One Sprint. Many Solutions.℠

User's Guide

PCS Connection Card™

by Sierra Wireless
AirCard® 550

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Welcome to Sprint

Sprint built the largest all-digital, all-PCS nationwide network with advanced multimedia services, reaching more than 230 million people for clarity you can see and hear. We built our network to give you what we believe you really want from a wireless phone: clear sound, private conversations, and time-saving features.

But with Sprint, you can do something even more far-reaching: simplify your life. Our advanced technology is designed to grow with your communications needs, so that one day you'll be able to rely entirely on your PCS Connection Card™ to stay connected.

This guide will familiarize you with our technology and your new PCS Connection Card through simple, easy-to-follow instructions. If you have already reviewed the Start Here Guide, which was packaged with your new card, then you're ready to explore the advanced features outlined in this guide.

If you have not read your Start Here Guide, go to Section One – Getting Started. This section provides all the information you need to quickly install and activate your PCS Connection Card. It also contains information on how to contact Sprint if you have any questions about your service, wish to check your account balance, or want to purchase additional products or services.

Thank you for choosing Sprint.

Introduction

This User's Guide introduces you to PCS Service and all the features of your new PCS Connection Card. It's divided into three sections:

- **Section 1:** Getting Started
- **Section 2:** Understanding Your PCS Connection Card
- **Section 3:** Safety Guidelines and Regulatory Information

The Table of Contents and Index will help you locate specific information quickly. The PCS Connection Manager software includes extensive online help to guide you through the steps to use each feature.

Tip: You can view this guide online or print it to keep on hand. If you're viewing it online, simply click on a topic in the Table of Contents or Index or on any page reference. The PDF will automatically display the appropriate page.

Getting Started

Installing the PCS Connection Card

In This Section

This section walks you through the steps necessary to install your PCS Connection Card™.

Before you can begin using the AirCard 550 PCS Connection Card, you must:

1. Install the PCS Connection Card enabling software and AirCard 550 driver (described in this section).
2. Activate an account and configure the card to use your account (unless the card has been pre-activated). (See page 12).
3. Install the Sprint PCS Software Modem to enable access to dial-up servers. (See page 18).

This section provides details of the first step in this process. Subsequent steps are covered in following sections.

Getting Started

The AirCard comes with this software:

- PCS Connection Manager™ application that you use to manage the AirCard 550 and monitor your connections.
- Network Adapter Manager application that allows you to switch between the PCS Connection network card and other network cards (for notebook PCs only).
- The device driver software that provides the interface between the PCS Connection network card and your Windows operating system.

The PCS Connection Manager software (and on notebook PCs, the Network Adapter Manager) should be installed before you insert the AirCard 550 for the first time.

This chapter guides you through the steps necessary to install the PCS Connection Card on the each of the supported platforms:

- **notebook PCs**—"laptop" computers running Windows 98 SE, Me, 2000, or XP
- **Pocket PCs**—"PDA" style handheld devices (usually without a keyboard) running Windows CE for Pocket PC, Pocket PC 2002, or Pocket PC 2003.
- **Handheld PCs**—sometimes known as "clamshell" handheld computers (with a keyboard) running Windows CE Handheld PC 2000.
- **CE .NET devices**—devices (often tablets) running the Windows CE .NET operating system.

Where this document refers to "handhelds" it is referring to Pocket PCs, Handheld PCs, and CE .NET devices collectively. Where they must be referred to separately, the document uses "Pocket PCs", "Handheld PCs", and "CE .NET devices".

NOTE: Do not insert the PCS Connection Card into your PC Card slot before installing the software.

Before you begin the installation process, ensure your PC is running a supported operating system and meets the hardware requirements described below.

System Requirements

The AirCard 550 PCS Connection Card is supported on:

- Windows 98 SE
- Windows Me
- Windows 2000 with Service Pack 1 or later (Service Pack 4 is recommended)
- Windows XP (Home and Professional versions)
- Windows CE .NET (4.1 or later)
- Windows CE 3.0 Pocket PC 2003
- Windows CE 3.0 Pocket PC 2002
- Windows CE 3.0 Pocket PC
- Windows CE 3.0 Handheld PC 2000

To install the PCS Connection Card, you require these system resources:

Table 1: System Resource Requirements

Card slots	1 Type II PCMCIA (PC Card) slot (An accessory pack on Pocket PCs)
Communications ports	1 available
Disk drive	CD-ROM
I/O resources	1 IRQ, 40 bytes I/O space
Memory	10 MB (notebooks) 900 kB (handhelds)
Disk space	2 MB (notebooks)

Pocket PC Versions

Pocket PC users: If you do not know what version of Windows CE you are using, on the device:

1. Select **Start > Settings**
2. Select the **System** tab
3. Tap the **About** icon.

Refer to the second line on the screen.

- "Windows 4.20.1081 (Build…)" indicates Pocket PC 2003
- "Windows 3.0.11171 (Build…)" indicates Pocket PC 2002
- "Windows 3.0.9348 (Build…)" indicates MS Pocket PC

Handheld Requirements

Since software cannot be installed directly to a handheld device, you require a desktop or notebook computer to function as a "host". The installation, activation, and configuration process has these steps:

1. Install the software to the host.
2. Connect the handheld device to the host and download the software from the host to the device and install it. (You can connect the device to the host before or after you install the software to the host.)
3. If the PCS Connection Card has not been pre-activated, use the Activation Wizard to configure the PCS Connection Card.

Your handheld device must have:

- 900 kB of storage memory available
- A PC Card slot (Pocket PCs may require a PCMCIA jacket accessory with a single PC Card slot)
- A method of connecting to a host computer

Your host computer:

You require a desktop or notebook computer to function as the host that has:

- The necessary port (serial, USB, or infrared) to connect to the handheld device
- A CD-ROM drive

- Windows 98, Me, 2000, or XP
- ActiveSync installed. (If you are using Pocket PC 2003 or Windows CE .NET, you need ActiveSync 3.7 or later. If you are using Pocket PC 2002 or Pocket PC, you need ActiveSync 3.5 or later).

Tip: ActiveSync is made by Microsoft and is included with all Windows CE devices.

Windows CE Installation starts on page 8.

Notebook Installation

Follow these steps to install PCS Connection Manager, the Network Adapter Manager, and the PCS Connection Card driver.

Tip: A driver is software that provides the interface between a device (such as the PCS Connection Card) and the operating system on your PC (such as Windows 2000).

NOTE: Users of Windows 2000 must be logged in with administrative privileges to install the PCS Connection Card software. Users of Windows XP may require administrative privileges, depending on the XP installation.

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1. If the PCS Connection Card CD is not already in your CD-ROM drive, insert it. The CD should autostart and display a menu.

   If the CD does not autostart, select **Start > Run** and enter **d:\launch.exe** where **d** is the drive letter of your CD-ROM drive.

2. From the CD startup window, select **notebook installation and documentation** and then **notebook software installation** to launch the InstallShield® Wizard.

3. Use the **Next** and **Back** buttons to navigate through the wizard noting the following:

- You must click **Yes** to indicate your acceptance of the terms of the license agreement to proceed with the installation.

- Use the default settings for the Destination Location and Program Folder unless you have special requirements and an advanced understanding of PC configuration. (The Destination Location dictates where the software is installed. The Program Folder dictates the name assigned to the software in Add/Remove Programs in the Control Panel.)
- Restart Windows if requested.

Special Note for Windows 98 and 2000 Users: To function properly, the PCS Connection Card's IOTA protocol requires support for high-security 128-bit encryption. If the installer does not detect high-security support on your system, a pop-up window will appear instructing you to update your Internet Explorer to version 6 (Windows 98) or update your Windows 2000 to support 128-bit security (Windows 2000). Follow the onscreen instructions to update your system.

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4. Attach the antenna and insert the PCS Connection Card into your PC Card slot (refer to page 10).

   Windows will detect the card and install the drivers for it.

NOTE: Do not forcefully connect the antenna, or forcefully insert the PCS Connection Card. This may damage connector pins. For instructions on inserting and removing the PCS Connection Card, see page 10.

Tip: For Windows 98 and Me Users: If your computer has a built-in network adapter, your computer may appear to have stopped responding during the card detection process. The operating system is resolving resource issues related to your built-in adapter and the PCS Connection Card. Do not abort the installation process. Allow several minutes for the process to complete.
Another delay occurs the first time the PCS Connection Card is used after the first detection. Subsequent insertions of the card will not experience this delay.

On completion of this step, PCS Connection Manager, the Network Adapter Manager, and the drivers are installed. Proceed to configure the PCS Connection Card to use your account (if it was not pre-activated). See "Setting Up Service" on page 12.

Windows CE Installation

To install the software, you can either:

- Connect the host and the handheld device before you install the software to the host. (In this case, you are prompted to initiate the download as soon as the software installation is complete.)

  —or—

- Install the software to the host and then connect the host and the handheld device, as described here.

Tip: A driver is software that provides the interface between a device (such as the PCS Connection Card) and the operating system on your PC (such as Windows CE).

This process installs PCS Connection Manager and the AirCard 550 drivers.

To install the software on the host:

1. Close any Windows programs that are running and insert the PCS Connection Card installation CD in your CD-ROM drive. The CD should autostart and display a menu.

   If the CD does not autostart, select **Start > Run** and enter **d:\launch.exe** where **d** is the drive letter of your CD-ROM drive.

2. From the CD startup window, select, based on your device:

- Pocket PC (all versions): **Pocket PC installation and documentation** then **Pocket PC software installation**

  —or—

- Handheld PC 2000: **Handheld PC 2000 installation and documentation** then **Handheld PC 2000 software installation**

  —or—

- CE .NET devices: **CE. NET installation and documentation** then **CE. NET software installation**

  This launches the InstallShield® Wizard that installs the software to the host.

3. Use the **Next** and **Back** buttons to navigate through the wizard noting the following:

- You must indicate your acceptance of the terms of the license agreement by clicking **Yes** to proceed with the installation.
- Use the default settings for the Destination Location and Program Folder unless you have special requirements and an advanced understanding of PC configuration. (The Destination Location dictates where the software is installed. The Program Folder dictates the name assigned to the software in Add/Remove Programs in the Control Panel.)
- A dialog box displays this message, "On the next mobile device connection, the installed application will be downloaded to the device." Click **OK**.
- Use the **exit** option in the lower left corner of the window to close the CD startup menu.

To download the software to the handheld device:

1. Connect the handheld device to the host using your autosync cable or infrared port.

   If you are unable to establish a connection, launch ActiveSync from the Start menu and use the online help in ActiveSync.

   ActiveSync should launch automatically when the host and handheld device are connected.

2. If you are prompted to indicate whether you want to set up a partnership, click the option of your choice (Yes or No) and click **Next**. For the purpose of downloading the PCS Connection Card software, it does not matter whether you have a partnership. You should then be prompted that there is software to download.

3. Click **Yes** to start the download.

   When complete, you are prompted to check your mobile device screen to see if additional steps are required.

4. Click **OK** to close the host side of the download.

5. The handheld device shows the installation progress and then prompts you to reset the device. Tap **ok** to close the window, and reset your device by inserting the stylus into the reset

button. (The reset button is usually a circular indentation that may be on the keyboard of the Handheld PC or the bottom of the Pocket PC. If you do not know how to reset your device, consult the documentation that came with it.)

On completion of this step, the PCS Connection Manager software and the drivers are installed and you can proceed to configure the PCS Connection Card to use your account (if it was not pre-activated). See "Setting Up Service" on page 12.

Card Insertion and Removal

Inserting the PCS Connection Card

To insert the PCS Connection Card into a Pocket PC:

1. If the PCMCIA jacket accessory is not already attached, slide the Pocket PC bottom first into the jacket. It should click into place.
2. Attach the antenna to the circular gold connector on the end of the PCS Connection Card. DO NOT FORCE.
3. With the label facing towards the front of the Pocket PC, insert the network card into the slot at the top of the jacket.

Tip: If you also use the AirCard 300 with your computer, eject the AirCard 300 before you use the PCS Connection Card.

To insert the PCS Connection Card into a Handheld PC or notebook:

1. Attach the antenna to the circular gold connector on the end of the PCS Connection Card. DO NOT FORCE.
2. With the picture label facing up, insert the network card into the slot.

In Windows 98, 2000, Me, and XP, when you insert the AirCard, the following should occur:

- If sound effects are enabled, the PC beeps.
- The PC Card icon appears in the status area, if it is not already displayed for another card, (and unless the feature has been disabled).
- PCS Connection Manager launches (unless the autolaunch feature has been disabled).

The PCS Connection Card is powered as soon as you insert it.

Removing the PCS Connection Card

NOTE: On Pocket PCs, anytime you eject and re-insert the PCS Connection Card, restart your PC by turning it off and on again. This step is necessary to ensure the communication port detects the card.

To remove the PCS Connection Card (Windows 98, 2000, Me, or XP):

1. Close PCS Connection Manager if it is open.
2. Click the PC Card icon in the status area to display the option to stop the card.
3. Click "Stop Sierra Wireless AirCard 550 PC Card Parent" (Windows 98, 2000, or Me) or "Safely remove Sierra Wireless AirCard 550 PC Card Parent" (Windows XP).

   If a dialog box appears notifying you that it is safe to remove the card, click **OK**.

Always use the ejector to remove the PCS Connection Card from the slot. Do not pull the PCS Connection Card out by the antenna.

Setting Up Service

In This Section

This section walks you through setting up service for your PCS Connection Card, unlocking your card, and contacting Sprint for assistance with your PCS Service.

Before you can begin using the AirCard 550 PCS Connection Card, you must:

1. Install the PCS Connection Card enabling software and AirCard 550 driver. (See page 2).
2. Activate an account and configure the card to use your account (unless the card has been pre-activated). (Described in this section).
3. Install the Sprint PCS Software Modem to enable access to dial-up servers. (See page 18).

This section provides details of the second step in this process.

Getting Started With PCS Service

You must have an account with Sprint to use the PCS Connection Card. The process of setting up an account is called activation.

If you purchased the AirCard 550 directly from Sprint, you may already have an account; your PCS Connection Card may be pre-activated.

Unless your AirCard has been pre-activated, PCS Connection Manager automatically detects that no account has been configured when you run it for the first time. It then runs the Activation Wizard to guide you through the activation and configuration process.

Configuring the AirCard involves setting the phone number assigned by Sprint and may involve entering other network parameters and settings such as a user name and password to access services. See additional information under “IOTA Data Provisioning” on page 16.

Your service provider needs to know:

- The billing information to use to collect payment for your network usage.
- The ESN (Electronic Serial Number) assigned to your PCS Connection Card during the manufacturing process. (The ESN is printed on a label on the AirCard 550 and can be displayed in PCS Connection Manager.) This number is used to help authenticate your account when you connect for service.

You require from your service provider:

- An activation code that gives you access to configure the account
- A phone number for your PCS Connection Card
- The MSID (Mobile System ID), used for WLNP (Wireless Local Number Portability)

The MSID also identifies your home network area and is used in conjunction with your phone number to determine if you are “home” or “roaming”.

Determine if Your Card is Already Activated

If you received your PCS Connection Card in the mail or purchased it at a Sprint Store, it probably has already been activated. All you need to do is unlock your card.

When the PCS Connection Card is inserted and PCS Connection Manager starts, it will detect if the card has been configured with an account. If it has not, the Activation Wizard is started automatically.

If your card is not activated, please refer to the Start Here Guide included with your card.

Unlocking Your Card

Pre-activated cards may have been set with a security lock to prevent unauthorized use. If so, PCS Connection Manager displays the message "Card is locked".

Follow these steps to unlock your PCS Connection Card:

1. In PCS Connection Manager, select **MENU > Unlock Card...**
2. Enter your four-digit lock code. For security purposes, the code is not visible as you type.

Tip: If you can't recall your lock code, try using the last four digits of either your Social Security number or PCS Phone Number, or try 0000. If none of these work, call PCS Customer Solutions℠ at 1-888-211-4PCS (4727).

Activating Your PCS Connection Card

To activate your card, follow the directions in the Start Here Guide included with your card. You can also visit http://activate.sprintpcs.com and activate your card online.

Have these things ready before you call to activate:

- Your PCS device
- Your Social Security number or your driver's license number
- Your Electronic Serial Number (ESN) found on the package, the back of the PCS Connection Card, and reported by the Activation Wizard during this process.
- The city and state where the device will be primarily used
- A pen

Activation Wizard

PCS Connection Manager should detect that the PCS Connection Card has not been activated and automatically start the Activation Wizard. If it does not start the wizard, in PCS Connection Manager select:

Notebooks: **MENU > Activation Wizard**

Handhelds: **Tools > Activation Wizard**

The wizard presents a selection window, offering the activation methods supported by your service provider. Sprint supports Manual Activation only.

Manual Activation involves phoning Sprint, exchanging information, and entering your account information into the appropriate fields in the wizard. (You require a phone, other than your AirCard 550, to use this method.)

1. To begin activation of the PCS Connection Card, click **Next**.
2. Call Sprint:

   If you will be using your PCS Connection Card primarily for business purposes, call **1-877-789-3969** from any land line phone.

   If your card is intended primarily for personal use, call **1-888-715-4588**.
3. Give the account representative your ESN number as displayed by the Activation Wizard. Enter the activation code provided by the agent and click **Next**.
4. Enter the PCS phone number assigned by the agent. It is entered in three parts xxx xxx xxxx.
5. Enter the MSID assigned by the agent. This may match the phone number but without spaces or separators. Click **Next**.
6. Click **Finish**.

On completion, the AirCard 550 is ready to make voice calls and receive Wireless Web Messages. Data services are set up automatically, using IOTA (Internet Over The Air), when you make your first data connection.

Data Provisioning (IOTA)

IOTA (Internet Over The Air), supported by Sprint, is an automated feature to perform data account setup by using a secure Internet connection to download account parameters to the PCS Connection Card.

When you activate your PCS Connection Card using the Activation Wizard, it is ready to make and receive voice calls and use Wireless Web messaging (subject to feature availability). When you make your first data connection, the PCS Connection Card will use IOTA to obtain and activate your data services from the network.

After this first activation, there may be changes to your account that will require updating parameters in the PCS Connection Card. If this is needed, select **MENU > Data Provisioning** (notebooks) or **Tools > Data Provisioning** (handhelds) to have the PCS Connection Card retrieve the updates to your data services account.

High encryption

IOTA requires a secure Internet connection. The security capability of your computer was detected during the installation process and you were informed through a message box if you needed to make an upgrade.

For those that do, the installation setup attempted to either connect to the appropriate link, or install the upgrade directly. If you were not connected to the Internet you may need to perform the upgrade yourself before you can establish a data connection to the network.

If you still do not have the high security software, you can obtain it from the Microsoft web site.

Getting Help

Visit Our Web Site

Stop by www.sprintpcs.com and log on to get up-to-date information on PCS Services, options and more.

You can also:

- Review coverage maps
- Learn how to use voicemail
- Access your account information
- Purchase accessories
- Add additional options to your service plan
- Check out frequently asked questions
- And more

Reaching PCS Customer Solutions℠

You can reach PCS Customer Solutions by:

- Logging on to your account at www.sprintpcs.com
- Calling us toll-free at **1-888-211-4727** (Consumer customers), **1-877-CLEARPY** (253-2779) (Clear Pay customers), or **1-888-788-4727** (Business customers)
- Writing to us at PCS Customer Solutions, P.O. Box 8077, London, KY 40742

Troubleshooting

The PCS Connection Manager online help includes descriptions of most common error messages. Look in the table of contents under Troubleshooting.

For help with other problems:

- Consult the Sierra Wireless web site at www.sierrawireless.com. There is a troubleshooting wizard and an extensive knowledge base that can be searched to address most problems.
- Contact Sprint as noted above.

Installing the PCS Software Modem

In This Section

This section walks you through the steps necessary to install your PCS Software Modem on notebook PCs.

Before you can make dial-up connections using the AirCard 550 PCS Connection Card, you must:

1. Install the PCS Connection Card enabling software and AirCard 550 driver. (See page 2).
2. Activate an account and configure the card to use your account (unless the card has been pre-activated). (See page 12).
3. Install the Sprint PCS Software Modem to enable access to dial-up servers.

This section provides details of the last step in this process.

Dial-up Connections

The AirCard 550 PCS Connection Card normally makes high-speed packet data connections to the Internet, using the PCS Vision network. When installed on a notebook PC, the PCS Connection Card is capable of also making connections to dial-up servers.

NOTE: Dial-up connection capability is not supported on handhelds.

To make dial-up connections across the Sprint PCS Vision network, you must set up the Sprint PCS Software Modem. The software modem is provided with the enabling software.

NOTE: Before you begin the installation process for the PCS Software Modem, you must have successfully installed and activated your PCS Connection Card as described in the preceding sections.

PCS Software Modem Installation

To set up the PCS Software Modem:

1. Insert the PCS Connection Card and start PCS Connection Manager.
2. In PCS Connection Manager, select **MENU > Connection Manager**.
3. In the Connection Manager window, click **Add...**.

   When you select to add your first dial-up profile, a pop-up window appears advising you to set up the software modem and specifying a COM port to assign to it. Note down the COM port number.
4. From the Windows task bar, select **Start > Settings > Control Panel**
5. Select the Modems icon (depending on your operating system, this may be called Phone and Modem Options)
6. On Windows 98 and Me, select the General tab; on Windows 2000 and XP, select the Modems tab.
7. Click **Add...**

8. Windows 98 users: select the modem type "Other", and click **Next**. Then select "Don't run the Hardware Installation Wizard", and click **Next**.

9. Check the option "Don't detect my modem; I will select it from a list". Click **Next**.

10. In the Manufacturers panel, select **Sprint**.
    In the Models panel, select **PCS Software Modem**.
    Click **Next**.

11. Select the port number that was displayed in the Dial-up Manager pop-up window that appeared when you selected to add a dial-up connection. Click **Next**.

    If you do not recall the COM port number to use, go to the Connection Manager window and click **Add...** again; the pop-up will reappear.

12. Click **Finish**.

13. Close the Control Panel dialogs.

14. Restart Windows.

Following this installation of the PCS Software Modem, you can create as many dial-up connections as you need using **MENU > Connection Manager**. For additional information, consult the online help.

Understanding Your PCS Connection Card

Your PCS Connection Card: The Basics

In This Section

Your PCS Connection Card is packed with features that simplify your life and expand your ability to stay connected to the people and information that are important to you. This section will guide you through the basic functions and calling features of your PCS Connection Card.

PCS Connection Manager Display

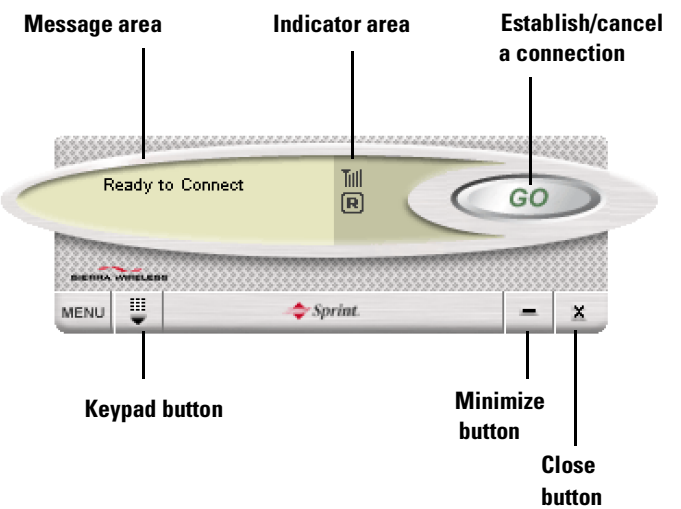
PCS Connection Manager is the application that allows you to manage and monitor the connection between the PCS Connection Card and the PCS Vision network. You use PCS Connection Manager to:

- Determine your signal strength, roaming status, high-speed data availability, and other network connection parameters
- Initiate voice and data calls
- View call statistics
- Receive and read Wireless Web Messages
- Customize features and options

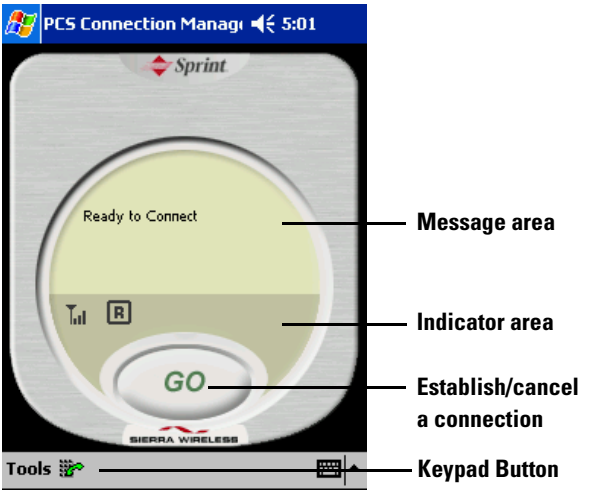
Anytime you use the PCS Connection Card you must run PCS Connection Manager. Once you make a connection using PCS Connection Manager, you can launch whatever application you want to use (such as your web browser or e-mail application).

The window includes two areas that display messages and icons, including signal strength.

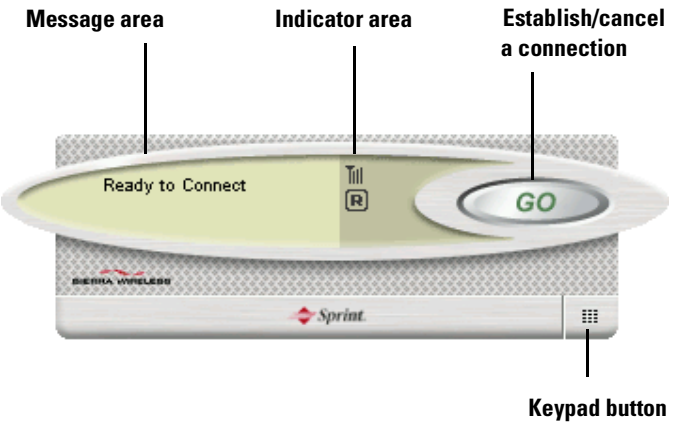
Notebook PCs



Pocket PCs



Handheld PCs and CE .NET devices



Subject to feature availability, there is a keypad for making voice calls. The keypad is opened using the keypad button as shown on the illustrations.

There is a MENU button (Tools on Pocket PCs) to access the many features of PCS Connection Manager. Consult the online help for details of how to access and use them.

On notebook PCs you can set PCS Connection Manager to always display in front of other windows. This allows you to monitor connection status while using another maximized application, such as your web browser.

1. Select **MENU > Options**
2. Select the Display tab.
3. Use the Always On Top check box.

Display Screen Icons

PCS Connection Manager makes extensive use of icons to indicate status and events. The various icons are described in the following table.

	Signal strength, indicated by the number of bars. A phone crossed out indicates no service is available (Not in Service).
	You are roaming.
	PCS Vision (CDMA2000 1X) service is *not* available. The icon is displayed only when data services are not available.
	A data connection is active or, if greyed, a data connection is dormant. Voice calls may be made when a data connection is dormant.
	A voice call is in progress.
	Incoming call notification has been set to “silent ring” (the icon is on as a reminder that there is no sound for rings)
	Wireless Web message notification
	Voice Mail notification
	Call Privacy (encryption) is on for voice calls

Minimized Icons

PCS Connection Manager displays an icon in the Windows status area (which is usually located in the lower right corner of your screen, or the Today screen of Pocket PCs). The status area icon indicates your connection status or notifies you when you have voice mail or Wireless Web messages, or when you have missed a call.

	You are in service on the CDMA network but have no active voice or data connection.
	You have an active voice or data connection.
	You missed (failed to answer) an incoming call. You can view the number of the caller in the Call Log.
	You have unread Wireless Web messages.
	You have voice mail.

Since only one icon can be displayed at a time, there is a priority to which icon is displayed. The priority, from highest to lowest, is:

- Missed call(s)
- Wireless Web message(s)
- Voice mail
- Active or inactive connection.

For example, if you have unread Wireless Web messages, and then receive a voice mail, the icon still displays as an unread Wireless Web message. If you then have an unanswered call, the icon changes to a missed call.

Message Area

The Message Area displays messages related to the status or progress of a connection.

Where a duration timer is shown, timing begins when the call is initiated—not from the time the call is fully connected. This is a

measure of the time the PCS Connection Card has been using the radio channel (a wireless network resource).

"PowerSave - Click this display to exit" indicates that the card could not find a CDMA system within a 15 minute interval. To conserve power, the card reduces channel scanning to once every three minutes. To force the PCS Connection Card out of PowerSave mode, click in the Message Area. The card performs a channel scan and, if no network is detected, returns to PowerSave mode.

Features of Your AirCard 550 PCS Connection Card by Sierra Wireless

Congratulations on the purchase of your Sierra Wireless AirCard 550 PCS Connection Card. It enhances the functionality of your mobile computing devices by offering many significant features and service options:

- Dual-band capability provides access to other PCS Digital and Analog Networks where Sprint has implemented roaming agreements.
- PCS Vision℠ provides access to the wireless Internet in digital mode.
- PCS Connection Manager™ offers wireless modem capabilities for your personal computer in digital mode.

Tip: For step by step instructions to access features of the AirCard 550 PCS Connection Card, consult the online help available with PCS Connection Manager.

The AirCard 550 functions as a wireless network card (with LAN-like connectivity), a modem, and a mobile phone. This card allows you to connect to the Internet, send and receive e-mail, connect to a corporate network, and make phone calls, without the need of a network cable or phone line.

The AirCard 550 PCS Connection Card is designed to provide a wide range of capabilities using the Sprint PCS Vision network technology. Implementation of these features depends on the particular account features you have chosen.

Some features described in this manual may not be available with your network account. For details of the services and accounts available, contact Sprint.

Network card

On notebook PCs, the AirCard 550 is a true network card, functioning just like the network cards familiar to most corporate computer users. Once installed and configured, the AirCard can connect to the PCS Vision network automatically. You just insert the AirCard 550, allow PCS Connection Manager to autolaunch and authenticate your account on the network, then launch your Internet browser—you're on-line!

Modem

As a modem, the AirCard 550 allows you to dial up any other modem (such as a corporate server). This method of connection requires you to install the PCS Software Modem (see page 18).

Phone

You can connect a headset (sold separately) to the AirCard 550 and use it as a phone. Make and receive calls using digital voice quality, and have the security of emergency 911 access.

Wireless Web Messaging is also available to receive brief text messages from other subscribers.

CDMA2000 1X Services

The AirCard 550 operates over a type of wireless network called CDMA (Code Division Multiple Access). CDMA2000 1X technology provides a variety of connectivity features, depending on your service provider and account:

PCS Vision[SM] high-speed packet data, sometimes known as 1xRTT, supports Internet connections with data rates up to 153.6 kbps (downlink from the network) and 76.8 kbps (uplink to the network). Actual speed will depend on the network. With this type of connection, the AirCard functions as a network card.

You can set PCS Connection Manager to automatically establish a PCS Vision packet data connection when it starts. If the packet data connection is lost, the connection is restarted automatically. This provides an "always-on" network connection (as far as permitted by network coverage). Once the connection is established, you can open your browser and connect to any web site that is accessible through the Internet, or access other Internet services (such as e-mail).

The connection is "active" in a 1xRTT connection when data transmission is occurring. If data transmission stops for a period of time (determined by the network), the connection becomes "dormant". You can place and receive voice calls while the data connection is dormant but not when it is active.

Dial-up data, using the PCS Software Modem (included with the notebook PC installation), supports data connections to any dial-in service.

Wireless Web Messaging allows you to receive short text messages using the PCS Connection Card.

Voice calling, including E911 (Phase I) support for emergency services.

Additional AirCard 550 Features

Beyond the features of the CDMA2000 technology, the AirCard 550 and PCS Connection Manager provide additional software features:

- PIN security code to protect your AirCard and account from unauthorized use.

- Activation Wizard (page 15) to assist with configuring your PCS Vision account.
- Phone Book to manage your contacts on notebooks. On handhelds, PCS Connection Manager has direct access to your Windows CE Contacts application.
- Sound options to customize ringtones for incoming calls, text messages, and voice mail alerts.
- Call Log to track incoming, outgoing, missed calls and determine the amount of data transferred.

Online Help

PCS Connection Manager includes extensive online help to provide operating hints and step by step instructions for getting the most from your AirCard 550.

You can access online help in several ways:

Notebooks

- Press <F1> in any window.
- Click the **Hints** button available on many windows.
- Use Windows Explorer to navigate to **Program Files > Sierra Wireless Inc > AirCard 550 > Sprint > CM.chm**. Double click to open the help file.

The help file has a table of contents and an index.

Pocket PCs

- With a PCS Connection Manager screen displayed, select **Start > Help**. Help for that screen will appear.
- From the Today screen, select **Start > Help > AirCard 550**. The help file opens at the table of contents.

Handheld PCs and CE .NET devices

- Use the help ? button available on most windows.
- Select **Start > Help > AirCard 550** to open the help file at the table of contents.

System Components

Your AirCard 550 PCS Connection Card is just one part of a system designed to provide you with a wide range of communication features. Every component of the system is needed to enable these capabilities.

Your host computing device

Your notebook or handheld hosts the AirCard hardware and runs the communication software: your web browser and e-mail application, and PCS Connection Manager—the enabling software.

You may also have other software on your computer that can be used wirelessly with the AirCard 550, such as: file transfer application (FTP), chat or instant messaging, a VPN (Virtual Private Network) client, and client software for a corporate server application.

The AirCard 550 PCS Connection Card

Tip: You may also acquire an optional headset to use voice services.

Along with the antenna, this equips your computer with a radio modem and phone.

The AirCard fits into a standard Type II PC Card slot available on most notebook and Handheld PCs, and on Pocket PCs with a PC Card jacket accessory.

The AirCard drivers and enabling software

Required to control, monitor, and manage your wireless connections, the software includes the PCS Connection Manager™ software, and on notebook computers, the Network Adapter Manager for selecting your network connection card. The device drivers are the software that enables the AirCard to work with your computer's operating system.

The driver and application software must be installed before you insert the AirCard 550 for the first time. Detailed instructions are provided in the previous chapter.

A Sprint PCS Vision account

You must have an account with Sprint to use the AirCard 550.

You can use the Lock Code feature to prevent others from using your account should your PCS Connection Card be stolen. See the online help for information on this feature.

Your account may include a variety of services such as text messaging and voice mail.

Each AirCard 550 has been provisioned at the factory for use with Sprint. This sets the PCS Connection Card to use particular radio channels and enable services specific to your account.

The process of setting up your account is called activation. Activation involves action by Sprint and configuration of the AirCard 550.

The procedure to configure (activate) your PCS Connection Card is covered in “Activation” on page 12.

The CDMA wireless network

This is the worldwide infrastructure providing the radio coverage that allows you to stay connected. Made up of radio towers, and a variety of network switches, routers, and servers, the network is an interconnection of many service provider companies. Most service providers have coverage maps on their web sites.

There are CDMA networks that operate in the frequency bands supported by the AirCard 550 throughout North America and parts of Latin America, Asia, New Zealand, and Australia. However, each service provider operates a network that covers a limited geographical area within the overall CDMA coverage area.

The fee for service is usually higher when you are roaming (connecting to a network other than Sprint).

Sprint has “roaming” agreements with other service providers, so that you can get service outside of the coverage area of the PCS Vision network. For example, assuming you live in Seattle and travel frequently to Vancouver, you can obtain an account with in Seattle that has a roaming agreement with a service provider in Vancouver. You would then have local service in Seattle, and roaming service in Vancouver. (There may be additional charges for roaming service.)

Starting and Stopping your PCS Connection Card

Depending on your settings in the Options window, PCS Connection Manager launches automatically anytime you insert the AirCard 550 PCS Connection Card.

Notebooks

On notebook PCs you can also launch PCS Connection Manager by:

- Double clicking the PCS Connection Manager icon  on your desktop
- **Start > Programs > Sierra Wireless > AirCard 550 > PCS Connection Manager for AirCard 550**

Use the Windows control buttons in the bottom right corner of the window to minimize or close PCS Connection Manager.

When running, PCS Connection Manager places an icon in the status area, usually at the right end of the taskbar. (See page 26.)

Pocket PCs

On Pocket PCs you can also launch PCS Connection Manager by selecting:

- **Start > Programs > PCS Connection Manager for AirCard 550**

On Pocket PCs, when you open another application from the Start menu, PCS Connection Manager remains running although it is not visible. An icon appears at the bottom of the Today screen to indicate that PCS Connection Manager is running in the background. (See page 26.)

Windows CE manages your applications, shutting down applications that are not being used in order to save memory. It should not be necessary to close PCS Connection Manager, but you can close (exit) the application when it is displayed by selecting **Tools > Exit**.

Handheld PCs and CE .NET Devices

To start PCS Connection Manager on Handheld PCs and CE .NET devices select:

- **Start > Programs > PCS Connection Manager for AirCard 550**

On Handheld PCs and CE .NET devices, use the standard Windows control button in the upper right corner of the window to close PCS Connection Manager.

To hide (minimize) the window, use the Windows desktop button in the bottom right of the screen.

When hidden, PCS Connection Manager does not appear as a taskbar button. Instead, an icon is shown in the status area, usually at the right end of the taskbar. (See page 26.)

Displaying Your Phone Number

Just in case you forget your phone number, your PCS Connection Card can remind you.

To display your phone number:

- Select **MENU > About** (notebooks) or **Tools > About** (handhelds) to access your phone number and other information about your PCS Connection Card.

Safety Guidelines and Regulatory Information

Safety

In This Section

Part of getting the most out of your PCS Connection Card is learning how the card works and how to care for it. This section outlines performance and safety guidelines that help you understand the basic features of your card's operation.

Getting the Most Out of Your Reception

Keeping Tabs on Signal Strength

The quality of each call you make or receive depends on the signal strength in your area. PCS Connection Manager informs you of the current signal strength by displaying a number of bars next to the signal strength icon. The more bars displayed, the stronger the signal. If you're inside a building, being near a window may give you better reception.

Understanding the Power Save Feature

If your PCS Connection Card is unable to find a signal after 15 minutes of searching, a Power Save feature is automatically activated. If your card is active, it periodically rechecks service availability or you can check it yourself by clicking the status area. Anytime the Power Save feature is activated, a message displays on the screen. When a signal is found, your card returns to standby mode.

Understanding How Your PCS Connection Card Operates

Your card is basically a radio transmitter and receiver. When it's turned on, it receives and transmits radiofrequency (RF) signals. When you use your card, the system handling your call controls the power level. This power can range from 0.006 watts to 0.2 watts in digital mode.

Knowing Radiofrequency Safety

The design of your PCS Connection Card complies with updated NCRP standards described below.

In 1991-92, the Institute of Electrical and Electronics Engineers (IEEE) and the American National Standards Institute (ANSI) joined in updating ANSI's 1982 standard for safety levels with respect to human exposure to RF signals. More than 120 scientists, engineers and physicians from universities, government health agencies and industries developed this updated standard after reviewing the available body of research. In 1993, the Federal Communications Commission (FCC) adopted this updated standard in a regulation. In August 1996, the FCC adopted hybrid standard consisting of the existing ANSI/IEEE standard and the guidelines published by the National Council of Radiation Protection and Measurements (NCRP).

Maintaining Your Card's Peak Performance

There are several simple guidelines to operating your card properly and maintaining safe, satisfactory service.

- Try not to hold, bend, or twist the antenna.
- Don't use the card if the antenna is damaged.
- For voice calls, speak directly into the microphone (headset sold separately).
- Avoid exposing your card and accessories to rain or liquid spills. If your card does get wet and becomes inoperable, return it to a Sprint Store or call PCS Customer Solutions℠ for service.

Note: For the best care of your card, only Sprint authorized personnel should service your card and accessories. Faulty service may void the warranty.

Maintaining Safe Use of and Access to Your PCS Connection Card

FAILURE TO FOLLOW THE INSTRUCTIONS OUTLINED MAY LEAD TO SERIOUS PERSONAL INJURY AND POSSIBLE PROPERTY DAMAGE

Using Your PCS Connection Card While Driving

Talking on your PCS Connection Card phone while driving (or operating the phone without a hands-free device) is prohibited in some jurisdictions. Laws vary as to specific restrictions. Remember that safety always comes first.

When using your PCS Connection Card in the car:

- Get to know PCS Connection Manager and its features, such as dialing from contacts and redial.
- When available, use a hands-free device.
- Position your PC within easy reach.
- Let the person you are speaking to know you are driving; if necessary, suspend the call in heavy traffic or hazardous weather conditions.
- Do not take notes or look up phone numbers while driving.
- Dial sensibly and assess the traffic; if possible, place calls when stationary or before pulling into traffic.

- Do not engage in stressful or emotional conversations that may divert your attention from the road.
- Dial 911 to report serious emergencies. It's free from your PCS Connection Card.
- Use your phone to help others in emergencies.
- Call roadside assistance or a special non-emergency wireless number when necessary.

Following Safety Guidelines

To operate your PCS Connection Card safely and efficiently, always follow any special regulations in a given area. Eject your card in areas where use is forbidden or when it may cause interference or danger.

Using Your PCS Connection Card Near Other Electronic Devices

Most modern electronic equipment is shielded from radiofrequency (RF) signals. However, RF signals from wireless devices may affect inadequately shielded electronic equipment.

RF signals may affect improperly installed or inadequately shielded electronic operating systems and/or entertainment systems in motor vehicles. Check with the manufacturer or their representative to determine if these systems are adequately shielded from external RF signals. Also check with the manufacturer regarding any equipment that has been added to your vehicle.

Consult the manufacturer of any personal medical devices, such as pacemakers and hearing aids, to determine if they are adequately shielded from external RF signals.

Note: Always eject the PCS Connection Card in health care facilities and request permission before using the card near medical equipment.

Turning Off Your PCS Connection Card Before Flying

Eject your PCS Connection Card before boarding any aircraft. To prevent possible interference with aircraft systems, the U.S. Federal Aviation Administration (FAA) regulations require you to have permission from a crew member to use your wireless card while the plane is on the ground. To prevent any risk of interference, FCC regulations prohibit using your card while the plane is in the air.

Turning Off Your PCS Connection Card in Dangerous Areas

To avoid interfering with blasting operations, eject your PCS Connection Card when in a blasting area or in other areas with signs indicating that two-way radios should be turned off. Construction crews often use remote-control RF devices to set off explosives.

Eject your PCS Connection Card when you're in any area that has a potentially explosive atmosphere. Although it's rare, your card or its accessories could generate sparks. Sparks could cause an explosion or a fire resulting in bodily injury or even death. These areas are often, but not always, clearly marked. They include:

- Fueling areas such as gas stations.
- Below deck on boats.
- Fuel or chemical transfer or storage facilities.
- Areas where the air contains chemicals or particles such as grain, dust or metal powders.
- Any other area where you would normally be advised to turn off your vehicle's engine.

Note: Never transport or store flammable gas, liquid or explosives in the compartment of your vehicle that contains your PCS Connection Card or accessories.

Restricting Children's Access to your PCS Connection Card

Your PCS Connection Card is not a toy. Children should not be allowed to play with it because they could hurt themselves and others, damage the card, or make calls that increase your phone bill.

Care and Maintenance

As with any electronic device, the PCS Connection Card must be handled with care to ensure reliable operation. Follow these guidelines in using and storing the AirCard 550:

- Do not apply adhesive labels to the card. This may cause the PCS Connection Card to become jammed inside the card slot.
- Optimal signal strength is usually obtained when the antenna is perpendicular to the modem. The antenna should bend easily at the hinge. Do not forcefully bend the antenna.

- When storing or transporting your PC in a case (such as a notebook case), remove the PCS Connection Card antenna and store it in a compartment where it cannot be crushed or broken.
- The card should fit easily into your PC Card slot. Forcing the PCS Connection Card into a slot may damage connector pins.
- Protect the card from liquids, dust, and excessive heat.
- When not installed in your computer, store the PCS Connection Card in a safe place.

Acknowledging Special Precautions and the FCC Notice

FCC Notice

This device complies with Part 15 of the FCC Rules. Operation of this device is subject to the condition that this device does not cause harmful interference. FCC guidelines stipulate that the antenna should be more than 17 mm (0.68”) from all persons.

FCC ID: N7NACRD555

Where appropriate, the use of the equipment is subject to the following conditions:

CAUTION Unauthorized modifications or changes not expressly approved by Sierra Wireless, Inc. could void compliance with regulatory rules, and thereby your authority to use this equipment.

WARNING (EMI) – United States FCC Information – This equipment has been tested and found to comply with the limits pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in an appropriate installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation.

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 is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Vehicles using liquefied petroleum gas (such as propane or butane) must comply with the National Fire Protection Standard (NFPA-58). For a copy of this standard, contact the National Fire Protection Association, One Batterymarch Park, Quincy, MA 02269, Attn: Publication Sales Division.

Government purchase compliance

If you have purchased this product under a United States Government contract, it shall be subject to restrictions as set forth in subparagraph (c)(1)(ii) of Defense Federal Acquisitions Regulations (DFARs) Section 252.227-7013 for Department of Defense contracts, and as set forth in Federal Acquisitions Regulations (FARs) Section 52.227-19 for civilian agency contracts or any successor regulations. If further government regulations apply, it is your responsibility to ensure compliance with such regulations.

Industry Canada

WARNING (EMI) – Canada – This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference causing equipment standard entitled “Digital Apparatus”, ICES-003 of the Department of Communications.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: “Appareils Numériques”, NMB-003 édictée par le ministre des Communications.

Cautions

Only use approved antennas. The use of any unauthorized accessories may be dangerous and void the product warranty if said accessories cause damage or a defect to the card.

Although your AirCard 550 is quite sturdy, it is a complex piece of equipment and can be broken. Avoid dropping, hitting, bending, or sitting on it.

Body-Worn Operation

To maintain compliance with FCC RF exposure guidelines, if you wear a wireless device on your body, use the Sprint supplied or approved carrying case, holster or other body-worn accessory. If you do not use a body-worn accessory, ensure that the antenna is at least 17 mm (0.68”) from your body when transmitting. Use of non-Sprint approved accessories may violate FCC RF exposure guidelines.

For more information about RF exposure, please visit the FCC Web site at www.fcc.gov.

Specific Absorption Rates (SAR) for Wireless Devices

The SAR is a value that corresponds to the relative amount of RF energy absorbed by a user of a wireless device.

The SAR value of a device is the result of an extensive testing, measuring, and calculation process. It does not represent how much RF the device emits. All devices are tested at their highest value in strict laboratory settings. But when in operation, the SAR of a device can be substantially less than the level reported to the FCC. This is because of a variety of factors including its proximity to a base station antenna, device design, and other factors. What is important to remember is that each device meets strict federal guidelines. Variations in SARs do not represent a variation in safety.

All devices must meet the federal standard, which incorporates a substantial margin of safety. As stated above, variations in SAR values between different devices do not mean variations in safety. SAR values at or below the federal standard of 1.6 W/kg are considered safe for use by the public.

FCC Radiofrequency Emission

This device meets the FCC Radiofrequency Emission Guidelines. FCC ID number: **N7NACRD555**. More information on the device's SAR can be found from the following FCC Web site: http://www.fcc.gov/oet/fccid.

User Guide Proprietary Notice

Limitation of Liability

The information in this manual is subject to change without notice and does not represent a commitment on the part of Sierra Wireless, Inc. SIERRA WIRELESS, INC. AND ITS AFFILIATES SPECIFICALLY DISCLAIM LIABILITY FOR ANY AND ALL DIRECT, INDIRECT, SPECIAL, GENERAL, INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR EXEMPLARY DAMAGES INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS OR REVENUE OR ANTICIPATED PROFITS OR REVENUE ARISING OUT OF THE USE OR INABILITY TO USE ANY SIERRA WIRELESS, INC. PRODUCT, EVEN IF SIERRA WIRELESS, INC. AND/OR ITS AFFILIATES HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR

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Patents

Portions of this product are covered by some or all of the following US patents:

5,515,013	5,617,106	5,629,960	5,682,602
5,748,449	5,845,216	5,847,553	5,878,234
5,890,057	5,929,815	6,169,884	6,191,741
6,199,168	6,327,154	6,339,405	D367,062
D372,248	D372,701	D416,857	D442,170
D452,495	D452,496	and other patents pending.	

This product includes technology licensed from QUALCOMM Incorporated under one or more of the following United States patents and/or their counterparts in other nations:

QUALCOMM® 3G CDMA

4901307	5056109	5101501	5109390
5228054	5267261	5267262	5337338
5414796	5416797	5490165	5504773
5506865	5511073	5535239	5544196
5568483	5600754	5657420	5659569
5710784	5778338		

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Qualcomm® is a registered trademark of Qualcomm Incorporated.

InstallShield® is a registered trademark and service mark of InstallShield Corporation.

All other trademarks are property of their respective owners.

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Document 2130185 Rev 4.1 (Nov.03)

Additional Information and Updates

Consult our website for up-to-date product descriptions, documentation, application notes, firmware upgrades, troubleshooting tips, and press releases:

www.sierrawireless.com

Technical Specifications

In This Section

This section contains the technical specifications for your PCS Connection Card.

For information about the Terms and Conditions of your PCS Service, please see the Start Here guide included with your card. For the most recent version of the Terms and Conditions, please visit www.sprintpcs.com.

LED Operation

The AirCard 550 has a single red/green LED on the antenna end of the card. The LED operates as follows:

Solid amber*	The AirCard is powering up.
Blinking amber	The AirCard is searching for a channel.
Solid green	A call is in progress.
Blinking green	The AirCard has acquired a channel and is in idle mode (no call is in progress).
Solid red	An error has occurred.

* Amber is used to describe the color of the LED when both red and green are lit.

Radio Frequency and Electrical Specifications

Approvals	Compliant with: IS-95A, IS-95B, IS-98D, IS-707A, IS707A-1, CDMA Developers Group FCC (ID: N7NACRD555) Industry Canada
Voltage	+5 Vdc from PCMCIA Slot
Current	Maximum: 680 mA Typical: 150 mA
Transmitter Power	200 mW (+23 dBm)
Transmit	PCS: 1850 to 1910 MHz Cellular: 824 to 849 MHz
Receive	PCS: 1930 to 1990 MHz Cellular: 869 to 894 MHz
Channel Spacing	1.25 MHz
Freq. Stability	±150 Hz

Environmental Specifications

Operating Temp.	-30 to +60°C (ambient, outside PCMCIA enclosure)
Storage Temp.	-30 to +85°C
Humidity	95%, non-condensing
Vibration	15 g peak 10 to 2000 Hz (non-operating)
Drop	30” (76.2 cm) on to vinyl covered concrete

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