

# SR31T

## Tethered Scanner

1017ST01



**User's Guide**

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# Before You Begin

## 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](http://www.intermec.com) and click **Support > Returns and Repairs > Warranty**.

### Web Support

Visit the Intermec web site at [www.intermec.com](http://www.intermec.com) to download our current manuals (in PDF).

Visit the Intermec technical knowledge base (Knowledge Central) at [www.intermec.com](http://www.intermec.com) and click **Support > Knowledge Central** to review technical information or to request technical support for your Intermec product.

## Send Feedback

Your feedback is crucial to the continual improvement of our documentation. To provide feedback about this manual, please contact the Intermec Technical Communications department directly at [TechnicalCommunications@intermec.com](mailto:TechnicalCommunications@intermec.com).

## 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**.

## Who Should Read This Manual

This guide is for the person who is responsible for installing, configuring, and maintaining the SR31T Tethered Scanner.

This guide provides you with information about the features of the SR31T Tethered Scanner and how to install, configure, operate, maintain and troubleshoot it.

## Related Documents

The Intermec web site at [www.intermec.com](http://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](http://www.intermec.com).
- 2** Click the **Products** tab.
- 3** Using the **Products** menu, navigate to your product page. For example, to find the CN3 computer product page, click **Computers** > **Handheld Computers** > **CN3**.
- 4** Click the **Manuals** tab.

If your product does not have its own product page, click **Support** > **Manuals**. Use the **Product Category** field, the **Product Family** field and the **Product** field to help you locate your documentation.

## **Patent Information**

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



# 1

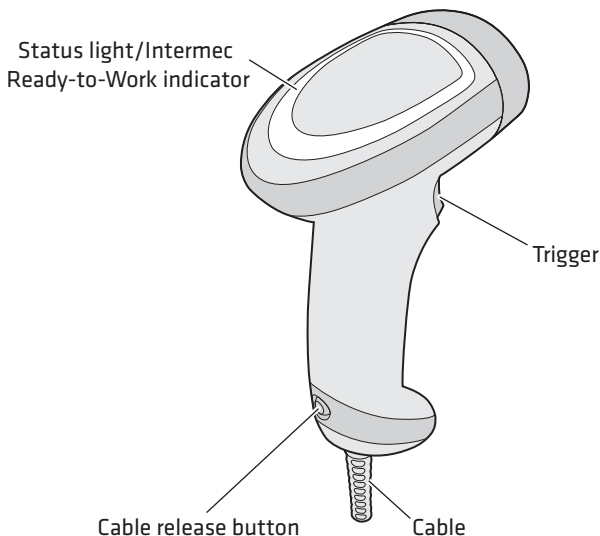
## Introducing the SR31T Tethered Scanner

This chapter provides an overview of the SR31T Tethered Scanner. This chapter covers these topics:

- **What is the SR31T Tethered Scanner**
- **Supported Interfaces**
- **Powering the SR31T**
- **Connecting the Interface Cable**
- **Removing the Interface Cable**
- **Accessories**

# What is the SR31T Tethered Scanner

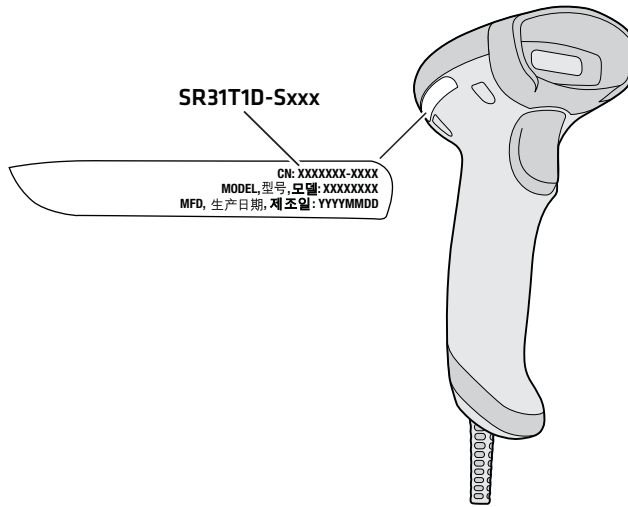
The SR31T Tethered Scanner is a durable general purpose handheld scanner. The SR31T is lightweight, ergonomically designed, and it interfaces easily with Intermec computers and other host computers.



## ***SR31T Tethered Scanner***

The SR31T is available in the following models:

- 1D imager—SR31T1D-Sxxx
- 2D imager—SR31T2D-Sxxx
- Healthcare 2D imager—SR31T2D-Hxxx
- High performance 2D imager—SR31THP-Sxxx



**SR31T Model Type:** The model type of your SR31T is indicated in the first part of the configuration number. In this illustration, the model type is SR31T1D-Sxxx for standard 1D imager.

## Supported Interfaces

The SR31T supports the following interfaces:

- USB—HID keyboard, virtual COM, IBM Sure POS, and HID POS
- Standard RS-232
- Keyboard wedge/Y-Cable
- Wand emulation

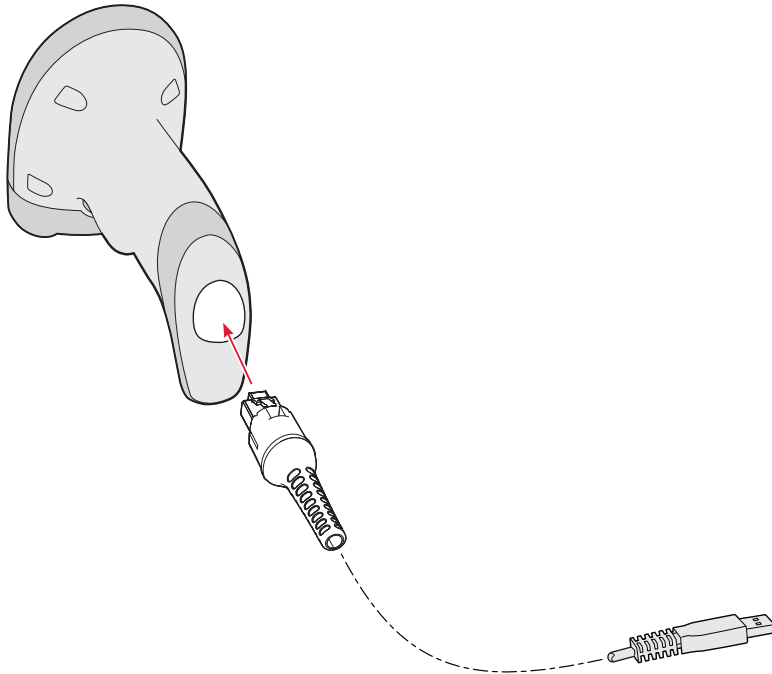
## Powering the SR31T

The SR31T is powered through the accessory cable that connects it to the host computer. Depending on the interface type you are using, power for the SR31T is supplied either directly by the host computer or comes from an external power supply connected to the interface cable.

## Connecting the Interface Cable

The cable you use depends on your host device and interface. See the cable list in the [Required Accessories](#) section on page 6 for a list of common cables and Chapter 3, [SR31T Interfaces](#), for full details on how to connect your product to the different interfaces supported.

All cables are connected to the scanner in the same way - insert the SR31T cable connector into your product's cable socket and push firmly until you hear or feel a click.

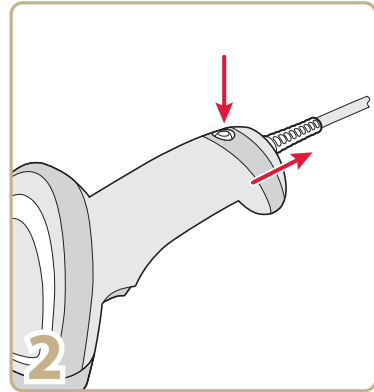
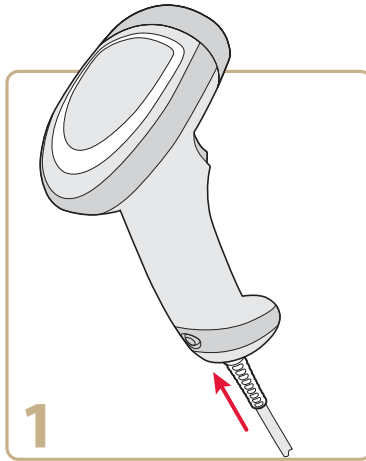


If your cable is electrically supplied by the host or an external power supply, the SR31T will beep and vibrate and the blue Intermec-Ready-to-Work indicator™ LED will come on (default settings).

## Removing the Interface Cable

To remove the cable:

- 1** Push the cable firmly into the scanner to make removal easier.
- 2** Push and hold the cable release button and keep it pushed in while you pull the cable from the scanner (pull on the cable grip, not on the cable itself).



# Accessories

There are several different accessories available. Here you will find a list of required and optional accessories.

## Required Accessories

You will need one or more cables for your SR31T, some cables require the use of a power supply and a power cord.

### SR31T Cable List

Cable	Part Number
USB cable (6.5 ft)	SR31-CAB-U001
USB cable with power jack (6.5 ft)	SR31-CAB-U002
Keyboard Wedge Y-cable with PS2 connector and power jack (6.5 ft)	SR31-CAB-K001
RS-232 cable with female DB9 connector and power jack (6.5 ft)	SR31-CAB-R001
Wand Emulation cable	SR31-CAB-W001

### SR31T Power Supply

Power Supply	Part Number
Intermec 5V universal power supply	851-089-xxx



**Note:** You will also need a power cord to plug in the power supply. The power cord is country-specific and is sold separately.

# Optional Accessories

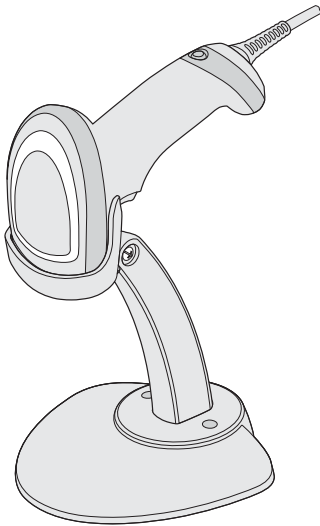
The following accessories are optional.

## SR31T Optional Accessories

Stands for Hands-Free Scanning	Part Number
SR31 Desktop Adjustable Stand - Dark (General Purpose)	SR31-STA-xxxx
SR31 Desktop Adjustable Stand - White (Healthcare)	SR31-STA-Hxxx
SR31 Flexible Stand - Dark (Rugged)	SR31-FLX-xxxx

## Desktop Adjustable Stand

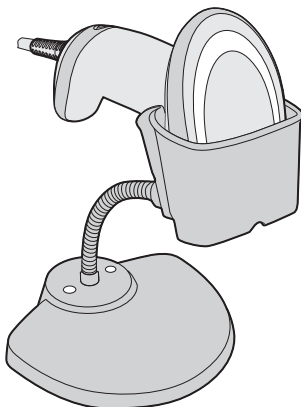
Use the desktop adjustable stand to adjust the scanning angle for hands-free scanning (in this case you must change the default trigger setting) and store your scanner when you are not using it.



**SR31 Desktop Adjustable Stand:** P/N SR31-STA-xxxx or SR31-STA-Hxxx (Healthcare version)

## **Flexible Stand**

The flexible stand is a rugged adjustable stand suitable for industrial applications.



**SR31 Flexible Stand:** P/N SR31-FLX-xxxxx



# 2

## Scanning with the SR31T Tethered Scanner

This chapter explains how to scan bar codes and includes the following sections:

- **Understanding the Lights**
- **Understanding the Beeps and Vibrate Alert**
- **Scanning Bar Codes**

# Understanding the Lights

The SR31T uses the Intermec Ready-to-Work™ light and Status light to communicate information about your scanner.

## Blue Intermec Ready-to-Work Indicator

The blue Intermec-Ready-to-Work indicator™ LED indicates that the scanner is ready to scan bar codes. This light stays on all the time when the scanner is ready to work however your scanner will also flash status information using green and red lights (see the [Status Light](#) information in the next section).

For example, while the blue Intermec-Ready-to-Work LED is on, the scanner will flash green when you have successfully scanned and transmitted a bar code.

### *Blue Intermec Ready-to-Work Indicator*

Light State	What it Means
Off	The SR31T is not electrically powered.
On (by default)	The SR31T is ready to scan bar codes.



**Note:** The blue Intermec Ready-to-Work light is enabled by default but you can use the EasySet scanner setup software to disable the light or choose another color:

- in EasySet, select the SR31T product and change the settings in **Operating settings > Beeps / LEDs > Ready-to-Work LED**

See [Configuring Your Scanner with EasySet](#) in Chapter 4 for details on how to use EasySet.

## Status Light

The status light on the SR31T flashes green or red depending on the status of the scanner.

### **Default Status Light Description**

Light State	What it Means
Series of green flashes (USB interface only)	<p>Power-up</p> <p>At power-up the status light flashes to indicate the activated USB interface:</p> <ul style="list-style-type: none"> <li>—1 flash = Keyboard HID</li> <li>—3 flashes = Virtual COM</li> <li>—5 flashes = HID POS</li> <li>—6 flashes = IBM POS Hand Held</li> <li>—7 flashes = IBM POS Table Top</li> </ul> <p>The status light only flashes at power up for a USB interface.</p> <p><b>Note:</b> When changing from one USB interface to another the scanner restarts and will also flash the current USB interface.</p>
Green light on for 2 seconds	The scanner successfully decoded a bar code and sent the data to the host device.
Green light flashes twice	A configuration bar code was successfully read.
Red light comes on for 2 seconds	<p>Transmission error</p> <p>or</p> <p>Configuration bar code was not accepted</p>
Red continuously on and 6 fast beeps every 2 seconds	NVM (non-volatile memory) problem.

# Understanding the Beeps and Vibrate Alert

The SR31T beeps to give you audio feedback and vibrates when performing some functions. For example, you hear a beep each time you scan a valid bar code.

## Default SR31T Beep and Vibrate Alert Descriptions

Beep Sequence	What it Means
Two beeps and vibrate alert (can be deactivated)	Power-up
Single beep	The scanner successfully scanned a bar code.
Two fast beeps	Configuration bar code successfully scanned
Six very fast beeps and vibrate alert (can be deactivated)	Transmission error OR Configuration bar code was not accepted
Multi-beep melody	The SR31T firmware has been successfully upgraded (see <a href="#">Upgrading the SR31T firmware</a> in Chapter 5)
Six-beep melody	Scanner confirmation after rescue procedure (see <a href="#">Rescuing the SR31T</a> in Chapter 5).

## Using Vibrate Alert

You can configure the SR31T 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 beeps.
- 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



### To turn off vibrate alert

- Scan this bar code  
Turn off vibrate alert



**Note:** You can use the EasySet scanner setup software to change the default vibrate alert settings (activation, duration):

- in EasySet, select the SR31T product and change the settings in **Operating settings > Beeps / LEDs > Vibrate alert**

See [Configuring Your Scanner with EasySet](#) in Chapter 4 for details on how to use EasySet.

## Scanning Bar Codes



**For the SR31THP do not look directly into the window area or at a reflection of the laser framing beam while scanning. Long-term exposure to the laser framing beam can damage your vision.**

Use the appropriate SR31T scanner model for your scanning requirements:

- the SR31T1D model contains a 1D imager to scan 1D bar code symbologies
- the SR31T2D models contain a 2D imager which can read both 1D and 2D bar code symbologies
- the SR31THP model contains a high performance 2D imager which can also read both 1D and 2D bar code symbologies

The scanner model you are using and the type of bar code you are decoding determine the way you scan the bar code.

When you unpack the SR31T, the following bar code symbologies are enabled by default:

### All models (1D and 2D)

- Code 39
- Code 128 / GS1-128
- EAN/UPC

### 2D models only

- Data Matrix
- PDF417
- QR Code



**Note:** If you want to read other bar code symbologies, you can use the EasySet scanner setup software to enable and configure those symbologies:

- in EasySet, select the SR31T product and change the settings in the **Symbologies** section

See [Configuring Your Scanner with EasySet](#) in Chapter 4 for details on how to use EasySet.

### To scan with an SR31T 1D imager model

- 1 Point the SR31T at the bar code and hold the SR31T 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 the bars in the bar code label.

Use this test bar code:

Code 39 Test Bar Code

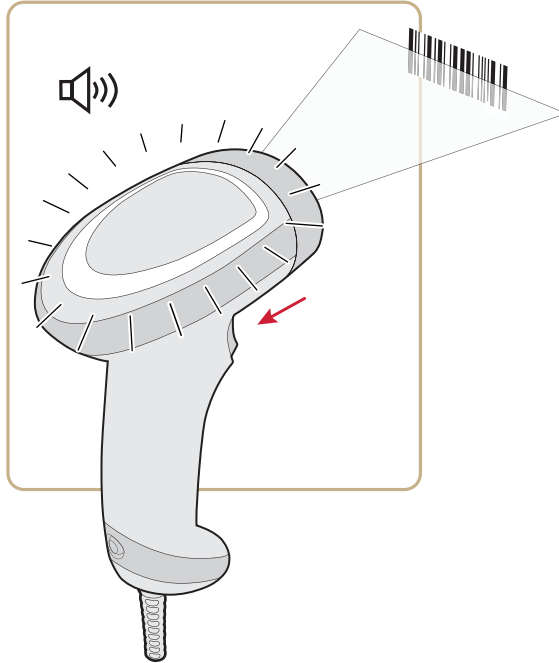


\*123456\*

**Tip:** Depending on your screen resolution, you can scan bar codes displayed on your computer screen.

By default, when the SR31T successfully reads a bar code, it beeps once, the status light briefly turns green, and the scanner beam turns off. If Vibrate Alert is enabled, the scanner briefly vibrates.

- 3 Release the trigger.



**Scanning Bar Codes:** *The aiming and scanner beams that you see depend on which SR31T model you are using.*

### To scan with an SR31T 2D imager model (2D or HP)

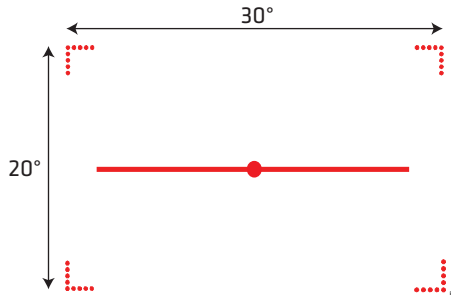
- 1 Point the scanner at the bar code and hold the SR31T steady a few inches from the label.
- 2 Pull the trigger and use the laser framing or aiming beam to position the imager over the bar code or area to capture.

Use this test bar code:

Code 39 Test Bar Code



\*123456\*



*Example: SR31THP Laser Framing*



**Note:** When reading bar code labels that are printed close to each other:

- activate the "center decoding" option (available with EasySet) to minimize the risk of reading the wrong code
- try to frame only the bar code you want to read to avoid reading the wrong bar code

By default, when the SR31T successfully reads a bar code, it beeps once, the status light briefly turns green, and the scanner beam turns off. If Vibrate Alert is enabled, the scanner briefly vibrates.

**3** Release the trigger.

## Hands-Free Scanning

The SR31T is a handheld scanner however you can scan items without having to hold your scanner in your hand. To do hands-free scanning, you will need to change the triggering mode to Autostand (to activate, see [Hands-Free Scanning](#) in Chapter 4).

### Autostand Triggering Mode

Autostand mode is different depending on the scanner model. This section explains the difference between:

- Autostand for the SR31T1D
- Autostand for 2D models (SR31T2D, SR31THP)



### **Autostand for the SR31T1D**

When using the 1D model, Autostand is a mix of Level and Flashing triggering modes. When in Level mode you simply pull the trigger to scan a bar code (handheld scanning). After a period of inactivity the scanner switches to Flashing mode (configurable timeout). When the scanner is flashing you can present a bar code in front of the scanner window and it will be scanned. To return to Level mode, pull the trigger.

### **Autostand for 2D Models (SR31T2D, SR31THP)**

When using 2D and HP models, Autostand is a mix of Level and Presentation triggering modes. When in Level mode you simply pull the trigger to scan a bar code (handheld scanning). After a period of inactivity the scanner switches to Presentation mode (configurable timeout). In this mode, the scanner turns on automatically when it detects movement in front of the scanner window. This allows you to use your scanner for hands-free scanning. To return to Level mode, pull the trigger.



# 3

## SR31T Interfaces

This chapter explains the different interfaces available with the SR31T:

- **USB Interface**
- **RS-232 Interface**
- **Keyboard Wedge Y-Cable Interface**
- **Wand Emulation**

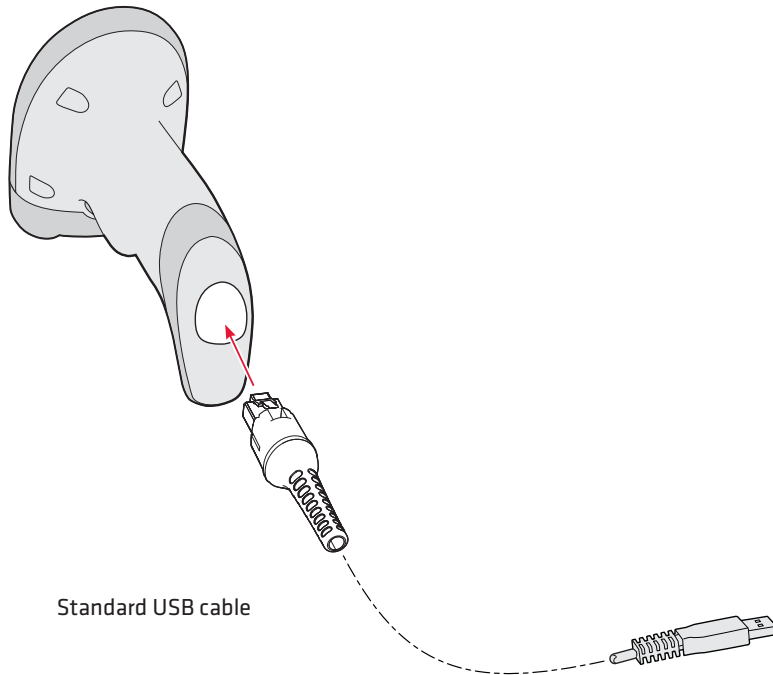
## USB Interface

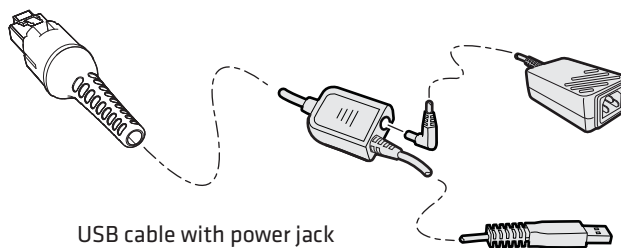
The SR31T can be connected to a USB host using a USB cable. The SR31T is USB 2.0 compliant. Power is provided either by the host or by an external power supply connected to the USB cable. See the [Accessories](#) page in Chapter 1 for a list of part numbers for the different USB cables available.

### Connecting a USB Cable

#### To connect with a USB cable

- 1 Connect the USB cable to your SR31T and to the host.





USB cable with power jack

- 2 Connect the power supply to the cable and an AC power outlet if you are using the externally powered USB cable.
- 3 If your host device is off, turn it on. The scanner beeps twice, the green LED flashes to indicate the USB interface being used and the scanner vibrates (see the **Understanding the Lights** and **Understanding the Beeps and Vibrate Alert** explanations in Chapter 2).



**Note:** If you are using a non-powered USB cable, you may get a message that the host does not provide enough power. For example when you connect the USB cable to a keyboard hub or if there are other USB devices connected. In this case use a different hub or disconnect other USB devices. Otherwise use a powered USB cable.

- 4 If necessary, use the configuration bar codes in the next section to configure your SR31T for an International keyboard. The default keyboard is North America.

## Setting up the USB Interface

This section provides configuration bar codes for a basic USB interface setup. All bar codes marked with (\*) indicate the default value. For more configuration options see Chapter 4, [Configuring the SR31T Scanner](#).

### International Keyboard

By default the SR31T uses a North American keyboard layout. Use these configuration bar codes to select the keyboard for your country. Additional keyboards are available with the EasySet scanner setup software (see [Configuring Your Scanner with EasySet](#) in Chapter 4).

North American Windows (\*)



French Windows



French Canadian Windows 95/98



French Canadian Windows XP/2000



German Windows



Spanish Windows



Italian Windows



Swedish Windows



UK English Windows



Japanese Windows



Brazilian Portuguese Windows



Czech Republic Windows



Slovakian Windows



Hungarian 101-Key



## USB Cable Mode

By default the USB cable mode is set to Keyboard HID. However you can also set up your scanner to use the following USB cable modes:

- HID POS
- IBM POS Hand Held
- IBM POS Table Top
- Virtual COM

USB Keyboard HID (\*)



HID POS



IBM POS Hand Held



IBM POS Table Top



USB Virtual COM



**Note:** When scanning a USB Cable Mode configuration bar code, the scanner beeps twice then restarts. When it restarts, the scanner will beep twice, flash a series of green flashes to indicate the USB cable mode selected (see “**Status Light**” on page 11), and vibrate.



## USB Virtual COM Port Driver

For a first time setup when using the **USB Virtual COM** cable mode you will need to install the USB Virtual COM Port (VCP) driver. There are two ways to do this:

- Method 1: Use the **Virtual COM driver installation** function in EasySet (this is the easiest way to install the driver).
- Method 2: Download and install the USB Virtual COM driver installation package from the Intermec web site

### Method 1: Use EasySet to install the USB virtual COM port driver

- 1 If it is not already installed on your host PC, download and install the **latest version of EasySet** (we recommend that you install it in the default location proposed by the installer).
- 2 Start EasySet and select **Options > Virtual COM driver installation**.

If the VCP Installer window proposes options to **Repair** or **Remove** the VCP Installer, the driver is already installed - click **Cancel** to exit the installation procedure.

If the VCP Installer window offers to guide you through the installation, click **Next** and **Install** each time as requested to complete the VCP driver installation.

### Method 2: Download and install the USB virtual COM port driver from the Intermec web site

- 1 Go to the **Intermec Knowledge Central** page.
- 2 In the search box type “SR31T USB driver” and click **Search**.
- 3 Download the driver installation package (choose the package that is compatible with your PC operating system if applicable).
- 4 Follow the installation procedure provided with the driver package on the Knowledge Central web page.



**Note:** If you want to test your USB Virtual COM Port Driver installation after you have installed the driver and set your scanner to USB Virtual COM mode, you can use EasySet or a serial console application such as HyperTerminal to open the Intermec Virtual Com Port and scan bar codes.

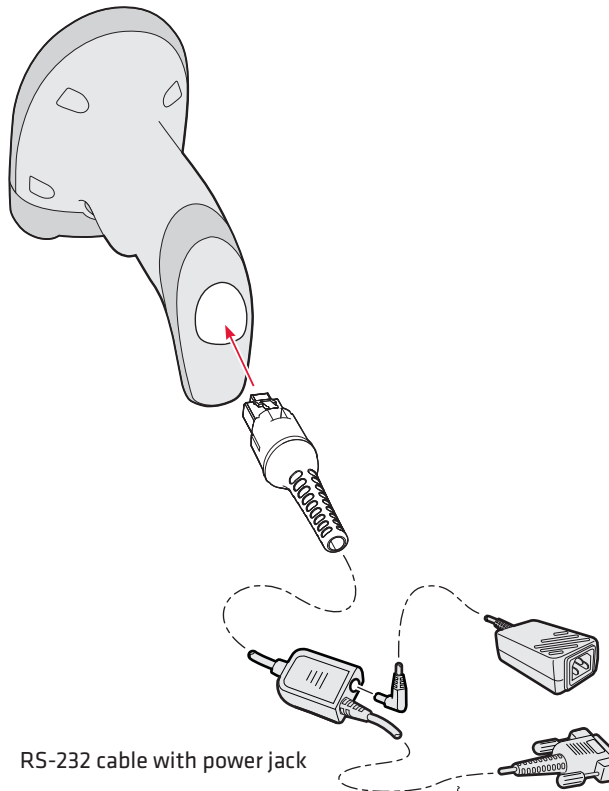
## RS-232 Interface

The SR31T can be connected to a host using one of the RS-232 cables. Power is provided by the external power supply connected to the RS-232 cable. See the [Accessories](#) page in Chapter 1 for a list of part numbers for the different RS-232 cables available.

### Connecting an RS-232 Cable

#### To connect with an RS-232 cable

- 1 Turn off your host device.
- 2 Connect the RS-232 cable to your SR31T and the host.



- 3 Connect the power supply to the cable and an AC power outlet.
- 4 Turn on the host device. The scanner beeps twice.

- 5 If necessary, use the configuration bar codes in the next section to configure your SR31T serial parameters to match the PC.

The default serial parameters for the SR31T are:

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

## Setting up the RS-232 Interface

This section provides configuration bar codes for a basic setup. All bar codes marked with (\*) indicate the default value. Additional configuration options are available with the EasySet scanner setup software (see Chapter 4, [Configuring Your Scanner with EasySet](#)).

### Baud Rate

38400



57600 (\*)



115200



128000



230400



256000



460800



**Data Bits**

7



8 (\*)



**Parity**

None (\*)



Even



Odd



**Stop Bits**

1 (\*)



2



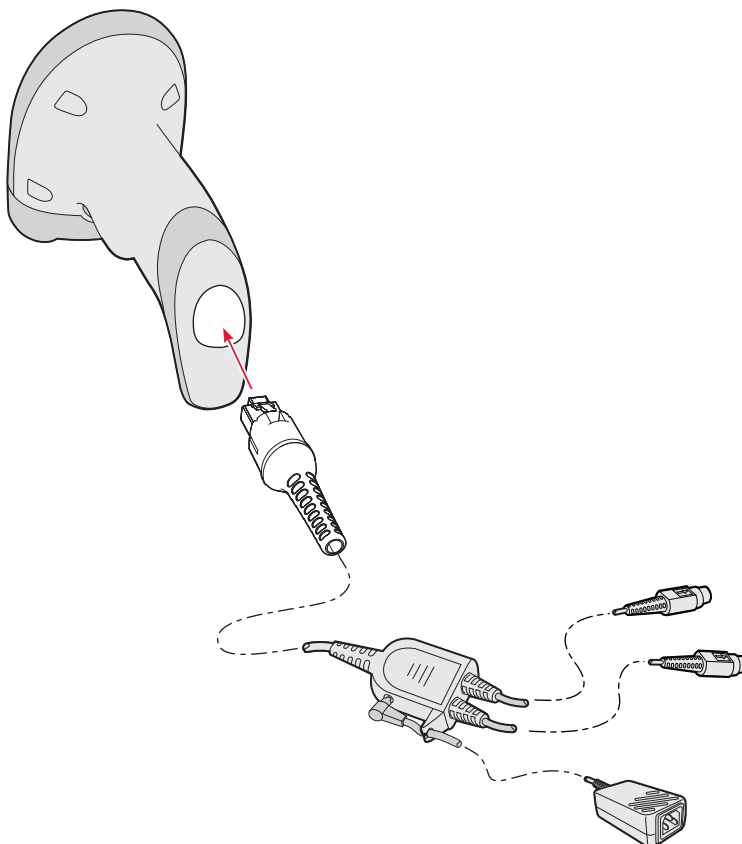
# Keyboard Wedge Y-Cable Interface

The SR31T can be connected to a host using a keyboard wedge Y-cable. Power is provided either by the host or by the external power supply connected to the cable. See the [Accessories](#) page in Chapter 1 for the part number of the Keyboard Wedge Y-cable.

## Connecting a Keyboard Wedge Y-Cable

**To connect with a keyboard wedge Y-cable**

- 1 Turn off your host device.
- 2 Connect the Y-cable to your SR31T.



- 3** Connect one end of the Y-cable to your host device and the other end to a PS2 keyboard. If your host device does not provide enough power, connect the power supply to the Y-cable and an AC power outlet.
- 4** Turn on your host device. The scanner beeps twice.
- 5** If necessary, configure your SR31T for an international keyboard (see the **International Keyboard** section in this chapter). The default keyboard is North America.

# Wand Emulation

The SR31T can be connected to a host using a wand emulation cable. See the **“SR31T Cable List” on page 6** for a list of part numbers for the different cables. The type of cable depends on the host device or intermec computer you are using. No power supply is necessary.

## Connecting a Wand Emulation Cable

### To create a wand emulation connection

- 1 Turn off your host device or Intermec computer.
- 2 Connect the wand emulation cable to your SR31T and the host or Intermec computer.
- 3 If necessary, use the configuration bar codes in the next section to configure your SR31T for wand emulation interface.

## Setting up the Wand Emulation Interface

This section provides configuration bar codes for a basic setup. All bar codes marked with (\*) indicate the default value. For more configuration options see **Chapter 4, "Configuring the SR31T Scanner" on page 33**.

### Logical Signal State During Transmission

Bar = 0, Space = 1 (\*)



Bar = 1, Space = 0



**Note:** When using a wand emulation connection the postamble and preamble are not available.





# 4

## Configuring the SR31T Scanner

This chapter provides some basic configuration bar codes and information on how to configure the SR31T using the EasySet scanner setup software. This chapter includes:

- **Basic Setup with Configuration Bar Codes**
- **Hands-Free Scanning**
- **Optimizing Decoding**
- **Configuring Your Scanner with EasySet**

## Basic Setup with Configuration Bar Codes

This chapter provides you with configuration bar codes for a basic setup. For more configuration options, use EasySet (see [Configuring Your Scanner with EasySet](#) in this chapter).

### Resetting Your Scanner

To reset your scanner, read the reset factory defaults configuration bar code.

Reset factory defaults



### Configuring the Postamble

The default postamble is <CR> <LF>. For certain applications or when using USB Keyboard HID you may need to change this setting. Use the following configuration bar codes to change the default postamble in your scanner.

Carriage Return + Line Feed (\*)



None



Carriage Return



Enter



## Hands-Free Scanning

For hands-free scanning, activate Autostand triggering mode by scanning this configuration bar code:

Autostand Triggering Mode



## Optimizing Decoding

Use the following barcodes to optimize your scanner reading performance.



**Note:** These configuration bar codes are only for use with 2D models (SR31T2D, SR31THP).

## Damaged 1-Dimensional Bar Codes

If you are reading 1D bar codes that are damaged or badly printed, enable this setting to enhance the ability to read these types of bar codes.

Damaged 1D Codes - Enable



Damaged 1D Codes - Disable (\*)



## Configuring Predefined Imager Modes

When using a 2D model (SR31T2D, SR31THP), you can optimize the reading performance of the scanner by adjusting certain parameters. Since there are many parameters that can be adjusted, we recommend using the predefined imager settings to quickly set up your imager for optimized reading. The predefined imager settings take into account the type of bar code, environment and reading surface.

## **Chapter 4 – Configuring the SR31T Scanner**

There are 4 predefined imager settings for:

- 1D bar codes only
- 1D and 2D bar codes
- 1D and 2D bar codes in a bright environment
- 1D and 2D bar codes with a reflective surface (shiny labels and cell phone scanning)

Select the predefined imager setting that best suits your needs:

1D bar codes only



Standard 1D and 2D bar codes (\*)



Standard 1D and 2D bar codes, bright environment



Standard 1D and 2D bar codes, reflective surface



# Configuring Your Scanner with EasySet

You can use EasySet, the Intermec scanner setup software, to set up your product in two ways:

- Online setup—send configuration commands from EasySet directly to the product.
- Offline setup—send configuration commands to a bar code setup sheet, print out the setup sheet and use your scanner to scan the configuration bar codes.

If it is not already installed on your host PC, download and install the latest version of EasySet at this link on the Intermec web site:

[www.intermec.com/EasySet](http://www.intermec.com/EasySet)

We recommend that you install EasySet in the default location proposed by the installer.

## Online Setup with EasySet

Online setup with EasySet is only available if you are using a USB cable or an RS-232 cable.

### To configure your scanner online by sending commands from EasySet

- 1 Connect the scanner to a host PC using a USB cable or an RS-232 cable and set up the connection parameters if necessary (see [Chapter 3, "SR31T Interfaces" on page 19](#)).
- 2 Start EasySet. The first time you start EasySet, the **Select product** dialog box appears.  
  
If the **Select product** dialog box does not appear, choose **Product** > **Select** or click on the product icon in the upper left corner.
- 3 Select your product (SR31T).
- 4 Select **Communication** > **Select Communication Interface**. The **Device Selection** dialog box appears.
- 5 Select the communication interface that you are using for your system and click **OK**.
- 6 EasySet connects to your scanner and retrieves the current configuration. These configurations are indicated with a blue

check mark or blue text. Open the folders in EasySet to find the configuration commands needed. Double-click each command to send it to the scanner.



**Note:** The scanner does not beep when you send configuration commands online from EasySet.

## Offline Setup with EasySet

### To configure your scanner offline by scanning bar codes

- 1 Start EasySet. The first time you start EasySet, the **Select product** dialog box appears.

If the **Select product** dialog box does not appear, choose **Product** > **Select** or click on the product icon in the upper left corner of the EasySet window.

- 2 Select your product.
- 3 Open the folders in EasySet to find the configuration commands needed. Double-click each command to send it to the setup sheet.
- 4 Click on the **Print** icon to print out the setup sheet and scan the commands.

# 5

## Troubleshooting and Maintaining the SR31T

Use this chapter to solve problems you may have while using the SR31T. This chapter contains these topics:

- **Troubleshooting the SR31T**
- **Calling Product Support**
- **Upgrading the SR31T firmware**
- **Maintaining the SR31T**

# Troubleshooting the SR31T

## Problems and Possible Solutions


If you have problems using your SR31T, use this section to try to find a solution. If you cannot solve your problem, contact your Intermec Product Support representative (see [Calling Product Support](#) in the next section).

### Problems and Possible Solutions

Problem	Possible Solution
You pull the trigger, but nothing happens.	<p>The SR31T receives power from either a host or an external power supply through an accessory cable. Make sure:</p> <ul style="list-style-type: none"><li>• You are using the appropriate cable (for more information, see <a href="#">SR31T Cable List</a> on page 6).</li><li>• The cable is connected to the appropriate port on the host computer.</li><li>• The universal power supply (if necessary) is connected correctly.</li></ul> <p>Perhaps the trigger function has been disabled by reading a <b>Trigger Activation - Disabled</b> configuration code or through online setup with EasySet, to check this and re-enable the trigger:</p> <ol style="list-style-type: none"><li>1 Follow the procedure to perform online setup with EasySet (see <a href="#">Configuring Your Scanner with EasySet</a> in Chapter 4).</li><li>2 When your product is communicating with EasySet, look in <b>Operating settings - Scanning / Triggering - Trigger activation</b> to see if the trigger is <b>Disabled</b> and send one of the <b>trigger enabled</b> commands to the product (the default <b>Hardware and emulated trigger enabled</b> command for example).</li></ol>



**Problems and Possible Solutions (continued)**

Problem	Possible Solution
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"> <li>• Make sure that the SR31T is configured for the symbology you are scanning.</li> <li>• Make sure that the SR31T is at the appropriate scanning distance from the bar code. Move the SR31T closer and further away to find the appropriate distance.</li> <li>• Make sure that the SR31T is configured for the type of bar code (1D, 2D) you are scanning.</li> <li>• Make sure the bar code you are trying to scan is not poorly printed or too small. Scan a known good bar code to make sure that the SR31T is working correctly.</li> </ul> <p>For more information, see <a href="#">Scanning Bar Codes</a> in Chapter 2.</p>
You scan a bar code and the status light turns on, but the SR31T does not beep.	The SR31T may be configured not to beep (beep duration / volume / frequency / number settings).
You scan a configuration bar code and the SR31T beeps six very fast beeps.	The SR31T does not recognize or support the configuration bar code you scanned.
You scan a bar code, the SR31T beeps once, and the status light blinks green once, but the data is not transmitted to the host computer.	<p>Try these possible solutions:</p> <ul style="list-style-type: none"> <li>• Make sure that your data collection application is set up to receive data from the SR31T.</li> <li>• If you are using an RS-232 cable, make sure that the serial parameters on the SR31T match the serial parameters of the host computer. The default serial parameters for the SR31T are: 57600 baud, 8 data bits, no parity, and 1 stop bit.</li> </ul>
You cannot scan the <b>Firmware upgrade</b> bar code on your computer screen.	<p>Print out this bar code and scan it:</p> <p><b>Firmware upgrade</b></p> 

## Rescuing the SR31T

You can rescue your SR31T if you cannot configure it anymore because it is in a locked configuration. This can happen if you inadvertently disabled the trigger for example.



**Note:** When you rescue your scanner, factory default settings are restored including custom default settings. Rescuing the scanner is also a way to force a factory reset if you do not have access to a **Reset factory defaults** configuration code or a PC with EasySet.

### To rescue your SR31T

- 1** Disconnect your product from its electrical power (disconnect the cable from the product).
- 2** With the product disconnected, use your usual operating hand to pull and hold the trigger.
- 3** Do not release the trigger while you reestablish electrical power (reconnect the cable).  
The scanner acknowledges power-up (beeps, LEDs and vibrate alert).
- 4** Keep the trigger pulled around 10 seconds until the red LED lights up.
- 5** Pull the trigger very rapidly five times in succession while the red LED is on (you need to be quick as the red LED only stays on for 2 seconds).  
The green LED comes on and the scanner beeps a reset confirmation (beep melody), then acknowledges power-up again (beeps, vibrate alert).



**Note:** If your scanner still does not operate correctly after a rescue procedure, contact your Intermec Product Support representative (see **Calling Product Support** in the next section).

# 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](http://www.intermec.com) > **About Us** > **Contact Us**.

Before you call Intermec Product Support, make sure you have the following information for your SR31T product:

- configuration number (“CN” on the product label)
- serial number (“SN” on the product label)
- firmware version
- decode version

## Getting SR31T Firmware Version and Decode Version

Depending on the interface you are using, you can get the firmware and decode version either by reading **Get version** bar codes or by using EasySet to display the current version information.

### Reading “Get version” bar codes



This method is applicable for the following interfaces:

- USB Keyboard HID
- Keyboard Wedge

**1** Run an application that can accept bar code information from the SR31T (Microsoft® Notepad for example).

**2** Scan one of these bar codes:

Get firmware version



Get decode version



### **Using EasySet to display the current version information**



This method is applicable for the following interfaces:

- RS-232
- USB Virtual Com
- USB Keyboard HID

- 1** Follow the procedure for online setup with EasySet (see **Configuring Your Scanner with EasySet** in Chapter 4).
- 2** When the scanner is connected to EasySet, open the **Configuration modes and utilities** folder in EasySet. The default firmware and decode versions appear in blue next to the **Get firmware version** and **Get decode version** entries.

# Upgrading the SR31T firmware

You may need to upgrade the SR31T firmware if there is an update that incorporates changes to a feature or adds functionality to the scanner. When you upgrade your scanner, the current settings are erased and replaced with the default settings.

Upgrading the SR31T takes about 10 minutes to complete.

To upgrade the SR31T you will need:

- an RS-232 or USB cable - see **“SR31T Cable List” on page 6** for a list of common cables and **Chapter 3, “SR31T Interfaces” on page 19**, for full details on how to connect your product to the different interfaces supported
- a host PC running Microsoft® Windows® XP with SP2, Microsoft Windows 2000 with SP4, or a more recent version of Microsoft Windows
- the latest version of EasySet available at [www.intermec.com/EasySet](http://www.intermec.com/EasySet) with WinFlash.
- SR31T firmware upgrade file (.bin)

## To download the latest firmware

You must download the latest firmware upgrade from the Intermec web site at [www.intermec.com](http://www.intermec.com).

- 1** Go to **Support > Downloads**.
- 2** From the **Product Category** drop-down list, choose **Bar Code Scanners**.
- 3** From the **Product Family** drop-down list, choose **Rugged Scanners**
- 4** From the **Product** drop-down list, choose your SR31 product and click **Submit**.
- 5** Click the link to download the firmware upgrade package and save firmware upgrade file (.bin) to your PC.

## Firmware Upgrade using EasySet and WinFlash

### Prepare for upgrade

- 1 If it is not already installed on your host PC, download and install the **latest version of EasySet** (we recommend that you install it in the default location proposed by the installer).



**Note:** If you are using an RS-232 connection for the upgrade, make sure that the selected COM port is not being used by another application before you start the upgrade process.

### Use EasySet and WinFlash to upgrade your SR31T firmware

- 1 Connect your SR31T to a host PC with the appropriate cable.
- 2 Start the latest version of EasySet and select the **SR31T** product (**Product > Select > Handheld scanners**) if it is not already selected.
- 3 **USB cables only:** Use EasySet to install the USB Virtual COM Port (VCP) driver if it is not already installed on the host PC (**Options > Virtual COM driver installation**).

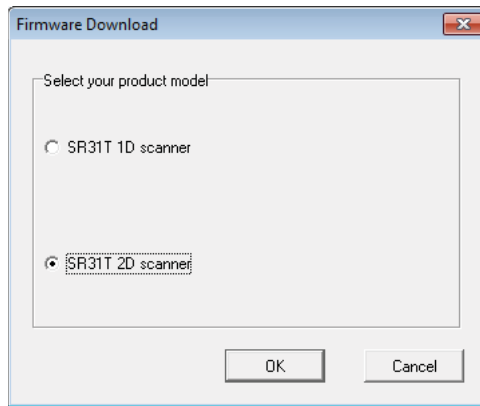
If the VCP Installer window proposes options to **Repair** or **Remove** the VCP Installer, the driver is already installed - click **Cancel** to exit the installation procedure.

If the VCP Installer window offers to guide you through the installation, click **Next** and **Install** each time as requested to complete the VCP driver installation.

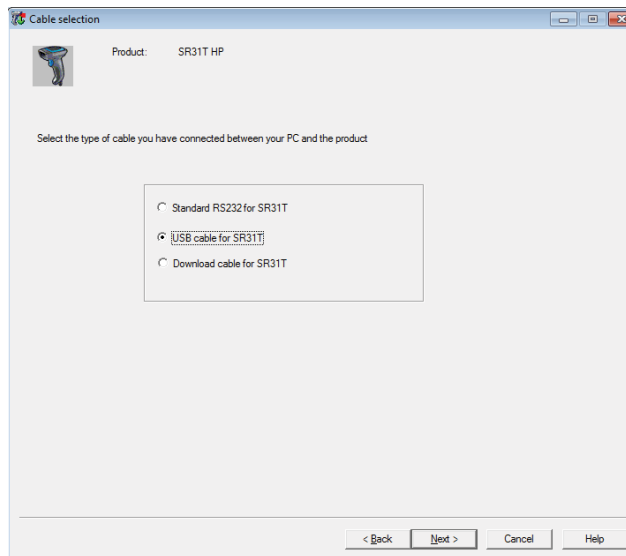
- 4 From the **Tools** menu, select **Upgrade product firmware** to start WinFlash.

If WinFlash is not already installed you will be asked to install it - click **Yes** and follow the installation instructions.

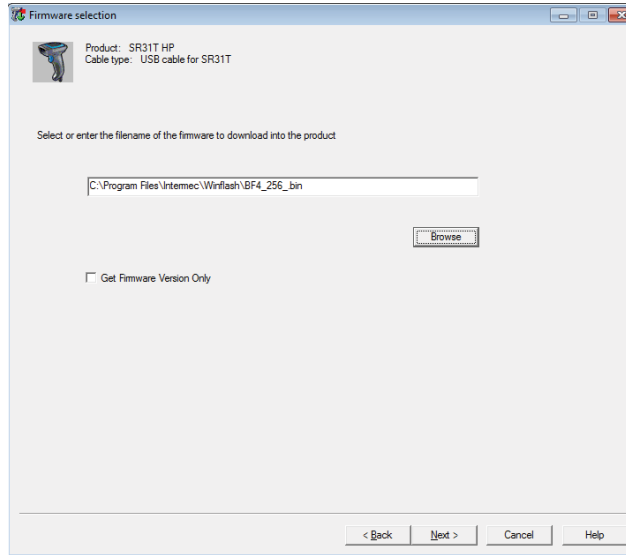
- 5** Select your scanner model and click **OK**.



- 6** Select the cable type you are using for the firmware upgrade and click **Next**.



- 7** Click **Browse** to find the correct firmware upgrade file (.bin) you downloaded for your product model and click **Next**.



- 8** **USB cables only:** Scan the **Firmware upgrade** bar code that appears on the screen and click **OK**.

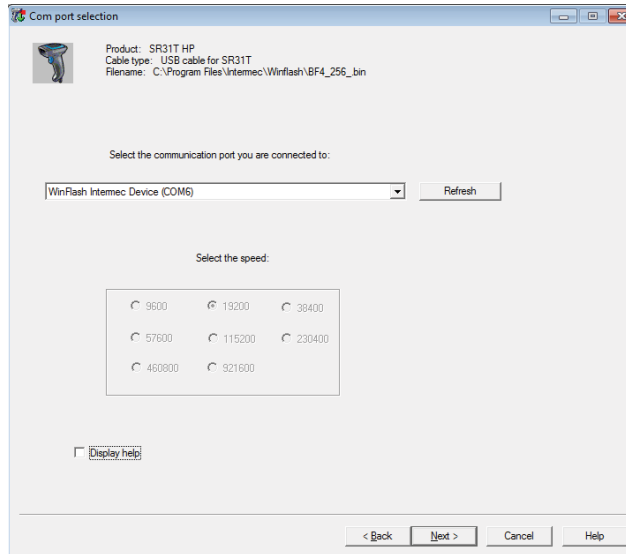


If you can't read the code on the screen, print out and read the code on this page.

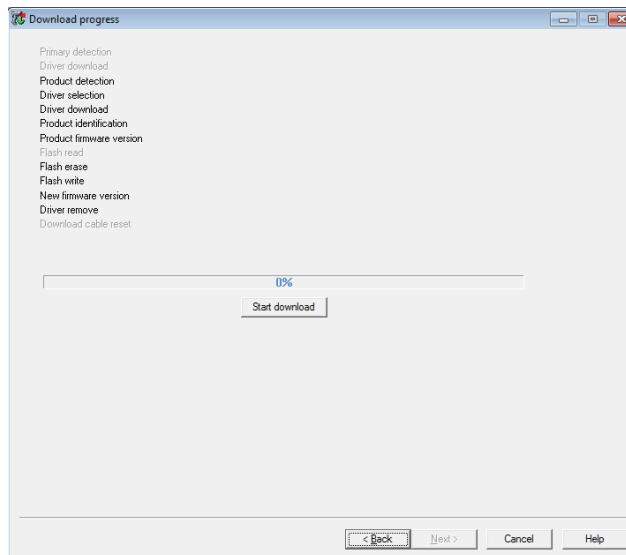
- 9** Select the desired COM port if you have a choice of COM ports . . .  
(**RS-232 cables only:** Select the fastest baud rate setting for a quicker upgrade)



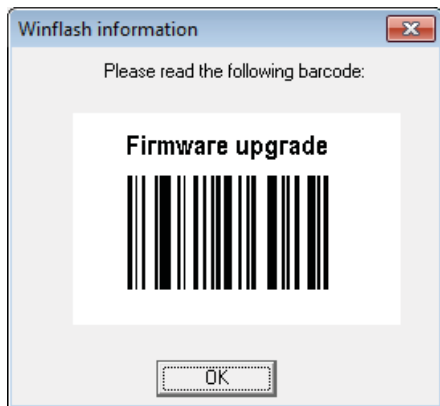
... and click **Next**.



**10** Click **Start download**.



**11 RS-232 cables only:** Scan the **Firmware upgrade** bar code that appears on the screen and click **OK**.



If you can't read the code on the screen, print out and read the code on this page.

- 12** When the firmware upgrade is complete, the scanner emits a "success" beep sequence and an "Operation successful" message is displayed in the Download progress window.

Click **Finish** to exit the firmware upgrade procedure.



**Note:** If the firmware download is not successful, you must restart the firmware download procedure.

# Maintaining the SR31T



Opening the SR31T voids the warranty and may cause damage to internal components.

## Cleaning the SR31T

Clean the scanner window as often as needed for the environment in which you are using the SR31T. To clean the scanner window, you can use soapy water or isopropyl alcohol.

### To clean the scanner window

- 1 Dip a clean towel or rag in soapy water 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.



# A

## Specifications and Reading Distances

This appendix contains the technical specifications and reading distances for the different SR31T scanner models:

- **Specifications**
- **Reading Distances**

# Specifications

Use this section to find technical information about the SR31T scanner models.

Physical Dimensions	
Length	10.7 cm (4.2 in)
Height	16.8 cm (6.6 in)
Width	6.8 cm (2.7 in)
Weight	195 g (6.9 oz)

Electrical Specifications	
Electrical rating	⎓ 5V, 1.7 A
ESD sensitivity	± 8 kV (air discharge) ± 4 kV (contact discharge)

Typical Power Consumption–Scanning (5V power supply, 25°C/77°F ambient lighting)	
SR31T1D	RS-232 = 120 mA
	USB = 120 mA
	Keyboard wedge = 120 mA
SR31T2D	RS-232 = 340 mA
	USB = 360 mA
	Keyboard wedge = 370 mA
SR31THP	RS-232 = 300 mA
	USB = 320 mA
	Keyboard wedge = 330 mA

**Typical Power Consumption-Idle State (Ready-To-Work)  
(5V power supply, 25°C)**

SR31T1D	RS-232 = 60 mA
	USB = 70 mA
	Keyboard wedge = 60 mA
SR31T2D	RS-232 = 50 mA
	USB = 70 mA
	Keyboard wedge = 50 mA
SR31THP	RS-232 = 50 mA
	USB = 70 mA
	Keyboard wedge = 50 mA

**Interfaces**

RS-232, USB, POS, Keyboard Wedge, Wand Emulation

**Temperature and Environmental Specifications**

Operating temperature	0°C to 50°C (32°F to 122°F)
Storage temperature	-20°C to 70°C (-4°F to 158°F)
Relative humidity	5 to 95% non-condensing
Shock	50 G, 11 ms half-sinus, 3 directions
Vibrations	8G, from 10Hz to 500Hz, 2hr/axis, 3 axes
Tumble test	2000 tumbles at 1m height
Drop resistance	26 drops from 1.83 m (6 ft.) to concrete floor
Environmental rating	IP53
Ambient light	0 to 100 000 lux

**Scanning Performance**

SR31T1D	Scan angle: 38°
	Minimum X dimension: 4mils (0.1 mm)
	Maximum scan rate: 200 scans/second
	Minimum print contrast: 20%
SR31T2D	Scan angles: 39° horizontal, 25.5° vertical
	Minimum X dimension 1D: 4 mils (0.1 mm)
	Minimum X dimension 2D: 6.6 mils (0.17 mm)
	Minimum print contrast: 20%
SR31THP	Scan angles: 34.4° horizontal, 22.2° vertical
	Framing angles: 30° horizontal, 20° vertical
	Minimum X dimension 1D: 4 mils (0.1 mm)
	Minimum X dimension 2D: 6.6 mils (0.17 mm)
	Minimum print contrast: 20%

**Bar Code Symbolologies for 1D Model (SR31T1D)**

Codabar	GS1 DataBar Omni-Directional
Code 11	GS1 DataBar Stacked
Code 39	Interleaved 2 of 5
Code 93/93i	Matrix 2 of 5
Code 128 / GS1-128	MSI
EAN/UPC	Plessey
GS1 Composite (linear only)	Standard 2 of 5
GS1 DataBar Expanded	Telepen
GS1 DataBar Limited	

**Bar Code Symbolologies for 2D Models (SR31T2D, SR31THP)**

Australian Post	Infomail
Aztec	Intelligent mail
BPO	Interleaved 2 of 5



**Bar Code Symbolologies for 2D Models (SR31T2D, SR31THP)**

Canada Post	Japan Post
Codabar	Matrix 2 of 5
Codablock A	Maxicode
Codablock F	Micro PDF417
Code 11	Micro QR Code
Code 39	MSI
Code 93/93i	Multicode
Code 128 / GS1-128	PDF417
Data Matrix	Planet
Dutch Post	Plessey
EAN/UPC	Postnet
GS1 Composite	QR Code
GS1 DataBar Expanded	Standard 2 of 5
GS1 DataBar Limited	Sweden Post
GS1 DataBar Omni-Directional	Telepen
GS1 DataBar Stacked	TLC 39
Han Xin Code	

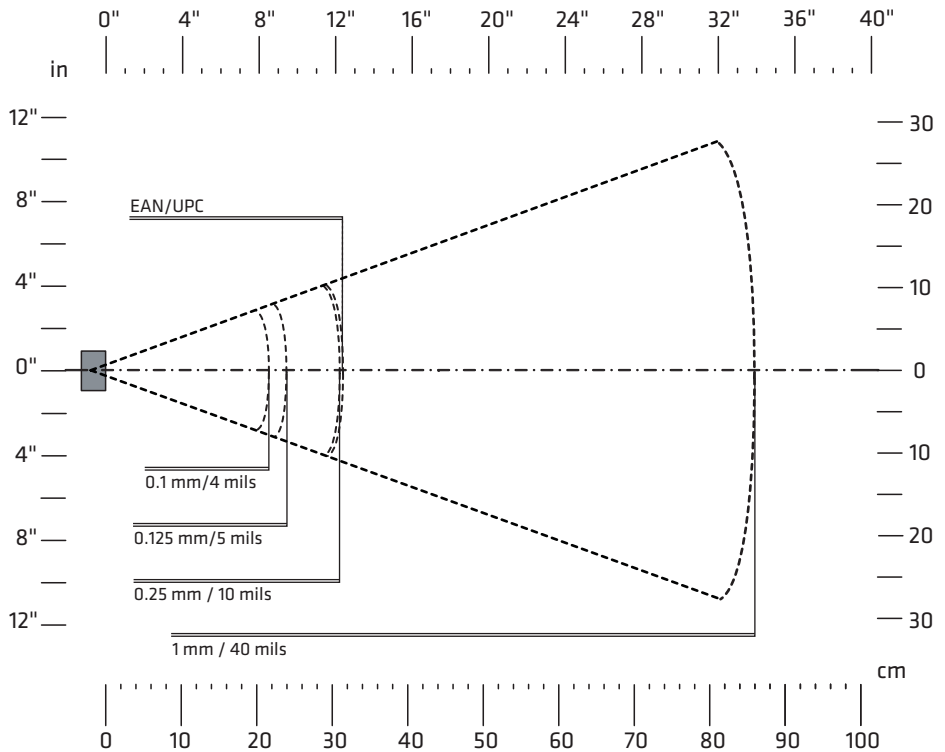
## **Reading Distances**

Values shown are for typical distances measured from the front end of the scanner bezel in an office environment (200 lux) with extended reading range activated.



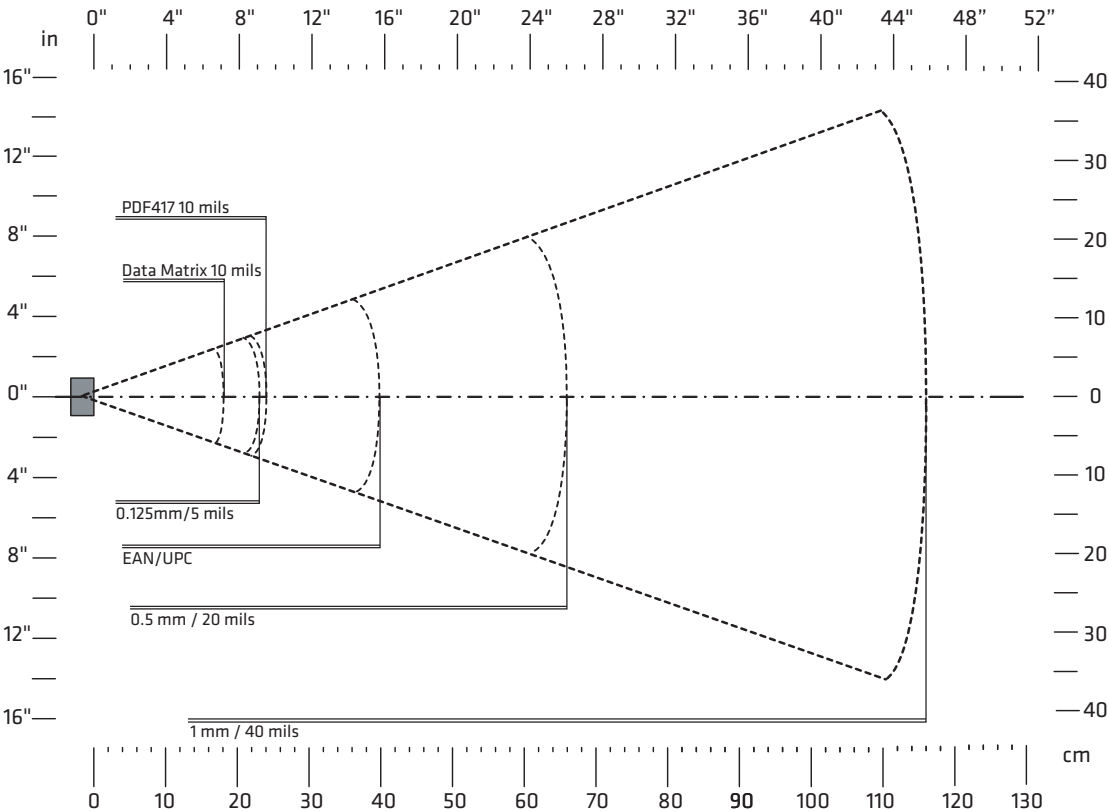
**Note:** Minimum distances depend on the number of characters encoded in the bar code.

# SR31T1D



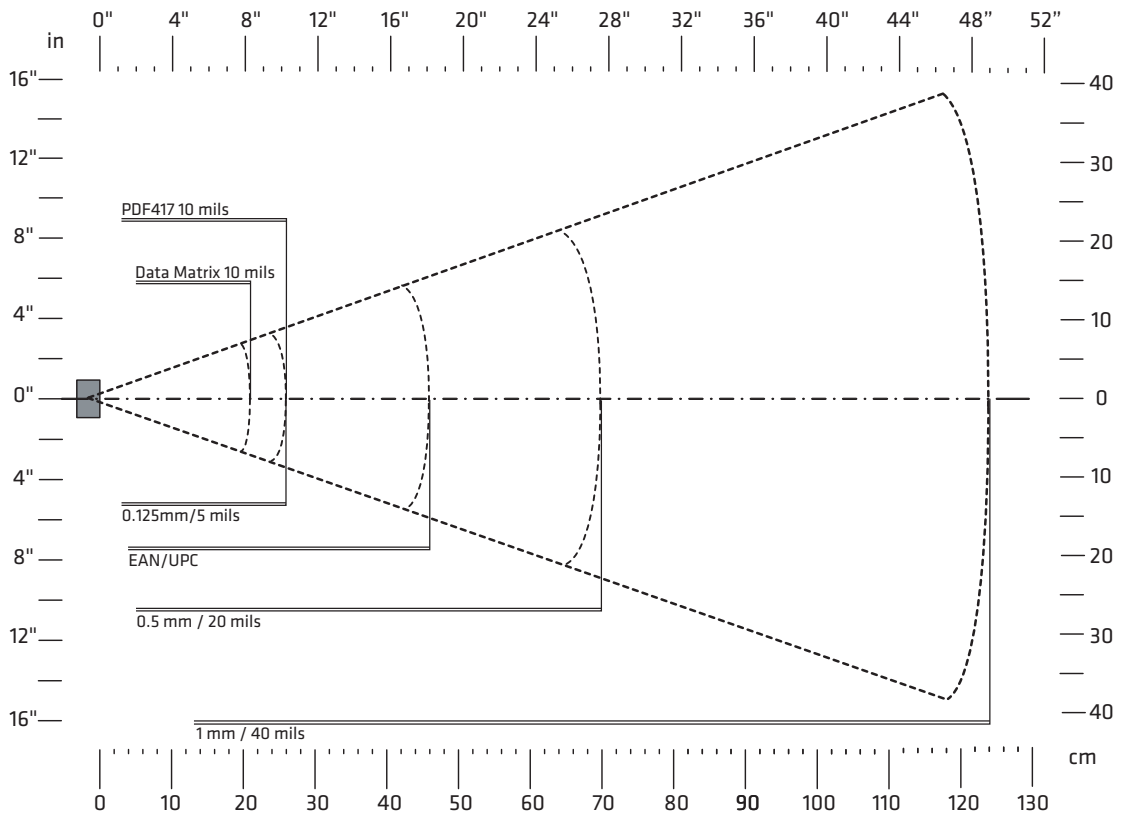
Symbology	Density	Minimum Distance	Maximum Distance
Code 39	0.1 mm (4 mils)	4.5 cm (1.77 in)	21.5 cm (8.46 in)
	0.125 mm (5 mils)	3.5 cm (1.38 in)	24 cm (9.45 in)
	0.25 mm (10 mils)	3.5 cm (1.38 in)	31 cm (12.20 in)
	1 mm (40 mils)	8.5 cm (3.35 in)	86 cm (33.86 in)
EAN/UPC	0.33 mm (13 mils)	3.2 cm (1.26 in)	31.5 cm (12.40 in)

SR31T2D



Symbology	Density	Minimum Distance	Maximum Distance
Code 39	0.1 mm (4 mils)	3 cm (1.18 in)	18 cm (7.09 in)
	0.125 mm (5 mils)	3 cm (1.18 in)	23 cm (9.06 in)
	0.5 mm (20 mils)	5 cm (1.97 in)	66 cm (25.98 in)
	1 mm (40 mils)	13 cm (5.12 in)	116 cm (45.67 in)
EAN/UPC	0.33 mm (13 mils)	4 cm (1.57 in)	40 cm (15.75 in)
PDF417	0.25 mm (10 mils)	3 cm (1.18 in)	24 cm (9.45 in)
	0.38 (15 mils)	3 cm (1.18 in)	35 cm (13.78 in)
DataMatrix	0.25 mm (10 mils)	4 cm (1.57 in)	18 cm (7.09 in)

# SR31THP



Symbology	Density	Minimum Distance	Maximum Distance
Code 39	0.1 mm (4 mils)	4 cm (1.57 in)	21 cm (8.27 in)
	0.125 mm (5 mils)	3 cm (1.18 in)	26 cm (10.24 in)
	0.5 mm (20 mils)	5 cm (1.97 in)	70 cm (27.56 in)
	1 mm (40 mils)	13 cm (5.12 in)	124 cm (48.82 in)
EAN/UPC	0.33 mm (13 mils)	4 cm (1.57 in)	46 cm (10.11 in)
PDF417	0.25 mm (10 mils)	3 cm (1.18 in)	26 cm (10.24 in)
	0.38 (15 mils)	3 cm (1.18 in)	35 cm (13.78 in)
DataMatrix	0.25 mm (10 mils)	5 cm (1.97 in)	21 cm (8.27 in)







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## SR31T Tethered Scanner User's Guide



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