

Cordless Ring Scanner Series 9 with *Bluetooth*[®] Wireless Technology

Featuring a “Hands-Free” wearable bar code scanner that captures and sends data wirelessly to Bluetooth enabled computers running Windows Mobile, XP or XP Tablet Edition.

User's Guide



socket[™]
Increasing Mobile
Productivity

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Other than the above, Socket Communications can assume no responsibility for anything resulting from the application of information contained in this manual.

Please refrain from any applications of the Socket Cordless Ring Scanner that are not described in this manual. Please refrain from disassembling the Cordless Ring Scanner. Disassembly of this device will void the product warranty.

You can track new product releases, software updates and technical bulletins by visiting Socket's web page at: www.socketcom.com.

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1 | Introduction

If you need to collect bar coded data but don't want to be tied to your mobile or desktop computer, the Socket Cordless Ring Scanner (CRS) Series 9 with *Bluetooth* wireless technology is just what you're looking for. This innovative device combines the power of laser bar code scanning with the convenience of *Bluetooth* wireless technology in a compact, lightweight device that is ergonomically designed to fit comfortably on your hand.



Bluetooth wireless technology transforms how devices connect with each other, offering new possibilities for using a mobile computer with other devices. With the CRS, you can scan bar codes while connected to a PDA in your pocket or a Windows XP system located up to 300 feet away — all without the hassle of cables or the awkwardness of a protruding antenna.

The CRS was designed with an exclusive Liquidmetal[®] construction that is twice as strong as titanium, extremely durable and scratch-resistant. The Battery Friendly[®] CRS uses minimal power, so you can scan over 11,000 times in normal operating conditions without having to recharge.

Scanner Versions

The CRS Series 9 includes two versions of the scanner, The Mid-range CRS 9M has a Class 1 laser scanner and a Class 2 Bluetooth with a maximum range of 30ft (10m). The Performance CRS 9P features a Class 2 laser scanner with a Class 1 Bluetooth with a maximum range of 300ft (10m).

About the Software

SocketScan[™] enters scanned data directly into any open Windows program, as if the data were manually typed, so you can use the CRS with your favorite application. Included is a utility that enables you to configure Prefix/Suffixes, sounds, and other special settings for the CRS.



Connect!Agent[™] (patent pending) simplifies the *Bluetooth* by automatically setting up and managing the *Bluetooth* connection. Connect!Agent runs in the background, requiring no user interaction.

For software updates, please visit: www.socketcom.com/support/support_bar.asp

About Combining Scanning with *Bluetooth*

The Cordless Ring Scanner represents an optimal combination of proven laser bar code scanning technology and state-of-the-art *Bluetooth* connectivity. Because of the problems inherent in the intermittent storage of scanned data in on-board memory if the *Bluetooth* connection is lost, the CRS is designed to operate only when connected to the host, with the powerful Class 1 radio providing the maximum possible connection range.

The user is advised of the connection status with a single beep when the CRS connects to the host and a double beep when the connection is closed or lost. As with any wireless device, connectivity range can be affected by a variety of environmental variables.



The most likely source of errors in any cordless scanning system is not in the scanning and decoding process, but in the transmission of the data to the host. To prevent such errors, the Cordless Ring Scanner features Socket's exclusive *Error Proof Protocol*[™] (patent pending), which ensures that scanned data is correctly received by the host computer and allows for real-time validation of data and notification to the user in case of errors.

The beeper and green LED signals provided by the CRS confirm not only a successful scan but also the successful transmission of the scanned data to the host. Users familiar with bar code scanning may notice a slight delay between the successful scan and shut off of the laser, and the beep and green LED from the CRS confirming completed transmission of the data. In most instances, this delay is less than 300 ms (milliseconds), but may be slightly longer as the connectivity range limit is approached.

Because of the two-way transmission verification process, it is possible to cause communication problems by scanning bar codes as fast as possible. When this occurs, all transmissions will stop for several seconds before scanning can be resumed. To prevent this from happening, the user should wait until the confirming beep is received before scanning the next bar code.

System Requirements

Windows Mobile devices should satisfy these minimum requirements:

- Windows Mobile 2003, 2003SE or 5.0
- Any of the following *Bluetooth* stacks:
 - Broadcom (Widcomm) v1.4
 - Microsoft *Bluetooth* stack for Windows Mobile
 - Socket Drakar v1.4 (from Socket SD/CF Connection Kits)
- Software installation requires ActiveSync 4.0 or greater.

Windows XP computers should satisfy these minimum requirements:

- Windows Mobile XP or XP Tablet Edition
- Any of the following *Bluetooth* stacks:.*
 - IVT BlueSoleil version 1.6.1.4 (from Socket CF/USB Connection Kits)
 - Microsoft Windows XP Service Pack 2 *Bluetooth* stack
 - Toshiba *Bluetooth* stack 3.03.06
 - Broadcom (Widcomm) *Bluetooth* stack

**Other stacks may be compatible but have not been tested by Socket. For Windows XP, only the IVT and Microsoft Bluetooth stacks are compatible with the optional Socket Connect!Agent software.*

Package Contents

The Socket Cordless Ring Scanner package includes:

- Ring scanner (C)
- Wrist unit (A) with attached cable (B)
- Wrist unit case (D)
- Finger strap (F)
- 2 adhesive Velcro strips (G)
- Rechargeable 3.7V lithium-ion battery
- Battery charger
- CD with software and user documentation



Product Registration

Socket highly recommends that all customers register their Socket products.

Registered users receive the following benefits:

- Priority for technical support
- Special offers for future products and upgrades
- The latest new product information.

Register online at: www.socketcom.com/prodreg

Hardware and Software Indicators

Ring Scanner LED

| LED | LED Activity | Meaning |
|-----------|--------------|---|
| Good Read | Green | Data successfully scanned and sent to host device |



Wrist Unit LEDs

| LED | LED Activity | Meaning |
|------------------|--------------------------------|--------------------------------------|
| Bluetooth Status | Blinking blue every second | Bluetooth radio is on, no connection |
| | Blinking blue, every 5 seconds | Bluetooth connection |
| Battery Status | Blinking Red | 20% battery capacity remaining |
| | Solid Red | 10% battery capacity remaining |
| | Off | Off or Good Battery status |





Wrist Unit Beeps

| Beep Pattern | Meaning |
|---------------------------|--|
| 1 beep | Bluetooth connection to host device has begun or power on |
| 2 beeps | Bluetooth connection to host device has ended or power off |
| 1 beep (optional setting) | Data successfully scanned and sent to host device |
| 3 beeps | Cable disconnected from wrist unit |



SocketScan Icon Bottom of Today screen when SocketScan is open. Tap for menu.

| Icon | Meaning |
|---|---|
|  | The CRS is not connected to the host device |
|  | The CRS is connected to the host device |

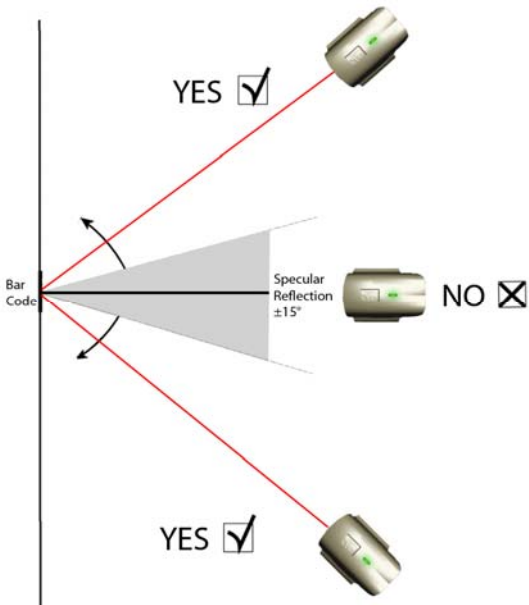
Note: In the SocketScan software, the abbreviation “CS” stands for “cordless scanner” and applies to both the Socket Cordless Ring Scanner and Socket Cordless Hand Scanner.

Scanning Tips

Practice to determine the best scanning angle and distance for your type of bar code.

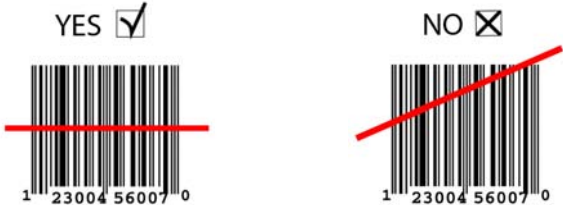
Scan Angle

For best results, position the scanner at an angle to the bar code, at least 15° from perpendicular. Otherwise, light can bounce back into the scanner and “blind” the sensing mechanism.



Aiming Beam

Aim the laser so that the red beam covers the entire width of the bar code.



Scanning Distance

- The optimal scanning distance varies depending on the bar code size, symbology, label media, W-N Ratio, and scan angle. In general, the CRS can successfully scan 2.2 to 30+ inches from the bar code.
- The larger the bar code, the further away you should position the scanner.
- The tighter the bars of the bar code, the closer you should position the scanner.

About the Cable Break Away

The CRS is designed to break away from the hand if subjected to unusual force. This break away feature is designed to reduce the possibility or extent of injury to the body in the event the CRS becomes entangled in industrial equipment.



If the cable breaks away from the ring scanner unit during use, simply, simply plug it back in to resume operation.

Note: Whenever the cable disconnects from the ring scanner, it will beep 3 times.

2 | Hardware Preparation

Charging and Installing the Battery

1. The battery must be charged before initial use, using the included Socket charger. The Charging LED will be yellow during charging. After approximately 4 hours, the battery will reach full charge, indicated by a green Charging LED.



Do not use the charger with other types of batteries. A fully charged battery should provide at least 10,000 scans and more than 8 hours of operation.

Battery Charger LEDs

| LED | LED Activity | Meaning |
|----------|--------------|---------------------------------|
| Power | Red | Plugged into valid power source |
| Charging | Yellow | Charging |
| | Green | Battery is fully charged |

You can also check the battery level by checking the CS HW screen of the SocketScan settings utility. The utility will report the battery level only when the CRS is connected to your mobile computer.

2. Slide the switch at the bottom of the wrist unit to unlock the battery door. Insert the battery so that the battery contacts align with the contacts inside the wrist unit, then close and lock the battery door.



WARNING: Do not insert the battery backwards or upside-down. Damage may result.

Assembling and Putting on the CRS

You can put on the CRS either with or without the case. If you choose not to use the case, the plastic parts of the wrist unit will be more susceptible to abuse.

How to put on the CRS with the wrist unit case

1. Insert the wrist unit into the case, pulling the free end of the cable through the hole in the top of the case. During insertion, you may hear a beep and see the LED flicker because the power button was pressed, however, the wrist unit will not turn on unless the button was pressed for more than 2 seconds, and the LED continues to blink.



2. Connect the free end of the cable to the ring scanner.



3. Attach the finger strap to the bottom of the ring scanner.



4. Put on the wrist strap. Adjust it for a secure and comfortable fit.



5. Put the ring scanner on your index finger, adjusting the finger strap for a secure and comfortable fit.



6. Attach the wrist unit case to the wrist strap, by pressing the Velcro together.

How to put on the CRS without the wrist unit case

Note: After you stick the Velcro strips to the wrist unit, the wrist unit will no longer fit in the case, unless the Velcro strips are removed.

1. Stick the 2 adhesive Velcro strips onto the back of the wrist unit. Do not space the strips too far apart. Note the size of the Velcro on the wrist strap.



2. Connect the free end of the cable to the ring scanner.



3. Attach the finger strap to the bottom of the ring scanner.



4. Put on the wrist strap. Adjust it for a secure and comfortable fit.



5. Put the ring scanner on your index finger, adjusting the finger strap for a secure and comfortable fit.



6. Attach the wrist unit to the wrist strap, by pressing the Velcro together.

3 | Setup for Windows Mobile

This chapter explains how to install and use the Cordless Ring Scanner (CRS) with a *Bluetooth* enabled Pocket PC or other Windows Mobile-based device.

Before you begin the instructions in this chapter, make sure you have charged and installed the battery as explained in Chapter 2, “Hardware Preparation.”



Setup Summary

STEP 1: Install the software.

STEP 2: Configure scanner settings.

STEP 3: Connect CRS to host device with *Bluetooth*.

STEP 4: Assemble and put on the CRS.

STEP 5: Scan data into your application.

OPTIONAL:

- Select symbologies.
- Configure prefix/suffixes.
- Configure sound.
- Run Scan Demo.

STEP 1: Install the Software

You must install SocketScan, but installing Connect!Agent is optional.



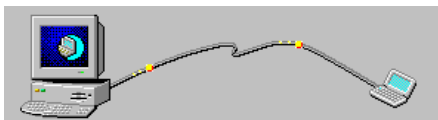
Should I install Connect!Agent?

Connect!Agent simplifies Bluetooth by automatically setting up and managing the Bluetooth connection. It runs in the background and requires no interaction from the user. If you choose not to install Connect!Agent, you will need to use your Bluetooth software to manually configure and manage the Bluetooth connection.

Software Installation

ADVANCED USERS: Refer to the README file for CAB installation instructions.

1. Delete any bar code scanning software already installed in your device, including software from other companies. Make sure the software is closed. Tap Start | Settings | System tab | Remove Programs. Use the utility to delete the software.
2. Use ActiveSync and a serial/USB cable or cradle to make an active connection between the mobile computer and a host PC. ActiveSync should say Connected, and the ActiveSync icon should turn green.



IMPORTANT: ActiveSync 4.0 or greater is required. You can download it free from www.socketcom.com/activesync.

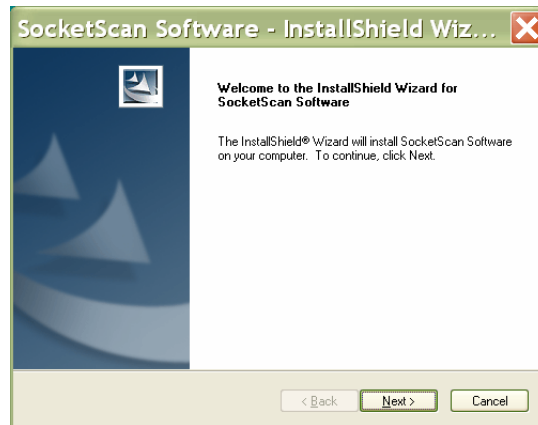
3. Insert the installation CD into your host PC.
4. Use My Computer or Windows Explorer to access your CD drive.



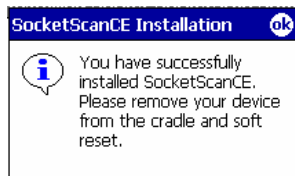
5. In the CD contents, open the SocketScanCE folder and click on Setup.exe.



6. The installation wizard will automatically begin. Follow the wizard to install the software.



7. After installing the software, a dialog on your Pocket PC will direct you to soft reset. Tap ok.




8. Remove your device from the cable/cradle and perform a soft reset by pressing the reset button. If you skip this step, some icons may not appear correctly.
9. If desired, install Connect!Agent by opening the Connect!Agent folder in the CD and clicking on Connect!AgentSetup.exe. Follow the wizard to install the software.

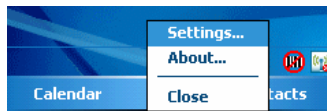


STEP 2: Configure Scanner Settings

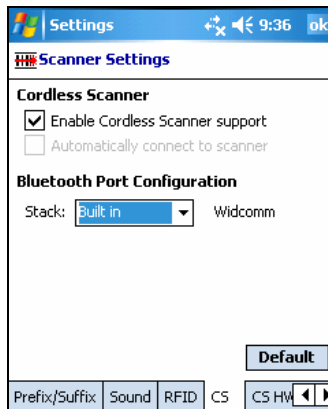
1. Tap Start | Programs | SocketScan.



2. Go to the Today screen by tapping Start | Today.
3. Tap the SocketScan icon  at the bottom of the screen. In the pop-up menu, tap Settings.



4. The Scanner Settings utility will appear. Tap on the CS tab at the bottom of the screen.
5. Enter the following settings:

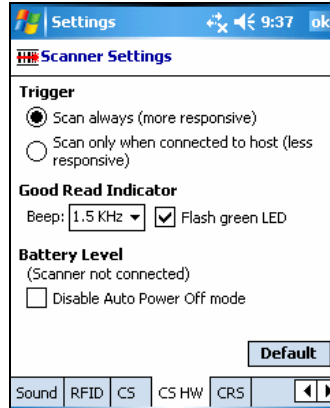


Enable Cordless Scanner support: Check this box. IMPORTANT!!!

Stack:

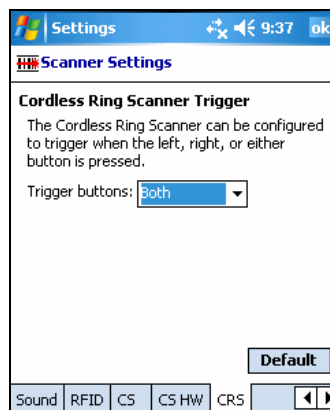
- **Connect!Agent:** Select if you installed Connect!Agent and would like to use it.
- **Built in:** Select if your device has a built-in *Bluetooth* radio, and you don't want to use Connect!Agent. Your *Bluetooth* stack will be reported (e.g., Widcomm).
- **Socket:** Select if using the Socket SD/CF *Bluetooth* card.

6. Tap on the CS HW tab. Enter the following settings:



- **Trigger:** Select whether you would like the CRS to scan only when a *Bluetooth* connection to the device is detected. If you require the CRS to detect a *Bluetooth* connection before each scan, scanning will be a few milliseconds slower.
- **Good Read Indicator:** Select how you would like the CRS to indicate that it has successfully read data.
- **Battery Level:** No progress bar should appear since you are not connected to the CRS.
- **Disable Auto Power Off mode:** The CRS automatically shuts off if there is no *Bluetooth* connection for 20 minutes. Check to disable.

7. Tap on the CRS tab. Select which button on the CRS you would like to use to trigger the scanner.



8. After entering settings, tap **OK** to save the changes.

STEP 3: Connect CRS to Host Device with *Bluetooth*

**SocketScan supports a generic *Bluetooth* COM port and may be able to connect to *Bluetooth* stacks on host mobile computers other than those listed.

1. Turn on the Cordless Ring Scanner. Press the small power button on the side of the wrist unit for at least 2 seconds, until you hear a beep. The *Bluetooth* status LED on the wrist unit should be blinking blue.
2. **Turn on the *Bluetooth* radio of your mobile device.** Refer to your device manual for instructions.



Note: Your Bluetooth software may be different than above.

3. If you did not install Connect!Agent, make sure a COM port is enabled for outbound *Bluetooth* serial communication. Refer to the device manual.
4. Tap Start | Programs | SocketScan.

Disregard the icons for Socket Trigger RFID, Socket Trigger Scan, and Socket Trigger Select.



5. Tap on the SocketScan icon  at the bottom of the screen. In the pop-up menu, tap Connect CS.



Your mobile device cannot connect to the CRS if another device is set as the default Bluetooth serial device.

*If Connect CS does not appear, tap **Settings** in the menu, tap on the **CS** tab, and enable cordless scanner support.*

6. Your device will begin searching for the CRS.
 - If you installed Connect!Agent, your mobile device will automatically search for and connect to the CRS. A beep will indicate the connection.



- If you did not install Connect!Agent, your device's *Bluetooth* software will search for devices. In the list of found *Bluetooth* devices, select **Socket CRS**. The device will connect to the CRS, indicated by a beep.



The six characters following the device name are the last six characters of the Bluetooth MAC address.

If using the Broadcom (Widcomm) stack, you will be prompted to configure automatic connections.

If a passkey is requested, enter 1234.

7. After your mobile device connects to the CRS, the SocketScan icon at the bottom of the Today screen will change into a ring icon to indicate the connection.



Connect!Agent will save information about the CRS to automate future connections to your specific unit.

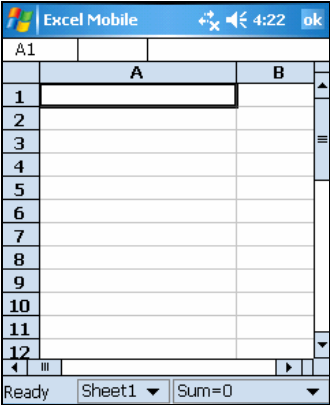
STEP 4: Assemble and Put on the CRS

Please refer to the instructions in Chapter 2.



STEP 5: Scan Data into Your Application

1. Start the Windows application that you want to enter scanned data into (e.g., Excel, Notepad, etc.). Make sure a document or spreadsheet is open.



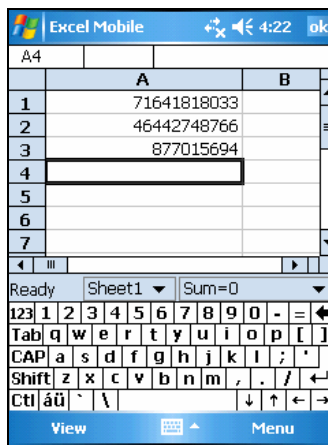
2. Place the cursor where you want data from the next scan to go. If using Excel Mobile, you may want to increase the width of the column to fit all of the data from a bar code.
3. Press the trigger button and aim your finger at the bar code. The red laser beam should cover the entire width of the bar code. See Chapter 1 for scanning tips.



When data is read and sent to the mobile computing device, the laser will turn off. Depending on your scanner settings, the scanner may beep and/or the ring scanner's LED may flash green to indicate a good read.

If no data is read in a few seconds, the laser will turn off, and you must try again.

4. After a successful scan, data should appear in your document. By default, the cursor automatically advances to the next cell or line, ready for the next scan.



Wait for the “Good Scan” indication before you scan another bar code. If you try to scan too fast, the device can lock up until you stop scanning.

If your mobile device suspends or the CRS moves out of range, the connection will end. After the mobile device turns on again or returns in range, SocketScan will try to re-connect 3 times. If, after the 3 attempts, they have not re-connected, you will need to manually re-connect the devices.

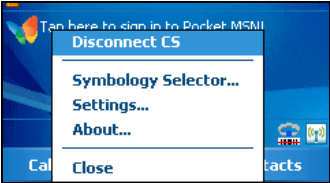
To turn off the CRS, press the power button on the wrist unit for at least 2 seconds, until you hear 2 beeps.

For information about third-party applications compatible with the CRS for asset tracking, warehouse mobility, and other vertical markets, visit: www.socketcom.com/solutions/default.asp?Type=Vertical

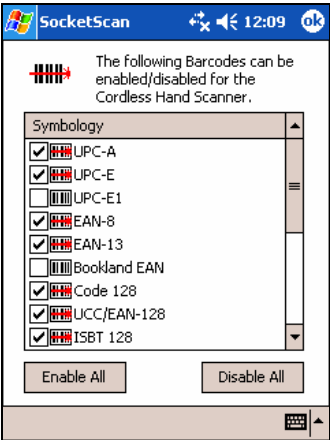
OPTIONAL: Select Symbolologies

The applet makes it quick and convenient to modify which symbolologies you want the scanner to recognize. By default, the scanner is set to recognize nine of the most common symbolologies.

1. Tap on the SocketScan icon. In the pop-up menu, tap Symbology Selector...



2. In the screen that appears, check the symbolologies you wish to enable. Uncheck those you wish to disable. Alternatively, tap Enable All or Disable All. Tap ok.



Symbolologies not supported by the CRS will be grayed out. Enabling all possible symbolologies will make the decode process slightly longer.

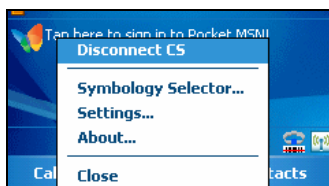
OPTIONAL: Configure Prefix/Suffixes

The SocketScan applet lets you specify prefix and/or suffix characters to be added automatically to the data you scan. This helps to further eliminate manual data entry.

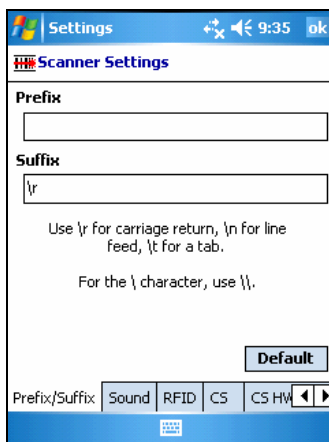
1. Tap on the SocketScan icon. In the pop-up menu, tap Settings.



You can configure prefix/suffixes whether or not the CRS is connected to your Pocket PC.



2. The Scanner Settings utility will appear, with the Prefix/Suffix tab open. Enter the characters you want to be appended to each scan (128 character maximum). Tap ok.



By default, SocketScan enters a carriage return after every data scan.

- Use `\r` for Carriage Return, `\n` for Linefeed, `\t` for Tab., `\\` for a single `\` character.
- Other characters can be typed or entered using the format `\nnn`, where `nnn` = ASCII character 001 through 255.

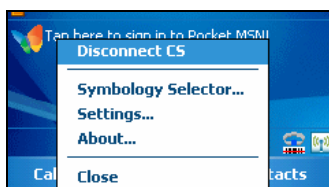
OPTIONAL: Configure Sound

The SocketScan applet lets you specify sounds used to indicate when the CRS has successfully scanned data and transmitted it to the host device.

3. Tap on the SocketScan icon. In the pop-up menu, tap **Settings**.



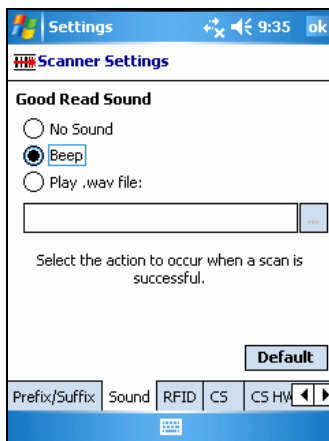
You can configure sounds whether or not the CRS is connected to your Pocket PC.



4. The Scanner Settings utility will appear, with the Prefix/Suffix tab open. Tap on the **Sound** tab.
5. Select which sound you want your mobile computer to use to indicate a good read.

If you select **Play .wav file**, tap on the ... button to search for the .wav file you want to use (the file must be located in the **My Documents** folder).

Tap **ok**.



OPTIONAL: Run Scan Demo

Scan Demo makes it easy to determine the symbology, number of characters, and decoded data (in either ASCII or Hex) of any bar code supported by the scanner. This is especially useful if you encounter a bar code that the scanner will not decode by default.

1. Tap Start | Programs | Scan Demo.



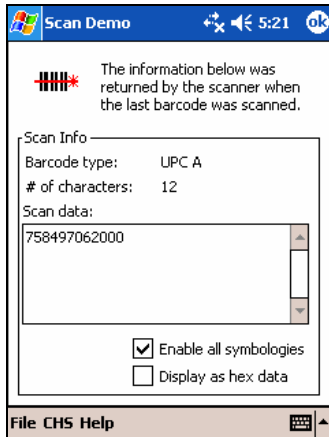
Accessing Scan Demo disconnects the Bluetooth link. If you have not configured the CRS to automatically connect, select the CRS tab at the bottom of the page to re-establish this link.

2. The Scan Demo screen will appear. If desired, use the check boxes at the bottom of the screen to modify the test.

Enable all symbologies: By default, this option is checked. Different symbologies can sometimes interpret the same bar code differently, so you may want to uncheck this option.

Display as hex data: Check this box to view scanned data in hexadecimal format. Otherwise, data will appear as ASCII.

3. Scan the bar code. Scan Demo will report the properties of the bar code.



4 | Setup for Windows XP

This chapter explains how to install and use the Cordless Ring Scanner (CRS) with a *Bluetooth* enabled desktop, notebook or tablet computer running Windows XP or Windows XP Tablet Edition.



Before you begin the instructions in this chapter, make sure you have charged and installed the battery as explained in Chapter 2, “Hardware Preparation.”

Setup Summary

STEP 1: Install the software.

STEP 2: Configure *Bluetooth* settings.

STEP 3: Configure scanner settings.

STEP 4: Start SocketScan and connect to CRS.

STEP 5: Assemble and put on the CRS.

STEP 6: Scan data into your application.

OPTIONAL:

- Assign sound and prefix/suffix settings.
- Configure advanced *Bluetooth* settings.
- Assign a remote trigger button.
- Select symbologies.

STEP 1: Install the Software

You must install SocketScan, but installing Connect!Agent is optional.



Should I install Connect!Agent?

Connect!Agent simplifies the Bluetooth setup and connection process. Once the CRS is turned on and SocketScan is running, Connect!Agent will automatically set up and manage the Bluetooth connection. It runs in the background and requires no interaction from the user. For Windows XP, Connect!Agent is only compatible with the Socket (IVT) BlueSoleil and Microsoft XP SP2 Bluetooth stacks.

Software installation instructions

ADVANCED USERS: Refer to the README file for CAB installation instructions.

1. Delete any bar code scanning software already installed in your computer, including software from other companies. Make sure the software is closed. Click Start | Control Panel | Add or Remove Programs. Use the utility to delete the software.
2. Insert the SocketScan installation CD into the CD drive of your computer.
3. Use My Computer or Windows Explorer to access your CD drive.



4. In the CD contents, open the SocketScanXP folder and click on the Setup.exe file.

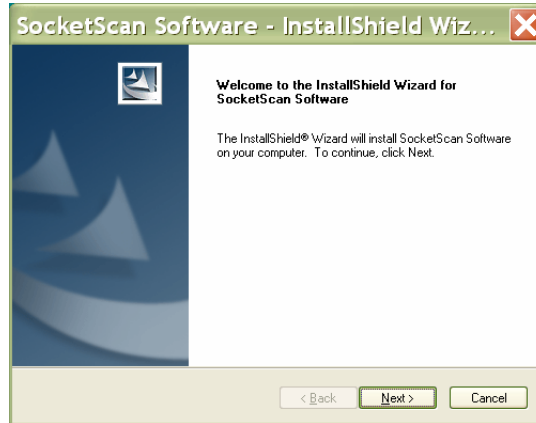


SocketScanXP

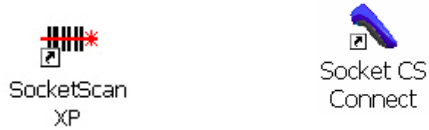


setup
Setup.exe
InstallShield Software

5. The installation wizard will launch. Follow the wizard to install the software.



6. After software installation, icons for SocketScanXP and Socket CS Connect will appear on your desktop.



7. If desired, install Connect!Agent by opening the Connect!Agent folder in the CD and launching the Connect!AgentXPSetup_S.exe file. Follow the wizard to install the software.



STEP 2: Configure *Bluetooth* Settings

Skip this step if you installed and want to use Connect!Agent, which automatically configures the *Bluetooth* settings. Connect!Agent works only with the Socket (IVT) and Microsoft stacks.

Bluetooth configuration is only needed the first time you connect the CRS to your computer. The configuration method varies depending on which *Bluetooth* stack your computer has.

**SocketScan supports a generic *Bluetooth* COM port and may be able to connect to *Bluetooth* stacks on host mobile computers other than those listed.

Socket Connection Kit with IVT BlueSoleil software (CF or USB):

1. Turn on the Cordless Ring Scanner. Press the small power button on the side of the wrist unit for at least 2 seconds, until you hear a beep. The *Bluetooth* status LED on the wrist unit will start blinking blue.
2. Insert the Socket card into your computer, using a CF-to-PC Card adapter, or insert the Class 1 USB Adapter into the USB port.



3. Start BlueSoleil. Click on the BlueSoleil icon on your desktop, or click Start | All Programs | IVT BlueSoleil | BlueSoleil.
4. Click My Bluetooth | Security. Check the box Set Default Passkey and enter the default PIN **1234** in the field below.



- Double-click on the red ball to search for the Cordless Ring Scanner, which will appear as Socket CRS [xxxxxx].

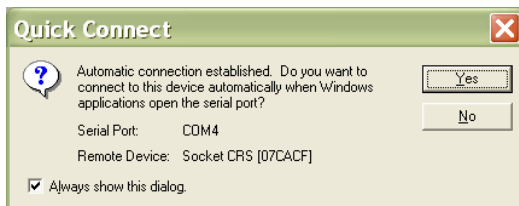


The characters in brackets are the last 6 characters of the scanner's Bluetooth MAC address.

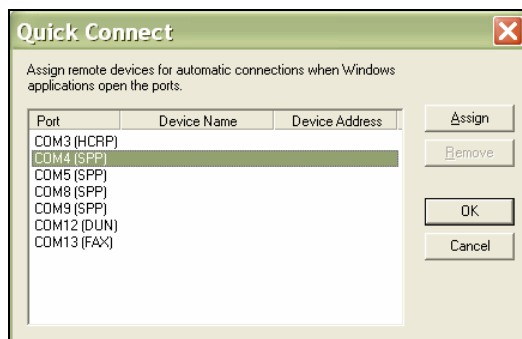
- Double-click on the Socket CRS icon to begin the service discovery. After the Serial Port Service icon is highlighted at the top of the screen, right-click on the Serial Port Service icon and click Connect.



- BlueSoleil will ask whether you want to connect to the CRS automatically when Windows applications open the serial port. Click Yes.



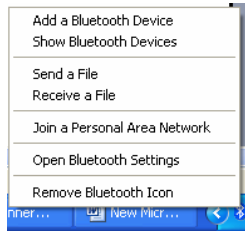
- When the devices connect, the CRS will beep once, and the *Bluetooth* logo in the task tray will turn green.
- Click Tools | Configurations | Quick Connect. Choose a COM port assigned to SPP (Serial Port Profile) and click Assign. In the next screen, select the CRS and click OK. **Remember which COM number you assigned to the CRS** and click OK.



Microsoft Windows XP Service Pack 2:

Refer to the documentation for your *Bluetooth* hardware/software for instructions on discovering and connecting to the CRS.

1. Turn on the Cordless Ring Scanner. Press the small power button on the side of the wrist unit for at least 2 seconds, until you hear a beep. The *Bluetooth* status LED on the wrist unit will start blinking blue.
2. Turn on the *Bluetooth* radio of your computer.
3. Use the Add Bluetooth Device Wizard to discover and connect to the Cordless Ring Scanner. Click on the *Bluetooth* icon in the task tray. In the pop-up menu, click **Add a Bluetooth Device**.



4. During the device discovery, the Cordless Ring Scanner will appear as Socket CRS [xxxxxx]



The characters in brackets are the last 6 characters of the scanner's Bluetooth MAC address.

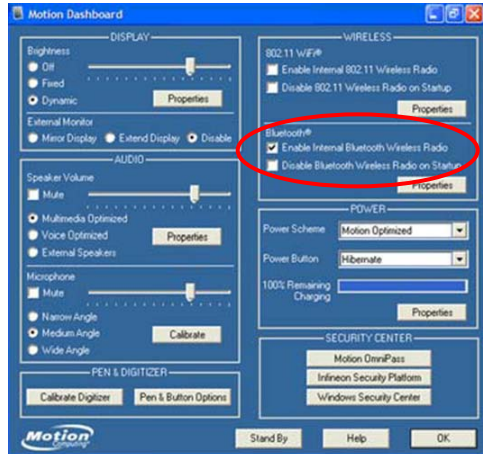
5. In the passkey options screen, select the option Let me choose my own passkey and enter a passkey of your choice.
6. To indicate the connection, the CRS will beep once.
7. In the last screen of the Add Bluetooth Device Wizard, note the COM number of the Outgoing COM port.



Toshiba Bluetooth Stack:

These instructions are based on a Motion Computing tablet. Refer to the manual for your *Bluetooth* hardware/software for specific *Bluetooth* usage instructions.

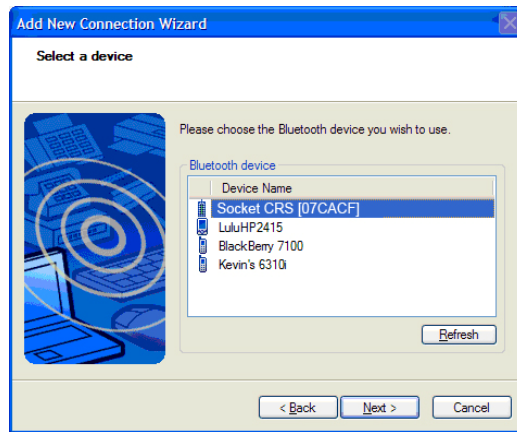
1. Turn on the *Bluetooth* radio of your computer. Tap on the Dashboard icon on the desktop. In the dashboard, check **Enable Internal Bluetooth Wireless Radio**. Tap OK.



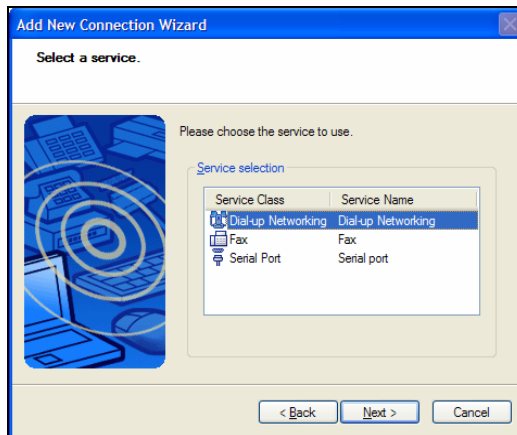
2. Turn on the Cordless Ring Scanner. Press the small power button on the side of the wrist unit for at least 2 seconds, until you hear a beep. The *Bluetooth* status LED on the wrist unit will start blinking blue.
3. Double-tap on the *Bluetooth* icon at the bottom of your screen.
4. In *Bluetooth* Settings, tap **New Connection** at the bottom of the screen.
5. The Add New Connection Wizard will launch. Select **Custom Mode** and tap **Next**. The tablet will begin searching for *Bluetooth* devices in range.



- In the list of found devices, select Socket CRS [xxxxxx]. Tap Next.



- If a passkey is requested, enter the default PIN **1234**. Tap OK. To indicate the connection, the CRS will beep once.
- In the list of device services, select Serial Port. Tap Next.

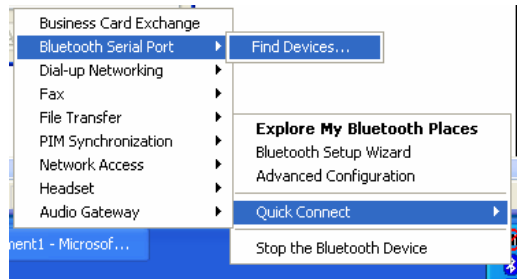


- Note which COM port is assigned to the CRS.

Broadcom (Widcomm) Bluetooth Stack:

Refer to the manual for your *Bluetooth* hardware/software for specific instructions. Many *Bluetooth* USB adapters use this stack.

1. Turn on the *Bluetooth* radio of your computer.
2. Turn on the Cordless Ring Scanner. Press the small power button on the side of the wrist unit for at least 2 seconds, until you hear a beep. The *Bluetooth* status LED on the wrist unit will start blinking blue.
3. Perform a Quick Connect to a *Bluetooth* Serial Port. Click the *Bluetooth* icon in the task tray. Click Quick Connect | Bluetooth Serial Port | Find Devices.



It is essential to connect to the CRS via Quick Connect because this sets the CRS as your default Bluetooth serial device.


4. During the device search, the CRS will appear as Socket CRS [xxxxxx]

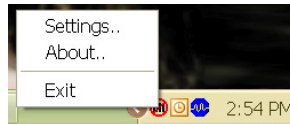
The characters in brackets are the last 6 characters of the scanner's Bluetooth MAC address.

5. If a passkey is requested, enter **1234**. To indicate the connection, the CRS will beep once.

By default, the Bluetooth software will ask you for the passkey each time you connect. To stop the automatic prompts, under Advanced Configuration, disable the Secure Connection requirement for both the Local Service and Client Application, then unpair the devices. Refer to the documentation for your Bluetooth hardware/software for complete instructions.

STEP 3: Configure Scanner Settings

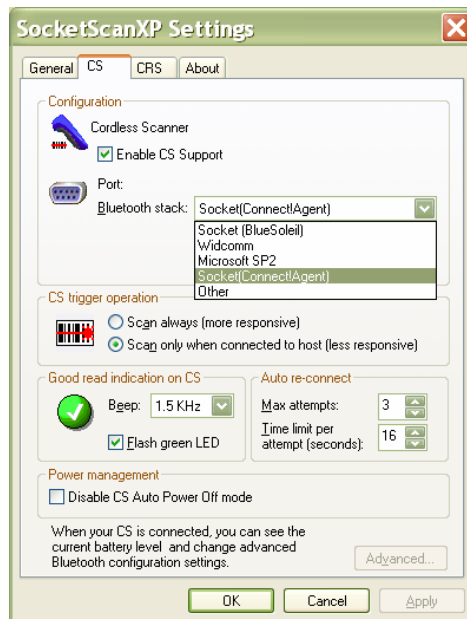
1. Click the SocketScan icon  at the bottom of the screen. In the pop-up menu, click Settings.



Alternatively, click Start | Control Panel | SocketScanXP Settings.

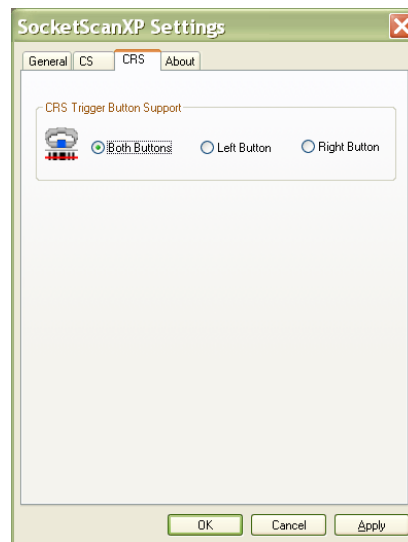
If the SocketScan icon does not appear at the bottom of the screen, click on the SocketScanXP icon on your desktop.

2. Tap on the CS tab. Enter the following settings:



- **Enable CS support:** Check this box. **IMPORTANT!!!**
- **Bluetooth stack:** Select **Connect!Agent** if you want to use it. Otherwise, select your computer's *Bluetooth* stack. The **Connect!Agent** option will only appear if you installed the **Connect!Agent** software.
- **COM Port:** Select the COM port number assigned to the CRS. This field will only appear for some *Bluetooth* stacks.

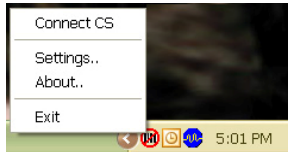
- **CS trigger operation:** Select whether you want the CRS to scan only when a *Bluetooth* connection to the device is detected. If you select
 - **Scan only when connected to host,** scanning will be a few milliseconds slower.
 - **Good read indication on CS:** Select how you would like the CRS to indicate that it has successfully read data.
 - **Auto re-connect:** Select the maximum number of attempts and time limit per attempt for the CRS to try to reconnect to your computer in case they are moved out of range from each other.
 - **Battery Level:** No progress bar should appear since you are not connected to the CRS.
 - **Power management:** The CRS automatically shuts off if there is no *Bluetooth* connection for 20 minutes. Check to disable.
 - **Advanced:** When the computer is connected to the CRS, you can modify the *Bluetooth* friendly name and security settings of the CRS.
3. Click on the CRS tab. Select which button on the CRS you would like to use to trigger the scanner.



4. After entering settings, click **OK** to save the changes.
5. If SocketScan is open, you will be prompted to exit and restart SocketScan. Click **OK**. Click on the SocketScan icon at the bottom of your screen and in the pop-up menu, click **Exit**.

STEP 4: Start SocketScan and Connect to CRS

1. If you did not install Connect!Agent start your computer's *Bluetooth* software and make sure the *Bluetooth* radio is turned on.
2. Right-click the SocketScan icon at the bottom of the screen and click **Connect CS**.



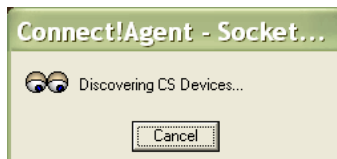
*If you installed Connect!Agent, it will automatically open the Bluetooth software and turn on the Bluetooth radio when you click **Connect CS**.*

*After the correct Bluetooth hardware settings are configured in SocketScan (either manually or by Connect!Agent), the **Connect CS** menu option allows you to connect to the CRS directly from SocketScan, instead of manually connecting via your Bluetooth software.*

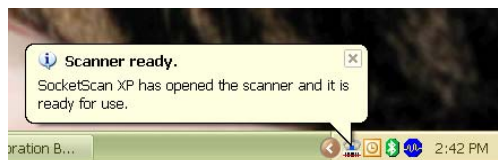
*The **Connect CS** option will not appear unless you checked the box **Enable CS Support** in the SocketScanXP settings.*

SocketScan will not be able to connect to the CRS if you have another device assigned as your favorite or default Bluetooth serial device.

3. If you are using Connect!Agent, and this is your first time connecting, Connect!Agent will automatically begin searching for the CRS. After it finds the CRS, it will automatically configure the connection.



4. SocketScan will connect the computer to the CRS.



5. The task tray icon at the bottom of your screen will change to an image of a ring above a bar code to indicate that SocketScan is connected to the CRS.



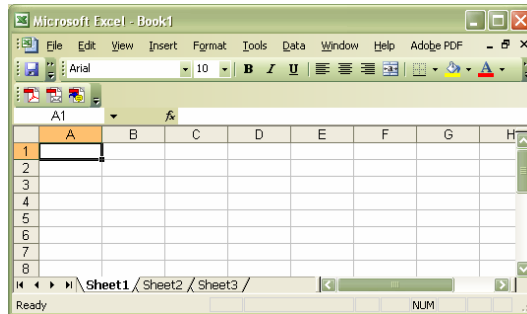
STEP 5: Assemble and Put on the CRS

Please refer to the instructions in Chapter 2.



STEP 6: Scan Data into Your Application

1. Start the Windows application that you want to enter scanned data into (e.g., Excel, Notepad, etc.). Make sure a document or spreadsheet is open.



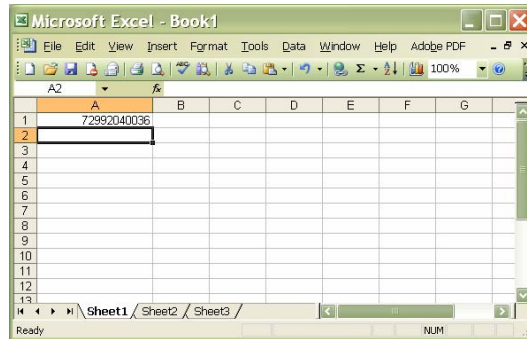
2. Place the cursor where you want data from the next scan to be entered.
3. Press the trigger button and aim your finger at the bar code. The red laser beam should cover the entire width of the bar code. See Chapter 1 for scanning tips.



When data is read and sent to the mobile computing device, the laser will turn off. Depending on your scanner settings, the scanner may beep and/or the ring scanner's LED may flash green to indicate a good read.

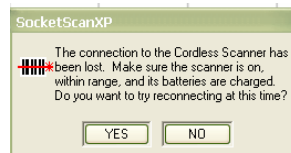
If no data is read in a few seconds, the laser will turn off, and you must try again.

4. After a successful scan, data should appear in your document. By default, the cursor automatically advances to the next cell or line, ready for the next scan.



Wait for the "Good Scan" indication before you scan another bar code. If you try to scan too fast, the device can lock up until you stop scanning.

If your computer suspends or the CRS is moved out of range, the connection will be lost. After the computer turns on again or returns in range, SocketScan will try to re-connect according to the "auto re-connect" settings you chose in SocketScan.



After the time limit for re-connection attempts has passed, you can click on the Socket CS Connect icon on the desktop to manually initiate re-connection.

To disconnect, click on the SocketScan icon and click Disconnect CS.

To turn off the CRS, press the power button on the wrist unit for at least 2 seconds, until you hear 2 beeps.

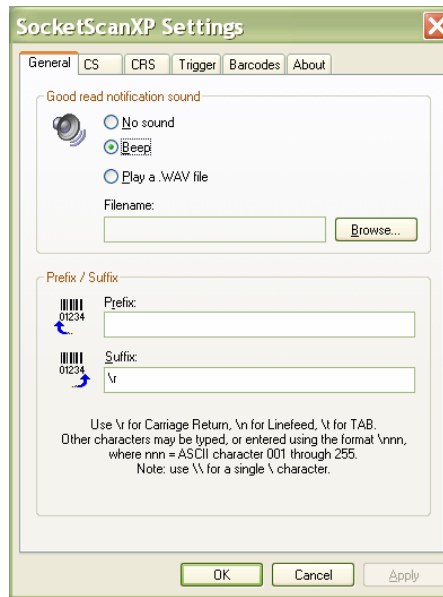
For information about third-party applications compatible with the CRS for asset tracking, warehouse mobility, and other vertical markets, visit: www.socketcom.com/solutions/default.asp?Type=Vertical

OPTIONAL: Assign Sound and Prefix/Suffix Settings



You can configure these settings whether or not the CRS is connected to your computer. The Trigger and Barcodes tabs appear only when connected.

1. In SocketScanXP Settings, click on the General tab.



2. Adjust any settings as desired:

Good read notification sound:

Select which sound you would like your computer to use to indicate good readings of data. By default, your computer will beep.

- If you would like your computer to play a .WAV file, select **Play a .WAV file** and click **Browse** to indicate the file location.

Prefix/Suffix:

Enter any prefix and/or suffixes you would like SocketScan to automatically append to scanned data (128 character max., printable ASCII characters only). By default, SocketScan will enter a carriage return after every data scan.

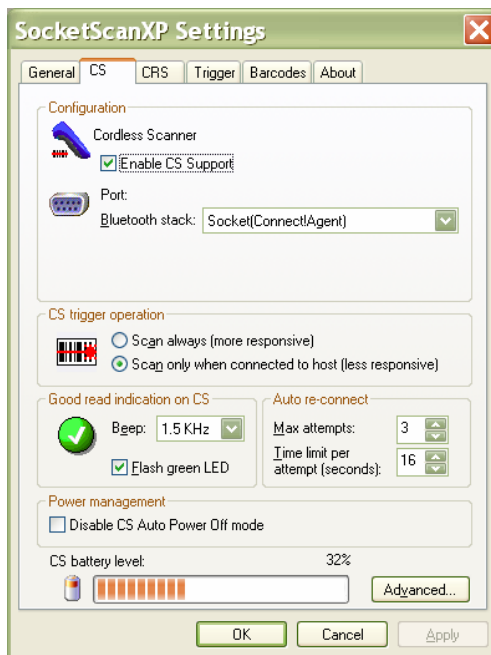
- Use `\r` for Carriage Return, `\n` for Linefeed, `\t` for Tab., `\\` for a single `\` character.
- Other characters can be typed or entered using the format `\nnn`, where `nnn` = ASCII character 001 through 255.

3. After changing any settings, click **OK**. As prompted, exit and restart SocketScanXP.

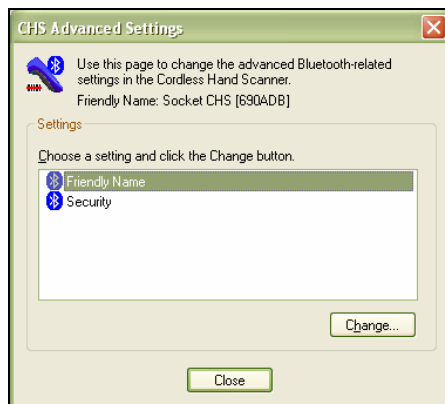
OPTIONAL: Configure Advanced *Bluetooth* Settings

The SocketScanXP utility enables you configure advanced *Bluetooth* settings of the CRS, including the *Bluetooth* friendly name and security settings.

1. In SocketScanXP Settings, click on the CS tab. At the bottom of the screen, the CRS battery level will be indicated by a status bar. Click **Advanced**.

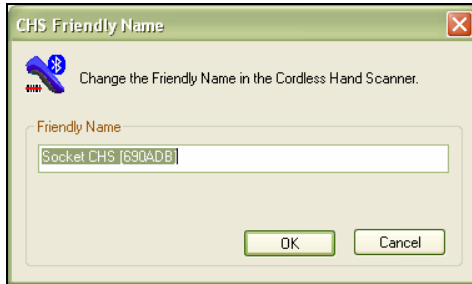


2. The Advanced Settings screen will appear, reporting the current *Bluetooth* friendly name assigned to the CRS. If desired, select **Friendly Name** or **Security** and click **Change**.



3. In the screen that appears, enter any changes and click OK.

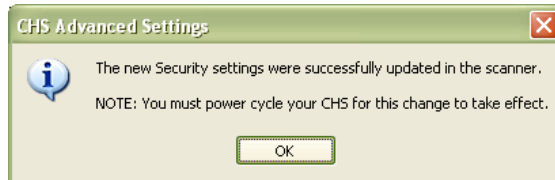
Friendly Name: Enter a new friendly name and click OK.



Security Settings: Enter a PIN code and/or any authentication or encryption settings. If desired, click **Delete Bonding** to delete any bonding/pairing information in the CRS. After making any changes, click OK.



4. If you modified any security settings, you will be prompted to turn your CRS off and back on to make the changes take effect. Read the message and click OK. Turn the CRS off and back on again.



5. When you return to the Advanced Settings screen, click Close. In the SocketScanXP Settings screen, click OK.
6. Exit and restart SocketScanXP to have your changes take effect.

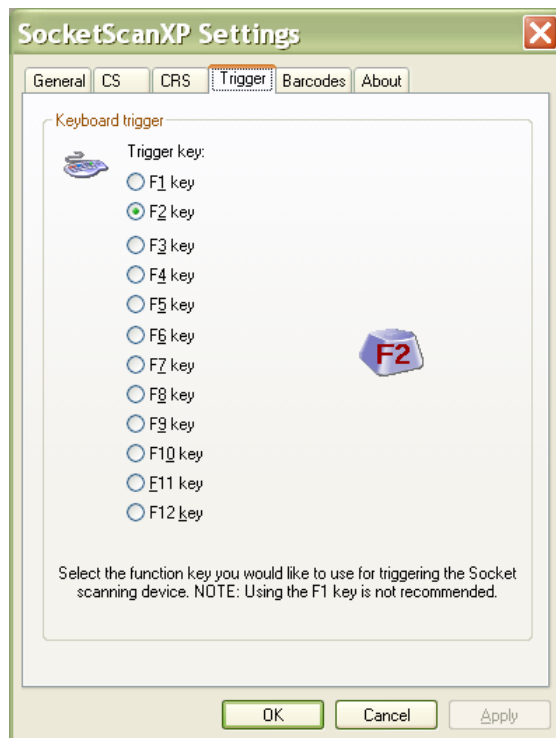
OPTIONAL: Assign a Remote Trigger Button

The SocketScanXP utility enables you to assign of your computer's function keys to trigger the CRS.

1. In SocketScanXP Settings, click on the Barcodes tab.



The Trigger and Barcodes tabs will only appear if you are connected to the CRS.



2. Select the function key you would like to use to remotely trigger the CRS. Click OK.
3. As prompted, exit and restart SocketScanXP to have your changes take effect.

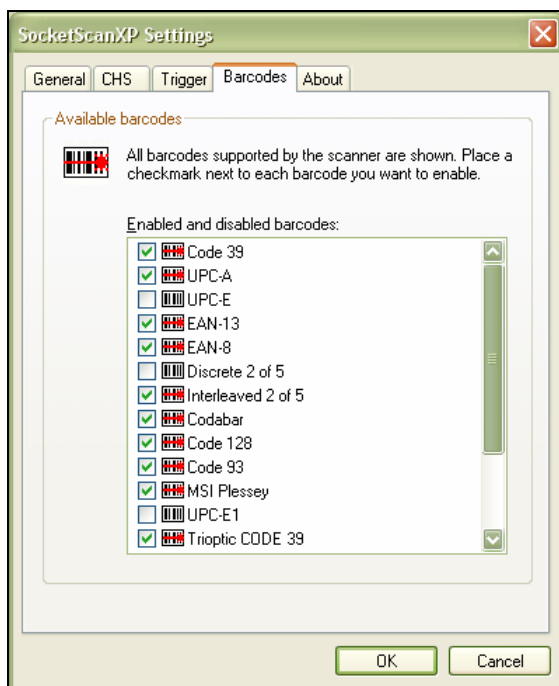
OPTIONAL: Select Symbolologies

The SocketScanXP utility makes it easy to modify which symbolologies you want the scanner to recognize and decode.

1. In SocketScanXP Settings, click on the **Barcodes** tab.



*The **Trigger** and **Barcodes** tabs will only appear if you are connected to the CRS.*



2. Check the symbolologies you wish to enable. Uncheck those you wish to disable. Click OK.



Enabling all possible symbolologies will make the decode process slightly longer.

3. As prompted, exit and restart SocketScanXP to have your changes take effect.

Appendix A

Specifications

Physical Characteristics

Wrist Unit Size: 98l x 13.1h x 47w (mm) 3.86l x 0.52h x 1.85w (in.)

Ring Size: 55l x 37h x 38w (mm) 2.17l x 1.46h x 1.5w (in.)

Wrist Unit Mass: approx. 90 g (3.2 oz)

Ring Mass: approx. 50 g (1.8 oz)

Power Source: Rechargeable 3.7V lithium-ion battery

Expected Battery Life with Typical Operation (connected via Bluetooth and minimum 10,000 bar code scans): 8 hours

Operating Temp: -4 to 140°F (-20 to 60°C)

Operating System Support:

- Windows Mobile 2003, 2003SE, 5.0
- Windows XP and XP Tablet Edition

Bluetooth Stack Support:

- Broadcom (Widcomm) v1.4
- IVT BlueSoleil v1.6.1.4 (from Socket CF + Adapter /USB Connection Kits)
- Microsoft *Bluetooth* stack for Windows Mobile
- Microsoft Windows XP Service Pack 2
- Socket Drakar v1.4 (from Socket SD/CF Connection Kits)
- Toshiba *Bluetooth* stack v3.03.06 for Windows XP

Note: Additional Bluetooth stacks may be compatible but have not been tested by Socket. For Windows XP, the optional Connect!Agent software is compatible only with the IVT BlueSoleil and Microsoft Windows XP SP2 Bluetooth stacks.

2005 Sunrise Date Compliant

Scanning Characteristics

Bar Code Symbolologies Decoded: Code 39, UPC/EAN/JAN, MSI, Code 128, Code 93, Codabar, I 2 of 5, D 2 of 5, RSS-14

Laser: Class 1 and Class 2

Scan Angle: 46.5°

Laser Scanner Performance:

Scan Repetition Rate: 50 (± 3) scans/sec (bi-directional)

Decode Distances: 2.2 to 40+ inches depends on symbol size, symbology, label media, W-N Ratio, scan angle

Bluetooth Characteristics

Protocol: Bluetooth 2.45 GHz ISM band frequency hopping

Antenna: Integrated

Radio Range: Up to 330 ft (100 m), depending on environment

Connection: Point-to-point *Security:* Encrypted link

RF Power: Class 1 radio; Typical Output: 14 dbm

Certification/Compliance (pending)

FCC: Part 15, Class B

CE: EN55024:1998

C-TICK: s.182

Industry Canada

VCCI

Bluetooth 1.1

IP54

TELEC

About Bluetooth Range

The Cordless Ring Scanner features a powerful Class 1 *Bluetooth* (Class 2 *Bluetooth* with a maximum range of 30ft or 10m is also available) radio to provide the maximum possible range. As with all wireless technologies, the connection range can vary widely depending on many factors such as the brand and placement of the host device, the type and size of physical obstacles and the presence and activity level of competing radio transmissions.

In range testing of the CRS while connected to a variety of typical host devices with Class 2 radios, functional connection distances from 18 to over 100 feet have been experienced depending on the environment. The following conditions appear to reduce the *Bluetooth* connection range:

- The presence of soft, absorbent materials such as paper, fiberglass insulation, foam material in office cubical walls, carpeting and, to a lesser extent, even sheetrock and wood construction materials. Hard materials such as concrete increase the range.
- Human bodies or containers of liquid positioned between the host and the CRS.
- The presence and activity level of competing *Bluetooth* or 802.11 (Wi-Fi) systems using the same 2.4 GHz frequency.
- Metal in a grid pattern, such as chain link fencing or chicken wire. This type of material may block the *Bluetooth* (or Wi-Fi) signal completely.

Appendix B

Safety and Usage Tips

About *Bluetooth* and Health

Bluetooth wireless technology allows you to use short-range radio signals to connect a variety of devices, such as bar code scanners, mobile phones, Pocket PCs, notebook computers, printers, LAN access points, and many other devices at home or work. These radio signals replace the cables that have traditionally connected these devices.

Bluetooth products have small radio transmitters and receivers. Output power is normally very low, only 1 mW (1/1000 of a watt). This gives a working range of approximately 10 meters.

The maximum exposure levels from *Bluetooth* products are far below recommended safety guidelines. At most, typical *Bluetooth* devices (1mW) reach only one percent of the prescribed safety levels.

Product Care

- Do not expose your product to liquid, moisture or extreme humidity.
- Do not expose your product to extreme high or low temperatures.
- Do not expose your product to lit candles, cigarettes, or cigars, or to open flames, etc.
- Do not drop, throw or try to bend the product, as rough treatment could damage it.
- Do not paint your product, as the paint could obstruct parts and prevent normal use.
- Do not attempt to disassemble your product: a broken warranty seal will void the warranty. The product does not contain consumer serviceable components. Should your Cordless Ring Scanner need service, please contact Socket technical support at: support@socketcom.com.
- Treat your product with care. Keep in a clean and dust-free place.
- Changes or modifications of this product, not expressly approved by Socket, may void the user's authority to operate the equipment.

Antenna Care

Do not place a metallic shield around the Cordless Ring Scanner since it will reduce the radio transmission efficiency.

Efficient Use

For optimum performance, please make sure that there is no metal surrounding your Cordless Ring Scanner.

Driving

RF energy may affect some electronic systems in motor vehicles, such as car stereo, safety equipment, etc. Check with your vehicle manufacturer to be sure that the Cordless Ring Scanner will not affect the vehicle's electronics.

Aircraft

- Turn off your Cordless Ring Scanner before boarding any aircraft.
- To prevent interference with communications systems, you must not use your Cordless Ring Scanner while the plane is in the air.
- Do not use it on the ground without permission from the crew.

Radio Frequency Exposure

Your Cordless Ring Scanner contains a radio transmitter and receiver. When in operation, it communicates with a *Bluetooth* enabled mobile computer by receiving and transmitting radio frequency (RF) magnetic fields in the frequency range 2400 to 2500 MHz. The output power of the radio transmitter is 0.001 Watt. The Cordless Ring Scanner is designed to be in compliance with the RF exposure limits set by national authorities and international health agencies¹ when installed or used separately from other antennas or radio transmitters.

¹ Examples of RF exposure standards and guidelines:

ICNIRP, "Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz)", International Commission on Non-Ionizing Radiation Protection (ICNIRP), Health Physics, vol. 74, pp 494-533, April 1998.

99/519/EC, EU Council Recommendation on the limitation of exposure to the general public to electromagnetic fields 0 Hz – 300 GHz, Official Journal of the European Communities, July 12, 1999.

ANSI/IEEE C95.1-1992, "Safety levels with respect to human exposure to radio frequency electromagnetic fields, 3 kHz to 300 GHz", The Institute of Electrical and Electronics Engineers, Inc., New York, 1991.

FCC Report and Order, ET Docket 93-62, FCC 96-326, Federal Communications Commission (FCC), August 1996.

Radiocommunications (Electromagnetic Radiation Human Exposure) Standard 1999, Australian Communications Authority (ACA), May 1999.

Appendix C

Bar Code Label Specifications

All bar code symbols/labels should satisfy the appropriate AIM Uniform Symbology Specification.

Background Substrate:

The bar code symbol should be printed on material (media) that is reflective and has a matte (not glossy) finish. A background diffuse reflectance of at least 70% to 80% is desirable for optimum contrast. Retro-reflective media should be used to obtain decode distances greater than 36 inches.

Ink Color and Type:

The inked bars should not exceed 25% reflectance at the wavelength that is being used for reading, whether printed with black ink or colored ink. The reflectance value should not vary more than 5% within the same character.

Voids and Specks:

The code should be printed clearly, free of voids, specks, blemishes and lines that could “fool” the scanner. Specks or blemishes in the white spaces, or false or missing bar sections could be interpreted by the reading equipment as part of the code. Generally, the width of such flaws is more serious than the height. Code symbols/ labels should be rejected if these defects are present.

Definition:

The bars in the bar code symbol should be well defined. Their edges should not be rough or fuzzy, so that the bars and spaces have the proper widths intended for the bar code symbology used.

Contrast:

Background reflectance (that of the substrate on which the codes are printed) should always provide a good contrast relative to the ink reflectance (that of the code bars). The difference between the two should be at least 37.5% at the wavelength used for reading.

Tolerance:

The ratio of the widths of bars and spaces in a bar code symbol must conform to the appropriate AIM bar code specifications and can cause problems if not correct throughout the bar code. Problems can occur when bar edges are smeared or rough, or when they exhibit voids.

Appendix D

Enabling or Disabling Symbologies

The Cordless Ring Scanner is pre-set to automatically detect and decode (auto-discriminate) the most common bar code symbologies. To enable or disable symbologies, simply use SocketScan's Symbology Selector.

Notes:

- *The length of some symbologies will change after Symbology Selector is used. See Table 1.*
- *With more symbologies enabled, the scanner must work harder to search through all the possible combinations. This may make the decoding process slightly longer.*
- *The advanced symbology parameters listed in Table 2 can only be modified by using the SocketScan Advanced Programming Guide or the SocketScan SDK. Check Socket's website for updates.*

Table 1. Default Symbologies

| Symbology | Scanner Default | Default Length | Length after Symbology Selector |
|---|-----------------|----------------|---------------------------------|
| UPC/EAN/JAN | | | |
| UPC-A | Enabled | N/A | N/A |
| UPC-E | Enabled | N/A | N/A |
| UPC-E1 | Disabled | N/A | N/A |
| EAN-8 | Enabled | N/A | N/A |
| EAN-13 | Enabled | N/A | N/A |
| Code 128 (USS-128 & UCC/EAN 128) | Enabled | Any | Any |
| Code 39* | | | |
| Code 39 | Enabled | 2 to 23 | 2 to 55 |
| Trioptic Code 39 | Enabled | 2 to 23 | 2 to 55 |
| Code 39 Full ASCII | Disabled | 2 to 23 | 2 to 55 |
| Code 93 | Disabled | 2 to 38 | 2 to 55 |
| Interleaved 2 of 5* | Enabled | 14 Only | 2 to 55 |
| Discrete 2 of 5* | Disabled | 12 Only | 2 to 55 |
| Codabar | Disabled | 5 to 55 | 2 to 55 |
| MSI Plessey* | Disabled | 1 to 30 | 2 to 55 |
| RSS-14 (Standard, Limited, Expanded)** | Disabled | N/A | N/A |

**Warning: Setting the length to "Any" may lead to inaccurate decodes of these symbologies.*

***This symbology will be added in the next release.*

Table 2. Other Symbology Parameters

| Symbology Parameters | Scanner Default |
|---------------------------------|-----------------|
| UPC/EAN/JAN | |
| Supplementals | Disabled |
| Transmit Check Digit | Enabled |
| Bookland EAN | Disabled |
| Decode UPC/EAN Supplementals | Ignore |
| UPC/EAN Supplemental Redundancy | Seven |
| Transmit UPC-A Check Digit | Enabled |
| Transmit UPC-E Check Digit | Enabled |
| Transmit UPC-E1 Check Digit | Enabled |
| Convert UPC-E to A | Disabled |
| Convert UPC-E1 to A | Disabled |
| EAN-8 Zero Extend | Disabled |
| UPC/EAN Security Level | 0 |
| UPC/EAN Coupon Code | Disabled |
| | |
| Code 39 | |
| Convert Code 39 to Code 32 | Disabled |
| Code 32 Prefix | Disabled |
| Check Digit Verification | Disabled |
| Transmit Check Digit | Disabled |
| Code 39 Full ASCII | Disabled |
| | |
| Interleaved 2 of 5 | |
| Check Digit Verification | Disabled |
| Transmit Check Digit | Disabled |
| Convert I 2 of 5 to EAN-13 | Disabled |
| | |
| RSS-14 | Disabled |
| RSS-14 Limited | Disabled |
| RSS-14 Expanded | Disabled |

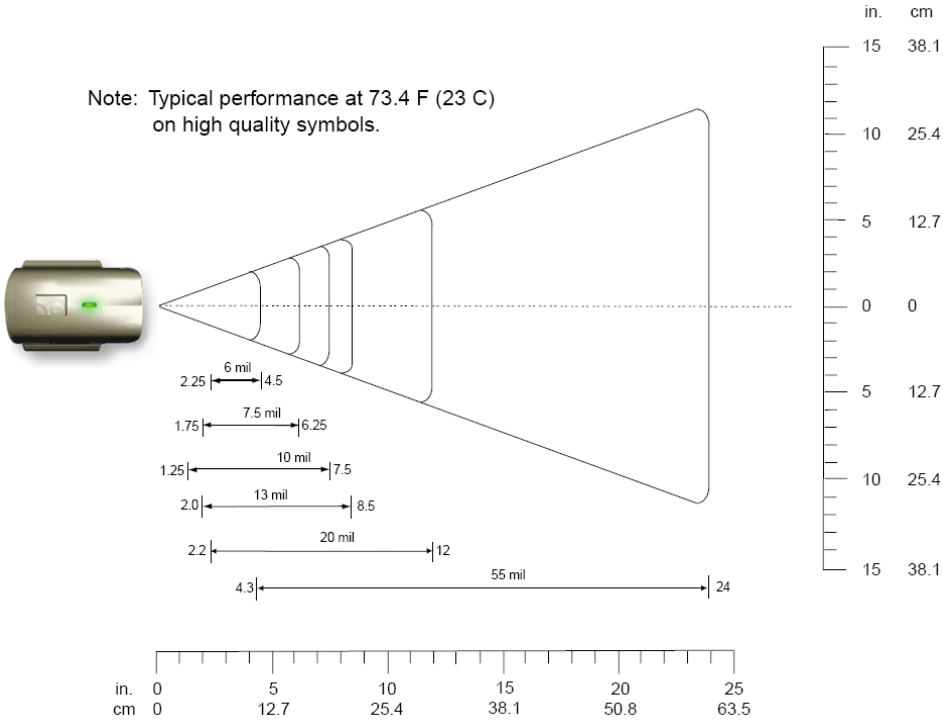
For more information on bar codes, symbologies, labels or other bar code related topics, visit any of the following web sites:

- a. www.aimglobal.org/technologies/barcode/
- b. www.aimglobal.org/aimstore/stackedsymbologies.htm
- c. www.adams1.com
- d. www.bizfonts.com
- e. www.barcode-us.com/info_center/upc.htm (UPC Codes)
- f. www.barcode-us.com/info_center/bookinfo.htm (Bookland EAN)
- g. www.dataid.com/bcsymbology.htm
- h. www.aaabarcodes.com
- i. www.snx.com/mechanics.html
- j. www.pscnet.com/html/aabcsymbologies.htm#Checksums
- k. www.idautomation.com/barcoding4beginners.html

Appendix E

Decode Zone


The decode zones for the Cordless Ring Scanner is shown below. The minimum element width (“X Dimension” or bar code “size”) is the width in thousandths of an inch (mils) of the narrowest element (bar or space) in the symbol. The figures shown are the typical scanning distances (depths of field) for selected bar code sizes. The maximum usable length of a bar code symbol (Width of Field) at any given range is also shown.



Appendix F

Troubleshooting

For help on SocketScan for Windows Mobile, tap **Start | Help** on a Pocket PC.

SYMPTOM: I get the “No Scanner Detected”  icon in the task tray of my Windows device and can't trigger the laser or scan any bar codes.

| POSSIBLE REASON | SOLUTION |
|---|--|
| Your mobile computer is not connected to the Cordless Ring Scanner. | Make sure the Cordless Ring Scanner is on and in range and has enough battery power. Try to reconnect by clicking on the icon and clicking Connect CS. |

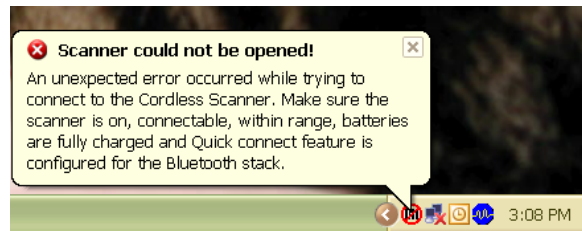
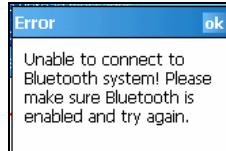
SYMPTOM: When I try to scan, the laser activates, but no data appears on my screen, and the laser eventually turns off.

| POSSIBLE REASON | SOLUTION |
|---|--|
| The scanner is too close or too far from the bar code. | Practice so you get accustomed the most effective distance and scanning angle. |
| The bar code is incorrectly formatted or poorly printed. | Try scanning a bar code that is correctly formatted or printed well, such as on a retail package. |
| The bar code symbology may be disabled or not supported by the Cordless Ring Scanner. | Use Scan Demo for Windows Mobile to identify the symbology. If needed, enable the symbology by using Symbology Selector. |
| You don't have an application open to scan data into. | Open an application, such as Excel, and place the cursor where you want scanned data to go. Try scanning again. |

SYMPTOM: When I scan a lot of bar codes very fast, the scanner locks up and won't work for a few seconds.

| POSSIBLE REASONS | SOLUTION |
|---|---|
| You are scanning too fast for the Error Proof Protocol to confirm that the mobile computer has successfully received each scan of data. | Wait for the confirmation beep after each scan before you scan a new bar code. You may need to re-scan data that was not correctly received by the mobile computer. |

SYMPTOM: My mobile computer cannot find the CRS, and/or I get an error message saying that the scanner could not be opened or there are connection problems.



| POSSIBLE REASONS | SOLUTION |
|--|---|
| You are too far from the Cordless Ring Scanner. | Move the devices closer together, within a range of 10-15 meters. |
| The Cordless Ring Scanner is not turned on. | Turn on the Cordless Ring Scanner. |
| You have assigned another device as your favorite or default <i>Bluetooth</i> serial device. | Remove any settings that assign another device as your favorite <i>Bluetooth</i> serial device. Refer to the documentation for your <i>Bluetooth</i> software for instructions. |
| You are using an XP system without Connect!Agent, and you did not start the <i>Bluetooth</i> software. | Start the <i>Bluetooth</i> software. Refer to the documentation for your <i>Bluetooth</i> software for instructions. |
| The <i>Bluetooth</i> radio of your mobile computer is not turned on. | Turn on the <i>Bluetooth</i> radio of your mobile computer. Refer to the documentation for your <i>Bluetooth</i> software for instructions. |

SYMPTOM: While scanning with the CRS, I turned off the Pocket PC, or my Pocket PC entered suspend mode. Now my Pocket PC won't turn on again.

| POSSIBLE REASONS | SOLUTION |
|---|--|
| This is a known problem with the Widcomm stack (built into HP h221X iPAQ Pocket PCs with ROM version 1.00). | Soft reset the Pocket PC by pressing the reset button. |

SYMPTOM: While scanning with the CRS, I turned off the host device, or my host device entered suspend mode. Now the CRS won't reconnect to my host device.

| POSSIBLE REASONS | SOLUTION |
|---|--|
| There is a problem with the Broadcom (Widcomm) stack on some devices where the CRS can be discovered but fails to communicate. Affected units include the HP iPAQ models h221X with ROM version 1.10 and h1945. | Soft reset the Pocket PC by pressing the reset button. |

SYMPTOM: My Pocket PC shows an error message saying that there are insufficient device resources.

| POSSIBLE REASONS | SOLUTION |
|---|---|
| Some HP iPAQ Pocket PCs are not compatible with the Socket Cordless Ring Scanner. | The CRS will not work with your Pocket PC at this time. |

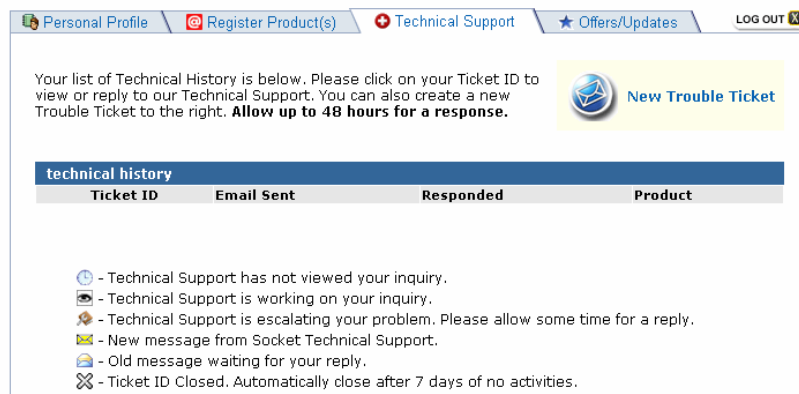
Appendix G

Technical Support

If you have trouble installing or using the Socket Cordless Ring Scanner, contact Socket’s technical support department for assistance.

IMPORTANT! To obtain technical support, you must first register your product online at www.socketcom.com/prodreg.

After you register your product, log in and click on the Technical Support tab. Click **New Trouble Ticket** to submit an online request for technical support. Afterwards, you can log in anytime to monitor the status of your request. If we are unable to resolve your support inquiry online, we can arrange for a technical support representative to call you at a specific time.



The screenshot shows a web interface with a navigation menu at the top containing: Personal Profile, Register Product(s), Technical Support (active), Offers/Updates, and LOG OUT. Below the menu, there is a text block: "Your list of Technical History is below. Please click on your Ticket ID to view or reply to our Technical Support. You can also create a new Trouble Ticket to the right. **Allow up to 48 hours for a response.**" To the right of this text is a yellow button labeled "New Trouble Ticket" with a mail icon. Below the text is a table with the following structure:

| technical history | | | |
|---|------------|-----------|---------|
| Ticket ID | Email Sent | Responded | Product |
| ⌚ - Technical Support has not viewed your inquiry. | | | |
| 👁️ - Technical Support is working on your inquiry. | | | |
| 🔥 - Technical Support is escalating your problem. Please allow some time for a reply. | | | |
| ✉️ - New message from Socket Technical Support. | | | |
| 📧 - Old message waiting for your reply. | | | |
| 🔒 - Ticket ID Closed. Automatically close after 7 days of no activities. | | | |

Please refrain from disassembling the Cordless Ring Scanner. Disassembly of this device will void the product warranty.

Limited Warranty

Socket Communications Incorporated (Socket) warrants this product against defects in material and workmanship, under normal use and service, for the following period from the date of purchase:

Cordless Ring Scanner: Two years
Cable and adjustable wrist and finger straps: 30 days

Incompatibility is not a defect covered by Socket's warranty. During the warranty period, Socket will, at its option, repair or replace the defective product at no charge when furnished with proof of retail purchase, provided that you deliver the product to Socket or to an authorized Socket Service Center.

The returned product must be accompanied by a return material authorization (RMA) number issued by Socket or by Socket's Authorized Service Center. If you ship the product, you must use the original container or equivalent and you must pay the shipping charges to Socket. Socket will pay shipping charges back to any location in the contiguous United States. This warranty applies only to the original retail purchaser and is not transferable.

Socket may, at its option, replace or repair the product with new or reconditioned parts and the returned product becomes Socket's property. Socket warrants the repaired or replaced products to be free from defects in material or workmanship for ninety (90) days after the return shipping date, or for the duration of the original warranty period, whichever is greater.

This warranty does not cover the replacement of products damaged by abuse, accident, misuse or misapplication, nor as a result of service or modification other than by Socket.

SOCKET IS NOT RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM BREACH OF ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING DAMAGE TO PROPERTY AND, TO THE EXTENT PERMITTED BY LAW, DAMAGES FOR PERSONAL INJURY. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Some states do not allow limitation of implied warranties, or the exclusion or limitation of incidental or consequential damages, so that the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

This product may contain fully tested, recycled parts, warranted as if new.

For warranty information, call (510) 744-2700.

Limited Software Warranty

LIMITED WARRANTY. SOCKET warrants that the original disk or CD ROM is free from defects for 90 days from the date of delivery of the SOFTWARE.

CUSTOMER REMEDIES. SOCKET'S entire liability and your exclusive remedy shall be, at SOCKET'S option, either (a) return of the price paid or (b) replacement of the SOFTWARE which does not meet SOCKET'S Limited Warranty and which is returned to SOCKET with a copy of your receipt. Any replacement SOFTWARE will be warranted for the remainder of the original warranty period or 30 days, whichever is longer. THESE REMEDIES ARE NOT AVAILABLE OUTSIDE OF THE UNITED STATES OF AMERICA.

NO OTHER WARRANTIES. SOCKET disclaims all other warranties, either express or implied, including but not limited to implied warranties of merchantability and fitness for a particular purpose, with respect to the SOFTWARE and the accompanying written materials. This limited warranty gives you specific legal rights. You may have others which vary from state to state.

NO LIABILITY FOR CONSEQUENTIAL DAMAGES. In no event shall SOCKET or its suppliers be liable for any damages whatsoever (including, without limitation, damages for loss of business profits, business interruption, loss of business information, or other pecuniary loss) arising out of the use of or inability to use the SOFTWARE, even if SOCKET has been advised of the possibility of such damages. Because some states do not allow the exclusion or limitation of liability for consequential or incidental damages, the above limitation may not apply to you.

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GOVERNMENT END USERS. If the SOFTWARE is supplied to the U. S. Government, the SOFTWARE is classified as "restricted computer software" as defined in clause 52.227-19 of the FAR. The U. S. Government's rights to the SOFTWARE are as provided in clause 52.227-19 of the FAR.

CONTROLLING LAW AND SEVERABILITY. This License shall be governed by the laws of the United States and the State of California. If for any reason a court of competent jurisdiction finds any provision, or portion thereof, to be unenforceable, the remainder of this License shall continue in full force and effect.

Regulatory Compliance

The Socket Cordless Ring Scanner is designed to be compliant with the rules and regulations in locations where they are sold and will be labeled as required. This product is type approved — users are not required to obtain license or authorization before using.

This product has been certified as conforming to technological standards. Therefore, the following actions are punishable by law:

- Disassembly or modification of this product
- Removal of identification labels on the back of the product

The frequency used by this product is also used by industrial, scientific and medical devices, such as microwave ovens, as well as wireless detectors for motion detectors, such as those requiring licenses used on manufacturing lines or similar radio transmitters (all of these wireless devices will be called “other wireless transmitters” below). Most modern electronic equipment (e.g., in hospitals and cars), is shielded from RF energy. However, certain electronic equipment is not.

1. Please ensure that all medical devices used in proximity to this device meet appropriate susceptibility specifications for this type of RF energy.
2. In the unlikely event that there is electronic interference between this system and other wireless transmitters, quickly change the location of operation or stop operating the unit (cease signal transmission).
3. If other electrical interference or related problems occur, contact Socket technical support at support@socketcom.com

Radio Frequency Interference Requirements

This device complies with part 15 of the FCC rules and Industry Canada. Operation is subject to the following conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment is also ETS EN300 328-2, ETS EN301 489-1 and ETS EN301 489-17 compliant. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his or her own expense.

This equipment generates and radiates radio-frequency energy. To comply with FCC RF exposure compliance requirements, the following antenna installation and device operating configurations must be satisfied: (1) Users are not permitted to make changes or modify the system in any way, and (2) connecting external antennas to the Cordless Ring Scanner is prohibited. This device and its antenna must not be co-located or operated with any other antenna or transmitter.

To comply with Industry Canada RF exposure compliance requirements, the following antenna installation and device operating configurations must be satisfied: “The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit RF field in excess of Health Canada limits for the general population; consult Safety Code 6, available at Health Canada’s website www.hc-sc.gc.ca/ehp/ehd/catalogue/rpb.htm”

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user may try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna of the radio or television.
- Increase the distance separating the equipment and the receiver.
- Connect the equipment to an outlet on a different branch circuit than that of the receiver.
- Consult the dealer or an experienced radio/TV technician for help.

The user may find the following booklet helpful: *How to Identify and Resolve Radio-TV Interference Problems*. This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402.

Canada Certification

The marking of “IC:xxxxxx-yyyyyy” on the device means: “xxxxxx-yyyyyy” is the certification number, and the term “IC” before the equipment certification number only signifies that Industry Canada technical specifications were met.

Radio Frequency Interference Requirements – Canada

This Class B digital apparatus meets the requirements of the Canadian Interference-Causing Equipment Regulations. Cet appareil numérique de la Classe B respecte toutes les exigences du Règlement sur le Matériel Brouilleur du Canada.

CE Marking & European Union Compliance

Products intended for sale within the European Union are marked with a CE Mark which indicates compliance to applicable Directives and European Normes (EN), as follows. Amendments to these Directives or ENs are included: Normes (EN), as follows:

Applicable Directives:

- Radio and Telecommunications Terminal Equipment Directive 1999/5/EC
- Low Voltage Directive 73/23/EEC

Applicable Standards:

- EN 55 022 – Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment.
- EN 50 082-1 – Electromagnetic Compatibility – General Immunity Standard, Part 1: Residential, Commercial, Light Industry.
- IEC 801.2 – Electromagnetic Compatibility for Industrial Process Measurement and Control Equipment, Part 2: Electrostatic Discharge Requirements.
- IEC 801.3 – Electromagnetic Compatibility for Industrial Process Measurement and Control Equipment, Part 3: Radiated Electromagnetic Field Requirements.
- IEC 801.4 - Electromagnetic Compatibility for Industrial Process Measurement and Control Equipment, Part 4: Electrical Fast Transients Requirements
- EN 60 950 + Amd 1 + Amd 2 – Safety of Information Technology Equipment Including Business Equipment.

LASER DEVICE:

The Socket bar code scanning product(s) described in this User Guide contain a Symbol SE955 laser scan engine.

For the Class 1 version of this engine, the following applies:

- “Complies with 21CFR1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated July 26, 2001. “
- “EN60825-1:1994+ A1:2002 +A2:2001”
- “IEC60825-1:1993+A1:1997+A2:2001”
- “Class 1 Laser devices are not considered to be hazardous when used for their intended purpose. The following statement is required to comply with US and international regulations:

Caution: Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous laser light exposure.

A label such as the one below should appear on the end product.

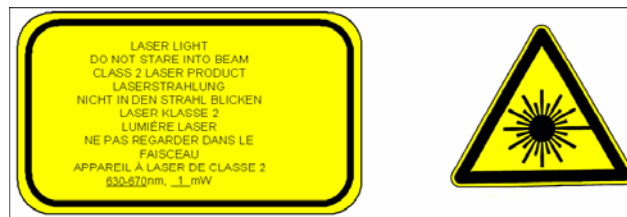


Example of Class 1 Laser Warning Label

For the Class 2 version of this engine, the following applies:

- “Complies with 21CFR1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated July 26, 2001.”
- “EN60825-1:1994+ A1:2002 +A2:2001”
- “IEC60825-1:1993+A1:1997+A2:2001”
- “Caution: Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous laser light exposure.”
- Class 2 laser scanners use a low power, visible light diode. As with any very bright light source, such as the sun, the user should avoid staring directly into the light beam. Momentary exposure to a Class 2 laser is not known to be harmful.”

A label such as the one below should appear on the end product.



Example of Class 2 Laser Warning Label

Battery Warning:

- Your device contains a rechargeable Lithium-Ion battery. Never throw the battery into a fire, as that could cause the battery to explode.
- Never short-circuit the battery by bringing the terminals in contact with another metal object. This could cause personal injury or a fire, and could also damage the battery.
- Never dispose of used battery with other ordinary solid wastes. Batteries contain toxic substances.
- Dispose of used battery in accordance with the prevailing community regulations that apply to the disposal of batteries. Cover the metal terminals with insulating tape. (This is to prevent accidental short-circuiting).
- Never expose the battery to any liquid.
- Always keep the battery out of reach of infants or small children.
- Never shock the battery by dropping it or throwing it.
- Dispose of a spent or damaged battery promptly.

Product Disposal

Your device should not be placed in municipal waste. Please check local regulations for disposal of electronic products.



