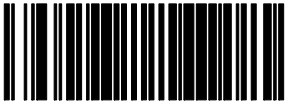
5 Seconds ---------



10 Seconds ---------



END----------



Configuring the Half Angle

When enabled, the Half Angle feature causes the scanner to scan with a scan angle that is approximately half the standard setting. Disabling the feature returns the scanner to the standard scan width.

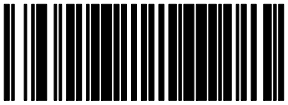
Note: By default, the half angle is enabled for the XLR version and disabled for the SR version.

Note: This feature is not affected when you restore the factory defaults by scanning the Return to Factory Default Settings programming bar code. You must manually enable or disable this feature.

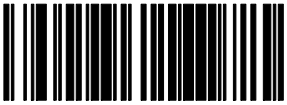
To set the Half Angle options

1. Scan the SET bar code.
2. Scan the Enable bar code to enable half angle, or scan the Disable bar code to disable half angle.
3. Scan the END bar code.

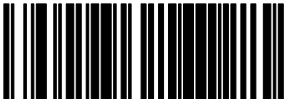
SET----------



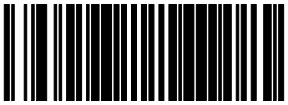
Enable ---------



Disable ---------



END----------



A Factory Default Configuration

This appendix lists the factory default configuration values and provides a worksheet for you to record the configuration changes you make.

Factory Default Configuration

The following tables list most of the default configuration values for the SR60 scanner. These tables also serve as a worksheet where you can record the changes you make.

For help restoring your scanner to these values, see "Restoring Factory Default Settings" on page 11.

Wand Emulation Interface Defaults

Feature	Default	Your Setting
Polarity	Space high/Bar low	
Signal Speed	High	
Data Format	Normal	
Idle State	High	
Pre-Noise	3	
Post-Noise	3	
Transmit C128 Function Characters	Disable	

Keyboard Wedge Interface Defaults

Feature	Default	Your Setting
Connect to Laptop/No Keyboard Attached	Disable	
Send Control/Function Characters	Send	
Caps Lock	Off	
Country Mode	USA	
Intercharacter Delay	0	
Quiet Interval	100 ms	

RS-232 Interface Defaults

Feature	Default	Your Setting
Baud Rate	9600	
Data Bit	7	
Parity	Even	
Stop Bit	2	
Hardware Handshaking	Disable	
Software Handshaking	Disable	
ACK/NAK Options	Disable	
Intercharacter Delay	0	

USB Interface Defaults

Feature	Default	Your Setting
Terminal/Keyboard Settings	11	
EOM	Return	
Prefix	None	
Suffix	None	
Code 39 Emulate Function Keys	Disable	
Keyboard Country Code	524 (United States)	

Label Transmit Settings Defaults

Feature	Default	Your Setting
Universal Prefix	0000	
Universal Suffix	0D00	
Single Character Prefix/Suffix	Disable	
Label ID	Disable For options, see the "Industry Standard Label Identifiers (Prefixes)" table on page 60.	

Symbology Defaults

Feature	Default	Your Setting
Code 39	Enable	
Calculate Check Digit	Don't Calculate	
Transmit Check Digit	Transmit	
Start/Stop	Don't Transmit	
Code 39 Full ASCII	Disable	
Minimum Label Length	2	
Read Verification	1	
Code 39 Emulate Function Keys (USB interface only)	Disable	
PharmaCode 39	Disable	
Calculate Check Digit	Don't Calculate	
Transmit Check Digit	Transmit	
Start/Stop	Don't Transmit	
Code 128 UCC/EAN 128	Enabled	
Minimum Label Length	2	
Read Verification	1	
Interleaved 2 of 5	Enable	
Calculate Check Digit	Don't Calculate	
Transmit Check Digit	Transmit	
Minimum Label Length	8	
Read Verification	1	
Codabar	Disable	
Calculate Check Digit	Don't Calculate	
Transmit Check Digit	Transmit	
Gap Check	Enable	
Minimum Label Length	3	
Start/Stop	abcd/abcd	
Start/Stop Match Required	Disable	
Start/Stop Transmission	Enable	
Read Verification	1	
UPC-A	Disable	
Check Digit	Send	
NSD Option	Send NSD	

Symbology Defaults (continued)

Feature	Default	Your Setting
Read Verification	1	
UPC-E	Disable	
Check Digit	Send	
NSD Option	Send NSD	
Read Verification	2	
EAN-13	Disable	
Check Digit	Send	
NSD Option	Send NSD	
Read Verification	1	
EAN-8	Disable	
Check Digit	Send	
NSD Option	Send NSD	
Read Verification	1	
UPC/EAN	Disable	
UPC/EAN Expansions	Don't Expand	
Addons	Disable	
Price/Weight Check Digit	Disable	
Code 93	Disable	
Minimum Label Length	1	
Read Verification	1	
Standard 2 of 5/IATA	Disable	
Calculate Check Digit	Don't Calculate	
Transmit Check Digit	Transmit	
Minimum Label Length	8	
Read Verification	1	
IATA	Disable	
MSI/Plessey	Disable	
Calculate Check Digit	Calculate	
Transmit Check Digit	Transmit	
Number of Check Characters	1	
Minimum Label Length	4	
Read Verification	1	

General Features Defaults

Feature	Default	Your Setting
Green LED Idle State	Off	
Beep On or Off	On	
Power-up Beep	Enable	
Beep Volume	High	
Good Read Beep Frequency	High	
Good Read Beep Duration	100 ms	
When to Beep	After Decode	
Marker Beam Enable/Disable	Enable (XLR version) Disable (SR version)	
Marker Beam Duration	500 ms	
Low Power Mode	Disable	
Half Angle	Enable (XLR version) Disable (SR version)	

Note: The Low Power Mode and Half Angle features are not affected when you restore the factory defaults by scanning the Return to Factory Default Settings programming bar code. You must manually enable or disable these features. For help, see "Configuring the Low Power Mode" on page 146 or "Configuring the Half Angle" on page 149.

B Reference Information

This appendix contains information you may find useful while programming your SR60 scanner. In this appendix, you will find these sections:

- Sample Bar Codes
- Keypad Bar Codes
- RS-232 Host Commands
- ASCII Character Set
- Full ASCII Chart
- ASCII Extended Chart

Sample Bar Codes

Code 39

Code 128

Interleaved 2 of 5

Codabar

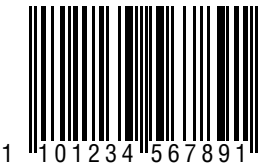
UPC-A

UPC-A with 2-digit add-ons

UPC-A with 5-digit add-ons

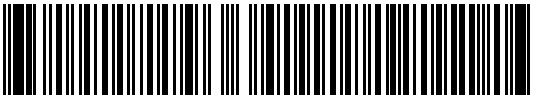
UPC-E

EAN-13



EAN-8

Code 93

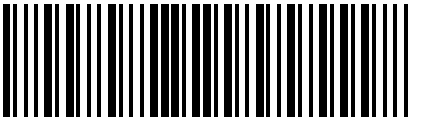


Code 93.test

Standard 2 of 5

9876543210

MSI/Plessey

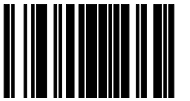


14476925

Keypad Bar Codes

To configure some features, you need to select numbers and letters. You can use these bar codes.

1 ---------



2 ---------

3 ---------

4 ---------

5 ---------

6 ---------

7 ---------

8 ---------

9 ---------

0 ---------

A ---------

B ---------

C ---------

D ---------

E ---------

F ---------

RS-232 Host Commands

The following table describes the commands that the RS-232 interface accepts from the host.

Overview of RS-232 Commands

Command	ASCII Character	Description
Disable Scanner	D	Places the scanner in an operational mode in which the scanner does not accept bar code data input from the scan optics. The scanner will complete any message transmission in progress to the host.
Enable Scanner	E	Places the scanner in an operational mode in which the scanner will accept label data input from the scan optics.
Reset Scanner	R	Performs a scanner reset operation. Any bar code data the scanner may be holding in buffers is discarded. After the reset is executed, additional host commands may be ignored for thirty seconds.
Beep Good Read Tone	B	Causes the beeper to sound one good read tone if the beeper is enabled. For help configuring the beeper, see "Configuring the Beeper Settings" on page 140.
Force Good Read Tone	01	Causes the beeper to sound one good read tone even if the beeper is disabled.
XOFF	11	Suspends current data transmission from the scanner to the host or prevents future data transmissions from occurring.
XON	13	Permits resumption of data transmission from the scanner to the host that was previously suspended via the XOFF command.

ASCII Character Set

This table contains a set of ASCII characters and corresponding hex values. You need these hex values when you configure symbology-specific label identifiers, as well as when you enable custom prefix and suffix characters.

ASCII Char.	Hex Value	ASCII Char.	Hex Value	ASCII Char.	Hex Value	ASCII Char.	Hex Value
NUL	00	SP	20	@	40	‘	60
SOH	01	!	21	A	41	a	61
STX	02	“	22	B	42	b	62
ETX	03	#	23	C	43	c	63
EOT	04	$	24	D	44	d	64
ENQ	05	%	25	E	45	e	65
ACK	06	&	26	F	46	f	66
BEL	07	'	27	G	47	g	67
BS	08	(	28	H	48	h	68
HT	09	)	29	I	49	i	69
LF	0A	*	2A	J	4A	j	6A
VT	0B	+	2B	K	4B	k	6B
FF	0C	,	2C	L	4C	l	6C
CR	0D	-	2D	M	4D	m	6D
SO	0E	.	2E	N	4E	n	6E
SI	0F	/	2F	O	4F	o	6F
DLE	10	0	30	P	50	p	70
DC1	11	1	31	Q	51	q	71
DC2	12	2	32	R	52	r	72
DC3	13	3	33	S	53	s	73
DC4	14	4	34	T	54	t	74
NAK	15	5	35	U	55	u	75
SYN	16	6	36	V	56	v	76
ETB	17	7	37	W	57	w	77
CAN	18	8	38	X	58	x	78
EM	19	9	39	Y	59	y	79
SUB	1A	:	3A	Z	5A	z	7A
ESC	1B	;	3B	[	5B	{	7B
FS	1C	<	3C	\	5C	|	7C
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RS	1E	>	3E	^	5E	~	7E
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Full ASCII Chart

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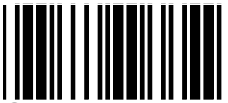
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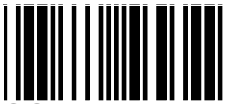
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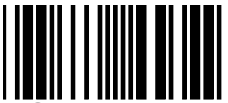
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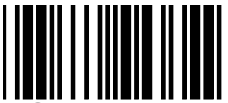
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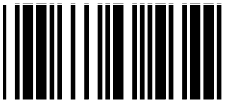
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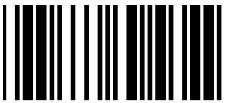
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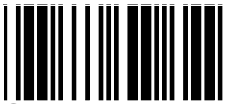
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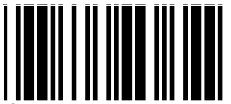
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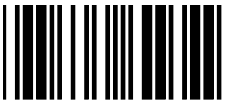
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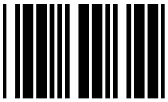
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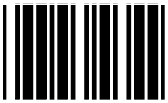
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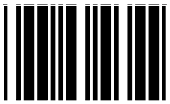
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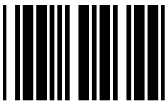
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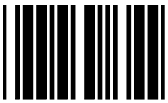
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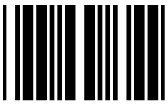
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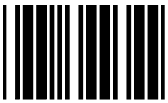
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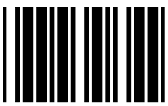
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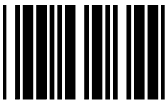
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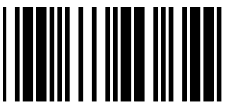
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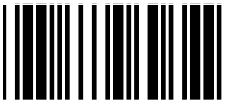
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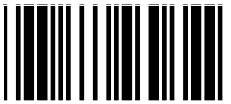
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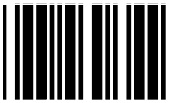
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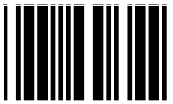
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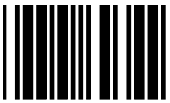
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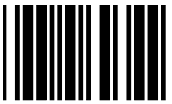
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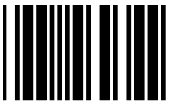
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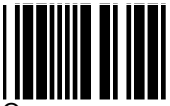
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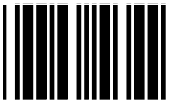
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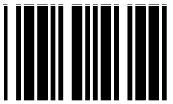
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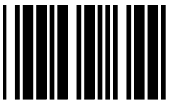
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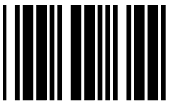
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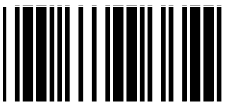
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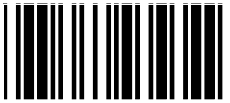
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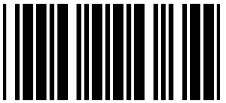

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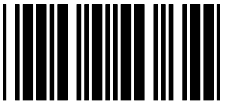

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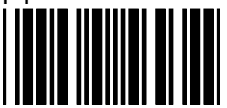

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