Cordless Hand Scanner
with *Bluetooth*® Wireless Technology

Featuring a Bluetooth enabled bar code scanner and SocketScan software for wirelessly adding bar code scanning to Bluetooth enabled mobile computers running Windows Mobile 2003

User's Guide

❈ Bluetooth®

socket ™
The Mobile Connection

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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, Socket's Cordless Hand Scanner (CHS) 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 single compact, lightweight device that is ergonomically designed to fit comfortably in the palm of your hand.

Bar code scanning is the most efficient way to collect data from a mobile computer. If the data to be entered is bar coded, using a laser scanner is 50 times faster and 10,000 times more accurate than manual data entry.

Bluetooth wireless technology transforms how devices connect with each other, offering you new possibilities for using your mobile computer with other devices. With Socket's Cordless Hand Scanner (CHS), you can scan bar codes while connected to the Pocket PC in your pocket or your laptop or desktop up to 300 feet away — all without the hassle of cables or the awkwardness of a protruding antenna.

The Cordless Hand Scanner works with mobile computers running Windows Mobile 2003 using either the Socket Drakar v1.4 *Bluetooth* stack (from Socket's SDIO and CF Connection Kits) or the Widcomm v1.4 *Bluetooth* stack. Support for Windows XP, XP Tablet, Palm and Symbian as well as other *Bluetooth* stacks are planned for future releases.

About the Software

SocketScan™ enters scanned data directly into any open Windows program, as if the data were manually typed. You can configure Prefix/Suffixes and assign a .WAV file to signify good data reads.

The Socket CHS configuration utility makes it easy to configure SocketScan for use with the Cordless Hand Scanner. Simply identify which kind of *Bluetooth* hardware you will be using on your mobile computer, and SocketScan will automatically search for it when you try to connect. You can also use the utility to configure other scanning settings such as mechanisms to indicate a good read.

For software updates: http://www.socketcom.com/support/support_bar.asp

Hardware Features

Status Indicator LED

The scanner has a tri-color LED to indicate different states.

LED	LED Activity	Meaning
Battery Status (Red)	1 blink per second	Less than 20% of battery life remaining.
	Solid red	Batteries are charging.
	Off when connected to charger	Batteries are fully charged.
Bluetooth Status (Blue)	1 blink per second	*Bluetooth* radio is on, but not connected.
	1 blink per 5 seconds	*Bluetooth* radio is on, connection established.
Good Read (Green)	Green	Data successfully scanned and transmitted to host device.

Status Indicator Beeps

The scanner beeps to signal the *Bluetooth* connection status. Optionally, you can also set the scanner to beep every time it successfully scans data and transmits it to the host device.

LED	Beep Pattern	Meaning
Bluetooth Status (Blue)	1 beep	Scanner connected to host device.
	2 beeps	Scanner disconnected from host device.
Good Read (Green)	1 beep	Data successfully scanned and transmitted to host device.

Rechargeable Battery and AC Adapter

Recharge the internal battery by using the included AC adapter. The adapter rating is 5V, 2A, positive pole center. A fully charged battery should provide roughly 8 hours of normal operation. AC and DC adapters of most recent Pocket PCs from Casio, Compaq, Dell, Fujitsu, and Toshiba are also compatible.

WARNING: Charge ONLY NiMH batteries in the CHS. Damage may result if other battery types are charged. Do not store the CHS for over 30 days with the batteries installed

Package Contents

The Socket Cordless Hand Scanner package includes these items:

- Socket Cordless Hand Scanner with *Bluetooth* Wireless Technology
- AC charging adapter with international plugs
- Software Installation CD
- Booklets with copyright, warranty, and regulatory compliance information

Product Registration

Socket highly recommends that all customers register their Socket products. Registered users receive priority for technical support. Register online at: http://www.socketcom.com/prodreg

2 | Setup for Windows Mobile

This chapter explains how to install and use the Cordless Hand Scanner with a *Bluetooth* enabled Pocket PC 2003.

Setup Summary

STEP 1: Charge the scanner.
STEP 2: Uninstall other scanning software.
STEP 3: Install the software.
STEP 4: Connect scanner to Pocket PC via *Bluetooth*.
STEP 5: Assign a trigger button.
STEP 6: Scan data into your application.

OPTIONAL:

- Select symbologies.
- Configure prefix/suffixes.
- Run Scan Demo application.
- Configure sounds.
- Use SocketScan Trigger.

STEP 1: Charge the scanner

Use the included AC adapter to charge the Cordless Hand Scanner. The scanner's NiMH batteries must be charged for at least 4 hours before the first use. The Battery Status LED will emit a solid red light while charging, and turn off when the batteries are fully charged.

> *WARNING:*
> *Do not use the scanner when it is being charged, or the battery may have problems achieving a full charge in the future.*
>
> *Do not attempt to charge alkaline batteries — this may cause alkaline batteries to leak and damage the CHS.*

STEP 2: Uninstall Other Scanning Software

Delete any bar code scanning software you may already have installed on your Pocket PC. You can uninstall either directly from your Pocket PC, or indirectly via ActiveSync.

OPTION 1: Uninstall Directly from the Pocket PC
1. Make sure the bar code scanning software is closed.
2. Tap **Start | Settings**. Tap on the **System** tab or **Control Panel**.
3. Tap on the **Remove Programs** icon.
4. Select the bar code scanning software, then tap **Remove**.
5. Tap **Yes** to confirm removal of the program.

OPTION 2: Uninstall via ActiveSync
1. Make sure the bar code scanning software is closed.
2. Use ActiveSync and a serial/Ethernet/USB cable or cradle to make an active connection between your Pocket PC and a host PC.
3. On the host PC, open Microsoft ActiveSync.
4. Click **Tools | Add/Remove Programs**.
5. Select the bar code scanning software and click **Remove**.
6. In the confirmation screen, click **OK**.
7. A screen will ask if you also want to remove the software from the host PC. If desired, click **NO** to keep a copy of the software on the host PC that can later be re-installed onto a Pocket PC.

STEP 3: Install the Software

1. Use ActiveSync and a serial/Ethernet/USB cable or cradle to make an active connection between the mobile computer and a host PC.
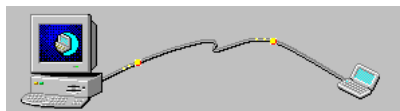
2. Insert the installation CD into your host PC.

3. Use **My Computer** or **Windows Explorer** to access your CD-ROM drive. In the CD, click on SETUP.EXE.

4. Follow the instructions on your screen to install the software for Windows CE (also compatible with Windows Mobile 2003).

5. When software installation is complete, disconnect the Pocket PC from the host PC. Soft reset the Pocket PC by pressing the reset button.

STEP 4: Configure Scanner Settings

1. Start the Socket CHS configuration utility.
   Tap **Start | Settings | System | Socket CHS**.

2. In the General screen, for **Type of scanner**, select **Using Socket CHS Scanner**.

3. In the **Bluetooth stack** field, select the *Bluetooth* hardware that your host device will use to connect to the scanner. Depending on which option you select, additional fields may appear.

   - **Socket**: Select if you are using the Socket SDIO or CF Connection Kit to connect your host device to the CHS.
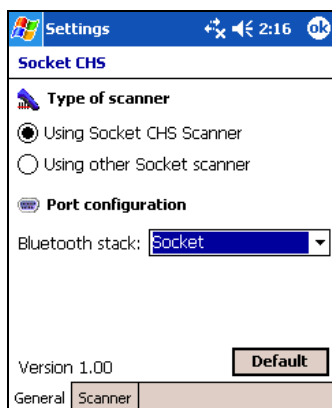
   - **Built-in**: Select if your device has *Bluetooth* built in. The checkbox **Automatically connect to CHS** will appear. Check the box for your device to automatically connect to the CHS whenever you start SocketScan.
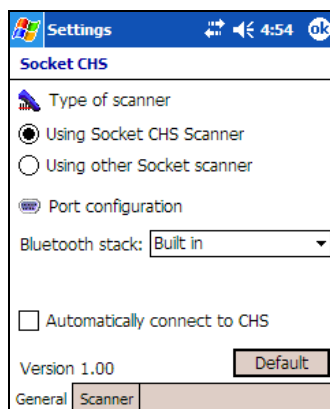
   Note: Automatic connections are only possible if you have previously connected with the CHS. Otherwise the checkbox will be disabled.

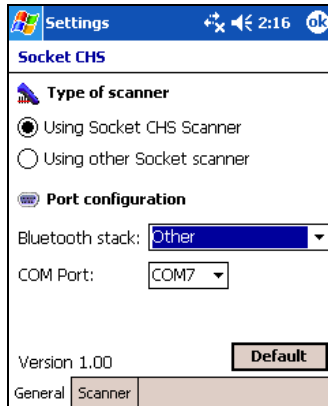- **Other**: Select if using an add-on *Bluetooth* card or adapter not made by Socket. The **COM Port** field will appear. Select the COM port that the host device will use for outbound *Bluetooth* serial communications.

4. Tap on the Scanner tab. Enter the following settings:
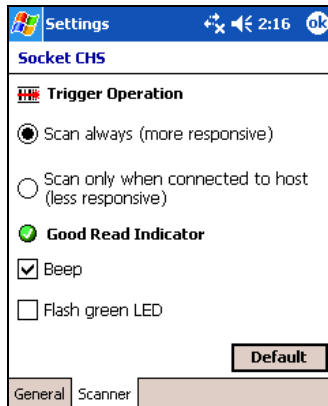
Note: The delay in the 'good scan' beep increases with the distance from the host, giving the user valuable feedback about the strength of the connection

- **Trigger Operation**:
  - **Scan always**: Select if you would like the CHS to scan whether or not it has a *Bluetooth* connection to the host device.

  - **Scan only when connected to host**: Select if you would like the CHS to detect a *Bluetooth* connection to the host device before it scans. Scanning will be a few milliseconds slower. This option allows the CHS to be triggered remotely if needed.

- **Good Read Indicator:** Select how you would like the scanner to indicate that data has been successfully scanned and transmitted to the host device.

5. After modifying any settings, tap **ok**. If SocketScan is already open, you must close and reopen SocketScan for the changes to take effect.

STEP 5: Connect Scanner to Pocket PC via *Bluetooth*

1. Turn on the Cordless Hand Scanner. Press the small power button on the handle of the scanner for five seconds, until you see the LED turn blue. The LED should blink blue once every second to show that the *Bluetooth* radio is on but not connected. If the LED begins blinking red, the battery needs to be recharged.

   WARNING: Do not use the Cordless Hand Scanner when it is being charged, or the battery may have problems achieving a full charge in the future.

2. Prepare the *Bluetooth* hardware for your Pocket PC. If using the Socket SDIO or CF card, insert it into your device. **Make sure the *Bluetooth* radio is turned on**. Refer to the documentation for your *Bluetooth* hardware for instructions.

3. Start SocketScan. Tap **Start | Programs | SocketScan**.

SocketScan

4. The SocketScan icon should appear in the task tray (visible in the Today screen), indicating that your device is not currently connected to the CHS. Tap on the icon. In the pop-up menu, select **Connect CHS**.

Important!
Your Pocket PC cannot connect to the CHS if you have another device assigned as your favorite or default *Bluetooth* serial device. If necessary, remove any settings that designate another device as your favorite or default *Bluetooth* serial device.

If the **Connect CHS** option does not appear, use the Socket CHS configuration utility to enable SocketScan for use with the CHS. See Step 4 on the previous page.

5. Your Pocket PC will begin searching for *Bluetooth* enabled devices in range. After it finishes searching, select the CHS from the list of discovered devices. The screen will vary depending on which *Bluetooth* hardware you are using on your Pocket PC.

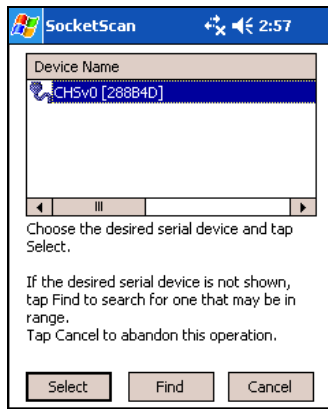   The Cordless Hand Scanner will appear as **Socket CHS [xxxxxx]**, where the characters in brackets are the last 6 characters of the scanner's *Bluetooth* MAC address. If multiple Cordless Hand Scanners were detected, identify your unit by checking the MAC address printed on a label underneath the batteries.

Note: This screen shows the CHS discovered by Socket's SDIO or CF Connection Kit. Your screen may vary if you are using different Bluetooth hardware.

6. Your device will automatically connect to the CHS. If a passkey is requested, enter **1234**. To indicate the connection, the CHS will beep once, and the SocketScan icon will change to show an image of the scanner. If you are using the Socket SDIO or CF card, the Socket *Bluetooth* icon in the task tray will also begin blinking.
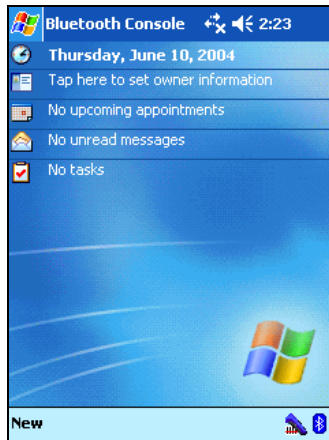
Note: If the host suspends or the CHS is taken out of range, the Bluetooth connection will be lost. SocketScan (when the host comes out of suspend mode) will try to re-establish the connection every 10 seconds for 30 seconds.

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STEP 6: Scan Data into Your Application

1. Start the Windows application that you want to receive the data (e.g., Excel, Notepad, etc.). Make sure a document or spreadsheet is open.
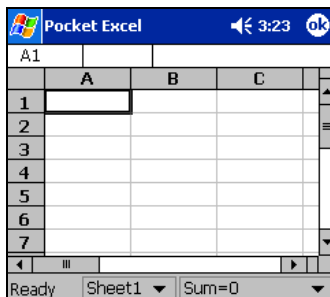
2. Press the trigger button and scan the code. For example, try this bar code:

12345678

When data is read, depending on the settings you chose in the Socket CHS configuration tool, the scanner may beep and/or the LED may flash green, and the laser will turn off. If the Scanner fails to read data within a few seconds, the laser will turn off, and you must try again.

3. After a successful scan, data should appear in your document. For example, after you scan the code above into a Pocket Excel spreadsheet, data should appear in the first cell.
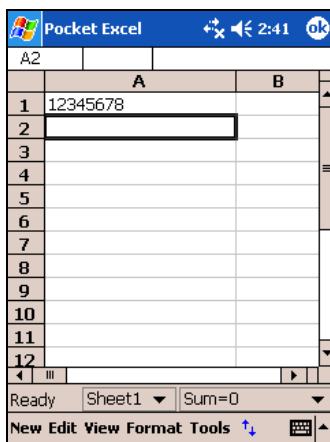
Note:
Wait for the "Good Scan" indication before you scan another bar code. If you try to scan too fast, the device can lock up until you stop scanning.

If your device enters sleep mode, the Bluetooth connection will be lost, and you will need to re-connect the devices.

For information about bar code scanning applications, please email info@socketcom.com

OPTIONAL: Select Symbologies

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

1. Tap on the SocketScan icon. In the pop-up menu, tap **Symbology Selector...**
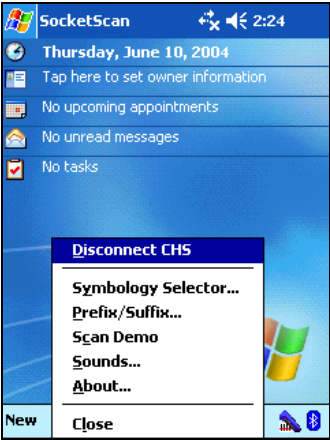
2. In the screen that appears, check the symbologies you wish to enable. Uncheck those you wish to disable. Tap **ok**.
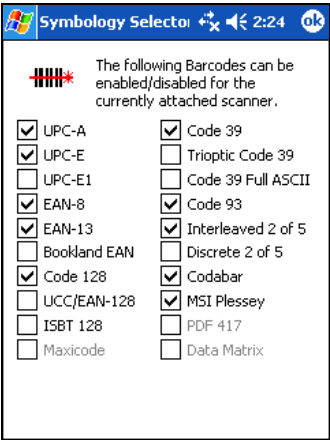
Note:
1. Symbologies not supported by the CHS will be grayed out.

2. Enabling all possible symbologies 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 **Prefix/Suffix**.

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

2. In the pop-up menu, select **Prefix/Suffix...**
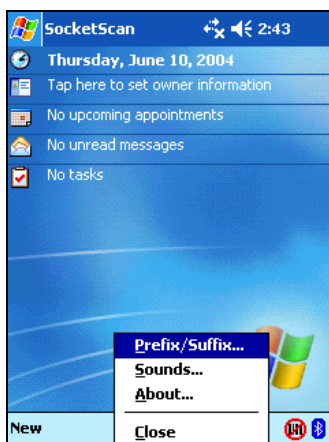
3. In the screen that appears, enter the characters you want to be appended to each scan (128 character maximum). Tap **ok**.
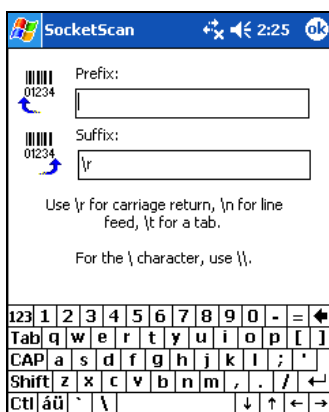
Note: Only printable ASCII characters can be used as prefixes or suffixes.

Note: The default suffix is a carriage return.

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 on the SocketScan icon. In the pop-up menu, tap **Scan Demo**. This will close SocketScan and open Scan Demo as a separate application.

Symbology Selector...
Prefix/Suffix...
Scan Demo
Sounds...
About...
Close
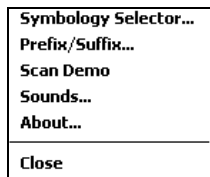
Note: Accessing the Scan Demo application disconnects the Bluetooth link. Select the CHS tab at the bottom of the page to re-establish this link.

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.

4. Scan Demo will report properties of the bar code you scan.
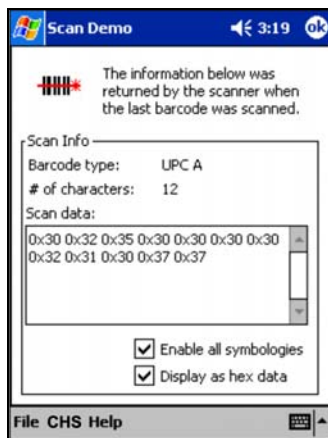
Appendix A **Specifications**

Physical Characteristics
Size: 125l x 31h x 35w (mm)   4.9l x 1.2h x 1.4w (in.)
Total Mass: approx. 90 g (0.2 lb)

Power Source: Two AAA NiMH rechargeable batteries
Expected Battery Life with Normal Operation (connected via *Bluetooth* and
    minimum 2,000 bar code scans): 8 hours

Operating Temp: 32 to 120°F (0 to 50°C)

Operating System Support:
- Windows Mobile 2003 (for Pocket PC 2003), Windows XP, Tablet XP
- Palm OS v5.2 and later
- Symbian OS

2005 Sunrise Date Compliant

Scanning Characteristics
Bar Code Symbologies Decoded: Code 39, UPC/EAN, MSI, Code 128,
    Code 93, Codabar, I 2 of 5, D 2 of 5, RSS

Laser: Class 1 with Fuzzy Logic (Optional Class 2 with Fuzzy Logic)
Scan Angle: 46.5°

Laser Scanner Performance:
Scan Repetition Rate: 50 (± 3) scans/sec (i-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
FCC: Part 15, Class B   CE: EN55024:1998
C-TICK: s.182   *Bluetooth* 1.1   TELEC
ETS 300 328   ETS 300 826

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 Hand 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 Hand 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 Hand 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 Hand Scanner will not affect the vehicle's electronics.

Aircraft

- Turn off your Cordless Hand Scanner before boarding any aircraft.
- To prevent interference with communications systems, you must not use your Cordless Hand 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 Hand 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 Hand Scanner is designed to be in compliance with the RF exposure limits set by national authorities and international health agencies[1] when installed or used separately from other antennas or radio transmitters.

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[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.

About *Bluetooth Range*

The Cordless Hand Scanner features a powerful Class 1 Bluetooth 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 CHS 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 CHS.
- 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 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 Hand 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 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.
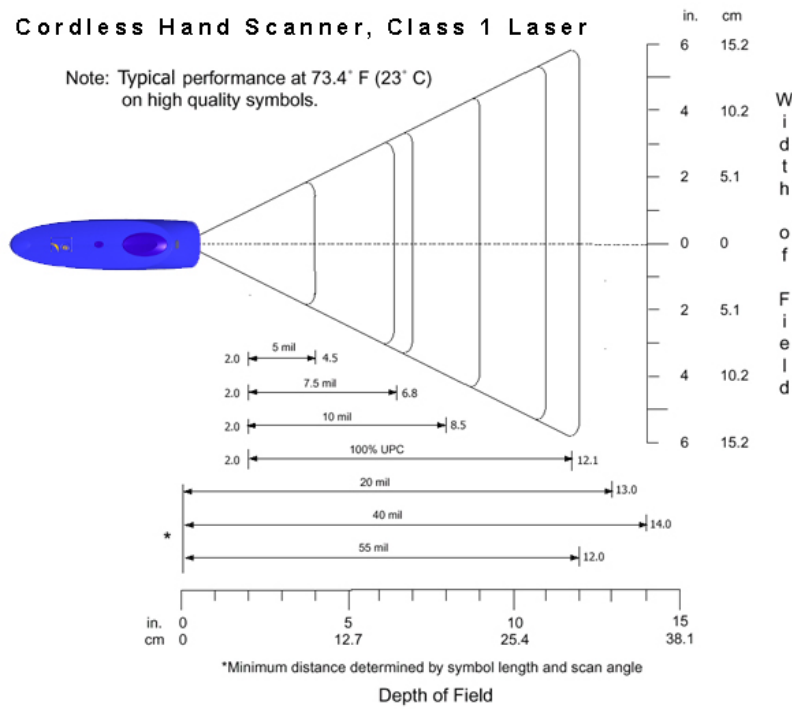
Table 2. Other Symbology Parameters

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 Hand 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.

Cordless Hand Scanner, Class 1 Laser

Note: Typical performance at 73.4˚ F (23˚ C) on high quality symbols.

	in.	cm
	6	15.2
	4	10.2
	2	5.1
	0	0
	2	5.1
	4	10.2
	6	15.2

Width of Field

2.0	5 mil	4.5
2.0	7.5 mil	6.8
2.0	10 mil	8.5
2.0	100% UPC	12.1
	20 mil	13.0
	40 mil	14.0
*	55 mil	12.0

in.	0			5			10			15
cm	0			12.7			25.4			38.1

*Minimum distance determined by symbol length and scan angle

Depth of Field

Appendix F **Troubleshooting**

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

SYMPTOM:
I get the "No Scanner Detected" 🚫 icon in the task tray and can't trigger the laser or scan any bar codes.

POSSIBLE REASON	SOLUTION
Your mobile computer is not connected to the Cordless Hand Scanner.	Make sure the Cordless Hand Scanner is on and in range and has enough battery power. Try to reconnect.

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 Hand Scanner.	Use Scan Demo to identify the symbology. If needed, use Symbology Selector to enable the symbology.

SYMPTOM:
My mobile computer cannot find the Cordless Hand Scanner, and/or I get an error message saying that there are connection problems.

POSSIBLE REASONS	SOLUTION
You are too far from the Cordless Hand Scanner.	Move the devices closer together, within a range of 10-15 meters.
The Cordless Hand Scanner is not turned on.	Turn on the Cordless Hand Scanner.
You have assigned another device as your favorite or default *Bluetooth* serial device.	Remove any settings that assign another device as your favorite *Bluetooth* serial device.

Appendix G **Technical Support**

If you have trouble installing or using the Cordless Hand Scanner with *Bluetooth* Wireless Technology, contact Socket's technical support department for assistance.

IMPORTANT! To obtain personal assistance from a Socket technical support engineer, you must first register your product online at http://www.socketcom.com/prodreg***.***

After you register your product, you will be presented with an option to **submit a problem**. Click on this option to follow the online process to submit an email request for technical support. If we are unable to resolve your support inquiry via email, we can arrange for a technical support representative to call you at a specific time.

Please refrain from disassembling the Cordless Hand 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 Hand Scanner: Two years

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, phone (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.

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Copyright Notice

Feel free to contact SOCKET COMMUNICATIONS at:

> **Socket Communications, Inc.**
> 37400 Central Court
> Newark, CA 94560

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 Hand Scanner that are not described in this manual. Please refrain from disassembling the Cordless Hand 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: http://www.socketcom.com.

Regulatory Compliance

The Socket Cordless Hand 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 +1-510-744-2720.

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 Hand 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 http://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 exigencies du Reglement sur le Matériel Brouilleur du Canada.

NOTE: To comply with FCC and Industry Canada exposure requirements, this device is approved for operations in a user's hand when there is a distance of 20 cm or more between the device antenna and the user's body.

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.
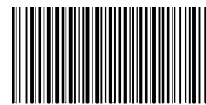
LASER DEVICE:

Class 1 laser devices are not considered to be hazardous when used for their intended purpose. The following statement is required to comply with U.S. and international regulations:

CAUTION: Use of controls, adjustments or performance of procedure other than those specified herein may result in hazardous laser light exposures.

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.

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.

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