

Quad Serial I/O Card™

PC Card with four serial communications ports for connecting peripheral devices to:

- *Pocket PC 2003SE, 2003, 2002, 2000*
- *Handheld PC Pros and pen tablets based on Windows CE v2.11 or later*
- *Windows XP, 2000, Me, 98SE, and 95 notebooks*
- *Windows XP tablet*
- *MS-DOS notebooks*

User's Guide



socket™
Increasing Mobile
Productivity

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Please be aware that the products described in this manual may change without notice.

This manual has been prepared with the greatest care regarding its contents. However, in the event that it contains omissions, errors or any other misinformation, please 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 Quad Serial I/O Card that are not described in this manual. Socket Communications also requests that you refrain from disassembling the PC Card. Disassembly of this device will void the product warranty.

You can track new product releases, software updates and technical bulletins at: www.socketcom.com

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1 | Introduction

Overview

The Quad Serial I/O Card (Q-I/O) makes it easy to add four serial communications ports to your Windows or DOS-based mobile computer. Each port operates independently and can link to an external modem, label printer, bar code scanner, digital camera or other serial device. It's ideal for applications that need mobile data collection from multiple sources.



Ruggedized with non-removable serial cables, the Q-I/O is designed to withstand stress from industrial or field applications.

For software updates, please visit: www.socketcom.com/product/serial.asp

About the Software



The Socket Quad I/O utility reports the serial COM numbers assigned to each port of the Socket Quad Serial I/O Card, so you can configure your applications for the correct serial COM numbers.

System Requirements

Your mobile computer should meet these minimum requirements:

- Any of the following operating systems:
 - Windows Mobile 2003SE, 2003
 - Windows CE v2.11 or later
 - Windows XP, 2000, Me, 98 Second Edition or 95 v4.00.950B
 - Windows XP Tablet Edition
- PC Card slot

For information about using the Quad Serial I/O Card with a DOS application, email support@socketcom.com

The Q-I/O might not work with some third party Card Services software.

Note: Socket does not recommend using the Quad Serial I/O Card with a mouse. If you have a mouse with a DB-9 connector, plug your mouse into your notebook's built-in serial port. If your mouse has a PS/2 connector, it can only be connected to your notebook's PS/2 mouse connector.



Package Contents

The Socket Quad Serial I/O Card package includes these items:

- A Socket Quad Socket Serial I/O Card, with four non-removable cables, each with a DB-9 connector at the end.
- The *Socket Quad Serial I/O Installation Disc*

Register the product online at: www.socketcom.com/prodreg

Product Registration

Socket highly recommends that all customers register their Socket products. Registered users receive priority for technical support, product updates, and special offers. Register online at: www.socketcom.com/prodreg

Product Registration / Technical Support

I am a new user

Country/Region
Select a Country

I am a returning user

Welcome back. Please sign in.

Email Address

Password

[» Forget Password?](#)

Product registration is not required to ensure your warranty rights.

▶ Please contact webmaster@socketcom.com if you are having trouble with the site.

2| Setup for Windows Mobile

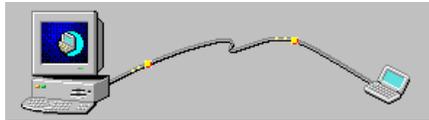
This chapter explains how to install the Quad Serial I/O Card for Windows Mobile or CE-based devices, including Pocket PCs, Handheld PCs, and pen tablets.

STEP 1: Install the Software

IMPORTANT!

For Windows Mobile/CE, install the software BEFORE inserting the card.

1. Use ActiveSync and a serial/Ethernet/USB cable or cradle to make an active partnership between the mobile computer and a host PC.



ActiveSync should report that you have connected, and the ActiveSync icon should turn green.

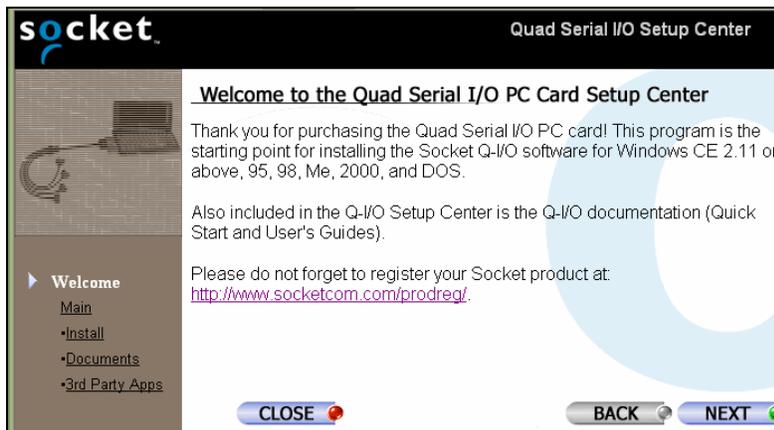


2. Insert the *Quad Serial I/O Installation CD* into the host PC.

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



2. Follow the instructions on your screen to install the software for Windows Mobile/CE.
 - Read the information in the welcome screen and click NEXT.
 - In the Main Page, click INSTALL.
 - In the Installation screen under Windows CE, click Install.



3. In the File Download screen, click Run.



4. In the Security Warning screen, click Run.



5. The Setup Center will begin. Follow the wizard to install the software.



6. When software installation is complete, disconnect the mobile computer from the host PC. Soft reset the mobile computer by pressing the reset button.

Note: If you forget to reset your device, the Socket Quad I/O icon will not appear in the System or Control Panel screen.

STEP 2: Insert the Card into Your Computer

1. Make sure you have installed the software before you insert the Q-I/O into your computer.
2. Plug the Q-I/O into the PC Card slot of your mobile computer, with the blue label facing up.



Some mobile computers signal good card insertion via a beep, message screen, and/or task tray icon.

Now you are ready to use the Quad Serial I/O Card with serial devices.

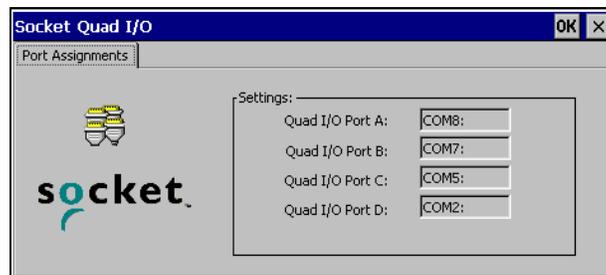
OPTIONAL: Identify COM Ports

To identify which serial COM ports Windows has assigned, use the Socket Quad I/O utility.

1. Pocket PC — Go to Start | Settings | System | Socket Quad I/O
HPC — Go to Start | Settings | Control Panel | Socket Quad I/O



2. The Port Assignments screen will display the COM ports.



Card Removal

1. Close any applications using the Quad Serial I/O Card.
2. Press your mobile computer's PC Card eject button to remove the card.

DO NOT remove the Q-I/O by pulling on the cables.

3 | Setup for Windows XP, 2000, Me, 98SE, 95

This chapter explains how to install and use the Quad Serial I/O Card on computers running Windows XP, 2000, Me, 98SE, and 95v4.00.950B.

STEP 1: Insert the Card into Your Computer

IMPORTANT!

For Windows XP, 2000, Me, 98SE, and 95, you must insert the card before installing the software!

Plug the Q-I/O into the PC Card slot of your mobile computer, with the blue label facing up.



Some computers signal good card insertion via a beep, message screen, and/or task tray icon.

STEP 2: Install the Software

IMPORTANT!

Make sure you insert the card into your computer before installing the software.

There are two drivers to install. Each must be installed separately, so you will need to complete the installation wizard two times.

1. After inserting the Q-I/O into the PC Card slot of your Windows notebook, a new hardware or device driver wizard will appear.



2. Insert the *Quad Serial I/O Installation Disc*.



3. Follow the wizard to install the Q-I/O drivers, making the appropriate selection for your Windows version below as prompted:
 - a. Windows XP — Select **Install the software automatically**. Click **Next**. In the **Hardware Installation Warning** screen, select **Continue Anyway**.
 - b. Windows 2000 — Select **Search for a suitable driver for my device**. In the next screen, select **CD-ROM drive**.
 - c. Windows Me — Select **Automatic search for a better driver**.
 - d. Windows 98 — Select **Search for the best driver for your device**. In the next screen, select **CD-ROM drive**.
 - e. Windows 95 — Select **Other locations and specify your CD drive**.

When installation is done for the first driver, you must repeat the wizard to install the second driver. The wizard will restart automatically. Use the same selections for your Windows version listed above.

Important! The wizard may report that it is installing an Unknown Device. Just proceed as usual.

OPTIONAL: Identify Windows COM Ports

Windows 2000/XP

Besides following the directions for Windows 95/98/Me described above, you can also use the following shortcut:

1. Click on the PC Card icon on the task bar.



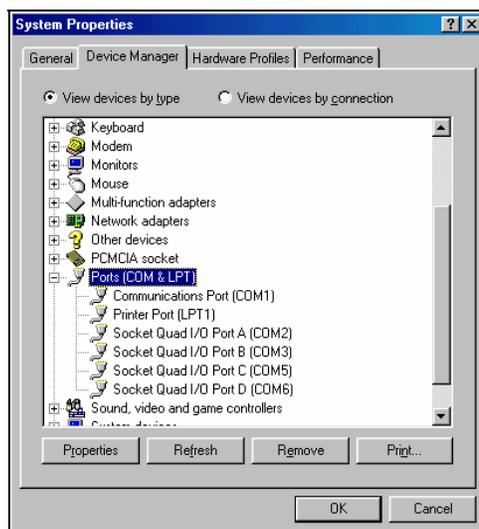
2. In the Unplug or Eject Hardware window, select Display device components to view the COM port assignments. DO NOT click Stop.

If Windows 2000 assigns a COM port number 10 or above, you must specify the path to access or open the COM port. For example, to access COM10, use the following syntax: \\.\COM10

Windows 9x/Me

Follow these steps to identify which COM ports Windows has assigned to the Q-I/O:

1. Go to Start | Settings | Control Panel | System.
 2. In the System Properties screen, click on the Device Manager tab.
 3. Select View devices by type, and click on Ports.
- The Socket Quad I/O Ports will be listed with their COM port numbers.



Device Manager screen from Windows 98

Hot Swapping

Windows XP, 2000, Me, 98SE, and 95 support hot swapping, which lets you remove a PC Card and re-insert it without rebooting.

With some Windows configurations, not all application programs will gracefully handle the sudden disappearance of a communications port. When removing and re-inserting the Q-I/O, your COM port assignments may change, so you may need to reconfigure your applications for the new COM ports. Remember to stop the card before removing it.

NOTE: Socket does NOT recommend using the Q-I/O with a mouse.

Card Removal

1. Close any applications using the Q-I/O.
2. Click on the PC Card icon on the task bar at the bottom of your screen.

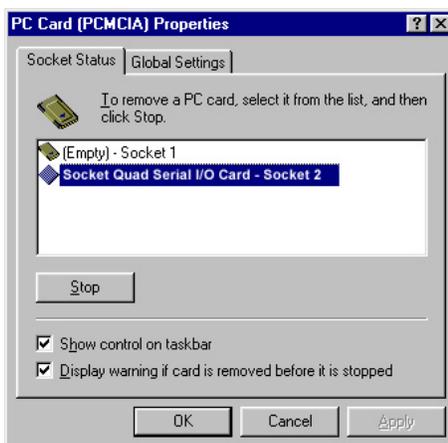


Windows 95/98 icon



Windows Me/2000/XP icon

3. In the screen that appears, select the Q-I/O and click Stop.



PC Card Properties screen from Windows 98

4. A screen will appear reporting that it is safe to remove the PC Card. Click OK.



Safe device removal screen from Windows 98

5. The previous PC Card properties screen will reappear, showing that the socket previously occupied by the Q-I/O is now empty. Click OK.
6. Push your notebook computer's PC Card eject button to remove the card. DO NOT remove the card by pulling on the cables.

Appendix A Specifications

Physical Characteristics:

I/O PC Card

Dimensions: 3.37 x 2.13 x 0.197 in
(85.6 x 54.0 x 5.0 mm)

Weight with cable: 6.4 oz (181.4 g)

Interconnect Cables

Length: 24 in long (610mm) fixed

Serial Connector: Four 9-Pin D Shell Male

Environmental Conditions:

Operating Temperature: 0°C to +55°C

Storage Temperature: -20°C to +65°C

Relative Humidity: 10% to 90% non-condensing

Power Consumption (supplied by host):

Minimum: 5.8 mA (29 mW)

Typical:

One port: 19.2 mA (96 mW)

Two ports: 32.1 mA (160.5 mW)

Three ports: 44.3 mA (221.5 mW)

Four ports: 55.6 mA (278 mW)

Maximum:

One port: 19.5 mA (97.5 mW)

Two ports: 32.3 mA (161.5 mW)

Three ports: 44.5 mA (222.5 mW)

Four ports: 55.8 mA (279 mW)

Interface Standards:

I/O PC Card Interface: PCMCIA Release 2.0, Type II,
JEIDA 4.1 Compliant

Serial Communications: Asynchronous RS-232

Software Included:

Windows 9x: INF file and device driver

Windows Me: INF file and device driver

Windows 2000: INF file and device driver

Windows XP: INF file and device driver

Windows Mobile/CE: Setup program and device driver

MS-DOS: Direct enabler

Media: CD-ROM

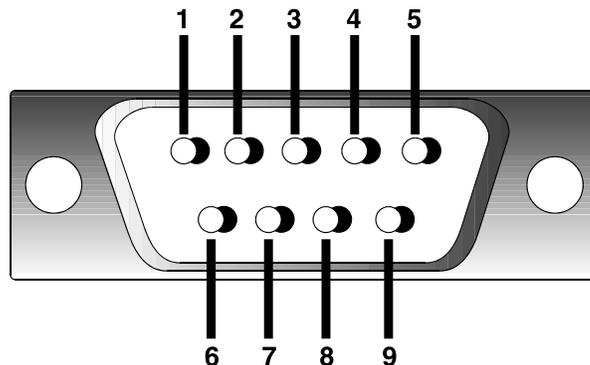
OS Support: Windows 95 (v95B or later)
 Windows 98/Me/2000/XP
 Windows Mobile
 Windows CE (v2.11 or later)
 MS-DOS

Compatibility:
Port A: COM 1, 2, 3, 4 or any I/O address
Port B: COM 2 (2F8), COM 3 (3E8) or
 COM 4 (2E8)
Port C: Memory mapped at offset 0x780
Port D: Memory mapped at offset 0x790

Programmable Characteristics:
Character length: 5-, 6-, 7- or 8-bit
Parity: Even, odd or none
Baud rate generation: Up to 115.2K baud
UART Type: Oxford 16C950

Pin Assignments for each DB-9 Connector:

Pin Number	Function
1	Data Carrier Detect
2	Receive Data
3	Transmit Data
4	Data Transmit Ready
5	Ground
6	Data Set Ready
7	Request to Send
8	Clear to Send
9	Ring Indicator



Appendix B Troubleshooting

SYMPTOM:

- My notebook doesn't recognize the Q-I/O.

POSSIBLE REASON	SOLUTION
The Q-I/O is improperly seated in your notebook's PC Card slot.	Remove the card from the PC Card slot and re-insert it.

SYMPTOM:

- I get *Unidentified PC Card Adapter* after inserting the Q-I/O into my Handheld PC Pro.

POSSIBLE REASON	SOLUTION
The Q-I/O software drivers were improperly loaded or corrupted.	Run the SETUP program on the <i>Quad Serial I/O Installation Disc</i> , or load the latest drivers from: www.socketcom.com/support_serial.htm

SYMPTOM:

- My mouse works erratically with the Q-I/O.

POSSIBLE REASONS	SOLUTION
Some mouse drivers behave erratically with PC Card serial ports.	Socket does not recommend attaching a mouse to the Q-I/O. For a serial mouse, use your computer's built-in RS-232 port.

SYMPTOM:

- I can't find a free interrupt on my notebook.

POSSIBLE REASONS	SOLUTION
Unused interrupts are scarce in most notebooks.	The Q-I/O needs one interrupt. Consult your notebook manufacturer for help in disabling an unused feature (e.g., IrDA). In extreme cases, you may need to remove a PC Card.

SYMPTOM:

- My application doesn't recognize the Q-I/O.

POSSIBLE REASONS	SOLUTION
Your application isn't configured for the Q-I/O's port assignments.	Check the Q-I/O's COM port assignments. From the Control Panel , run the Socket Quad I/O Card applet (QuadIO for Windows CE). Then go to your application and configure for the right Socket Quad I/O Port , usually via a menu called "Configuration," "Options," "Communications," or "Setup."
You removed and re-inserted the Q-I/O, so new COM ports have been assigned.	You need to reconfigure your application for the new COM port assignments. Please refer to the box above for instructions.
You are using multiple serial PC Cards (e.g., serial I/O cards, modem cards, GPS cards, etc.) with Windows 9x/Me/2000 and inserted them in a different order than the last time you used the application.	COM port assignments can vary with the order in which you insert the PC Cards. Reconfigure the application, by following the steps described in the box above. In the future, insert your serial PC Cards in the same order every time.
You are running a MS-DOS programs on Windows 9x/Me/2000.	Some MS-DOS programs running on Windows 9x/Me/2000 don't work with the Q-I/O. Choose another application.

Appendix C Technical Support

If you have problems installing or using the Quad Serial I/O Card, please refer to Appendix B, “Troubleshooting.” If problems persist, feel free to contact Socket’s technical support department, prepared with the following information:

If you need help installing or using the Quad Serial I/O Card, Socket has two technical support resources to help you.

Socket On-Line Support

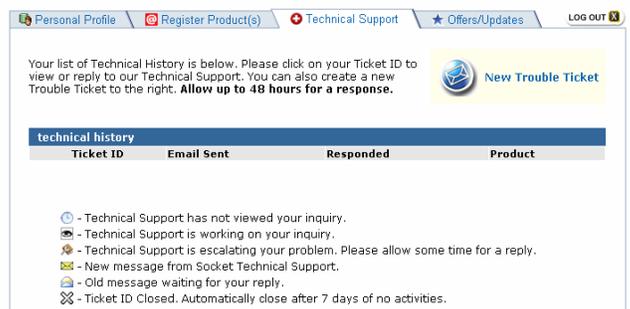
Socket On-Line Support (SOS) is an interactive technical support program and is the best place to start for technical support. To access SOS, visit: www.socketcom.com/support. Click on the SOS icon.



Live Technical Support

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

After product registration, log in. Click on the Technical Support tab. Click Trouble Ticket to submit an online inquiry for technical support. You can log in anytime to track the progress of your request. If we cannot resolve your inquiry online, we can arrange for a support engineer to call you at a specific time.



Please refrain from disassembling the Quad Serial I/O Card. Disassembly of this device will void the product warranty.

Note: The DOS enabler is intended for advanced users only and is not covered by Socket technical support.

Limited Warranty

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

Plug-in card: Lifetime (Three years if not registered)

Non-removable cable: Lifetime (Three years if not registered)

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.

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This product may contain fully tested, recycled parts, warranted as if new.
For warranty information, phone (510) 744-2700.

Limited Software Warranty

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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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Regulatory Compliance

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. This equipment is also CE EN55024:1998 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.

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.

PRODUCT DISPOSAL This product must not be disposed of with your municipal waste. It is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment.



