Cordless Serial Adapter with Bluetooth® Wireless Technology

Instant cable-free serial connection for devices with an RS-232 serial port

User’s Guide
# Table of Contents

- **CHAPTER 1 INTRODUCTION** 3
- **CHAPTER 2 SETUP** 6
  - STEP 1: Install the Software 6
  - STEP 2: Attach the CSA to the Computer 7
  - STEP 3: Prepare Communications Settings 7
  - STEP 4: Configure the CSA 8
    - SCENARIO 1: Set up a CSA pair for cable replacement. 11
    - SCENARIO 2: Set up CSA as passive serial Bluetooth receiver. 15
  - STEP 5: Attach CSA to Device 18
- **CHAPTER 3 CONFIGURATION UTILITY** 20
  - Configuration Functions 21
  - General Properties 23
  - Connections Properties — ACCEPTOR MODE 24
  - Connections Properties — INITIATOR MODE 25
  - Remote Target (Initiator only) 26
  - Port Settings 27
  - Advanced (Acceptor only) 28
- **APPENDIX A SPECIFICATIONS** 29
- **APPENDIX B SAFETY AND USAGE TIPS** 31
- **APPENDIX C GLOSSARY** 34
- **APPENDIX D TROUBLESHOOTING** 36
- **APPENDIX E TECHNICAL SUPPORT** 37
  - Limited Warranty 38
  - Limited Software Warranty 39
  - Copyright Notice 40
  - Regulatory Compliance 41
Chapter 1 Introduction

Overview
Socket’s Cordless Serial Adapter (CSA) with Bluetooth Wireless Technology eliminates your conventional RS-232 serial cable, providing an easy-to-use, invisible connection with superior freedom of movement. This tiny adapter allows any device with a standard 9-pin serial port to communicate wirelessly. You can communicate with another CSA or other Bluetooth enabled devices such as a laptop computer or PDA. Take advantage of Personal Area Networking quickly and easily.

You don't need to install any drivers on the host device — just plug the CSA into the 9-pin serial port on your industrial equipment and wirelessly download the information you need to any Bluetooth enabled notebook, Pocket PC, Palm or Mac OS device. Reduce costs by decreasing cycle times for equipment maintenance and servicing through easier access to serial ports in difficult or dangerous-to-access areas. Do you have cabled connections you would like to replace with a cordless solution? Attach a CSA on each side, and make bulky cables a thing of the past.

The CSA communicates over the Bluetooth Serial Port Profile. The adapter can be powered from either the included AC power adapter or from the host device over Pin 9 on the CSA.

Common Usage Scenarios
Scenario 1: Set up a CSA pair as serial cable replacement.

Example: Replace your printer cable with a wireless Bluetooth connection between your laptop and printer.

Scenario 2: Set up the CSA as a passive serial Bluetooth receiver.

Example: Use the CSA to Bluetooth enable industrial equipment, which you can then control and monitor from a Bluetooth enabled Pocket PC.
Custom versions of the CSA are available to OEMs. For more information, contact Socket’s Embedded Systems Group at: esg@socketcom.com.

Notes:
- The Cordless Serial Adapter was not designed to Bluetooth enable your computer for ActiveSync.
- The Cordless Serial Adapter was designed for use with industrial serial equipment only. Because of power requirements, custom drivers, and custom serial communication protocols, the Cordless Serial Adapter is not intended for use with some consumer serial devices, including but not limited to: 56k modems, cellular phone data cables, digital camera data cables, joysticks, keyboards, mice, Pocket PC cradles, scanners, etc.

About the Software
Socket’s Cordless Serial Adapter Configuration Utility is an easy-to-use Windows application that lets you to reprogram many of the default settings on your CSA. You have the freedom to custom configure settings to match your individual needs. The utility runs under Windows 95, 98, Me, 2000 or XP.

Software updates: www.socketcom.com/support/support_cordless.asp

Developers: To use a terminal device to manually reprogram the CSA via AT commands, please refer to the Socket Cordless Serial Command Set in the Docs folder on the installation CD.

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

* Windows 95 v4.00.950B; Windows 98SE
Package Contents

- Socket Cordless Serial Adapter with Bluetooth Wireless Technology
- 9-pin female/female null modem
- AC power adapter
- Socket Cordless Serial Adapter Installation CD
- Quick Start Guide with warranty and copyright information
Chapter 2 Setup

This chapter covers the setup procedure for the Cordless Serial Adapter with Bluetooth Wireless Technology. Please note that no drivers are necessary, so the only software you need to install is the CSA Configuration Utility.

Setup Summary
STEP 1. Install the software.
STEP 2: Attach the CSA to your computer.
STEP 3. Prepare communications settings.
STEP 4: Configure the CSA.
STEP 5: Attach CSA to device.

STEP 1: Install the Software
1. Insert the Socket Cordless Serial Adapter CD.
2. Use My Computer or Windows Explorer to access your CD-ROM drive.
   In the CD, click on SETUP.EXE.
3. Follow the instructions on your screen to install the software.
STEP 2: Attach the CSA to the Computer

1. Attach the Cordless Serial Adapter (CSA) to the serial port of the computer you just installed the software on.

2. Determine the COM port number where you just attached the CSA.
   - Click Start | Control Panel | System.
   - Click on the Hardware tab. Click on the Device Manager button.
   - In the list, click on Ports. The Communications Port should be listed with its COM number.

3. Use the AC adapter to connect the CSA to a power outlet.
   Alternatively, the CSA can draw power off of Pin 9 of your computer’s serial port if supported.

4. When the adapter has power, the LED should begin flashing blue.

<table>
<thead>
<tr>
<th>Flash Rate</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once per 2 seconds</td>
<td>Not discoverable.</td>
</tr>
<tr>
<td>Twice per 2 seconds</td>
<td>Waiting to connect.</td>
</tr>
<tr>
<td>Three times per 2 secs</td>
<td>Connected.</td>
</tr>
</tbody>
</table>

STEP 3: Prepare Communications Settings

Find out what communications settings you need to connect your devices. The necessary settings may include the following (only some may apply):

- Bluetooth address of the device you wish the CSA to connect to
- Baud rate, data bits, parity, stop bits, flow control
- Does the local host send DTR signals?
- Does the local host accept notifications of Bluetooth events?
- Security settings (e.g., PIN, encryption, etc.)
- Bluetooth device/service classes detectable by the remote device
- Advanced users only: page scan timing, inquiry scan timing, sniff mode parameters
STEP 4: Configure the CSA

Socket’s Cordless Serial Adapter Configuration Utility lets you reprogram the default settings on the CSA for Bluetooth. You can custom configure settings to match your individual needs.

**Preliminary Configuration**

1. Open the utility, by doing either of the following:
   - Click on the icon on your desktop.
   - Go to **Start | Programs | Cordless Serial Adapter**.

2. The Cordless Serial Adapter Configuration Utility will appear. Click on the **COM port** button.

3. In the screen that appears, select the COM port number where the CSA is attached to your computer. Click **OK**.
4. In the Configuration box, the current configuration should be reported as no configuration loaded. To verify that you have properly connected, click **Get from adapter**. The utility should now report the CSA’s firmware version, Bluetooth address and friendly name.

![Click Get from adapter.](image)

**Note:**
- If this is your first time using the CSA, the utility will report “new configuration.”
- If you get an error message reporting communications problems, make sure the CSA is pushed all the way into the serial port, and make sure you chose the correct COM port in the previous step.
5. Now you are ready to enter the Device role and properties. The appropriate settings will vary depending on what device(s) you are using and how they can communicate. The following pages will include instructions for two of the most common scenarios:

- **Scenario 1:** Set up a CSA pair as serial cable replacement.

  *Example:* Replace a printer cable with a wireless Bluetooth connection between your laptop and printer.

- **Scenario 2:** Set up one CSA as a passive serial **Bluetooth** receiver.

  *Example:* Use the CSA to Bluetooth enable industrial equipment, which you can then control and monitor from a Bluetooth enabled Pocket PC.

**Notes:**
- If you have another scenario, refer to Chapter 3 for instructions on each properties page.
- Make sure you manually configure your baud rate and other settings in any third-party applications used with the CSA. Auto-detect and Plug and Play functions are not reliable with Bluetooth, and the CSA may not work properly unless you manually enter the correct settings.
SCENARIO 1: Set up a CSA pair for cable replacement.
To set up a pair of Cordless Serial Adapters as serial cable replacement, one CSA must be an acceptor, and the other an initiator (e.g., in the previous example, the printer would be acceptor, and the laptop would be initiator).

- **Set up the Acceptor**
  1. In the Device role box, select **Acceptor**. Click **Properties**.

![Image of Cordless Serial Adapter Configuration Utility]

2. In the General screen, change the **Friendly Name** if desired. For example, you may want to enter a name like “Socket SPP-Acceptor.” Note the **Bluetooth Address** of this CSA. You will need it to configure the initiator.

![Image of Cordless Serial Adapter Properties]

- Write down the **Bluetooth Address**. You will need it while configuring the other CSA.
3. Click on the **Connections** tab. Enter the following settings:
   - **Accessibility**: Select **Connectable**
     Uncheck **Only when DTR is asserted by local host**
   - **Notifications**: Select **Do not generate notifications**

![Connections Tab Settings]

4. Click on the **Security** tab. Make sure all boxes are unchecked.

5. Click on the **Port Settings** tab. Enter the appropriate settings for your devices and applications. Do not change any default settings in the Advanced screen. Afterwards, click **OK** to exit the properties screens.

![Port Settings Tab]

**Important!**
Be sure to set the baud rate to match that of the local host serial port!
You must also enter the same baud rate in any third party applications used with the CSA!
6. Click **Write to adapter** to configure your CSA with the new settings.

![Click Write to adapter.](image)

---

**Important!** If you do not click **Write to adapter**, the CSA will not be configured with the new settings!

7. Unplug the CSA from the computer. Now you are ready to configure the second CSA.

- **Set up the Initiator**
  1. In the Device role box, select **Initiator**. Click **Properties**.

![Select Initiator.](image)

![Click Properties.](image)

2. In the General screen, change the **Friendly Name** if desired. For example, you may want to enter a name like “Socket SPP-Initiator.”
3. Click on the **Connections** tab. Enter the following settings:
   - Accessibility: Select **Connect automatically**
     Uncheck **Only when DTR is asserted by local host**
   - Notifications: Select **Do not generate notifications**

4. Click on the **Remote Target** tab. In the **Connect to** field, enter the **Bluetooth** address of the other CSA.

   ![Diagram showing settings and options for Connections and Remote Target tabs.](image)
5. Click on the **Security** tab. Make sure all boxes are unchecked.

6. Click on the **Port Settings** tab. Enter the appropriate settings for your devices and applications. All the settings should be the same as the CSA set up as Acceptor.

7. After entering all the properties, click **OK** to exit the properties screens.

8. Click **Write to adapter** to configure your CSA with the new settings. Unplug the CSA from your computer. Now you are ready to proceed to Step 5 to attach it to the device.

**SCENARIO 2: Set up a CSA as a passive serial Bluetooth receiver.**

1. In the Device role box, select **Acceptor**. Click **Properties**.

   ![Select Acceptor. Click Properties.]

2. In the General screen, change the **Friendly Name** if desired.
3. Click on the **Connections** tab. Enter the following settings:
   - **Accessibility**: Select **Connectable and Discoverable**
     Uncheck **Only when DTR is asserted by local host**
   - **Notifications**: Select **Do not generate notifications**

4. Click on the **Security** tab. If the other device requires special security settings, make the appropriate selections.
5. Click on the **Port Settings** tab. Enter the appropriate settings for your devices and applications. Do not change any of the default settings in the Advanced screen. Afterwards, click **OK** to exit the properties screens.

6. Click **Write to adapter** to configure your CSA with the new settings.

   **Important!**
   Be sure to set the baud rate to match that of the local host serial port!
   You must also enter the same baud rate in any third party applications used with the CSA!

7. Unplug the CSA from the computer. Now you are ready to attach the CSA to the device.
## STEP 5: Attach CSA to Device

After configuring the CSA, now you are ready to attach it to the serial port of your target device.

**Assemble correct hardware to attach CSA.**

Depending on the type of target device you are using and what type of serial port it has, you may or may not need to use additional hardware to correctly attach and communicate via the CSA.

*Note: For more information about Data Communications Equipment (DCE) and Data Terminal Equipment (DTE) devices, please refer to the glossary in Appendix C.*

<table>
<thead>
<tr>
<th>Target Device Type</th>
<th>Device Type Examples</th>
<th>Additional Hardware Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCE with female serial port (with pinholes)</td>
<td>Most modems and printers and some industrial equipment</td>
<td>None. Attach the CSA directly to the serial port of your device</td>
</tr>
<tr>
<td>DTE with male serial port (with pins)</td>
<td>Most desktop and notebook computers</td>
<td>Null modem with 2 female serial ports (included)</td>
</tr>
<tr>
<td>DTE with female serial port (with pinholes)</td>
<td>Miscellaneous industrial equipment</td>
<td>Male gender changer (not included)* Null modem with 2 female serial ports (included)</td>
</tr>
</tbody>
</table>

*Male gender changers are available from most computer stores.*
CSA connects either automatically or with manual initiation. Depending on how your configured the CSA, it may automatically connect with the remote device, or you may need to manually initiate a connection.

In the previous scenarios, the following should happen:

SCENARIO 1: Set up a CSA pair for cable replacement.
After you attach the CSA to each device (with each powered on), they should automatically try to connect.

Example: After you attach the initiator CSA to the laptop and the acceptor CSA to the printer, the two CSA’s will automatically try to connect.

SCENARIO 2: Set up one CSA as passive serial Bluetooth receiver.
After you attach the CSA, your device will be discoverable and ready to accept a Bluetooth connection. Perform a device discovery from the initiator device, then commence the connection.

Example: The industrial equipment with the CSA will be discoverable and ready to accept a Bluetooth connection. Perform a device discovery from the Bluetooth enabled Pocket PC, then start the connection.

Important!
Make sure you manually configure your baud rate and other settings in any third-party applications used with the CSA. Auto-detect and Plug and Play functions are not reliable with Bluetooth, and the CSA may not work properly unless you manually enter the correct settings.
Chapter 3 Configuration Utility

This chapter explains how to use Socket’s Cordless Serial Adapter Configuration Utility. Besides covering the basic configuration functions, this chapter will also explain how to use each property screen.

The utility includes the following properties screens:

- General
- Connections — Acceptor mode
- Connections — Initiator mode
- Remote Target (Initiator mode only)
- Security
- Port Settings
- Advanced (Acceptor mode only)

The utility can be accessed by either of two methods:

- Click on the icon on your desktop.
- Click Start | Programs | Cordless Serial Adapter.

Developers: You can also reprogram the Cordless Serial Adapter manually through AT commands via a terminal device. Refer to the Socket Cordless Serial Command Set, available in the Docs folder on the installation CD.
Configuration Functions

Get from adapter:
Click to read the configuration currently written to the CSA. You can read the current configuration and modify the settings if desired. Checking to see if a configuration can be read is also a good method for verifying that the CSA is properly attached and ready to have a configuration written to it.

Write to adapter:
Click to physically configure the CSA with the settings entered into the utility.

Warning! Do not remove the CSA during the writing process, or you can damage the CSA!

New:
Click to enter settings for a new configuration, with all the settings starting at default.

Open:
Click to open a previously saved configuration.

Save as:
Click to save a configuration for future use. If you need to use the CSA with multiple devices and/or applications, you may want to save a configuration for each, instead of manually entering settings every time you need to re-configure the CSA.
Replicate:
Click to make a copy of the current configuration. A screen will appear for you to enter some unique settings (e.g., friendly name, security settings) for this configuration. Enter any necessary settings and click OK.

This function is useful if you have multiple CSA’s and need to configure them all with the same settings. The screen varies depending on whether you are in Acceptor or Initiator mode.
General Properties
The General properties page displays general device identification, device class, and service class information. This page appears for both acceptor and initiator modes.

Friendly Name. If desired, enter a new name. For example, you may want the friendly name to reflect which device you plan to attach it to.

Class of Device/Service Class: ADVANCED USERS ONLY! If the CSA is in Acceptor mode, and the Bluetooth device initiating the connection can only detect and/or connect to certain device/service classes, make the appropriate selection(s). For more information, please refer to the Bluetooth Assigned Numbers document at: www.bluetoothsig.org/assigned-numbers/baseband.htm

Note: If no configuration is loaded, no Bluetooth Address will appear.

IMPORTANT!
After entering all the adapter properties, click OK to exit the properties screen. Then click Write to adapter, or the CSA will not be configured with the new settings!
Connections Properties — ACCEPTOR MODE

Accessibility
- **Not Connectable**: Select to prevent the CSA from connecting to other devices.
- **Connectable**: Select to allow other devices to connect to the CSA.
- **Connectable and Discoverable**: Selected by default.
- **Only when DTR is asserted by local host**: Check ONLY IF you know that the local host sends DTR (Data Terminal Ready) signals. If you are not sure, uncheck the box.

**Important!**
If you check Only when DTR is asserted by local host, the CSA will only become discoverable and/or connectable after receiving DTR signals from the local host. If you are not sure whether your local host sends DTR signals, or if you have trouble connecting, UNCHECK this box.

Notifications
- **Notify local host of Bluetooth events**: Selected by default.
- **Do not generate notification**: Select if your local host cannot accept notifications of Bluetooth events, or if you are not sure whether or not your local host can accept them.

*Note*: Notifications may be useful if you are writing custom software for the CSA. Your software would decide how to process notifications.

24 | CHAPTER 3: CONFIGURATION UTILITY
Connections Properties — INITIATOR MODE

When to connect

- **Connect automatically**: Select for the CSA to connect automatically.

  *Note: If you check *Connect automatically*, the CSA will need to receive a software command to initiate a connection.*

- **Only when DTR is asserted by the local host**: Check ONLY IF you know that the local host sends DTR (Data Terminal Ready) signals. If you are not sure, uncheck the box.

  **Important!**
  
  *If you check *Only when DTR is asserted by local host*, the CSA will only initiate connections after receiving DTR signals from the local host. If you are not sure whether your local host sends DTR signals, or if you have trouble connecting, UNCHECK this box.*

  *If you enable *Connect automatically* but disable *Only when DTR is asserted by local host*, the CSA will always automatically try to connect to the target device. If the target device is within range, you may have trouble using the Socket CSA Configuration Utility, because the CSA has already connected to the target device. If you are experiencing these problems, move the target device about 10-30 meters away (outside the Bluetooth range), in order to break the connection.*

Notifications

- **Notify local host of Bluetooth events**: Select ONLY IF you know your local host can accept notifications of Bluetooth events. Some devices cannot accept such notifications and will malfunction.

- **Do not generate notification**: Select if your local host cannot accept notifications of Bluetooth events, or if you are not sure whether or not your local host can accept them.

  *Note: Notifications may be useful if you are writing custom software for the CSA. Your software would decide how to process notifications.*
Remote Target (Initiator only)

You have two options for identifying the remote device (the device you wish the CSA to connect to):

OPTION 1:
If you know the Bluetooth Address of the remote device, simply type it in the Connect to: field.

OPTION 2:
If you do not know the Bluetooth Address of the remote device, perform a device discovery:

Device Discovery
1. Click on the Filter... button to select the Bluetooth device and/or service class to discover.

2. Click Discover... The utility will search for Bluetooth devices in range.

3. In the Discovered devices field, click on the Bluetooth address of the device you wish the CSA to connect to. It should appear in the Connect to: field.

Note: If you do not know the Bluetooth address of the remote device, perform the device discovery with the remote device on, then with the device off, to determine the correct Bluetooth address.
Port Settings

Select the correct port settings for your remote device.

**IMPORTANT!**

After entering all the adapter properties, click **OK** to exit the properties screen. Then click **Write to adapter**, or the CSA will not be configured with the new settings!
Advanced (Acceptor only)

Important!

It is beyond the scope of this User’s Guide to explain the effects of the Advanced settings.

DO NOT adjust any of the settings in the Advanced screen unless you are an advanced user and completely understand what you are doing!

!!! IMPORTANT!!!

After entering all the adapter properties, click OK to exit the properties screen. Then click Write to adapter, or the CSA will not be configured with the new settings!
Appendix A Specifications

Physical Characteristics:
Dimensions: 65 x 35 x 17 mm
Total Mass: 25 g

Serial Connector: 9 pin male DB-9, DTE
Antenna: Integrated
Class 2 Bluetooth module

Baud Rate:
Default: 19,200 bps
Configurable range: 9,600-230,000 bps

Environmental Conditions:
Operating Temperature: -20 to +85 °C
Humidity: 5% to 95% non-condensing
Storage Temperature: -40 to +95 °C

Serial COM Interface Standard: Asynchronous RS-232

Range:
Approx. 10 m (open office environment)

Hardware Compatibility: Any device with serial communications port.

Software Included: Socket Cordless Serial Adapter Configuration Utility

Software Compatibility: COM port

Software Operating System Support:
Windows 95 v4.00.950B, 98SE, Me, 2000, XP

Warranty: Three years

Certification/Compliance:
Bluetooth 1.1
FCC: Part 15, Class B
Industry Canada
CE: ETS 300 328, ETS 300 826
C-Tick S.182

Bluetooth Profiles: Serial Port
### Pin Assignments

<table>
<thead>
<tr>
<th>Pin #</th>
<th>Direction</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>IN</td>
<td>DCD — Carrier detect</td>
</tr>
<tr>
<td>2</td>
<td>IN</td>
<td>RXD serial data from local host</td>
</tr>
<tr>
<td>3</td>
<td>OUT</td>
<td>TXD serial data to local host</td>
</tr>
<tr>
<td>4</td>
<td>OUT</td>
<td>DTR Data terminal ready</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>Ground</td>
</tr>
<tr>
<td>6</td>
<td>IN</td>
<td>DSR Data set ready</td>
</tr>
<tr>
<td>7</td>
<td>OUT</td>
<td>RTS Request to send to local host</td>
</tr>
<tr>
<td>8</td>
<td>IN</td>
<td>CTS Clear to send from local host</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>Optional power input (3.3 to 5.0 Vdc)</td>
</tr>
</tbody>
</table>
About Bluetooth and Health

Bluetooth wireless technology allows you to use short-range radio signals to connect a variety of devices, such as 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. There is a risk of electrical shock.
- 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. There is danger of fires, electrical shock, damage to the unit, and injury. The product does not contain consumer serviceable components. Should your Cordless Serial Adapter 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.
- The Cordless Serial Adapter is susceptible to physical damage. Do not exert excessive force on it, or permanent damage can occur!
- Do not use this unit in an area where people wearing pacemakers may be nearby (such as in a crowded train).
- People wearing a pacemaker should use the system at least 22 cm from the pacemaker.
• Do not use this unit in medical facilities such as hospitals or in other places near medical electronic equipment. Likewise, do not attach medical electronic equipment to the Bluetooth Card.
• Do not use the unit near automatic doors, fire detection devices, or other automatically controlled devices.
• If the Cordless Serial Adapter gives any electromagnetic interference to other devices, either remove the CSA from the host device or unplug the CSA from its power source.
• Do not put the unit in your mouth.
• Do not insert any metal objects such as staples or paper clips into the unit.
• Do not place the unit in direct sunlight, in a closed car, near a heating device or any other location where the temperature may become high.
• Do not expose the unit to high levels of dust.
• Do not use the unit near a microwave oven or in areas where there is a risk of electrical shock, static electricity or electromagnetic interference.
• Do not use the Cordless Serial Adapter in a place with risk of strong vibration.
• Do not use benzene or paint thinner to clean the Cordless Serial Adapter.

Antenna Care and Efficient Use
Do not surround your Cordless Serial Adapter with metal since it will reduce the radio transmission efficiency.

Driving
RF energy may affect some electronic systems in motor vehicles, such as car stereo, safety equipment, etc. Check with your vehicle manufacturer’s representative to be sure that your Cordless Serial Adapter will not affect the electronic system in your vehicle.

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

Radio Frequency Exposure
Your Cordless Serial Adapter is a radio transmitter and receiver. When in operation, it communicates with a Bluetooth-equipped mobile phone, mobile computer or other device 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 Serial Adapter 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.

**Restrictions**
- The Cordless Serial Adapter was not designed to be used with systems directly responsible for sustaining human life. Avoid using this product with such systems (e.g., medical equipment for life support, surgery, etc.).
- When this product is to be used in installations responsible for human safety or the maintenance of public installations (e.g., main control or safety systems in nuclear power plants, mass transportation systems, etc.), special transport, maintenance, operation, and wiring (i.e., safety systems installed in close consultation with a Socket representative) becomes necessary. Please contact an authorized Socket service center.

\(^1\) 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.


Appendix C  Glossary

acceptor: A Bluetooth device that accepts an action (e.g., a connection) from another Bluetooth device, known as the initiator

AT command: The de facto standard language for controlling modems.
   The AT command set was developed by Hayes and is recognized by virtually all personal computer modems

authentication: Verification of identity as a security measure. Passwords and digital signatures are forms of authentication

Bluetooth: Short-range, low power wireless technology used primarily for cable replacement between devices. For more information about Bluetooth and how it works, read Socket’s technology briefs online at: www.socketcom.com/support/learn.asp.

COM port: A serial communications port

CSA: Socket Cordless Serial Adapter with Bluetooth Wireless Technology

data bit: Bits that contain information, as opposed to bits used for starting, stopping, or error checking

Data Communications Equipment (DCE): In serial communications, a device between the communication endpoints that is responsible for facilitating the communications process. A modem is the most common kind of DCE

Data Terminal Equipment (DTE): In serial communications, a device at the endpoint of the communications path. The CSA is a DTE. Other examples of DTE are terminals, computers, protocol converters, and multiplexors

Data Terminal Ready (DTR): A signal from a communications program to a DCE, which indicates that the program is loaded and ready to run

device class: A parameter that indicates the type of device and which types of services are supported. The class is reported during a device discovery

discussable: Capable of being found by other Bluetooth devices during the device discovery phase

encryption: The encoding of data to make it unreadable by unauthorized users

female serial port: A serial port with pinholes

flow control: The control of transmission between communications devices, to make sure the sender does not send data until the receiver is ready to receive it

friendly name: A name you can assign to a Bluetooth device, e.g., “Lesley’s Computer.” If the Bluetooth device is discoverable, the friendly name is provided to other Bluetooth devices during device discovery

gender changer: An adapter that changes a serial connector from male to female, or vice versa

initiator: A Bluetooth device that initiates an action (e.g., a connection) to another Bluetooth device, known as the acceptor
inquiry scan: A mode that a remote device enters when advertising that a service is available
local host or local device: The device that the CSA is attached to
male serial port: A serial port with pins
null modem: An adapter that enables two RS-232 DTE devices to communicate with each other without a regular modem or other DCE device between them
page scan: A mode in which a Bluetooth device analyzes pages by other Bluetooth devices to determine if any of the pages are addressed to it. Before connecting to a remote device, a local device must get the remote device's attention by paging the remote device.
parity: An integer's property of being odd or even. Parity checking is used to detect errors in binary-coded data
remote device: The other Bluetooth device that the CSA connects to
RS-232: (Recommended Standard-232.) An Electronics Industries Association standard for asynchronous serial lines, used commonly for modems, computer terminals, and serial printers. RS-232 uses a 25-pin or 9-pin connector
Serial Port Profile: A serial communications service offered by a Bluetooth device, which must be implemented as defined by the Bluetooth SIG. For two Bluetooth devices to interoperate in serial communications, both devices must have this profile
service class: The type of service that a Bluetooth device can provide to other Bluetooth devices
stop bit: In serial communications, where each bit of the message is transmitted in sequence, stop bits are extra "1" bits which follow the data and any parity bit. They mark the end of a unit of transmission (normally a byte or character)
Appendix D **Troubleshooting**

**SYMPTOM:**
The Configuration Utility is not working properly (e.g., I cannot read the settings from the CSA).

<table>
<thead>
<tr>
<th>POSSIBLE REASONS</th>
<th>SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>The CSA is not attached properly to your computer.</td>
<td>Properly insert the CSA, pushing it into your computer’s serial port as far as it will go.</td>
</tr>
<tr>
<td>The CSA does not have power. The LED is not blinking.</td>
<td>Use the AC adapter to connect the CSA to an electrical outlet.</td>
</tr>
<tr>
<td>The CSA currently is configured with automatic connections and DTR disabled, and the remote device is within range. Thus, you are currently connected to the remote device.</td>
<td>Remove the remote target from range.</td>
</tr>
<tr>
<td>ActiveSync has control of the port where the CSA is attached.</td>
<td>In the ActiveSync connection settings, make sure a serial cable connection is not allowed at the COM port where you attached the CSA.</td>
</tr>
</tbody>
</table>

**SYMPTOM:**
The CSA is not communicating properly with my third party software.

<table>
<thead>
<tr>
<th>POSSIBLE REASONS</th>
<th>SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>You configured the CSA and/or the third party software incorrectly.</td>
<td>Make sure the CSA and third party software are set for the same baud rate and other settings.</td>
</tr>
<tr>
<td>You are using auto-detect and Plug and Play functions.</td>
<td>Auto-detect and Plug and Play functions do not work reliably with <em>Bluetooth</em>. Make sure you manually enter the baud rate and other settings to match those of your local host device’s serial port.</td>
</tr>
<tr>
<td>Various possible reasons, such as incompatible hardware.</td>
<td>If your hardware responds to standard AT commands, set up a test connection with Windows Hyper Terminal using the CSA COM port as the connecting modem.</td>
</tr>
</tbody>
</table>
Appendix E Technical Support

If you have trouble installing or using the Cordless Serial Adapter with Bluetooth Wireless Technology, refer to Appendix D, “Troubleshooting.” If you still have problems, contact Socket’s technical support department via the online support system.

**IMPORTANT! To obtain technical support for your product, you must first register your product online at [www.socketcom.com/prodreg](http://www.socketcom.com/prodreg).**

To submit an email inquiry through the online support system:
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.

After you have registered, click here to submit a problem.

This is the fastest way to obtain technical support and has the quickest turnaround time. Registered customers who submit a question online will receive priority service. 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.
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 Serial Adapter: Three 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, email info@socketcom.com.
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.

EXPORT LAW ASSURANCES. You may not use or otherwise export or reexport the SOFTWARE except as authorized by United States law and laws of the jurisdiction in which the SOFTWARE was obtained. In particular, but without limitation, none of the SOFTWARE may be used or otherwise exported or reexported (a) into (or to a national or resident of) a United States embargoed country or (b) to anyone on the U.S. Treasury Department’s list of Specially Designated Nationals or the U.S. Department of Commerce’s Table of Denial Orders. By using the SOFTWARE, you represent and warrant that you are not located in, under control of, or a national or resident of any such country or on any such list.

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.
Copyright Notice

Copyright © 2003 Socket Communications, Inc. All rights reserved.

Socket, the Socket logo and Battery Friendly are registered trademarks of Socket Communications, Inc. Cordless Serial Adapter with Bluetooth Wireless Technology is a trademark of Socket Communications, Inc. The Bluetooth word mark and logo are owned by the Bluetooth SIG, Inc., and any use of such marks by Socket Communications, Inc. is under license. All other brand and product names are trademarks of their respective holders.


Reproduction of the contents of this manual without the permission of Socket Communications is expressly prohibited. Please be aware that the products described in this manual may change without 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.

Socket Communications requests that you refrain from any applications of the Socket Cordless Serial Adapter that are not described in this manual. Please refrain from disassembling the card. 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.
Regulatory Compliance

The Socket Cordless Serial Adapter with Bluetooth Wireless Technology 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.

Radio Frequency Interference Requirements

This device complies with part 15 of the FCC rules. 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 300 328, ETS 300 826 and C-TICK 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 operation 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 card is prohibited. Changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.

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.
U.S. Regulatory Wireless Notice
This product emits radio frequency energy, but the radiated output power of this device is far below the FCC radio frequency exposure limits. Nevertheless, the device should be used in such a manner that the potential for human contact with the antenna during normal operation is minimized.

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 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.

Canadian Regulatory Wireless Notice
Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

To prevent radio interference to the licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing.

The term “IC:” before the certification/registration number only signifies that the Industry Canada technical specifications were met.

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: