

SR61T

Tethered Scanner

User's Guide



Intermec[®]

Intermec Technologies Corporation

Worldwide Headquarters

6001 36th Ave.W.

Everett, WA 98203

U.S.A.

www.intermec.com

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There are U.S. and foreign patents as well as U.S. and foreign patents pending.

Document Change Record

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

Version Number	Date	Description of Change
002	3/2009	Revised to support hardware and software for release 2. Updates included new cables and data transmission settings.

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Before You Begin

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

Safety Information

Your safety is extremely important. Read and follow all warnings and cautions in this document before handling and operating Intermec equipment. You can be seriously injured, and equipment and data can be damaged if you do not follow the safety warnings and cautions.

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



A warning alerts you of an operating procedure, practice, condition, or statement that must be strictly observed to avoid death or serious injury to the persons working on the equipment.



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 **Support > Returns and Repairs > 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 www.intermec.com and click **Support > Knowledge Central** to review technical information or to request technical support for your Intermec product.

Telephone Support

In the U.S.A. and Canada, call **1-800-755-5505**.

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

Service Location Support

For the most current listing of service locations, go to www.intermec.com and click **Support > Returns and Repairs > Repair Locations**.

For technical support in South Korea, use the after service locations listed below:

AWOO Systems

102-1304 SK Ventium

522 Dangjung-dong

Gunpo-si, Gyeonggi-do Korea, South 435-776

Contact: Mr. Sinbum Kang

Telephone: +82-31-436-1191

Email: mjyun@awoo.co.kr

IN Information System PTD LTD
6th Floor
Daegu Venture Center Bldg 95
Shinchun 3 Dong
Donggu, Daegu City, Korea
E-mail: jmyou@idif.co.kr or korlim@gw.idif.co.kr

Who Should Read This Manual

This guide is for the person who is responsible for installing, configuring, and maintaining the SR61T.

This guide provides you with information about the features of the SR61T, and how to install, configure, operate, maintain, and troubleshoot it.

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 **Support > Manuals**.
- 3 Use the **Product Category** field, the **Product Family** field, and the **Product** field to help you locate the product whose documentation you want to download.

Patent Information

Product is covered by one or more of the following patents:

4,882,476; 4,894,523; 4,953,113; 4,970,379; 4,988,852; 5,019,699;
5,021,642; 5,038,024; 5,081,343; 5,095,197; 5,144,119; 5,144,121;
5,182,441; 5,187,355; 5,187,356; 5,216,233; 5,216,550; 5,218,191;
5,233,172; 5,241,488; 5,243,602; 5,258,606; 5,288,985; 5,308,966;
5,342,210; 5,359,185; 5,389,770; 5,397,885; 5,414,251; 5,416,463;
5,442,167; 5,464,972; 5,468,947; 5,468,950; 5,477,044; 5,486,689;
5,500,516; 5,502,297; 5,504,367; 5,514,858; 5,534,684; 5,536,924;
5,539,191; 5,541,419; 5,548,108; 5,550,362; 5,550,364; 5,565,669;
5,572,007; 5,576,529; 5,594,230; 5,598,007; 5,608,578; 5,616,909;
5,619,027; 5,640,001; 5,659,431; 5,672,860; 5,684,290; 5,719,678;

Before You Begin

5,729,003; 5,742,041; 5,761,219; 5,764,798; 5,777,308; 5,777,309;
5,777,310; 5,786,583; 5,798,509; 5,798,513; 5,804,805; 5,811,776;
5,811,777; 5,818,027; 5,821,523; 5,834,749; 5,837,987; 5,841,121;
5,842,070; 5,854,478; 5,862,267; 5,869,840; 5,873,070; 5,877,486;
5,878,395; 5,886,338; 5,895,906; 5,902,987; 5,902,988; 5,912,452;
5,923,022; 5,936,224; 5,949,056; 5,969,321; 5,969,326; 5,979,768;
5,987,192; 5,992,750; 6,003,775; 6,012,640; 6,016,960; 6,018,597;
6,024,289; 6,034,379; 6,036,093; 6,039,252; 6,064,763; 6,095,422;
6,097,839; 6,102,289; 6,102,295; 6,119,941; 6,128,414; 6,138,915;
6,149,061; 6,149,063; 6,152,370; 6,155,490; 6,158,661; 6,164,542;
6,164,545; 6,173,893; 6,195,053; 6,234,393; 6,234,395; 6,249,008;
6,328,214; 6,330,975; 6,345,765; 6,356,949; 6,367,699; 6,375,075;
6,375,076; 6,435,411; 6,484,944; 6,641,046; 6,669,087; 6,681,994;
6,688,523; 6,732,930; 6,879,428; 6,889,903; 6,974,085.

There may be other U.S. and foreign patents pending.

1

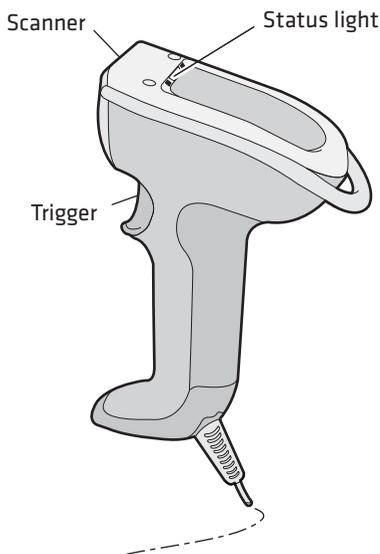
Learning About the SR61T

Use this chapter to familiarize yourself with the SR61T Tethered Scanner. This chapter covers these topics:

- **Introducing the SR61T Tethered Scanner**
- **What's New**
- **Scanning Bar Codes**

Introducing the SR61T Tethered Scanner

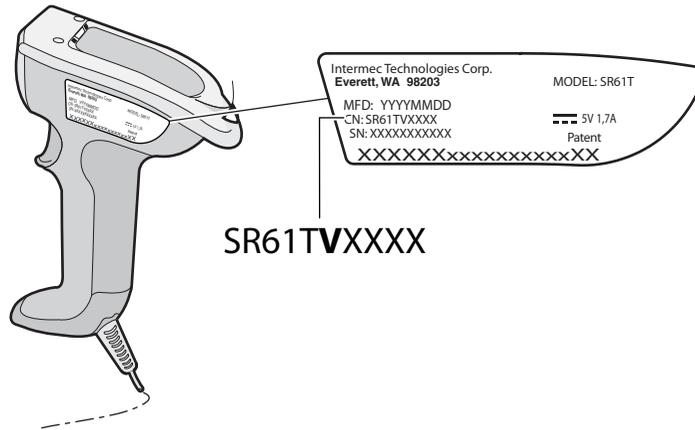
The SR61T Tethered Scanner is a small, rugged handheld scanner. The SR61T is lightweight, ergonomically designed, and it interfaces seamlessly with Intermecc computers and other host computers.



SR61T Tethered Scanner

The SR61T comes with one of these scan engine options:

- 1D linear imager (SR61TV)
- 2D area imager (SR61TA)
- Laser scanner (SR61TL)
- Near-far range area imager (SR61TE)



SR61T Scan Engine Option: The scan engine option of your SR61T is the sixth character of the configuration number. In this illustration, the scan engine option is V or 1D linear imager.

For more information about the scanner options, see [“Scanning Bar Codes” on page 6](#).

The SR61T is powered through the accessory cable that connects it to the host computer. Depending on your connection, power for the SR61T comes from either the host computer or the external power supply. For more information about each cable, see [“Cable Accessories” on page 71](#).

What’s New

This revision of the user’s manual includes information on

- New cables for connecting the SR61T
- Updates on Data Transmission and Operating Settings on the SR61T

Understanding the SR61T Behavior

The SR61T uses lights, beeps and vibrations to indicate if a bar code has been successfully decoded. You can also configure your SR61T to behave differently than it does out of the box. To learn how to do this, see [“Scanner behavior” on page 74](#).

Understanding the Status Light

The status light on the SR61T indicates a successful decode of a bar code or an error or warning condition.

Default Status Light Description

Light State	What it Means
Blinks green once	The SR61T successfully decoded a bar code and sent the data to the host computer. The SR61T successfully scanned a configuration bar code.
Turns on and stays red for 2 seconds	You scanned a bar code, but the data was not sent to the host computer. You scanned a configuration bar code and the SR61T did not accept it.

Understanding the Beeps

The SR61T beeps to give you audio feedback when performing some functions. For example, you hear a beep each time you scan a valid bar code.

Default SR61T Beep Descriptions

Beep Sequence	What it Means
Single beep	The SR61T successfully decoded a bar code or scanned a configuration bar code. You can configure the number of good read beeps to be one, two, none, or a number of your choice. For help, see www.intermec.com/EasySet .
Three beeps	Data was not successfully sent to the host computer. A configuration bar code was not successfully scanned.
One beep and the LED flashes green once	You just scanned the Administrator Reset Factory Defaults bar code and the non-volatile memory is being written.



Note: The SR61TV (linear imager) and SR61TL (laser scanner) may also produce a crackle sound when you scan a stacked (2D) bar code. For more information, see [“Stacked Code Crackle” on page 54](#).

You can change the beep volume for your needs and environment. You can set the beep volume to Low (quiet), Medium (loud), or High (very loud - default).

To turn off the beeper

- Scan this bar code:

Beep Duration - 0



\60\03\11\21\00\00\00

You can also change the beeper duration and beeper frequency. For more information about the beeper commands, see Chapter 4, [“Configuration Command Reference.”](#)

Using Vibrate Alert

In the default scanner mode, you can configure the SR61T to vibrate when it successfully decodes a bar code. This feature can be useful in these situations:

- You are in a noisy environment, such as a busy warehouse, where it can be difficult to hear the beep.
- You are working in a quiet environment, such as a library, where you do not want to make a lot of noise.

To turn on vibrate alert

- Scan this bar code:

Turn On Vibrate Alert



\60\03\10\48\00\02\40

To turn off vibrate alert

- Scan this bar code:

Turn Off Vibrate Alert



\60\03\10\48\00\00\00



Note: You cannot configure the SR61T to vibrate when it is configured to behave in the Legacy scanner mode.

Scanning Bar Codes



For the SR61TL and SR61TE, do not look directly into the window area or at a reflection of the laser beam or laser aiming beam while the laser is scanning. Long-term exposure to the laser beam can damage your vision.

The SR61T contains either a 1D linear imager (SR61TV), 2D area imager (SR61TA), laser scan engine (SR61TL), or near-far range area imager (SR61TE) to scan bar code data. The type of scan engine you are using and the type of bar code you are decoding determines the way you scan the bar code.

When you unpack the SR61T, these bar code symbologies are enabled:

- Code 39
- Code 128 / GS1-128

- EAN/UPC
- PDF417
- DataMatrix (SR61TA and SR61TE only)

If you are using bar code labels that are encoded in a different symbology, you need to enable the symbology on your SR61T. Use EasySet version 5.6.0.1 or later to enable and disable symbologies for your scanner. EasySet is available at no charge from the Intermec web site at www.intermec.com/EasySet.

To scan a bar code label with a laser scanner or 1D linear imager

- 1** Point the SR61T at the bar code label and hold the SR61T at a slight angle 15 to 25 cm (6 to 10 in) from the label.
- 2** Pull the trigger, and direct the red beam so that it falls across all bars in the bar code label.

Use this test bar code:

Code 39 Test Bar Code

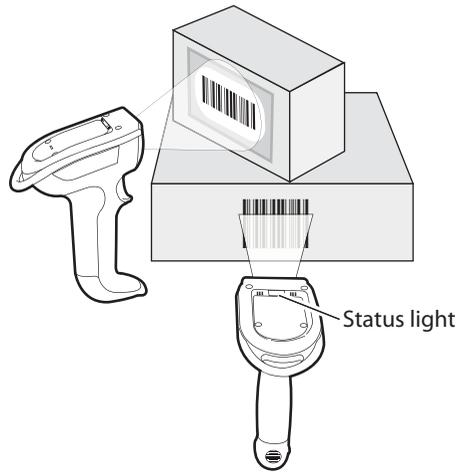


123456

Tip: Depending on your screen resolution, you may be able to scan bar codes displayed on your computer screen with either the 1D linear imager or the near-far range area imager.

When the SR61T successfully reads a bar code label, the SR61T creates a single high beep, the status light briefly turns green, and the scanner beam turns off. If Vibrate Alert is enabled, the SR61T briefly vibrates.

- 3** Release the trigger.



Scanning Bar Codes: The aiming and scanner beams that you see depend on whether you have a laser scanner (SR61TL), 1D linear imager (SR61TV), 2D area imager (SR61TA), or near-far range area imager (SR61TE).

To scan omni-directionally with the 2D or near-far range area imager

- 1** Point the scanner window at the bar code label and hold the SR61T steady a few inches from the label.
- 2** Pull the trigger.
 - If you are scanning with a 2D imager, center the red aiming beam over the bar code label.
 - If you are scanning with a near-far range area imager, position the red aiming beam just to the right of the center of the bar code label.
- 3** The imager may flash repeatedly while it is trying to read a bar code. The aiming beam is smaller when the imager is closer to the bar code and larger when it is further away.
- 4** When the SR61T successfully reads a bar code label, the SR61T creates a single high beep and the status light briefly turns green. If Vibrate Alert is enabled, the SR61T briefly vibrates.
- 5** Release the trigger.

2

Connecting and Configuring the SR61T

Use this chapter to understand how to connect the SR61T to a host and configure the SR61T. This chapter covers these topics:

- **Connecting Your SR61T to a Host Computer**
- **Setting Parameters in the SR61T**

Connecting Your SR61T to a Host Computer

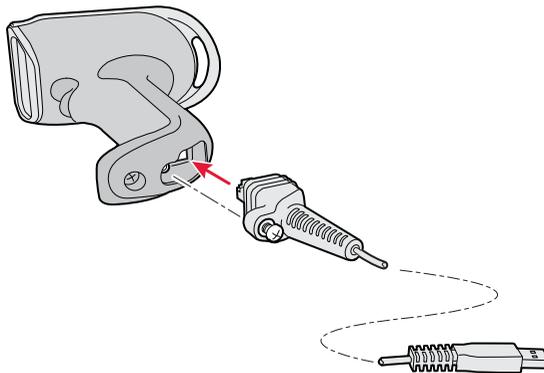
To connect your SR61T to a host computer, you need the appropriate accessory cable. For a list and description of each cable, see [“Cable Accessories” on page 71](#).

Creating a USB Connection

The USB cable you choose depends on whether your host PC provides power through the USB port. If your host PC provides power through the USB port, connect using a standard USB cable. If your host PC does not provide power through the USB port, connect using a powered USB cable.

To connect with a standard USB cable

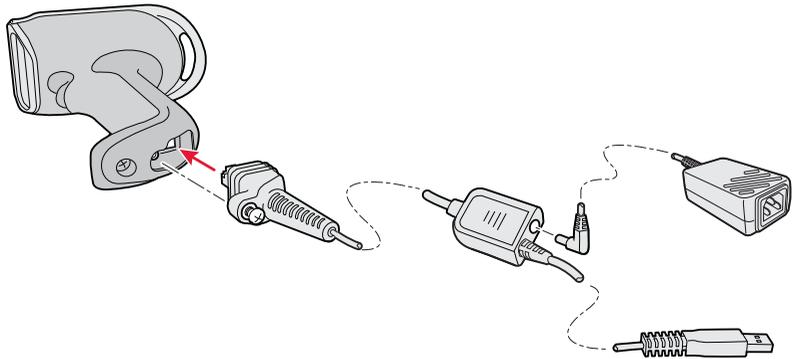
- 1 Make sure you have the standard USB cable (PN 236-182-xxx).
- 2 Connect the standard USB cable to your SR61T.



- 3 Connect the USB cable to the host PC.
- 4 If necessary, configure your SR61T for an International keyboard. The default keyboard is North America. For help, see [“International Keyboard Parameters” on page 17](#).

To connect with a powered USB cable

- 1 Make sure you have the powered USB cable (PN 236-183-xxx).
- 2 Connect the powered USB cable to the SR61T and a power supply (P/N 851-089-105). Plug the power supply to an AC power outlet.



- 3 Connect the USB cable to the host PC.
- 4 If necessary, configure your SR61T for an International keyboard. The default keyboard is North America. For help, see [“International Keyboard Parameters” on page 17](#).

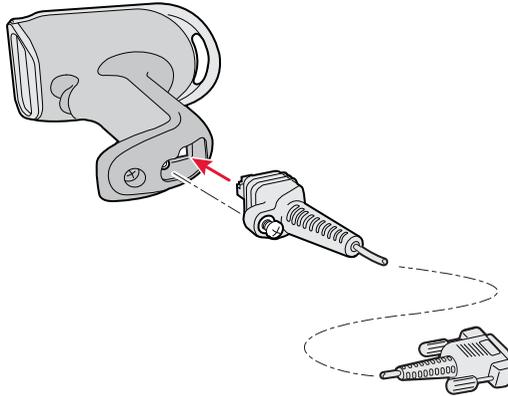
Creating an RS-232 Connection

The RS-232 cable you choose depends on whether your host PC provides power through the RS-232 port. If your host PC provides power through the RS-232 port, connect using the standard RS-232 cable. If your host PC does not provide power through the RS-232 port, connect using the powered RS-232 cable.

To connect with a standard RS-232 cable

- 1 Make sure you have the standard RS-232 cable (P/N 236-184-xxx).
- 2 If you are connecting to an Intermec computer, turn it off. Otherwise, leave the host PC on.

- 3 Connect the standard RS-232 cable to your SR61T.



- 4 Connect to the host PC.
- 5 If you are connecting to an Intermec computer, turn it on.
- 6 If necessary, configure your SR61T serial parameters to match the PC.

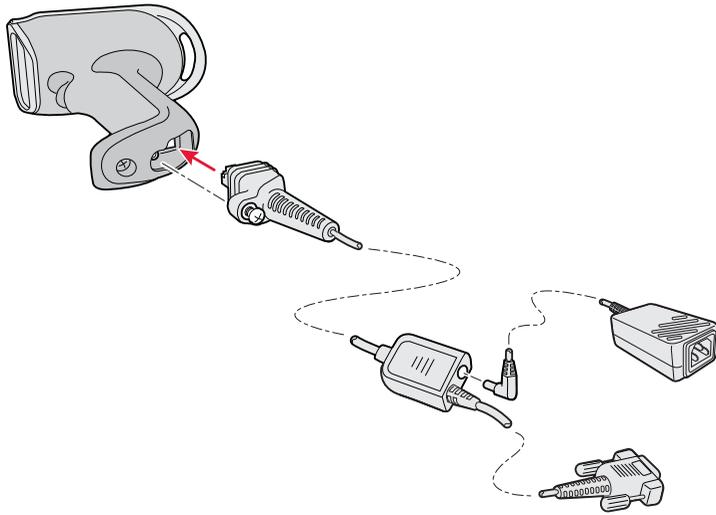
The default serial parameters for the SR61T are:

Serial Parameter	Default Setting
Baud rate	57600
Data bits	8
Parity	None
Stop bits	1

For help, see “**Serial Parameter Parameters**” on page 20 or EasySet version 5.6.0.1 or later. EasySet is available from the Intermec web site at www.intermec.com/EasySet.

To connect with a powered RS-232 cable

- 1 Make sure you have a powered RS-232 cable (P/N 236-185-xxx or P/N 236-198-xxx).
- 2 If you are connecting to an Intermec computer, turn it off. Otherwise, leave the host PC on.
- 3 Connect the externally powered RS-232 cable to the SR61T and a power supply. Plug the power supply into an AC power outlet.



4 Connect to the host PC.

5 If you are connecting to an Intermec computer, turn it on.



Note: While the green light on the Intermec computer is flashing, do not disconnect the scanner from the Intermec computer.

6 If necessary, configure your SR61T serial parameters to match the PC.

The default serial parameters for the SR61T are:

Serial Parameter	Default Setting
Baud rate	57600
Data bits	8
Parity	None
Stop bits	1

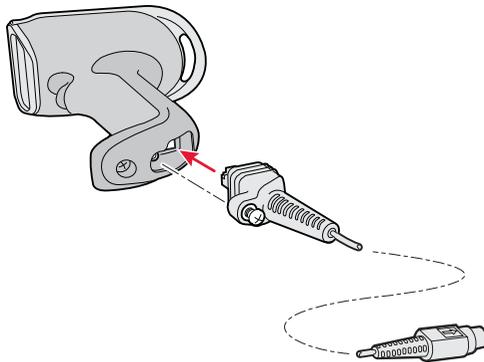
For help, see “**Serial Parameter Parameters**” on page 20 or EasySet version 5.6.0.1 or later. EasySet is available from the Intermec web site at www.intermec.com/EasySet.

Creating a Keyboard Wedge Connection

There are several different keyboard wedge cables available for your connection to a host PC. You can choose from a standard or an externally powered cable.

To connect with a standard keyboard wedge cable

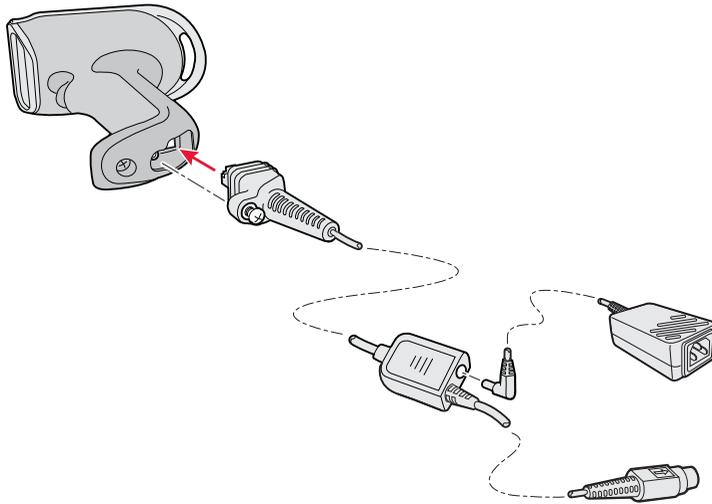
- 1 Turn off your host PC.
- 2 Make sure you have the appropriate cable. If your host PC does provide power, use a standard keyboard wedge cable (P/N 236-186-xxx).
- 3 Connect the standard keyboard wedge cable to your SR61T and the host PC.



- 4 Turn on your host PC.
- 5 If necessary, configure your SR61T for an International keyboard by scanning bar codes. The default keyboard is North America. For help, see **“International Keyboard Parameters”** on page 17.

To connect with a powered keyboard wedge cable

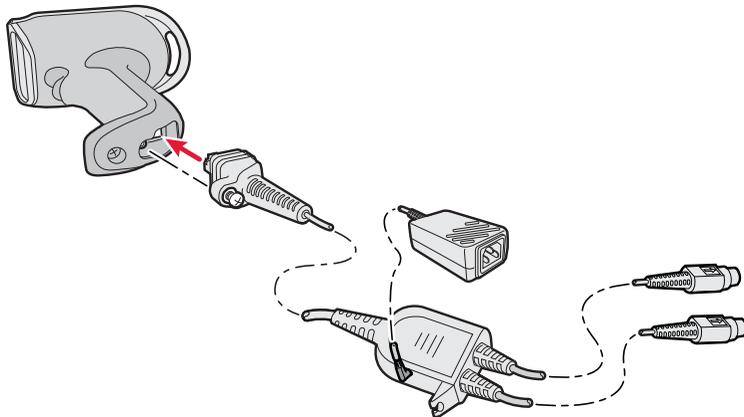
- 1 Turn off your host PC.
- 2 Make sure you have the appropriate cable. If your host PC does not provide power, use the powered keyboard wedge cable (P/N 236-187-xxx).
- 3 Connect the powered keyboard wedge cable to your SR61T and a host a power supply (P/N 851-089-105). Plug the power supply into an AC power outlet.



- 4 Connect the keyboard wedge cable to the host PC.
- 5 Turn on your host PC.
- 6 If necessary, configure your SR61T for an International keyboard by scanning bar codes. The default keyboard is North America. For help, see **“International Keyboard Parameters”** on page 17.

To connect the SR61T using a Y-cable

- 1 Turn off your host PC.
- 2 Connect the Y-cable (P/N 236-214-001) to your SR61T.



- 3 Connect one end of the Y-cable to your host PC and the other end to a PS2 keyboard. If your host PC does not provide enough power, connect the Y-cable to a power supply (P/N 851-089-005). Then plug the power supply to an AC power outlet.
- 4 Turn on your host computer.
- 5 If necessary, configure your SR61T for an International keyboard. The default keyboard is North America. For help, see **“International Keyboard Parameters” on page 17.**

Creating a Wand Emulation Connection

You can create a wand emulation connection to an Intermec computer by connecting a wand emulation cable to the computer. There are several types of cables available for use. The type of cable you choose will depend on the Intermec computer you have. For a list of cables to choose from, see **“Cable Accessories” on page 71.**



Note: You can connect the following Intermec computers using a wand emulation cable: 2420, 2425, 2435, 2455, 2475, 2480, 2481, 2485, 2486

To create a wand emulation connection

- 1 Make sure that you have the appropriate wand emulation cable. (P/N 236-188-xxx, P/N 236-189-xxx, or 236-190-xxx).
- 2 Connect the wand emulation cable to your SR61T and the Intermec computer.
- 3 (Optional) You can also configure the wand emulation cable to enable it to communicate differently with an Intermec computer. For help, see **“Creating a Wand Emulation Connection” on page 16.**



Note: When you use a wand emulation connection, post processing features like postamble, preamble and data editing are not available. You must change these settings using your Intermec computer.



Note: If you get a good beep read from the SR61T but receive no data on your host computer, this means that the bar code you scanned is too large for your Intermec computer to process.

Setting Parameters in the SR61T

After you connect your SR61T to a host, you may need to configure it to communicate properly with the host. Use this section to change the way that the SR61T transmits encoded data. This section contains the following bar codes:

- “**International Keyboard Parameters**” on page 17.
- “**Serial Parameter Parameters**” on page 20.

To configure additional SR61T settings, see “**Operating Settings**” on page 74 or EasySet version 5.6.0.1 or later. EasySet is available from the Intermec web site at www.intermec.com/EasySet.

International Keyboard Parameters

If your SR61T is connected to a host with a keyboard wedge cable, you may need to configure your SR61T to behave like an International keyboard. Scan the following bar codes to make your keyboard behave like the following keyboards.

* = default

North America*



\60\02\53\20\00\00\00

Belgian French
Windows



\60\02\53\20\00\3A\40

Danish Windows



\60\02\53\20\00\2D\20

Dutch Windows



\60\02\53\20\00\35\20

French Canadian Windows 95/98



\60\02\53\20\00\08\00

French Canadian
Windows XP/2000



\60\02\53\20\00\0A\40

French Windows



\60\02\53\20\00\02\40

German Windows



\60\02\53\20\00\05\20

Hungarian Windows



\60\02\53\20\00\25\20

Italian Windows



\60\02\53\20\00\10\00

Norwegian Windows



\60\02\53\20\00\30\00

Portuguese Windows



\60\02\53\20\00\38\00

Swedish Windows



\60\02\53\20\00\12\40

Swiss French Windows



\60\02\53\20\00\2A\40

Swiss German
Windows



\60\02\53\20\00\28\00

Spanish Windows



\60\02\53\20\00\0D\20

UK English Windows



\60\02\53\20\00\15\20

Brazilian Portuguese Windows



\60\02\53\20\00\38\00

Japanese Windows



\60\02\53\20\00\18\00

IBM/NCR Terminals



\60\02\53\20\00\1D\20

Serial Parameter Parameters

If your SR61T is connected to a host with an RS-232 cable, configure your SR61T serial parameters to match the host. This section contains bar codes for basic serial parameters. To configure additional serial parameters, use EasySet.



Note: By default, RTS/CTS hardware protocol is disabled. To enable this parameter, use EasySet version 5.6.0.1 or later. RTS/CTS hardware protocol operates only in one direction. The SR61T requests permission from the host to transmit and monitors host transmissions.

* = default

Baud Rate

1200



\60\02\48\40\00\0A\40

2400



\60\02\48\40\00\0A\40

4800



\60\02\48\40\00\10\00

9600



\60\02\48\40\00\12\40

19200*



\60\02\48\40\00\15\20

38400



\60\02\48\40\00\18\00

57600



\60\02\48\40\00\1A\40

115200



\60\02\48\40\00\1D\20

Data Bits

7



\60\02\48\42\00\00\00

8*



\60\02\48\42\00\02\40

Parity

None*



\60\02\48\43\00\00\00

Even



\60\02\48\43\00\02\40

Odd



\60\02\48\43\00\05\20

Stop Bits

1*



\60\02\48\44\00\00\00

2



\60\02\48\44\00\02\40

Enabling the Configurable RS-232 Protocol

By default, the SR61T uses ISCP to communicate with a host computer. If you are connecting the SR61T to a host computer, for example an Intermec Terminal that speaks ISCP, you will not need to do anything.

If you are connecting your host computer that does not use ISCP, you must disable the ISCP protocol, that is, enable the Configurable RS-232 protocol.

You may also want to configure the ENQ, ACK, NAK, and LRC parameters. For more details about the Configurable RS-232 Protocol, see **“Understanding Features of Configurable RS-232 Protocol” on page 23.**



If you are connecting to a Intermec Terminal using ISCP or EasySet, keep the default settings for Data bits, Parity and Stop bits so ISCP can work properly.

To disable the ISCP Protocol (enable the Configurable RS-232 Protocol)

- Scan the following bar code



\60\02\43\20\00\00\00

To enable ISCP Protocol

- Scan the following bar code



\60\02\43\20\00\02\40

Understanding Features of Configurable RS-232 Protocol

The Configurable RS-232 protocol is comprised of four features. Each of these features can be turned on or off independently of one other. Use the table and procedures below to understand the Configurable RS-232 protocol. To specify a specific value for any of the individual parameters, go to EasySet.

Configurable RS-232 Protocol Features

Parameter	Description (When Enabled)
ENQ	The scanner waits until it receives ENQ from the host before sending data to the host. If the hw/sw timeout period expires before the host send ENQ, the then the scanner does not send the data to the host
ACK	The scanner waits for the length of the hw/sw timeout period of time to receive an ACK message from the host and then time out. If the scanner times out then the scanner issues error beeps.

Configurable RS-232 Protocol Features (continued)

Parameter	Description (When Enabled)
NAK	The scanner sends data to the host. If the host does not like the data then the host must send a NAK before the hw/sw timeout period expires. If the scanner receives a NAK from the host then the scanner resends the data. The scanner resends the data three times.
LRC	The scanner appends the Longitudinal Redundancy Check, which is two characters, to the end of the data. The LRC characters are calculated by XOR'ing the hex values of the first two ASCII characters, and then XOR'ing the results with the next character. This pattern is repeated for all data characters.

To configure the ENQ parameter

- To enable ENQ, scan the following bar codes



`\60\02\48\45\00\02\40`

- To disable ENQ, scan the following bar code



To configure the ACK parameter

- To enable ACK, scan the following bar code:



`\60\02\48\47\00\02\40`

- To disable ACK, scan the following bar code



\60\02\48\47\00\00\00

To configure the NAK parameter

- To enable NAK, scan the following bar code and enter an NAK number



\60\02\48\49\00\02\40

- To disable NAK, scan the following bar code



\60\02\48\49\00\00\00

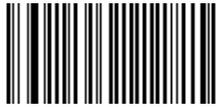
To configure the LRC parameter

- To enable LRC, scan the following bar code and enter a LRC number



\60\02\48\4C\00\02\40

- To disable LRC, scan the following bar code



\60\02\48\4C\00\00\00

3

Troubleshooting and Maintaining the SR61T

Use this chapter to solve problems you may have while using the SR61T. This chapter contains these topics:

- **Troubleshooting the SR61T**
- **Maintaining the SR61T**

Troubleshooting the SR61T

If you have problems using the SR61T, use this chapter to find a possible solution.

Calling Product Support

To talk to an Intermec Product Support representative:

- In the U.S.A. and Canada, call **1-800-755-5505**
- Outside the U.S.A. and Canada, contact your local Intermec representative. For help, go to www.intermec.com > **About Us** > **Contact Us**.

Before you call Intermec Product Support, make sure you have the following information:

- SR61T firmware version
- SR61T decode version
- SR61T sub-system version

To get the firmware version, decode version, and sub-system version

- 1 Run an application that can accept bar code information from the SR61T:
 - If you are using a USB or keyboard wedge cable, use Microsoft® Notepad.
 - If you are using an RS-232 cable, use the EasySet ISCP Terminal window. For help, see the EasySet software.
- 2 Scan one of these bar codes:

Get firmware version



Get decode version



Get sub-system version



Problems and Possible Solutions

Use this section to find possible solutions to problems you may have.

Problems and Possible Solutions

Problem	Possible Solution
You pull the trigger, but nothing happens.	<p>The SR61T receives power from either a host computer or external power supply through an accessory cable. Make sure:</p> <ul style="list-style-type: none"> • you are using the appropriate cable. For more information, see “Cable Accessories” on page 71. • the cable is connected to the appropriate port on the host computer. • the universal power supply (if necessary) is properly plugged in.
You pull the trigger, the red scanning beam turns on, but you cannot successfully scan a bar code.	<p>Try these possible solutions:</p> <ul style="list-style-type: none"> • Make sure that the SR61T is configured for the symbology you are scanning. • Make sure that the SR61T is at the appropriate scanning distance from the bar code. Move the SR61T closer and farther to find the appropriate distance. • Make sure that the SR61T is configured for the type of bar code you are scanning. • The bar code you are trying to scan may be poorly printed or too small. Scan a known good bar code to make sure that the SR61T is working properly. <p>For more information, see “Scanning Bar Codes” on page 6.</p>
You scan a bar code and the status light turns on, but the SR61T does not beep.	<p>The beep duration, volume, frequency, and number may be configured so the SR61T does not beep. To reset the SR61T, scan this bar code:</p> <p>Reset factory defaults</p> 

Problems and Possible Solutions (continued)

Problem	Possible Solution
You scan a configuration bar code and the SR61T beeps three times.	The SR61T does not recognize or support the configuration bar code you scanned.
You scan a bar code, the SR61T beeps once, and the status light blinks green once, but the data is not transmitted to the host computer.	Try these possible solutions: <ul style="list-style-type: none">• Make sure that your data collection application is set up to receive data from the SR61T.• If you are using an RS-232 cable, make sure that the serial parameters on the SR61T match the serial parameters of the host computer. The default serial parameters for the SR61T are: 57600 baud, 8 data bits, no parity, and 1 stop bit.
You scan a data bar code and the scanner beeps once, pauses for half a second, and then beeps three times.	Try disconnecting and then reconnecting the scanner to the host and then reestablish communications with the host.

Resetting the SR61T

If your SR61T does not respond when you pull the trigger, you can reset your SR61T. When you send the Administrator Reset Factory Defaults command, the configuration command parameters are returned to their original factory defaults and the scanner restarts.

To reset your SR61T

- 1 Establish a connection with EasySet.
- 2 Send the Administrator Reset Factory Defaults command to the SR61T.

Maintaining the SR61T

To keep your SR61T in good working order, you may need to upgrade the SR61T and clean the scanner window.

Upgrading the SR61T

You may need to upgrade the SR61T firmware if there is an update that incorporates changes to a feature or adds functionality to the scanner. The process of upgrading the SR61T takes about 10 minutes to complete.

To upgrade the SR61T, you need:

- an RS-232 accessory cable with external power (P/N 236-185-001 or 236-198-001). For more information, see “**Cable Accessories**” on page 71.
- power supply (P/N 851-089-105).
- country-specific AC power cord. See the table below for the correct power cord to purchase:

Country	Part number
China	071918
Europe	1-974027-025
United States	1-974028-025
United Kingdom	1-974029-020
Australia	1-974030-025
Italy	321-471-002
Denmark	321-501-002
India/Africa	321-502-002

- a PC running Microsoft® Windows® XP with SP2 or Microsoft Windows 2000 with SP4.
- the Intermec Scanner Upgrade Utility. You can download this utility from the SR61T downloads page at www.intermec.com.
- the firmware update (.ldr) file.



Note: Before you start the upgrade process, make sure that you are not using the selected COM port for any other application or you receive an error and cannot use the COM port.

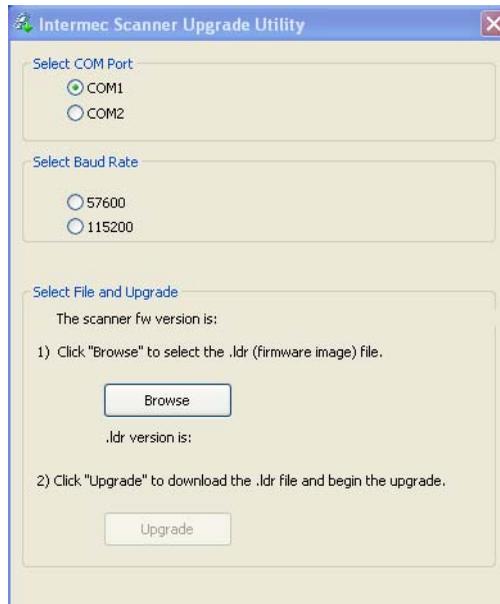
To upgrade the SR61T firmware

- 1** Download the latest SR61T firmware update package from the Intermec web site at www.intermec.com.
 - a** Go to **Support > Downloads**.
 - b** From the **Product Category** drop-down list, choose **Bar Code Scanners**.
 - c** From the **Product Family** drop-down list, choose **Rugged**.
 - d** From the **Product** drop-down list, choose **SR61T Hand Held Scanner** and click **Submit**.
 - e** Click the link to download the firmware upgrade package and save it to your PC.
 - f** Unzip the .zip file.
- 2** Connect your SR61T to a host PC with the RS-232 cable.
- 3** Scan the Reset Factory Defaults bar code:

Reset factory defaults



4 Start the Intermec Scanner Upgrade Utility:



- 5** Select a COM port and a baud rate.
- 6** Click **Browse** and navigate to the location of the firmware upgrade (.ldr) file and then click **Open**.
- 7** Click **Upgrade**. A message appears asking if you want to upgrade.
- 8** Click **Yes**. A dialog box appears and provides you with the progress of the update.
- 9** Click **OK** when the Update Completed message appears. You have successfully upgraded your SR61T firmware.
- 10** Disconnect and reconnect the RS-232 cable to reboot the SR61T.

Cleaning the SR61T

Clean the scanner window as often as needed for the environment in which you are using the SR61T. To clean the scanner window, you can use soapy water, a solution of ammonia and water, or isopropyl alcohol.



Opening the SR61T voids the warranty and may cause damage to the internal components.

To clean the scanner window

- 1** Dip a clean towel or rag in soapy water, ammonia and water solution, or isopropyl alcohol and wring out the excess. Wipe the scanner window. Do not allow any abrasive material to touch the window.
- 2** Wipe dry with a lint-free cloth.

4

Configuration Command Reference

Use this chapter to learn about the configuration commands supported on the SR61T. This chapter contains these topics:

- **Using Configuration Commands**
- **Configuration Commands By Function**
- **SR61T Configuration Commands**

Using Configuration Commands

A configuration command changes the way the SR61T operates. For example, you can change the Beep Volume and make the SR61T beeper very quietly.

You can configure the SR61T:

- by sending commands to your SR61T from your PC using EasySet.
- by sending commands to a bar code setup sheet. Then, scan the bar codes onscreen with your SR61T (SR61TE or SR61TA only), or print the setup sheet and scan the bar codes.
- by sending commands to your SR61T from your Intermec computer using Intermec Settings.



Note: When you first connect to an Intermec computer, only SR61T settings common to the Intermec computer’s internal scanner settings are changed to the internal scanner’s default settings.

For a list of all the commands and their default values as they are organized in EasySet, see the next section, **“Configuration Commands By Function.”**

For descriptions of each command organized alphabetically, see **“SR61T Configuration Commands” on page 40.**

Configuration Commands By Function

The configuration commands are grouped by function and reflect the organization of the Commands window in EasySet.

Reset All Parameters

Command	Default Value	See Page
Administrator reset factory defaults	N/A	40

Interface Settings

RS-232 Parameter	Default Value	See Page
Baud rate	57600	41
Data bits	8	46
Parity	None	52
Stop bits	1	54
Hardware/software protocol timeout	1000 ms	49
Configurable RS-232 Protocol	Not active	45
ENQ	Not active	47
ACK	Not active	40
NAK	Not active	51
LRC	Not active	50
Inter-character delay	None	49
Inter-message delay	None	50

PS/2 Keyboard Wedge	Default Value	See Page
Keyboard selection	North America	50
Override caps lock key	Not active	51

Data Transmission Settings

Data Transmission Command	Default Value	See Page
ISCP		
ISCP activation	Active	50
Data format	Raw	46
Transmission frame size (TFS)	4096	56
Event notification	Not active	47
Symbology identifier	Not transmitting	55
Preamble	None	53
Postamble	<CR><LF>	52
Data editing	N/A	46
Alt Mode	Not active	41
Control character conversion	Active	45

Symbology Settings

Symbology	Default Value	See Page
Disable all symbologies	N/A	46
Australian Post	Not active	41
Aztec	Not active	41
BPO	Not active	42
Canada Post	Not active	42
Codabar	Not active	43
Codablock		
Codablock A	Not active	43
Codablock F	Not active	43
Code 11	Not active	44
Code 39	Active	44
Special keys interpretation	Not active	54
Code 93/93i	Not active	44
Code 128/GS1-128	Active	44
ISBT 128	Not active	45
GTIN processing	Not active	45
DataMatrix	Active	46
Dutch Post	Not active	46
EAN/UPC	Active	47
ISBN	Not active	47
GTIN processing	Not active	47
GS1 Composite	Not active	48
GS1 DataBar		
GS1 DataBar Omni-directional	Not active	49
GS1 Expanded	Not active	49
GS1 Limited	Not active	49
Interleaved 2 of 5	Not active	50
Japan Post	Not active	50
Matrix 2 of 5	Not active	50
Maxicode	Not active	51
Micro PDF417	Not active	51
MSI	Not active	51

Symbology Settings (continued)

Symbology	Default Value	See Page
PDF417	active	52
Planet	Not active	52
Postnet	Not active	53
QR Code	Not active	53
Standard 2 of 5	Not active	54
Telepen	Not active	55
TLC 39	Not active	56

Operating Settings

Trigger Activation Command	Default Value	See Page
Trigger mode	Level	57
Trigger timeout	2 seconds	57
Turn off after good read	Active	58

Data Decoding Security Command	Default Value	See Page
Predefined security levels	Normal	53
Consecutive same read data validation	Auto read count before transmission	45
Timeout between identical consecutive codes	300 ms	56
Timeout between different consecutive codes	None	55

Center Decoding Command	Default Value	See Page
Center decoding activation	Not active	43
Center decoding tolerance	No tolerance	43

Beeps/LED Command	Default Value	See Page
Beep and LED Mode	SR61T default mode	41
Beep volume	High	42

Beeps/LED Command	Default Value	See Page
Beep frequency	2610 Hz	42
Good read beeps		
Number	1	48
Duration	80 ms	48
Timing	Before transmission	48
Good read LED duration	2000 ms	48
Error beep	On	47
Setup beep	On	54

Operating Settings (continued)

Beeps/LED Command	Default Value	See Page
2D symbologies		
Stacked code crackle	On	54
Vibrate alert		
Vibrate alert	Off	58
Duration	300 ms	58
Sensor optimization	Automatic	53

SR61T Configuration Commands

This section lists the configuration commands in alphabetical order and provides a description of each command. To configure your SR61T using these commands, see www.intermec.com/EasySet.

ACK

A feature of the Configurable RS-232 Protocol. The scanner waits for the length of the hw/sw timeout period of time to receive an ACK message from the host and then time out. If the scanner times out then the scanner issues error beeps.

Administrator Reset Factory Defaults

Causes the SR61T to perform a restart and restores all configuration commands to their default settings.

Alt Mode

A data transmission settings that allow the SR61T to transmit special characters to a host computer. For example, if Alt mode is enabled, the character “Alt+ 0196” is interpreted as “Ä.” When Alt mode is disabled, “Alt+0196” is transmitted as is.

Australian Post

SR61TA (area imager) and SR61TE (near-far range area imager) only. Enables or disables decoding of Australian Post symbology. Australian Post is a 4-state bar code that allows Australian Post to sort incoming mail using a bar code. There are three types of bar codes corresponding to FCC values 11, 59, and 62. BarDIMM only needs the DPID and Customer information, and automatically generates all the other information like the FCC or Reed-Solomon checksum.

Aztec

SR61TA (area imager) and SR61TE (near-far range area imager) only. Enables or disables decoding of Aztec symbology. Aztec is a 2D matrix symbology made up of square modules on a square grid, with a square bulls eye pattern at their center. Aztec Code symbols can encode large amounts of data with user-defined error-correction level.

Baud Rate

Sets the baud rate for the communications. The baud rate must match the baud rate of the host. You can set Baud Rate to a value of 1200, 2400, 9600, 19200, 38400, 57600, or 115200.

Beep and LED Mode

Sets the way in which the beeps and LED lights will behave on the SR61T. By default, the scanner is set to behave in one way, but it can be configured to operate differently.

Beep Duration

Sets the length of the beeps. You can set Beep Duration to a value from 0 to 2550 ms. When Beep Duration is set to 0 ms, the beeper is off.

Use Beep Duration in combination with Beep Frequency and Beep Volume to define beeps according to operator preference and work environment.

Beep Frequency

Sets the frequency, or pitch, of the beeps. You can set Beep Frequency to a value from 1000 to 5110 Hz.

Use Beep Frequency in combination with Beep Volume and Good Read Beep Duration to define beeps according to operator preference and work environment.

Beep Volume

Adjusts the volume of the beeps. You can set Beep Volume to Low, Medium, or High.



Note: To turn off the beeper, set the Beep Duration to 0.

Use Beep Volume in combination with Beep Frequency and Good Read Beep Duration to define beeps according to operator preference and work environment.

BPO

SR61TA (area imager) and SR61TE (near-far range area imager) only. Enables or disables decoding of BPO (British Post Office) 4-state bar code symbology. BPO was developed by the British Post office for encoding European postcode data similar to the way the U.S. Postnet symbology is used for encoding Zip Code data. BPO provides European countries with a simple and efficient postal bar coding scheme.

Canada Post

SR61TA (area imager) and SR61TE (near-far range area imager) only. Enables or disables decoding of Canada Post 4-state bar code symbology. Canada Post contains addressing as well as customer-specific information. Canada Post sends mail pieces through Canada Post's integrated distribution system in the most cost-efficient way.

Center Decoding Activation

Enables or disabled the Center Decoding of bar codes. When enabled, the SR61T reads only the bar code that the laser aimer is centered on. This parameter is useful for reading bar codes that are positioned close together.

Center Decoding Tolerance

Allows you to aim the laser beam close to the bar code label you want to read instead of positioning the aimer right on the bar code. Values for Center Decoding Tolerance can range from 0 (laser beam must be positioned on the bar code to be read) to 100 (laser beam can be positioned beside the bar code to be read).

Codabar

Enables or disables decoding of Codabar symbology. Codabar is a self-checking, discrete symbology. The American Blood Commission (ABC) Codabar requires that you retain and transmit the start/stop code digits when processing a Codabar symbol. As a result, configuration CD10 is an illegal configuration.

Codablock A

Enables or disables decoding of Codablock A symbology. Codablock A is a 2D bar code that is an extension of Code 39. If Code 39 is enabled with check digit, you cannot enable Codablock A. For best results, disable Code 39 before you enable Codablock A. If Code 39 is enabled with check digit, Codablock A is not be decoded properly.

Codablock F

Enables or disables decoding of Codablock F symbology. Codablock F is a 2D bar code that is an extension of Code 128. If Code 128 is enabled with check digit, you cannot enable Codablock F. For best results, disable Code 128 before you enable Codablock F.

Code 11

Enables or disables decoding of Code 11 symbology. Code 11 is a very high-density, discrete numeric bar code used extensively in labeling telecommunications components and equipment.

Code 39

Enables or disables decoding of Code 39 symbology. Code 39 is discrete, variable length, and self-checking. The character set is uppercase A to Z, 0 to 9, dollar sign (\$), period (.), slash (/), percent (%), space (), plus (+), and minus (-).

Code 93/93i

Enables or disables decoding of Code 93/93i symbology. Code 93/93i is a variable length, continuous symbology that uses four element widths.

Code 128 / GS1-128

Enables or disables decoding of Code 128 / GS1-128 symbology. Code 128 is a very high-density alphanumeric symbology that supports the extended ASCII character set. It is a variable length, continuous code that uses multiple element widths.

Code 128 supports the following function codes.

Code 128 Function Codes

Function Codes	Description
FNC1	FNC1 is used as a separator when multiple identifiers and their fields are concatenated. For example, FNC1 can be useful in keyboard wedge mode when the GS character cannot be transmitted.
FNC2	When the FNC2 character occurs in a bar code, the SR61T temporarily stores the data from the bar code and transmits it as a prefix to the next symbol. In this way, FNC2 can be used to concatenate several symbols before the data is transmitted.

ISBT 128

Enables and configures decoding of ISBT Code 128 symbology. ISBT Code 128 is the global bar code labeling standard for the blood banking industry and is used to support the worldwide distribution, tracking, and handling of blood bags and blood components.

GTIN Processing for GS1-128

With Global Trade Item Number (GTIN) processing enabled, a GTIN-compliant GS1-128 label strips the first two digits output 14 digits.

GTIN-compliant GS1-128 labels:

- are 16 digits long.
- have “01” as the first two digits of the label.

Consecutive Same Read Data Validation

To ensure you have a valid read before transmitting data, you can set the SR61T to scan a bar code multiple times.

You can set Consecutive Same Read Data Validation from 0 to 10. The default value of 0 sets the scanner to automatically adapt to the consecutive same read based on the bar code quality and the trust level of the bar code. For example, labels with a check digit require fewer reads than labels without a check digit.

Configurable RS-232 Protocol

If you are connecting your host computer that does not use ISCP, you must disable the ISCP protocol, that is, enable the Configurable RS-232 protocol. The Configurable RS-232 protocol is comprised of four features, ACK, NAK, ENQ and LRC.

Control Character Conversion

A data transmission setting allows the SR61T to transmit special characters to a host computer. For example, when control character mode is enabled, the character “8” is transmitted as “Backspace.” Otherwise, the character “8” is transmitted as “Ctrl + H”.

Data Bits

Sets the number of data bits the scanner uses when communicating. You can set Data Bits to 7 or 8.

Data Editing

Data editing allows you to edit data scanned by the SR61T before it is transmitted to the host. You can define up to seven input scenarios to filter the data you want to edit. For more information, see the EasySet software.

Data Format

Determines how information is sent to the host when you use Intermec Scanner Control Protocol (ISCP). If you select a value of raw, bar code data is sent to the host exactly as it appears in the bar code, no frame or acknowledgement are necessary. If you select a value of packet, the bar code data is encapsulated within ISCP protocol.

DataMatrix

SR61TA (area imager) and SR61TE (near-far range area imager) only. Enables or disables decoding of DataMatrix symbology, a high density 2D matrix code that can store a large amount of information. DataMatrix has excellent error correction abilities and is mostly used for marking and tracking parts.

Disable All Symbologies

This command disables all symbologies. However, disabling all symbologies does not reset symbology parameters to their default values. To reset all symbology parameters to their default factory settings, use the Administrator Reset Factory Defaults command. For more information, see **“ACK” on page 40**.

Dutch Post

SR61TA (area imager) and SR61TE (near-far range area imager) only. Enables or disables decoding of Dutch Post symbology. Dutch Post is a 4-state bar code that contains addressing, as well as customer-specific information.

EAN/UPC

Enables or disables decoding of European Article Numbering (EAN)/ Universal Product Code (UPC) symbology. EAN/UPC are fixed-length, numeric, continuous symbologies that use four element widths. A scanner that is configured to decode EAN bar codes can decode UPC, but the reverse is not true. UPC code is a subset of EAN code.

ISBN

International Standard Book Number (ISBN) is a 10-digit symbology that uniquely identifies books for tracking and ordering.

With ISBN enabled, the first three characters (978) are ignored, and the checksum is calculated on the remaining characters.

GTIN Processing

With Global Trade Item Number (GTIN) processing enabled, two zeros are padded to the beginning of UPC-A, and one zero is padded to the beginning of EAN-13 to expand the numbers to 14 digits. To use GTIN processing you also need to enable the corresponding EAN/UPC symbology.

ENQ

A feature of the Configurable RS-232 Protocol. The scanner waits until it receives ENQ from the host before sending data to the host. If the hw/sw timeout period expires before the host send ENQ, the then the scanner does not send the data to the host.

Error Beep

Enables or disables the error beep. Your SR61T emits an error beep without affecting the configuration of your SR61T, when you scan a configuration bar code that is damaged or unknown.

Event Notification

Sends information to the host when a selected action occurs. You can activate Event Notifications such as start of session read or trigger released.

Good Read Beep Duration

Sets the length of the SR61T good read beeps. You can set Good Read Beep Duration to a value from 0 (off) to 2550 ms.

Use Good Read Beep Duration in combination with Beep Volume and Beep Frequency to define beeps according to operator preference and work environment.

Good Read Beep Number

Establishes the number of beeps used for the good read beep: one, two, or none.

Good Read Beep Timing

Sets the good read beep to occur either before or after successfully transmitting data.

Good Read LED Duration

Sets the amount of time the green Status light stays on after a good read. You can set Good Read LED Duration to a value from 0 (off) to 5110 ms. When the Status light is on due to a long duration setting, the SR61T can still read new bar codes and receive commands.

GS1 Composite

Enables or disables GS1 Composite symbology. A GS1 Composite symbol consists of a linear component (encoding the item's primary identification) associated with an adjacent 2D Composite Component (encoding supplementary data, such as a batch number or expiration date). The Composite symbol always includes a linear component to ensure that the primary identification is readable by all scanning technologies, and so that 2D imagers can use the linear component as a finder pattern for the adjacent 2D Composite Component.

GS1 DataBar Expanded

Enables or disables decoding of GS1 DataBar Expanded. GS1 DataBar Expanded is an alphanumeric symbology that can read GS1 DataBar limited and stacked bar code labels. It is a member of the GS1 DataBar symbology family.

GS1 DataBar Limited

Enables or disables decoding of GS1 DataBar Limited. GS1 DataBar Limited is a numeric symbology that does not read stacked bar code labels. It is a member of the GS1 DataBar symbology family.

GS1 DataBar Omni-Directional

Enables or disables decoding of GS1 DataBar omni-directional 1D or stacked 2D codes. GS1 Databar omni-directional is a numeric symbology that can read stacked omni-directional bar code labels. It is a member of the GS1 DataBar symbology family.



Note: To read GS1 DataBar omni-directional stacked 2D codes, GS1 DataBar Expanded or GS1 DataBar Limited must also be enabled.

Hardware/Software Protocol Timeout

Sets the Hardware/Software Protocol Timeout for all supported RS-232 protocols. The hardware/software protocol is the maximum length of time that the SR61T waits for a response from a host before attempting to resent data. You can set the Hardware/Software Protocol Timeout to a value from 0 to 2550 ms.

Inter-Character Delay

Adds a delay between each character transmitted to the host so that information transmission is not too fast for the host. You can set Inter-Character Delay to a value from 0 to 999 ms.

Interleaved 2 of 5

Enables or disables decoding of Interleaved 2 of 5 symbology. Interleaved 2 of 5 is a high-density, self-checking, continuous numeric symbology mainly used in inventory distribution and the automobile industry.

Inter-Message Delay

Adds a delay between each bar code transmitted to the host to avoid losing information. You can set Inter-Message Delay to value from 0 to 999 ms.

ISCP Activation

The Intermec Scanner Control Protocol (ISCP) is a secure structured protocol using a frame format to send and receive messages via an RS-232 port between an Intermec scanner and a host system. ISCP allows you to easily configure, retrieve information from or control your scanner directly from the host system.

Japan Post

SR61TA (area imager) and SR61TE (near-far range area imager) only. Enables or disables decoding of Japan Post 4-state code symbology. Japan Post is a simple and efficient postal bar coding scheme.

Keyboard Selection

Selects the keyboard you are using with your terminal or cash register. For help, see [“International Keyboard Parameters” on page 17](#).

LRC

A feature of the Configurable RS-232 Protocol. The scanner appends the Longitudinal Redundancy Check , which is two characters, to the end of the data. The LRC characters are calculated by XOR'ing the hex values of the first two ASCII characters, and then XOR'ing the results with the next character. This pattern is repeated for all data characters.

Matrix 2 of 5

Enables or disables decoding of Matrix 2 of 5 symbology. Matrix 2 of 5 is a discrete bar code derived from Code 11.

China Post is available as part of the Matrix 2 of 5 symbology start/stop code. China Post encodes 11 digits with no check digit and has unique start and stop patterns.

Maxicode

SR61TA (area imager) and SR61TE (near-far range area imager) only. Enables or disables decoding of Maxicode symbology. Maxicode is a fixed 2D symbology that contains an array of hexagons arranged around a circular pattern. Maxicode is mostly used in package sorting and tracking applications.

Micro PDF417

Enables or disables decoding of Micro PDF417 symbology. Micro PDF417 is a multi-row symbology based on PDF417, designed to maximize area efficiency for applications that do not need the maximum data capacity of PDF417. Micro PDF417 contains a limited set of symbol sizes that each includes a fixed level of error correction.

MSI

Enables or disables decoding of MSI symbology. MSI code is similar to Plessey code in that it includes a start pattern, data characters, one or two check digits, and a stop pattern.

NAK

A feature of the Configurable RS-232 Protocol. The scanner sends data to the host. If the host does not like the data then the host must send a NAK before the hw/sw timeout period expires. If the scanner receives a NAK from the host then the scanner resends the data. The scanner resends the data three times.

Override Caps Lock Key

Enables or disables the Override Caps Lock Key. When enabled, the uppercase or lowercase state of the data is preserved.

Parity

Sets the parity for communications. You can set Parity to none, even, or odd.

PDF417

Enables or disables decoding of PDF417 symbology. The PDF417 symbology is a stacked 2D symbology that allows you to scan across rows of code. Each row consists of start/stop characters, row identifiers, and symbol characters (which consist of four bars and four spaces each and contain the actual data). This symbology uses error-correction symbol characters appended at the end to recover loss of data.

Macro PDF417, a feature of PDF417, extends the capability of PDF417 by allowing up to 99,999 PDF417 symbols to be used to store data. The symbols are concatenated as they are scanned and can be scanned in any order.

Planet

SR61TA (area imager) and SR61TE (near-far range area imager) only. Enables or disables decoding of Planet symbology. The United States Postal Service (USPS) uses a combination of two tracking numbers (the Postnet code and Planet code) to track a customer's piece of mail. A Planet symbol has 12 or 14 digits.

Plessey

Enables or disables decoding of Plessey symbology. Plessey code is pulse-width modulated like most other bar codes and includes a start character, data characters, an eight-bit cyclic check digit, a termination bar, and usually a reverse start character. The code is continuous and not self-checking. You need to configure two parameters for Plessey code: Start Code and Check Digit.

Postamble

Sets the postamble that is appended to any data you scan. Common postambles include cursor controls such as a tab or a carriage return line feed. You can set up to 20 ASCII characters for Postamble.

Postnet

SR61TA (area imager) and SR61TE (near-far range area imager) only. Enables or disables decoding of Postal Numeric Encoding Technique (Postnet) symbology. The Postnet bar code was invented by the United States Postal Service (USPS) to encode ZIP information. Enabling your letter printing system as Postnet-capable allows you to receive a discount on postage. The U.S.A. delivery address coding can be of three forms (1) 5-digit ZIP; (2) 5-digit ZIP + 4 code (3) 11-digit delivery point code. So a valid Postnet bar code contains either 32 bars, 52 bars or 62 bars. Postnet is a numeric symbology. Different from most other symbologies, Postnet has requirements to the actual bar height and width. The information is encoded in the height and has nothing to do with the spaces.

Preamble

Sets the preamble that precedes any data you scan. Common preambles include a data location number or an operator number. You can set Preamble to up to 20 ASCII characters.

Predefined Security Levels

Defines the security level to use when decoding bar codes. When you select a lower decode security level, the SR61T can decode bar codes with poorer print quality.

QR Code

SR61TA (area imager) and SR61TE (near-far range area imager) only. Enables or disables decoding of QR Code symbology. QR Code is a 2D matrix symbology containing dark and light square data modules.

Sensor Optimization

SR61TV (linear imager) only. Sets the linear imager configuration for the type of bar code being scanned. If you are going to scan only standard 1D bar codes or only stacked 2D bar codes, you can set Sensor Optimization to 1D or 2D for optimal imager performance.

Setup Beep

Enables or disables the setup beep. When you successfully scan a configuration bar code, you hear the setup beep, and the configuration of the SR61T is changed.

Special Keys Interpretation

A data transmission setting that allows the SR61T to transmit special characters that have been encoded in a bar code. For example, if special keys interpretation is enabled, the character, “.A” is transmitted as “Delete” to the host computer.

Stacked Code Crackle

SR61TV (linear imager) and SR61TL (laser scanner) only. Enables or disables the crackle sound when you scan a stacked (2D) bar code.

Standard 2 of 5

Enables or disables decoding of Standard 2 of 5 symbology. Standard 2 of 5 is a low-density numeric symbology that encodes all information in the bars separated by fixed-width spaces. Standard 2 of 5 is used in warehouse sorting, photofinishing, and airline ticketing.

Stop Bits

Sets the number of stop bits for communications. You can set Stop Bits to 1 or 2.

Symbology Identifier

Symbology identifiers allow you to indicate the type of data being sent by prepending an identifier. You can prepend one of the following types of character strings to identify which symbology the data is using.

Symbology Identifier Options

Character String	Descriptions
AIM identifier	The AIM Standard for symbology identifiers consists of a three-character structure indicating the symbology and the optional features of the symbology. For more information about the AIM Standard for symbology identifiers, refer to the AIM ISO/IEC Standard.
User-defined symbology identifier (UDSI)	The user-defined symbology identifier (UDSI) is one to four ASCII characters in length. You can configure user-defined symbology identifiers to assign custom identifier strings to the bar code symbologies.
Code mark	Enables the code mark symbology identifier for all symbologies.

Telepen

Enables or disables decoding of Telepen symbology. Telepen is the only symbology to directly represent the full ASCII character set without shift characters. Considered extremely secure, Telepen has negligible risk of misreads and a double-density numeric only mode.

Timeout Between Different Consecutive Codes

This command prevents the scanner from decoding unwanted bar codes on the same label. The scanner invalidates a second bar code read if it occurs before the timeout expires. Use this command when consecutively scanning bar codes that contain different data, as opposed to the Timeout Between Identical Consecutive Codes command.

You can set Timeout Between Different Consecutive Codes to a value from 0 to 2550 ms.

Timeout Between Identical Consecutive Codes

This command prevents the same bar code from being decoded more than once. If you want to decode the same bar code twice, you must wait until the end of the timeout before scanning it again. Use this command when consecutively scanning bar codes with identical data, as opposed to the Timeout Between Different Consecutive Codes command.

You can set Timeout Between Identical Consecutive Codes to a value from 0 to 2550 ms.

TLC 39

TLC 39 is a composite symbology designed for the Telecommunications Industry. TLC 39 combines a Code 39 symbol that encodes a part number (for items such as plug-in boards at central switching stations) with a linked MicroPDF417 symbol that encodes a serial number and other optional information.

The first six characters must be numeric and include the ECI number. The seventh character is a delimiter between the linear data portion and the composite data portion, typically a comma, although other delimiters are allowed. The next piece of data is a mandatory unique Serial Number.

There can be other data fields after the Serial Number, usually either AppIDs or DataIDs, which are governed by whether or not there are alpha characters in the serial number. Country Of Origin is another typical data field included in this symbology.

Transmission Frame Size

Controls the amount of data sent to the computer by setting the length of the longest frame the host can receive. You can set the transmission frame size to a value from 32 to 5120.

Trigger Mode

Trigger mode allows you to set different types of triggering options for the scan engine. For more information, see the next table.

Trigger Mode Options

Mode	Description
Continuous	When you pull the trigger, the red scanner beam turns and stays on. When you pull the trigger a second time, the scanner beam turns off. Simply releasing the trigger does not turn off the scanner.
Level	When you pull the trigger, the red scanner beam turns on and stays on until you release the trigger or until the SR61T successfully decodes a bar code.
Pulse	When you pull the trigger, the red scanner beam turns on. The scanner remains on until the scanner successfully decodes a bar code or the Trigger Timeout period is reached.
Flashing	When you pull the trigger, the red scanner beam turns on and the SR61T checks for a bar code to read. The scanner starts flashing when the Trigger Timeout period is reached. When the SR61T finds and reads a bar code, it resets the Trigger Timeout period. If you pull the trigger a second time, the scanner beam turns off.
Autostand	Autostand mode allows you to switch between level mode and flashing mode. The first time you pull the trigger, the scanner beam turns on and the scanner is in flashing mode. Switch to level mode by pulling the trigger again. When you release the trigger, the scanning beam goes off and stays off until the trigger timeout expires and it resumes flashing.
Aim	Aim triggering allows you to turn on the scanner and aim the red scanner beam without causing a decode. When you release the trigger, the aiming beam stays on until the scanner successfully decodes a bar code.

Trigger Timeout

Sets the trigger timeout for the Trigger Mode command. You can set trigger timeout from 1 to 4095 seconds.

Turn Off After Good Read

Sets how the SR61T operates in level and pulse trigger modes.

Turn Off After Good Read Options

Trigger Mode	Turn Off After Good Read	SR61T Behavior
Level	Enabled	The SR61T scanner beam turns off after it successfully reads a bar code.
Level	Disabled	The SR61T scanner beam stays on until you release the Scan button.
Pulse	Enabled	The SR61T scanner beam turns off after it successfully reads a bar code.
Pulse	Disabled	The SR61T scanner beam stays on until the Trigger Timeout period is reached.

Vibrate Alert

Enables or disables the vibrate alert. When Vibrate Alert is enabled, the scanner vibrates when you scan a valid bar code.

Vibrate Alert Duration

Sets the amount of time that the vibrate alert remains on. You can set Vibrate Alert Duration to a value from 0 to 2550 ms.

A

Specifications and Accessories

Specifications

Use this section to find technical information about the SR61T.

Physical Dimensions

Length:	19.4 cm (7.6 in)
Height:	13.1 cm (5.2 in)
Width:	7.2 cm (2.8 in)
Weight:	320 g (11.2 oz)

Power and Electrical Specifications

Electrical rating:	5V, 1.7A
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Temperature and Environmental Specifications

EV10

Operating:	-30°C to 50°C (-22°F to 122°F)
Storage:	-40°C to 70°C (-40°F to 158°F)

EA11

Operating:	-20°C to 60°C (-4°F to 140°F)
Storage:	-30°C to 70°C (-22°F to 158°F)

EL20

Operating:	-20°C to 55°C (-4°F to 131°F)
Storage:	-40°C to 60°C (-40°F to 140°F)

EX25

Operating:	-20°C to 60°C (-4°F to 140°F)
Storage:	-40°F to 60°C (-40°F to 158°F)

All Scan Engines

Relative humidity:	5 to 95% non-condensing
Environmental rating:	IP54

Bar Code Symbolologies

- Australian Post*
- Aztec*
- BPO*
- Canada Post*
- Codabar
- Codablock A
- Codablock F
- Code 11
- Code 39
- Code 93/93i
- Code 128 / GS1-128
- DataMatrix*
- Dutch Post*
- EAN/UPC
- GS1 Composite
- GS1 DataBar Expanded
- GS1 DataBar Limited
- GS1 DataBar Omni-Directional
- GS1 DataBar Stacked
- Interleaved 2 of 5
- Japan Post*
- Matrix 2 of 5
- Maxicode*
- Micro PDF417
- MSI
- PDF417
- Planet*
- Plessey
- Postnet*
- QR Code*
- Standard 2 of 5
- Telepen
- TLC 39

* = These symbolologies are only available on the SR61TA (2D area imager) and SR61TE (near-far range area imager).

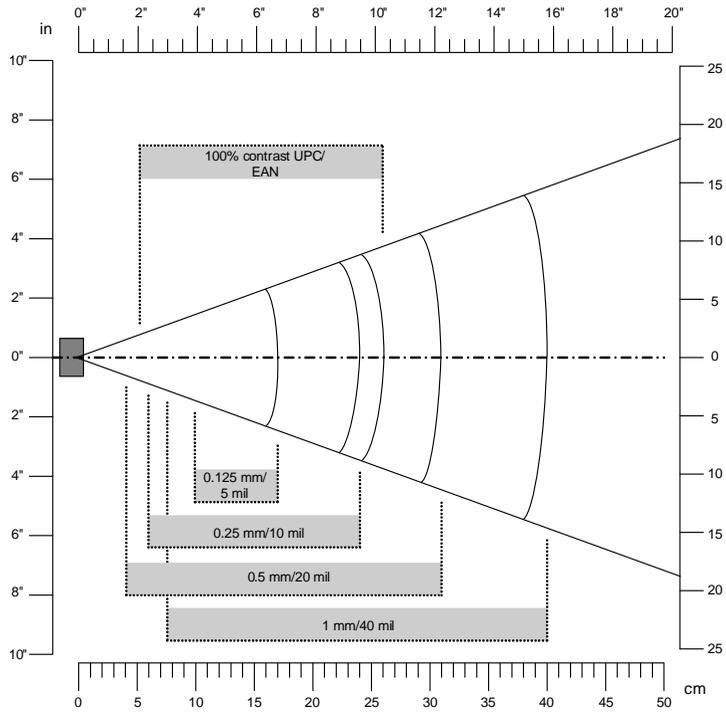
EV10 1D Linear Imager (SR61TV)

Scan range: up to 50 cm (19.7 in)
 Scan angle: 40°
 Minimum X dimension: 4 mils (0.1 mm)

Minimum Reading Distances With 0.255 cm (0.100 in) Setback

Symbology	Bar Code Contents	Density	Minimum Distance*	Maximum Distance
Code 39	RESO 0.100 MM	0.1 mm (4 mils)	11.255 cm (4.40 in)	13.745 cm (5.40 in)
	R 0.125 MM	0.125 mm (5 mils)	10.255 cm (4.00 in)	16.745 cm (6.60 in)
	0.25	0.25 mm (10 mils)	6.255 cm (2.50 in)	23.745 cm (9.30 in)
	0.5	0.5 mm (20 mils)	4.255 cm (1.70 in)	30.745 cm (12.10 in)
	RIMM	1 mm (40 mils)	7.755 cm (3.10 in)	39.745 cm (15.60 in)
EAN/UPC	120010010100	0.33 mm (13 mils)	5.455 cm (2.10 in)	25.745 cm (10.10 in)
PDF417	10 mils	0.254 mm (10 mils)	10.255 cm (4.00 in)	16.745 cm (6.60 in)
	15 mils	0.381 mm (15 mils)	8.255 cm (3.20 in)	18.745 cm (7.40 in)

*Minimum reading distances are measured in the dark (0 lux).



Linear Imager Minimum Reading Distances: This graphic does not include the 0.255 cm (0.100 in) setback for the SR61T.

EL20 Laser Scanner (SR61TL)

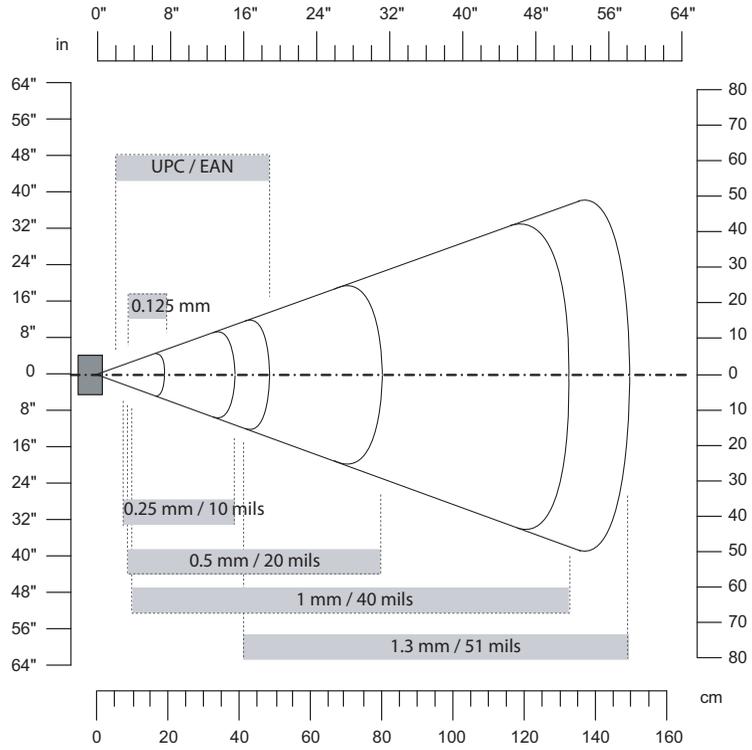
Scan angle: 38 degrees
Minimum X dimension: 4 mils (0.1 mm)

Minimum Reading Distances With 0.260 cm (0.102 in) Setback

Symbology	Density	Minimum Distance*	Maximum Distance
Code 39	0.125 mm (5 mils)	9.760 cm (3.802 in)	18.740 cm (7.398 in)
	0.25 mm (10 mils)	7.260 cm (2.802 in)	38.740 cm (15.198 in)
	0.5 mm (20 mils)	9.260 cm (3.602 in)	79.740 cm (31.398 in)
	1 mm (40 mils)	10.260 cm (4.002 in)	131.740 cm (51.898 in)
	1.3 mm (51 mils)	41.260** cm (16.202 in)	149.740 cm (58.898 in)
EAN/UPC	0.33 mm (13 mils)	6.760 cm (2.702 in)	47.740 cm (18.798 in)

*Minimum reading distances are measured in the dark (0 lux).

**Depends on symbology length and scan angle.



Standard Range Laser Scanner Minimum Reading Distances: *This graphic does not include the 0.260 cm (0.102 in) setback for the SR61T.*

EA11 2D Area Imager (SR61TA)

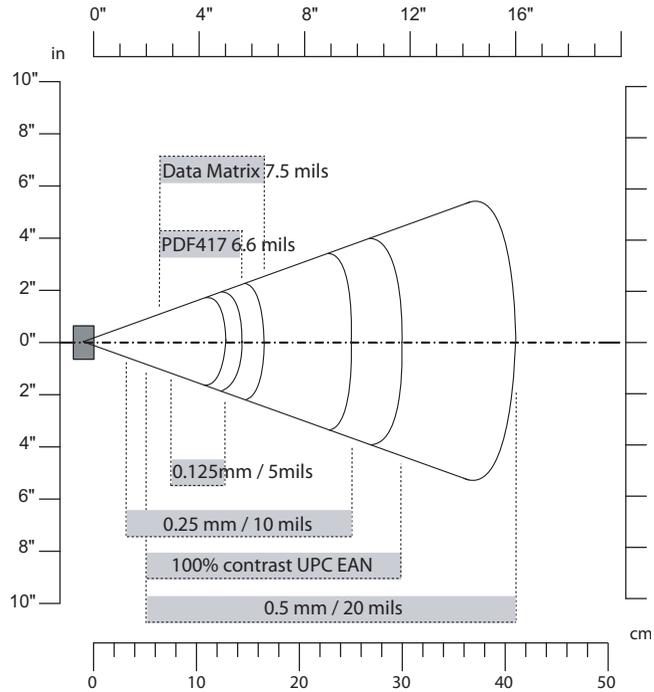
Scan angles: 38.9° horizontal
 25.4° vertical
 45.5° diagonal

Minimum Reading Distances With 0.180 cm (0.071 in) Setback

Symbology	Density	Minimum Distance	Maximum Distance
Code 39	0.125 mm (5 mils)	7.580 cm (2.971 in)	12.220 cm (4.729 in)
	0.20 mm (8 mils)	4.380 cm (1.671 in)	
	0.25 mm (10 mils)	3.680 cm (1.471 in)	
	0.5 mm (20 mils)	5.280 cm (2.071 in)	
EAN/UPC	0.33 mm (13 mils)	5.180 cm (2.071 in)	29.820 cm (11.629 in)
DataMatrix	0.191 mm (7.5 mils)	6.680 cm (2.571 in)	16.420 cm (6.429 in)
	0.254 mm (10 mils)	5.180 cm (2.071 in)	20.80 cm (8.129 in)
	0.381 mm (15 mils)	**	27.820 cm (10.229 in)
PDF417	0.160 mm (6.6 mils)	6.480 cm (2.571 in)	14.020 cm (5.429 in)
	0.254 mm (10 mils)	4.880 cm (1.871 in)	21.820 cm (8.529 in)
	0.381 mm (15 mils)	5.280 cm (2.071 in)	33.620 cm (13.129 in)

*Minimum reading distances are measured in the dark (0 lux).

**Depends on symbology length and scan angle.



2D Area Imager Minimum Reading Distances: This graphic does not include the 0.180 cm (0.071 in) setback for the SR61T.

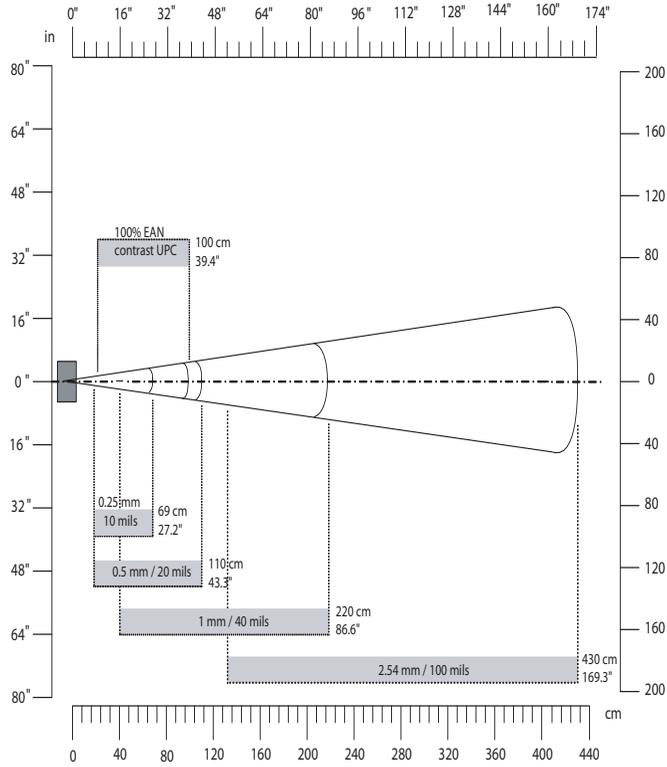
EX25 Near-Far Range Area Imager (SR61TE)

Scan angles:	12.2° horizontal 7.8° vertical 14.4° diagonal
Light source angles:	13° horizontal 11° vertical 17° diagonal
Light source:	650 nm laser (aiming beam and auto focus) 617 nm highly visible LED (lighting system)

1D Symbologies Minimum Reading Distances With 0.325 cm (0.128) Setback

Symbology	Density	Minimum Distance	Maximum Distance
Code 39	0.1 mm (3.8 mils)	18 cm (7.09 in)	32 cm (12.60 in)
	0.25 mm (10 mils)	18 cm (7.09 in)	69 cm (27.16 in)
	0.5 mm (20 mils)	19 cm (7.48 in)	110 cm (43.31 in)
	1 mm (40 mils)	40 cm (15.75 in)	220 cm (86.61 in)
	1.3 mm (51 mils)	100 cm (39.37 in)	310 cm (122.05 in)
	2.5 mm (100 mils)	130 cm (51.18 in)	430 cm (169.29 in)
EAN 100%	0.33 mm	22 cm (7.87 in)	100 cm (39.37 in)

*Minimum reading distances are measured in the dark (0 lux).

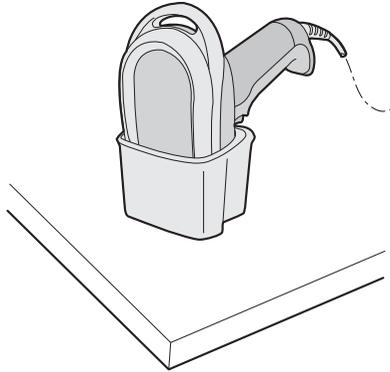


EX25 Near-Far Range Area Imager Minimum Reading Distances: This graphic does not include the 0.25 cm (0.098 in) setback for the SR61T.

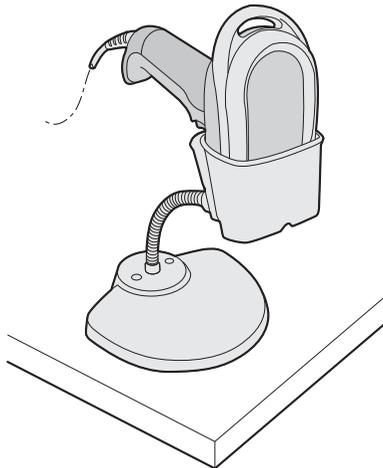
Accessories for the SR61T

You can use these accessories (sold and ordered separately) with the SR61T. To order accessories, contact your local Intermec sales representative.

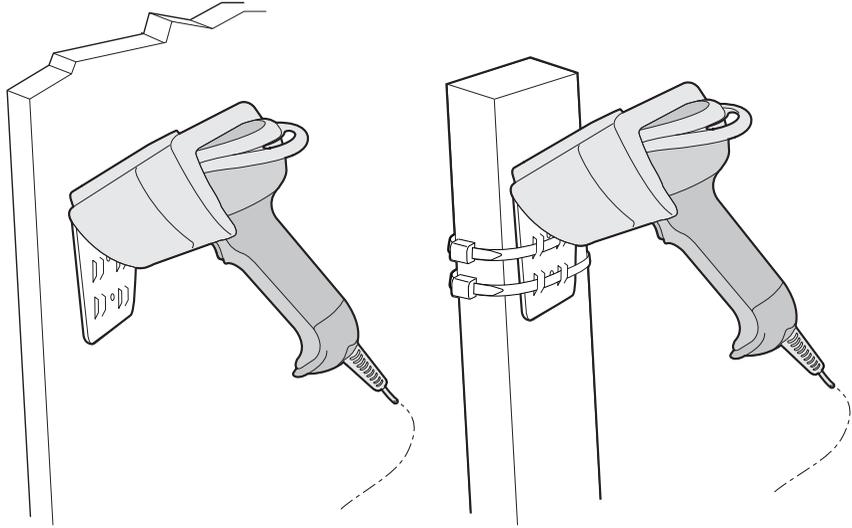
Stand Accessories



SR61T Desktop Stand (P/N 203-878-xxx): The desktop stand provides you with a convenient way to store the SR61T when you are not using it.

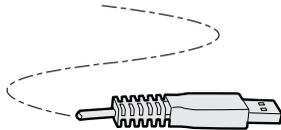


SR61T Hands-Free Stand (P/N 203-877-xxx): The hands-free stand provides you with a convenient way to store the SR61T when you are not using it or scan items without having to hold your scanner.

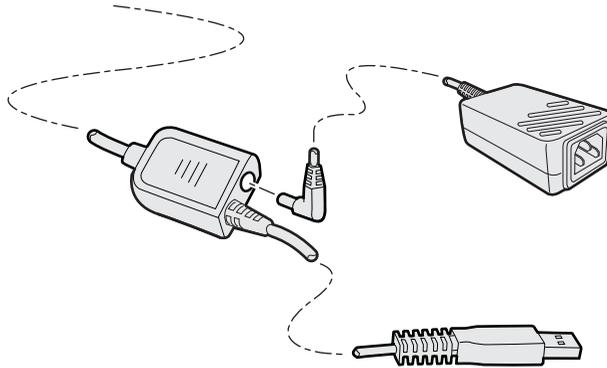


SR61T Wall or Vehicle Mount Holder (P/N 203-876-xxx): The wall or vehicle mount holder provides you with a convenient way to store the SR61T when you are not using it. You can either attach the holder to a wall with screws or attach the holder to a vehicle with tie-wraps.

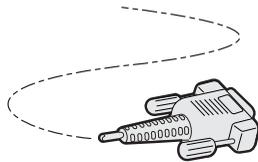
Cable Accessories



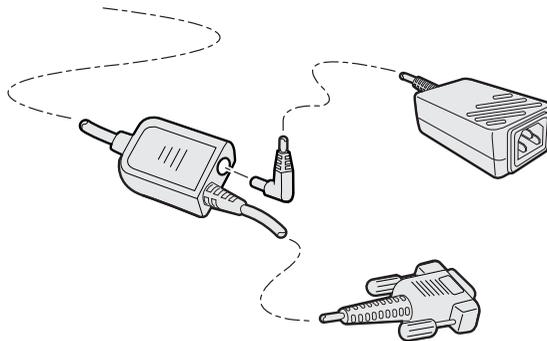
USB Cable (P/N 236-182-xxx)



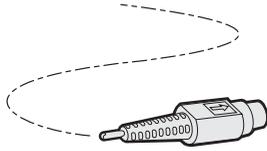
USB Cable With Power Jack (P/N 236-xxx-xxx (6.5 feet) or P/N 236-xxx-xxx (12 feet)): This cable requires an external power supply (P/N 851-089-105) and a country-specific power cord.



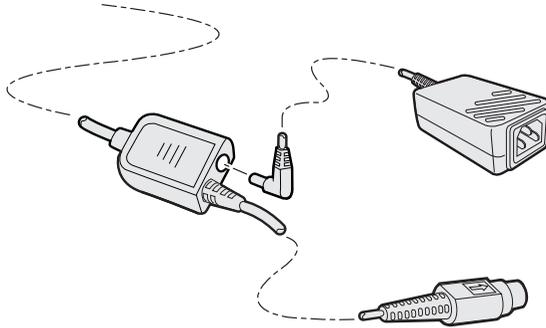
RS-232 Cable (P/N 236-184-xxx (6.5 feet) or P/N 236-197-xxx (12 feet))



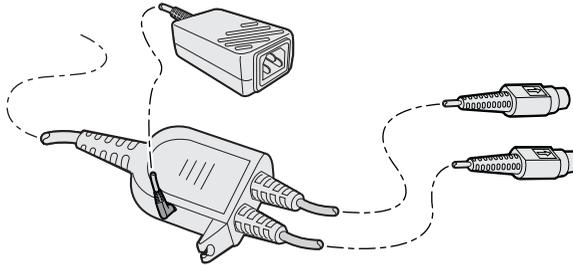
RS-232 Cable With Power Jack (P/N 236-185-xxx (6.5 feet) or P/N 236-198-xxx (12 feet)): This cable requires an external power supply (P/N 851-089-105) and a country-specific power cord.



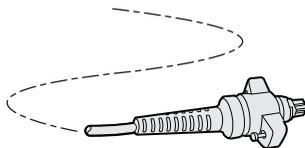
Keyboard Wedge Cable (P/N 236-186-xxx)



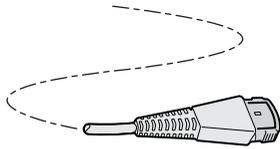
Keyboard Wedge Cable (P/N 236-187-xxx): This cable requires an external power supply (P/N 851-089-105) and a country-specific power cord.



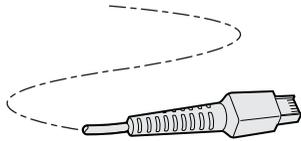
Y-cable (P/N 236-214-xxx)



Wand Emulation Cable (P/N 236-189-001)



Wand Emulation Cable (P/N 236-190-001)



Wand Emulation Cable (P/N 236-188-001)

Operating Settings

Scanner behavior

If you prefer the SR61T to behave similar to an older Intermec product, you can configure the SR61T to run in the legacy scanner mode. This changes how the lights and beeps behave.

To configure the SR61T to behave as a Legacy scanner

- Scan the following bar code



`\60\03\10\4C\00\02\40`

To return the SR61T to its default behavior

- Scan the following bar code



\60\03\10\4C\00\00\00

The following table describes the lights when SR61T is in Legacy mode.

Legacy Scanner SR61T Light Descriptions

Light State	What it Means
Blinks green once	The SR61T successfully decoded a bar code and sent the data to the host computer. The SR61T successfully scanned a configuration bar code.
Turns on and stays red for 2 seconds	You scanned a bar code, but the data was not sent to the host computer. You scanned a configuration bar code and the SR61T did not accept it.

The following table describes the beeps when SR61T is in Legacy scanner mode.

Legacy Scanner SR61T Beep Descriptions

Beep Sequence	What it Means
Single beep	The SR61T successfully decoded a bar code or scanned a configuration bar code.
Six beeps	Data was not successfully sent to the host computer. A configuration bar code was not successfully scanned.
Two beeps	The SR61T is starting up.

Wand Emulation Configuration

To configure a wand emulation cable

1 Scan one of the following bar codes:

- To set DBP output to original code, scan



\60\02\48\43\00\00\00

- To set DBP output to Code 39, scan



\60\02\48\43\00\02\40

- To set DBP output to Code 128, scan



\60\02\48\43\00\05\20

2 Scan one of the following bar codes:

- To set Logic Level During Transmission to bar=0, space=1



\60\02\4B\22\00\00\00

- To set the Logic Level During Transmission to bar=1, space=0



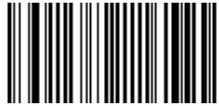
\60\02\4B\22\00\02\40

- To set Logical Signal State Outside of Transmission to quiet zone=1



\60\02\4B\23\00\00\00

- To set Logical Signal State Outside of Transmission to quiet zone=0



\60\02\4B\23\00\02\40

Data Transmission Settings

The following section lists a few data transmission settings and describes how to use them. For a full set of data transmission settings, see www.intermec.com/EasySet.

Enabling Control Character Conversion Parameters

The following data transmission settings allows the SR61T to transmit special characters to a host computer. For example, when control character mode is enabled, the character “8” is transmitted as “Backspace.” Otherwise, the character “8” is transmitted as “Ctrl + H”.

To use character control conversion you must have a keyboards wedge.

To enable character control conversion:

- Scan the following bar code



\60\02\53\24\00\02\40

To disable control character conversion:

- Scan the following bar code



\60\02\53\24\00\00\00

The table below displays a list of characters you can transmit when you have character control conversion enabled.

Control Character Conversion Table

ASCII character	Transmitted as
8	Backspace
9	Tab
13	Enter
27	Escape

Enabling Alt Mode Parameters

The following data transmission settings allow the SR61T to transmit special characters to a host computer. For example, if Alt mode is enabled, the character “Alt+ 0196” is interpreted as “Ä.” When Alt mode is disabled, “Alt+0196” is transmitted as is.

To use the Alt mode, you must have a PS2/keyboard wedge.

To enable Alt mode:

- Scan the following bar code



\60\02\53\23\00\02\40

To disable Alt mode:

- Scan the following bar code



\60\02\53\23\00\00\00

The ASCII character table below displays a few values you may transmit to a host computer when Alt mode is enabled. To see a full list, see the industry standard Alt mode table.

Alt Mode Conversion Table (selected characters only)

ASCII character	Transmitted as
Alt + 042	*
Alt + 0224	à
Alt + 0196	Ä
Alt + 0231	ç

Enabling Special Keys Interpretation Parameters

The following data transmission settings allows the SR61T to transmit special characters that have been encoded in a bar code. For example, if special keys interpretation is enabled, the character, “.A” is transmitted as “Delete” to the host computer.

To use special keys interpretation you must have a PS2/keyboard wedge interfaces.

To enable special keys interpretation

- Scan the following bar code



To disable special keys interpretation

- Scan the following bar code



The table below displays a list of values you may transmit to a host computer when you have special keys interpretation enabled.

Special Characters Table

Character	Transmitted as
.A	DEL
.B	ENTER
.C	RETURN
.D	SEND
.E	FIELD
.F	FIELD EXIT
.G	HOME
.H	END
.I	TAB
.J	ALT
.K	BACK TAB
.L	BACKSPACE
.M	Right arrow
.N	Left arrow
.O	Up arrow
.P	Down arrow
.Q	CLEAR
.R	FIELD
.S	DUP
.T	ESC
.U	LINE FEED
.V	RESET
.W	CTRL
.X	SHIFT
0A	PF1
0B	PF2
0C	PF3
0D	PF4
0E	PF5
0F	PF6
0G	PF7

Special Characters Table (continued)

Character	Transmitted as
0H	PF8
0I	PF9
0J	PF10
0K	PF11
0L	PF12
0M	PF13
0N	PF14
0O	PF15
0P	PF16
0Q	PF17
0R	PF18
0S	PF19
0T	PF 20
0U	PF21
0V	PF22
0W	PF23
0X	PF24
.0	PgUp
.1	PgDN
.2	Right CTRL
.3	Right Shift
.4	Alt GR



Worldwide Headquarters
6001 36th Avenue West
Everett, Washington 98203
U.S.A.

tel 425.348.2600

fax 425.355.9551

www.intermec.com

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