

# Ethernet PocketPak™

## User's Guide

*Featuring the Socket Low Power Ethernet Card for Windows Powered Pocket PCs*



**Standard Low Power Ethernet Card**



**Ruggedized Low Power Ethernet Card**



## 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:

CF Card and non-removable cable: Lifetime (Three years if not registered)  
Removable cable: 90 days

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

The returned product must be accompanied by a return material authorization (RMA) number issued by Socket or an authorized Socket 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.

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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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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.

To register your product online, please visit: [www.socketcom.com/prodreg.html](http://www.socketcom.com/prodreg.html)

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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

You are welcome to call Socket at (510) 744-2700, or FAX (510) 744-2727.

If you have technical questions, call Socket's technical support department at: (510) 744-2720. Before calling, please prepare yourself with the information listed in Appendix D, "Technical Support."

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 Low Power Ethernet Card that are not described in this manual. Socket Communications also requests that you refrain from disassembling the CompactFlash card. Disassembly of this device will void the product warranty.

For new product releases, software updates and technical bulletins, visit Socket's web page at [www.socketcom.com](http://www.socketcom.com)

## Regulatory Compliance

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. This equipment is also CE EN55022 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.

## How This Manual Is Organized

This manual is designed to help you install and operate the Socket Ethernet PocketPak, featuring the Socket Low Power Ethernet Card (LP-E).

Chapter 1, “**Introduction,**” describes the product’s key features and identifies the package contents.

Chapter 2, “**PocketPak Installation,**” covers the hardware and software installation procedure, including running the installation CD, configuring network settings, soft resetting the Pocket PC, connecting to a LAN port, and inserting the card.

Chapter 3, “**Using Applications,**” describes how to use ActiveSync and Pocket Inbox via a network.

Chapter 4, “**Control Panel Applet,**” describes how to access Socket’s control panel applet and how to use it to view IP information, configure auto-launch, and adjust the taskbar indicators.

Appendix A, “**Specifications,**” has technical data about the LP-E Card.

Appendix B, “**Two-Node Networking,**” explains how you can obtain Socket’s Crossover Connector and use it to create a two-node network between two Windows computers without having to use an Ethernet hub. Socket’s Crossover Connector is free to all registered LP-E owners.

Appendix C, “**Troubleshooting,**” gives advice for correcting the most common problems you may encounter while using the LP-E Card.

Appendix D, “**Technical Support,**” explains how to obtain technical assistance from Socket Communications and tells you what information you should have available before you contact Socket.



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# Chapter 1 Introduction

## Overview

With the Socket Ethernet PocketPak, you don't have to sit at your desk to connect to your corporate network. The PocketPak lets you plug into any access point on your office LAN using a Windows Powered Pocket PC.



Created for busy professionals who need fast-working solutions, the Ethernet PocketPak features the Socket Low Power Ethernet Card (LP-E). This card allows you to synchronize to your corporate LAN at 10 million bps — 500 times faster than a standard serial port.

The PocketPak lets you instantly launch ActiveSync every time you connect, and the LP-E's ultra low power design maximizes your Pocket PC's battery life.

This *User's Guide* shows how to install and use the Low Power Ethernet Card. For software updates, please visit: [www.socketcom.com/ethernet.htm](http://www.socketcom.com/ethernet.htm)

For information about other Socket PocketPaks, please visit: [www.socketpocketpak.com](http://www.socketpocketpak.com)

## Features

Key features of the Ethernet PocketPak include:

- 10 megabit-per-second performance via 10BaseT twisted pair Ethernet.
- Location independent operation — you can use the LP-E to connect to any access port on your local area network.
- *Battery Friendly*® design maximizes your Pocket PC's battery life.
- Plugs into the CompactFlash I/O slot of Windows Powered Pocket PCs
- Auto-launch — ActiveSync or any other program of your choice instantly starts whenever you insert the card.
- Control panel applet — Icons for good link and activity appear on the Pocket PC status bar for convenient reference at a glance. IP address information is also easily accessible. The applet also lets you configure what program to auto-launch.
- NE2000 compatibility — no software installation is necessary for basic operation on Pocket PCs.
- Lifetime warranty on CompactFlash Card with non-removable cable.
- Ninety day warranty on removable cable

## 2 – Chapter 1 Introduction

## **Contents of the Ethernet PocketPak**

The Socket Ethernet PocketPak includes these items:

- A Socket Low Power Ethernet Card (CompactFlash Type I)
- An Ethernet cable with a female RJ-45 Ethernet module connector (The cable is removable for the Standard Ethernet PocketPak and non-removable for the Ruggedized Ethernet PocketPak.)
- The *Socket Ethernet PocketPak Installation CD*
- The *Ethernet PocketPak Quick Start Guide*
- A registration card

To register your product online, visit: [www.socketcom.com/prodreg.htm](http://www.socketcom.com/prodreg.htm)

# Chapter 2 PocketPak Installation

## Overview

This chapter explains how to install the hardware and software for the Ethernet PocketPak. Please note that software installation is not necessary for basic operation.

## Getting Started is Easy

Installing the Low Power Ethernet Card (LP-E) takes just five easy steps. Please refer to the following pages for details on each step.

1. Complete the Network Information Form on the next page.
2. \*If necessary, install the software drivers onto your Pocket PC.
3. Configure your network settings and click ok.
4. Soft reset your Pocket PC.
5. Connect the LP-E to a LAN port, and insert the LP-E into the Pocket PC.

*\*Note: For basic operation, no software installation is necessary. The LP-E Card works with the NE2000 drivers already built into every Pocket PC.*

## STEP 1: Network Information Form

To configure your Pocket PC for your office network, consult your network administrator/MIS technician for the information below.

If you would like to email this form to your network administrator/MIS technician, a text version is available both on the installation CD and at [www.socketcom.com/ethernet.htm](http://www.socketcom.com/ethernet.htm)

1. Does the network support Dynamic Host Configuration Protocol (DHCP)?

Yes. If *Yes*, then you need no further information.

No. If *No*, then complete the rest of this form.

2. What are the following IP addresses? (Ask which ones you need.)

Pocket PC IP address: \_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_

Subnet Mask: \_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_

Default Gateway: \_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_

Primary DNS: \_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_

Secondary DNS: \_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_

Primary WINS: \_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_

Secondary WINS: \_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_

*Important: In some cases, you may need to use the IP address of your host PC instead of a Primary WINS address.*

Host computer IP address: \_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_

Notes:

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## STEP 2: Installing the Software

The Low Power Ethernet Card (LP-E) needs software drivers to run on your Pocket PC. You can use the basic NE2000 Ethernet drivers already included on every Pocket PC, or you can use Socket's LP-E drivers, enhanced with these features:

- Auto-launch — ActiveSync or any other program of your choice instantly starts whenever you insert the LP-E
- IP info screen — quickly view IP address information
- Taskbar indicators — convenient indicators for activity and good link

Your three options for software drivers are:

1. If using the NE2000 drivers, no software installation is needed. Proceed to Step 3.
2. If you have an HP Jornada Pocket PC, Socket's enhanced LP-E drivers are already built into the ROM. *DO NOT install Socket's drivers from the installation CD.* Proceed to Step 3.
3. For any other Pocket PC, you can install Socket's enhanced LP-E drivers by running the *Socket Ethernet PocketPak Installation CD.*

### Running the Installation CD


Follow these steps to install Socket's enhanced drivers onto the Pocket PC:

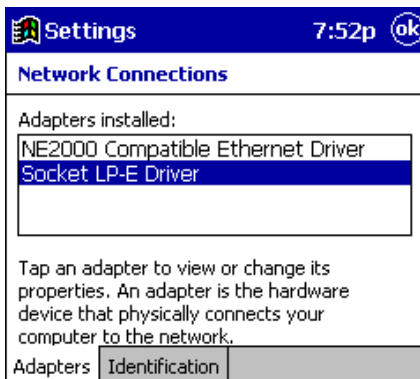
***Important! DO NOT insert the LP-E before running the installation CD!***

1. Establish an active partnership between your Pocket PC and a host PC. Use your Pocket PC's serial connection cable.
2. Insert the *Socket Ethernet PocketPak Installation CD* into the host PC. The Pocket PC must already have an active partnership with the host PC.
3. Run the SETUP.EXE file on your CD-ROM by doing any of the following:
  - Go to **My Computer**, select your CD drive, then run the file.
  - Use Windows Explorer to access your CD drive and run the file.
  - Click **Start/Run** on your host PC. In the **Open** field, type **D:\SETUP**  
***Important! Use your own CD drive letter, which might not be "D"!***
4. Follow the instructions on the host PC screen.
5. When installation is done, soft reset the Pocket PC. Remove the serial cable.

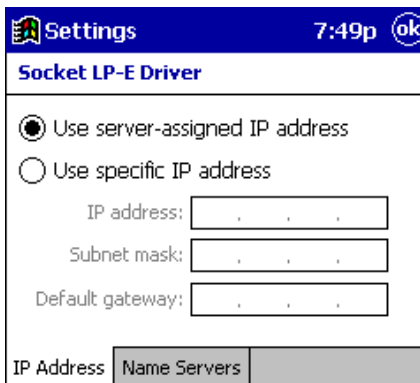
### STEP 3: Configuring Network Settings

Before configuring network settings, fill out the Network Information Form.

1. Go to **Start** , **Settings**, then tap on the bottom **Connections** tab. Tap on the **Network** icon.
2. In the **Network Connections** screen, select **Socket LP-E Driver**.



3. In the **Socket LP-E Driver IP Address** screen, enter your network settings from the Network Information Form:



If your LAN supports DHCP, select **Use server-assigned IP address**. If needed, tap on the **Name Servers** tab to enter DNS and WINS addresses.

Note: If using a **Static IP** address, you may need to enter the host computer's IP address in the **Primary WINS** field to use ActiveSync.

When done, tap **ok**.

*Important! If you forget to tap **ok**, your settings will not take effect!*

## STEP 4: Soft Resetting Your Pocket PC

Push the reset button on your device.

*Important! You must soft reset the Pocket PC after configuring network settings, even if you already reset it after running the installation CD!*

## STEP 5: Connecting the LP-E Card

If you have a Standard PocketPak, be sure to connect the cable to the card first.

*First plug the connector into a LAN port.*



*Then insert the LP-E into the slot, right-side up.*



Note: By default, after connecting to a LAN port and inserting the LP-E, ActiveSync will auto-launch. For more information about using ActiveSync, please refer to the next chapter, “Using Applications.”

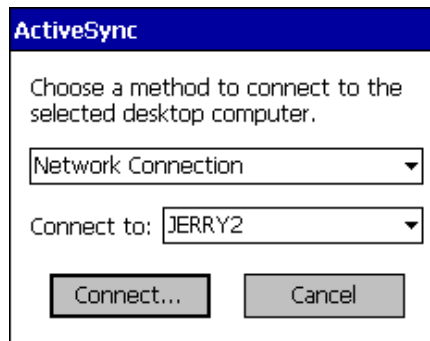
# Chapter 3 Using Applications

## Using ActiveSync via a Network

ActiveSync is the default auto-launch program for the Low Power Ethernet Card (LP-E). If you wish to auto-launch another program, please refer to Chapter 4, “The Control Panel Applet.”

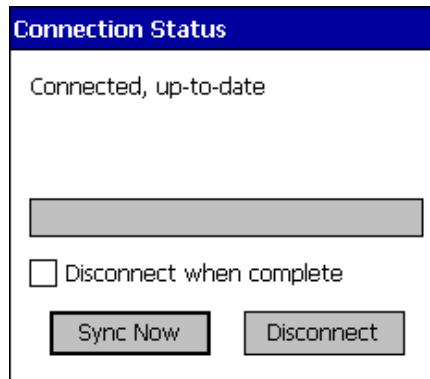
Follow these steps to use ActiveSync via an Ethernet connection:

1. After inserting the LP-E and connecting to a LAN, ActiveSync launches:



*Note: You must have a partnership with a host PC to use ActiveSync!*

2. Select **Network Connection** in the top menu, then tap **Connect**. The Pocket PC will start synchronizing. The **Connection Status** screen will report when synchronization is done.

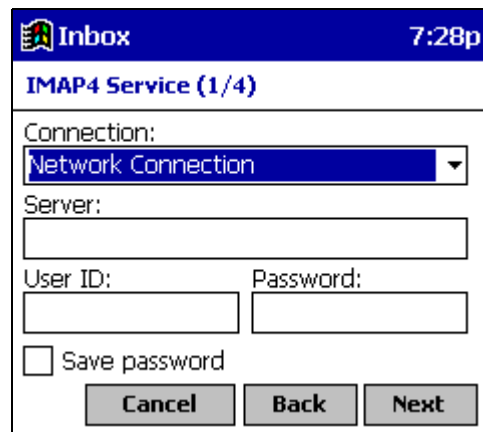


3. To stop ActiveSync, tap the **Disconnect** button on the **Connection Status** screen. You will still have network access.

## Using Pocket Inbox via a Network

To use the Low Power Ethernet Card (LP-E) with Pocket Inbox to check email, follow these guidelines. You may also need to consult the Pocket Inbox user documentation and/or your network administrator for additional information.

1. Make sure that your corporate network supports either POP3 or IMAP4 email.
2. When either creating a new email service or modifying an existing account, be sure to select **Network Connection**:



The screenshot shows the 'Inbox' application interface. At the top, there is a blue header bar with the 'Inbox' logo on the left and the time '7:28p' on the right. Below the header, the title 'IMAP4 Service (1/4)' is displayed. The main area contains several input fields: a 'Connection:' dropdown menu with 'Network Connection' selected, a 'Server:' text box, a 'User ID:' text box, and a 'Password:' text box. Below these fields is a checkbox labeled 'Save password'. At the bottom of the form are three buttons: 'Cancel', 'Back', and 'Next'.

# Chapter 4 Control Panel Applet

## Overview


Socket's Low Power Ethernet Card (LP-E) software is enhanced with a control panel applet, which adds the following features:

- IP info screen — lets you quickly view IP information at a glance
- Auto-launch — ActiveSync or any other program of your choice instantly starts whenever you insert the LP-E
- Taskbar indicators — convenient indicators for activity and good link

## Accessing the Applet

From the **Today** window, tap on the **Socket LP-E icon** on the task tray.

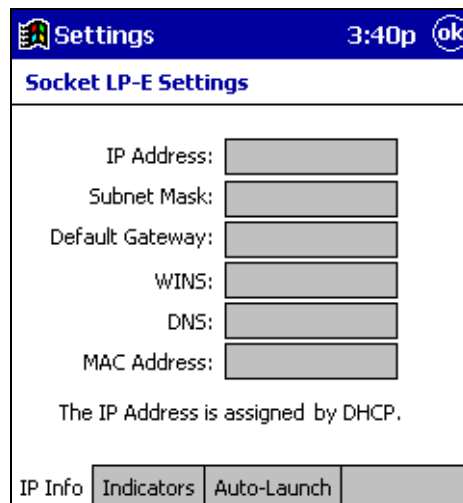


Alternatively, you can open the control panel applet by tapping **Start** , then **Settings**, and then the bottom **Connections** tab. On the **Settings** screen, tap the **Socket LP-E icon**:



## Viewing IP Info

Tap on the **IP Info** tab at the bottom of the screen to view your network's IP addresses. You can also see if your IP address is static or assigned by DHCP.



## Configuring Auto-Launch

Tap on **Auto-Launch** tab to specify what program to run automatically whenever you insert the LP-E. By default, ActiveSync will auto-launch. Use the drop list to select another program to auto-launch, if desired.

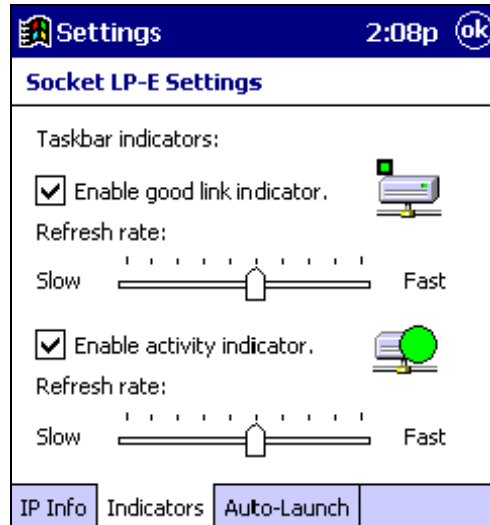


You can use the **Program arguments** field for custom applications that require program arguments to launch.

The **second delay before launch** field lets you specify how long your Pocket PC will wait before auto-launching a program. Most devices have a default of 8 seconds, which gives enough time to recognize the LP-E. However, if your network is slow, or if memory is low, 8 seconds may be too short.

## Adjusting Taskbar Indicators

Tap on the **Indicators** tab to adjust the good link and activity taskbar indicators.



# Appendix A Specifications

## *Physical Characteristics:*

### **CompactFlash CF Card:**

**Dimensions:** 1.43 x 1.69 x 0.13 in  
(36.4 x 42.8 x 3.3 mm)

**Weight:** 0.32 oz (9 gm)

### **Cable with RJ-45 Ethernet Module:**

**Module Dimensions:** 1.65 x 0.89 x 1.02 in  
(42 x 22.5 x 26 mm)

**Interconnect Cable:** 10 in long (254 mm)

**Weight:** 1.5 oz (42 gm)

## *Power Consumption (supplied by PC host):*

### **Active:**

**With 3.3V Supply:** 19 mA (63 mW)

**With 5V Supply:** 19 mA (95 mW)

## *Ethernet Interface:*

**Protocol:** 10BaseT (IEEE 802.3) Twisted Pair

**Module Connector:** RJ-45 female connector

## *Software Included:*

**For Windows CE:** Ethernet driver and Control Panel Applet

## *Compatibility:*

**Network Interface Card:** NE2000

## *Performance:*

**Ethernet Transfer Rate:** 10 megabits per second

## *Certification:*

**FCC:** Part 15, Class B

**CE:** EN55022

**C-Tick:** s.182 - Radio Communications Act 1992

## *Warranty:*

**CompactFlash LP-E Card:** Lifetime

**Non-removable Cable:** Lifetime

**Removable Cable:** 90 days

# Appendix B Two-Node Networking

## Overview

To establish an instant Ethernet network between two mobile computers, you don't need an Ethernet hub. All you need is Socket's Crossover Connector — FREE if you register your Low Power Ethernet Card (LP-E).

## Networking Directly to a Notebook

To network a Pocket PC to a notebook, you will need these items, all available from Socket:



## Configuring a Two-Node Network

The network you are about to create is a static peer-to-peer network. Please follow these guidelines when creating your network:

- The Pocket PC and notebook must each be assigned their own IP address. We recommend using a private IP range from 192.168.0.1 to 192.168.0.255.
- After setting up the IP addresses for both devices from the range suggested above, enter the notebook's IP address in the **Primary WINS** field of the **Name Servers** screen. Refer to Chapter 2, "PocketPak Installation," for directions on how to access the **Name Servers** screen.
- After entering your notebook's IP address, you must reboot the notebook for the new settings to take effect.
- After changing your Pocket PC's IP settings, you must remove the LP-E Card and re-insert it for the new settings to take effect.
- After setup is complete, connect the Pocket PC to the notebook. You are now ready to use ActiveSync. For instructions, please refer to Chapter 3, "Using Applications."

## Appendix C Troubleshooting

### **SYMPTOM:**

I get a message like *DHCP Lease has Expired*.

<b>POSSIBLE REASONS</b>	<b>SOLUTION</b>
You are using DHCP and you have not used your LP-E for a while.	Tap <b>ok</b> and continue.

### **SYMPTOM:**

My DHCP server keeps reporting that it's busy, and I can't connect to my network.

<b>POSSIBLE REASONS</b>	<b>SOLUTION</b>
Your DHCP is out of IP addresses.	Tell your network administrator about the problem.

### **SYMPTOM:**

ActiveSync shows no network connection.

<b>POSSIBLE REASONS</b>	<b>SOLUTION</b>
Your Pocket PC is using DHCP and can't get TCP/IP information, because it's having trouble communicating with your network's DHCP server..	Remove the LP-E card and reset your Pocket PC. Then re-insert the card. If problems still persist, contact your network administrator to see if the DHCP server is having problems.
ActiveSync launches before your Pocket PC has enough time to recognize the LP-E and your network.	Go to the <b>Auto-launch</b> tab of the control panel applet and increase the <b>second delay before launch</b> option.
You are using a static IP address with ActiveSync.	Go to <b>Start, Settings</b> , and tap on the <b>Connections</b> tab. Tap on the <b>Network</b> icon. In the <b>Network Connections</b> screen, select <b>Socket LP-E Driver</b> . Tap on the <b>Name Servers</b> tab. Enter the IP address of your host PC in the <b>Primary WINS</b> field, then tap <b>ok</b> .

# Appendix D Technical Support

## How to Contact Socket

If you cannot resolve a technical problem with the Ethernet PocketPak, contact Socket's technical support department prepared with the following information:

- The serial number of your LP-E Card
- The Windows CE version number on your Pocket PC
- The Windows version on your host PC
- The manufacturer and model number of your Pocket PC
- What you did to try to correct the problem
- What you do to consistently replicate the problem

You can contact Socket the following ways:

- Visit **[www.socketcom.com](http://www.socketcom.com)**
- Email **[techsupport@socketcom.com](mailto:techsupport@socketcom.com)**
- Phone **510-744-2720**
- Fax **510-744-2727**

Please refrain from disassembling the CompactFlash CF Card. Disassembly of this device will void the product warranty.



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