AirCard® 710
Wireless Network Card

User Guide

SIERRA WIRELESS
HEART OF THE WIRELESS MACHINE™

Important Notice

Because of the nature of wireless communications, transmission and reception of data can never be guaranteed. Data may be delayed, corrupted (i.e., have errors) or be totally lost. Although significant delays or losses of data are rare when wireless devices such as the Sierra Wireless network card are used in a normal manner with a well-constructed network, the Sierra Wireless network card should not be used in situations where failure to transmit or receive data could result in damage of any kind to the user or any other party, including but not limited to personal injury, death, or loss of property. Sierra Wireless, Inc. accepts no responsibility for damages of any kind resulting from delays or errors in data transmitted or received using the Sierra Wireless network card, or for failure of the Sierra Wireless network card to transmit or receive such data.

Safety and Hazards

Do not operate the Sierra Wireless AirCard 710 wireless network card in areas where blasting is in progress, where explosive atmospheres may be present, or near medical equipment, life support equipment, or any equipment which may be susceptible to any form of radio interference. In such areas, the Sierra Wireless network card **MUST BE POWERED OFF**. The Sierra Wireless network card can transmit signals that could interfere with this equipment.

Do not operate the Sierra Wireless network card in any aircraft, whether the aircraft is on the ground or in flight. In aircraft, the Sierra Wireless network card **MUST BE POWERED OFF**. When operating, the Sierra Wireless network card can transmit signals that could interfere with various onboard systems.

Note: Some airlines may permit the use of cellular phones while the aircraft is on the ground and the door is open. Sierra Wireless network cards may be used at this time.

The driver or operator of any vehicle should not operate the Sierra Wireless network card while in control of a vehicle. Doing so will detract from the driver or operator's control and operation of that vehicle. In some states and provinces, operating such communications devices while in control of a vehicle is an offence.

FCC RF Exposure Information

In August 1996 the Federal Communications Commission (FCC) of the United States with its action in Report and Order FCC 96-326 adopted an updated safety standard for human exposure to radio frequency (RF) electromagnetic energy emitted by FCC regulated transmitters. Those guidelines are consistent with the safety standard previously set by both U.S. and international standards bodies. The design of this wireless network card complies with the FCC guidelines and these international standards.

Use only the supplied or an approved antenna. Unauthorized antennas, modifications, or attachments could impair callquality, damage the phone, or result in violation of FCC regulations.

This device has been tested for FCC RF exposure requirements in a laptop PC. To comply with FCC RF exposure requirements the AirCard 710 PCS GSM modem card must be operated with a minimum separation distance of 2 cm (0.8 inches) between the user/nearby persons and the antenna.

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

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[NOTE: WHAT ARE PROPER PATENTS TO LIST HERE? - Derek]

Portions of this product are covered by some or all of the following US patents: 5515013, 5617106, 5629960, 5682602, 5748449, 5845216, 5847553, 5878234, 5890057, 5929815, 6169884, 6191741, 6199168, D367062, D372248, D372701, D416857, D442170 and other patents pending.

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Contact Information

Sales Desk:	phone:	1-604-232-1488
	hours:	8:00am to 5:00pm Pacific Time
	e-mail:	sales@sierrawireless.com
Technical Support:	phone:	1-604-231-1128
	hours:	6:00am to 5:00pm Pacific Time
	e-mail:	support@sierrawireless.com
address:	Sierra Wireless, Inc. 13811 Wireless Way Richmond, BC Canada V6V 3A4	
fax:	1-604-231-1109	
web:	www.sierrawireless.com	

Your comments and suggestions on improving this documentation are welcome and appreciated. Please e-mail your feedback to documentation@sierrawireless.com. Thank you.

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

www.sierrawireless.com

>> Table of Contents

1: Introducing the AirCard® 710 Wireless Network Card

- About the AirCard® 710 Wireless Network Card
- A Network Card, a Modem, and a Phone
- Package Contents
- How To Use This Guide

About the AirCard® 710 Wireless Network Card

The Sierra Wireless AirCard® 710 wireless network card lets your Microsoft® Windows®–based notebook PC connect to the Internet and other networks without wires, using cellular telephone radio frequencies and the GSM (Global System for Mobile Communications) digital telephone infrastructure.

The AirCard PC Card fits into a standard Type II PC Card slot (available on most notebook PCs) and functions as a wireless network card, 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 or fax calls, without needing a network cable or phone line.

When packet mode service is available (see "How Circuit Mode and Packet Mode Data Connections Differ " on page 3), the AirCard 710 network card provides an "always-on" data connection, just like an Ethernet card or other wired network adapter.

Note: Do not insert the AirCard 710 wireless network card into a PC Card slot until after you have installed the software from the AirCard 710 CD-ROM.

Note: If you have more than one type of supported computer, you can move the AirCard 710 network card from one notebook PC to another at any time—as long as you have installed the proper software and drivers on each computer.

The AirCard network card includes its own retractable antenna, and a connector for a standard cellular telephone headset for voice calls. It draws electricity from your computer's PC Card slot, so it does not need its own battery power.

Supported Computer Platforms and Wireless Networks

Windows Computer Platforms The AirCard 710 wireless network card functions in notebook PCs running Windows 95, 98, 98 SE, Me, NT 4.0, 2000, and XP. For more details, see "Notebook PC System Requirements" on page 15.

North American GSM Wireless Networks The AirCard 710 network card operates over a type of wireless network called GSM (Global System for Mobile communications), supported by a number of wireless carriers in North America and around the world.

This network technology has many features beyond providing a wireless link, including SMS (Short Messaging Service, also known as text messaging) which allows you to exchange brief text messages with others on the GSM network, whether they are using a wireless network card on their computers, or simply an SMS-capable mobile GSM telephone.

To use the AirCard 710 network card, you must have an account that gives you access to a GSM network running on North American PCS (Personal Communications System) radio channels. For technical details, see "Radio Frequency and Electrical Specifications" on page 92.

Note: Every GSM network worldwide operates on one of three radio frequency bands. The AirCard 710 network card operates only in the 1900 MHz PCS band used in North America. Sierra Wireless also manufactures the AirCard 750 wireless network card, which supports all three bands and works anywhere worldwide with GSM coverage.

Like GSM mobile phones, the AirCard 710 network card requires a SIM card (also known as a "smart card" or "smart chip"), provided by your wireless service provider, in order to function. See "SIM Card Information" on page 9.

A Network Card, a Modem, and a Phone

The AirCard 710 wireless network card operates in three different modes, depending on the services you need to use and their availability in your current area:

Network Card (Packet Mode)   Where *packet mode* service is available (see the next section), the AirCard 710 wireless network card is a true network card that works just like the network cards familiar to most corporate computer users (such as Ethernet and Token Ring cards).

Modem (Circuit Mode)   When acting as a modem (in *circuit mode*), the AirCard 710 network card allows you to dial up any other modem (such as an Internet service provider for dial-up Internet access) or receive faxes.

Phone (Voice Mode)   You can also connect a handset to the AirCard 710 network card and use it as a phone in *voice mode*. In this mode, your computer acts like a mobile phone handset, but with some different and often more flexible features. See the chapter "GSM Voice Connections" on page 45.

How Circuit Mode and Packet Mode Data Connections Differ

While the AirCard 710's voice mode works much like a mobile telephone, there are several differences between the card's two data modes:

- Circuit mode connections (also known as *circuit-switched data,* or CSD) require the AirCard network card to dial a telephone number and make a connection like a traditional computer modem, using the GSM digital cellular network just as traditional modems use telephone wires. They work just like voice phone calls: the connection between your AirCard network card and the other modem consumes a complete *circuit* on the telephone network, which remains open as long as the connection is open.

    When you are finished with a CSD call, as with a voice call, you disconnect from the network. Wireless service providers typically charge for circuit mode connections by connection time—per minute or per second, just like voice calls. You are charged whenever you are connected, even if you are not transmitting any data.

- Packet mode data connections, on the other hand, allow the AirCard network card to connect instantly to the GSM network with a few mouse clicks, using a protocol called

General Packet Radio Service (GPRS). Like Internet connections over cable modems, digital subscriber lines (DSL), or high-bandwidth corporate connections, GPRS connections do not consume an entire data circuit—they break up their data into small chunks called *packets,* which share data circuits with other packets from other users, and find their way across the network to be reassembled at their destination. Such connections are known as *packet-switched data.* The Internet is a packet-switched network.

To connect to the Internet or your corporate network in packet mode, you simply insert the AirCard 710 PC Card, click a few buttons, and launch your network software— such as a web browser, e-mail client, file transfer application, or other program. A packet mode connection behaves as an "always on" connection—you do not need to dial up each time you connect. Since GPRS efficiently shares radio and network resources with other GSM users, wireless service providers typically charge for packet mode data by the amount of information transmitted, not by connection time, so you can remain connected indefinitely.

In general, packet mode service is more economical, faster, and more convenient for most users. However, since it requires service providers to install GPRS technology at each cellular radio tower, it is not available everywhere that GSM coverage is. (For information about service providers and GSM coverage, see "Choosing a GSM Wireless Service Provider" on page 8.)

Since the AirCard 710 network card supports both circuit and packet modes, it provides all the advantages of GPRS packet data where it is available, while allowing you to use circuit-switched connections where GPRS has not yet been implemented. The benefits to you are that you can use the AirCard network card in any area that has 1900 MHz GSM coverage (assuming there are no account restrictions) and you will be able to take advantage of the fastest possible data transmission speed.

Connection Speed

The speed of your wireless network connection depends on a number of factors, including:

* Whether you have a circuit mode (CSD) or packet mode (GPRS) data connection.

* How your service provider has configured its GSM data network.

* How many people are using GSM data and voice services in your current area.

Circuit mode data connections (see "Dial-Up Circuit Mode Calls" on page 42) have a maximum data throughput of 9.6 kilobits per second (kbps), usable for basic e-mail and web browsing applications.

GPRS packet mode data connections (see "Packet Mode Connections" on page 43) are generally much faster, but can vary considerably depending on network configuration and congestion. The theoretical maximum for GPRS packet mode connections is 171.2 kbps, while in real-world situations, the actual maximum throughput is about 115 kbps, which is comparable to high-speed Internet connections such as cable modems and digital subscriber lines (DSL).

Package Contents

Your AirCard 710 package contains the following components:

• AirCard 710 wireless network card with retractable antenna

• CD containing the AirCard software and this user guide in Adobe Acrobat (PDF) format

• Quick reference card

Depending on your wireless service provider and the retailer who supplied your AirCard 710 wireless network card, the package may also include:

• SIM card, also known as a "smart card" or "smart chip"

If you want to use the AirCard 710 network card as a phone, a headset is necessary. Any standard headset with a 2.5 mm jack should work.

How To Use This Guide

This user guide is designed to provide you with all the information you need to install and use your network card.

• All users should read "Introducing the AirCard® 710 Wireless Network Card" (this chapter), and "Getting Started" on page 7, which give you an overview of the AirCard 710 network card, providing the background information to understand the following sections.

• Depending on what type of computer you are using and its operating system, you will need to read the appropriate section of one of the next three chapters. "Installation on Notebook PCs" on page 15, "Installation on Handheld PCs" on page 33, or "Installation on Pocket PCs" on page 41. Each provides step-by-step instructions on installing

and configuring the AirCard 710 network card on the various supported computer platforms.

- Everyone should look over " The Watcher Window and Indicators" on page 33, " Data Connections Through GSM and GPRS" on page 41, "GSM Voice Connections" on page 45, and "Watcher Menu Options" on page 51. Those chapters describe how to use the Watcher software to control your AirCard 710 network card.

- If you use a notebook computer, " Network Adapter Manager (for Multiple Network Cards)" on page 85 describes how the Sierra Wireless Network Adapter Manager program allows you to switch from one network card to another, if you have more than one installed.

- "AirCard 710 PC Card: Technical Specifications" on page 91 provides electrical, radio frequency, and other information about the AirCard 710 for those who require technical details, while" AirCard 710 PC Card: Regulatory Information" on page 93 provides information on various regulatory approvals.

2: Getting Started

- The AirCard® 710 Software
- Account Activation and Configuration
- SIM Card Information
- Care and Maintenance of Your AirCard 710 Wireless Network Card

Before you can begin using the AirCard® 710 wireless network card, you must:

1. Ensure that you have a SIM card (also known as a "smart card" or "smart chip"), and insert it into the slot in your AirCard PC Card. A SIM card should either be included with your AirCard package, or obtained from your wireless service provider.

2. Install the AirCard 710 software.

3. Activate an account and configure the AirCard network card to use your account, unless it has been preactivated.

This section provides an overview of this process.

The AirCard® 710 Software

The AirCard 710 wireless network card comes with this software:

Note: You must run Watcher anytime you use the AirCard 710 network card.

- An application called Watcher that you use to manage the AirCard and monitor your wireless connections

- An application called the Network Adapter Manager that allows you to switch between the AirCard 710 network card and other network cards

- The driver software that forms the interface between the network card and your Windows® operating system

Detailed installation instructions are provided in the next chapter.

Account Activation and Configuration

Note: Install the AirCard software from the CD before inserting the AirCard PC Card into your computer, using the instructions in the installation chapter appropriate for your computer and operating system.

Companies that operate GSM networks and provide access to these networks are called wireless service providers. They are often subsidiaries of or otherwise related to traditional telephone and telecommunications companies. You must have

an account with a GSM service provider to use the AirCard710 network card. The process of setting up an account is called activation.

Choosing a GSM Wireless Service Provider

If you purchased the AirCard 710 wireless network card from a service provider, you may already have an account and a SIM card (see the next section). If so, your network card is preactivated—you need only insert the SIM card and install the software and drivers to start using your card. Otherwise, you can refer to the Sierra Wireless web site, www.sierrawireless.com, for a list of service providers.

When choosing a service provider, consider the following criteria:

- Basic GSM Coverage

  There are GSM networks that operate in the frequency bands supported by the AirCard 710 wireless network card (the 1900 MHz radio channels known as the PCS band) throughout North America and in some other parts of the world. Other GSM operators, such as those in Europe, may use other frequency bands not supported by the AirCard 710 network card. (Sierra Wireless also manufactures the AirCard 750 wireless network card, which supports all current GSM radio frequencies worldwide.)

  Each service provider operates a network that covers a limited geographical area within the overall GSM coverage area. Most service providers have "roaming" agreements with other service providers, so that they can offer service outside of the coverage area of their own networks. For example, if you live in Vancouver and travel frequently to Los Angeles, you can obtain an account with a Vancouver service provider that has a roaming agreement with a service provider in Los Angeles. You would then have local service in Vancouver, and roaming service in Seattle. (Most service providers charge more for roaming service than local service.)

  Select a service provider that gives you network coverage in all areas you intend to use the AirCard 710 network card.

- GPRS Coverage

  Support for the high-speed packet mode data features of the AirCard 710 network card requires that your service provider offer General Packet Radio Service (GPRS). To do

so, service providers must install additional equipment at their cellular radio towers and throughout their networks, so not all areas with GSM coverage also have GPRS coverage.

If you intend to use packet mode data connections, ensure that your service provider offers them in your area and that their roaming agreements with other providers include GPRS services.

- Pricing

  Each service provider has its own pricing options. There are flat rate accounts which provide you a maximum number of minutes of network usage for a fixed monthly fee. There are accounts for which you are charged for network usage by the minute or by the amount of data transmitted. You may want to shop around to find the best value, depending on the mix of voice, circuit-mode data, and packet-mode data services you intend to use.

Note: The fee for service is usually higher when you are roaming (connecting to a network other than the one belonging to your service provider).

SIM Card Information

Note: If you change GSM service providers at any time (such as if you move to a new city), you will need a new SIM card from your new service provider, and you must reactivate your AirCard 710 network card in the new location.

The SIM card is a small, thin data chip, about the size of a postage stamp, that identifies your account and your AirCard 710 network card to the GSM wireless network. It is the same type of card used as a "smart card" or "smart chip" in GSM mobile phones—in fact, your service provider may allow you to move the same SIM card between a mobile phone and your AirCard network card. Your AirCard package may have included a SIM card from your service provider, or you may need to obtain one.

Figure 2-1: A SIM Card (Left)

Inserting a SIM Card

To install your SIM card into the AirCard 710 network card, follow these steps:

1. Hold the AirCard 710 network card with the label on top and the antenna closest to you, as shown in the first photograph.

2. Locate the thin SIM card slot on the left side of the AirCard PC Card's antenna end.

3. Grasp the SIM card as shown, with the metal connectors on the bottom, the serial number on top, and the corner notch on the right side closest to you.

4. Insert the end of the SIM card into the slot, and gently push it until it clicks into place.

Figure 2-2: Inserting the SIM Card Into the AirCard 710 SIM Card Slot

5. Once the SIM card is properly inserted, it should not stick out significantly from the slot.

Figure 2-3: A Properly Inserted SIM Card

Removing a SIM Card

To remove the SIM card, you will need a slim object, such as the tip of a pen or a straightened paper clip, to push into the eject hole.

1. Place the AirCard 710 PC Card on a smooth, hard surface such as a tabletop, as shown in the following photograph.

Figure 2-4: Positioning a Pen to Eject the SIM Card

2. Position your pen or paperclip above the eject hole, which is on the top surface of the AirCard housing, just to the right of the SIM card slot.

3. Press down firmly (but without excessive force) on the eject hole. The SIM card should pop out of its slot.
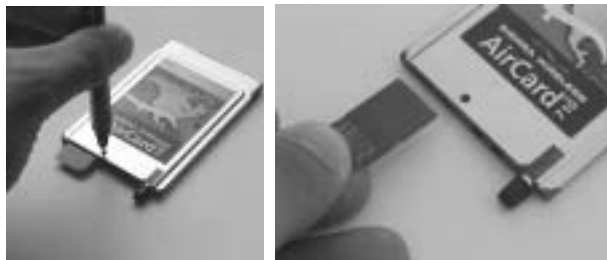

Figure 2-5: Ejecting and Removing the SIM Card

4. Gently pull the SIM card from the slot until it slides free.

Setting Up the AirCard Network Card With Your Service Provider

Your service provider will activate your account. You may be able to do so by telephone, on your service provider's web site, or in person at a retail store.

To activate your account, your service provider needs to know:

- The billing information used to collect payment for your network usage

- The ESN (electronic serial number) assigned to your wireless network card during the manufacturing process. The ESN is printed on a label on the bottom of the AirCard housing, in the form 00-A0-D5-*xx-xx-xx*, where the *x*'s are characters unique to your particular card. The ESN can also be displayed in Watcher (see "About Watcher…" on page 83).

- The SIM card serial number (printed on the upper surface of the SIM card itself)

Your service provider must provide to you:

- A phone number for your AirCard network card
- An activation code to let you set up your AirCard network card using the Watcher Activation Wizard

Unless your AirCard network card has been preactivated, Watcher will automatically detect that no account has been configured when you run it for the first time. Watcher will then auto-launch the Activation Wizard to guide you through the activation and configuration process.

Figure 2-6: The First Screen of the Activation Wizard

Care and Maintenance of Your AirCard 710 Wireless Network Card

As with any electronic device, the AirCard 710 wireless network card must be handled with care to keep it operating reliably. Follow these guidelines in using and storing your card:

- Do not apply adhesive labels to the AirCard housing. This may cause the PC Card to become jammed inside the card slot in your computer, or prevent it from being inserted properly.
- Radio signal strength is usually best when the antenna is fully extended and perpendicular to the AirCard 710 PC Card housing. The antenna should bend easily at the hinge.

Figure 2-7: (Left) Proper Positioning of the AirCard 710 Antenna

- When storing or transporting your PC in a case (such as a notebook bag), retract the AirCard antenna and position

the computer where the antenna tip cannot be crushed or broken.

• The AirCard network card should fit easily into your computer's PC Card slot. Forcing the AirCard into a slot may damage the connector pins.

Figure 2-8: Inserting the AirCard 710 Wireless Network Card

• Protect the card from liquids, dust, and excessive heat (see"Radio Frequency and Electrical Specifications" on page 92 for details).

• When it is not installed in your computer, store the AirCard network card in a safe place.

3: Installation on Notebook PCs

- Notebook PC System Requirements
- Software Installation
- Driver Installation
- Account Configuration
- Account Configuration

This chapter guides you through the steps necessary to make the AirCard® 710 wireless network card operational on a notebook PC.

The basic steps are:

- Insert the AirCard CD into your CD-ROM drive and install the Watcher and Network Adapter Manager (NAM) software.

- Insert the AirCard network card into the PC Card slot of your computer and install the AirCard 710 driver from the CD.

- If the AirCard network card has not been preactivated by your service provider, use the Activation Wizard (which should launch automatically) to configure it.

Note: You must install the software before inserting the AirCard network card into your computer, by following the detailed software and driver installation instructions in this chapter.

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

Notebook PC System Requirements

On notebook computers, the AirCard 710 wireless network card requires an Intel-compatible processor[1], and supports the following operating systems:

- Microsoft® Windows® 95 OSR2 and higher
- Windows 98 and 98 SE

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1. Non-Intel–compatible processors such as the Compaq Alpha are not supported, even if they run a supported operating system such as Windows NT.

- Windows Me
- Windows NT 4.0 with Service Pack 6a
- Windows 2000
- Windows XP

To install the AirCard wireless network card, you require these system resources:

Table 3-1 :System Resource Requirements

Card Slots	1 Type II PCMCIA (PC Card) Slot
Communications Ports	1 Available
Disk Drive	CD-ROM
I/O Resources	1 IRQ, 40 bytes I/O Space
Memory	32 MB
Disk Space	7 MB

Software Installation

Follow these steps to install the Watcher and Network Adapter Manager programs required by your AirCard network card:

Figure 3-1: Inserting the AirCard 710 CD to Install the Software

1. If the AirCard CD is not already in your CD-ROM drive, insert it. The CD should start automatically and display a menu.

Figure 3-2: The AirCard 710 Installation Menu

Note: Users of Windows 2000, NT, and XP must be logged in with administrative privileges to install the AirCard software.

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

3. From the CD start-up window, select notebook installation and documentation and then notebook software installation to launch the InstallShield Wizard.

4. Use the Next and Back buttons to navigate through the wizard, noting the following:

- The first series of windows in the InstallShield Wizard installs Watcher, and the second series installs the Network Adapter Manager.

- 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 Start menu.)

- A check box allows you to choose to display release notes. The release notes list known issues in the software and appear in the Windows Notepad. (If you choose to display them, when you are finished reading, use the close box in the upper right corner of the window to close Notepad.)

- A check box allows you to choose to have a desktop shortcut for Watcher. This gives you the option of launching Watcher by double clicking an icon on your desktop (as well as from the Start menu).

- Click Finish to close the last screen of each wizard.

Once your PC is re-started, the software is installed. You can proceed to install the driver.

Installation on Notebook PCs

Driver Installation

There is an AirCard driver for each supported operating system on the AirCard CD. The AirCard 710 wireless network card will not function properly unless the appropriate driver for your operating system is installed.

In Windows 95, 98, Me, 2000, and XP, driver installation is done through a wizard. Windows NT does not have a wizard to facilitate driver installation. Follow the detailed instructions for your operating system in one of the following sections.

Windows 98, Me, 2000, and XP

To install the AirCard driver in Windows 98, 2000 or Me, follow these instructions:

1. Insert the AirCard CD into your CD-ROM drive, if not already inserted, and close any Windows programs that are running.

2. If the CD start-up menu is displayed, use the *exit* option in the lower left corner of the screen to exit the menu.

3. With the label facing up, carefully insert the AirCard network card into your computer's PC Card slot. Windows should detect that a new device has been inserted and launch the wizard that guides you through the driver installation.

Figure 3-3: Inserting the AirCard 710 Network Card

4. Before working with the wizard, grasp the tip of the AirCard 710 antenna and pull it to extend the antenna fully (it should click into place). Then pivot the antenna hinge so that it is vertical, as shown.

Figure 3-4: Extending the AirCard 710 Antenna Until It Clicks Into Place

Figure 3-5: Pivoting the AirCard 710 Antenna at the Hinge

5. Follow the instructions corresponding to your operating system below.

Windows 98 and 98 SE

1. Click Next on the first window of the Add New Hardware Wizard to proceed to the next window.

2. Select Search for the best driver for your device (Recommended) and click Next to proceed to the next window.

3. Ensure that Specify a location is the only check box selected, enter d:\Drivers\Win98 where d is the drive letter for your CD-ROM drive, and click Next to proceed.

4. Click Next on the window that displays the file name.

5. Click Finish and repeat steps 1 to 4 as prompted.

6. If you are prompted to restart your PC, click Yes. Otherwise, restart your PC from the Start menu. (You must restart your PC to complete the driver installation.)

Windows Me

1. Click Specify the location of the driver (Advanced) on the first window of the Add New Hardware Wizard and click Next to proceed.

2. Select the Search for the best driver for your device radio button, and the Specify a location check box, then enter

d:\Drivers\WinMe where d is the drive letter of your CD-ROM drive. Click Next to proceed to the next window.

3. If prompted, "What would you like to install?", select The updated software (Recommended) and click Next.

4. Click Next on the window that displays a file name.

5. Click Finish and repeat steps 1 to 4 as prompted.

6. If you are prompted to restart your PC, click Yes. Otherwise, restart your PC from the Start menu. (You must restart your PC to complete the driver installation.)

Windows 2000

1. Click Next on the first window of the Found New Hardware Wizard to proceed to the next window.

2. Select Search for a suitable driver for my device (recommended) and click Next.

3. Ensure that Specify a location, under Optional search locations, is selected and click Next to proceed.

4. Enter d:\Drivers\Win2k, where d is the drive letter for your CD-ROM drive, and click OK to proceed.

5. Click Next on the window that displays the file name.

6. If the Digital Signature Not Found window displays, click Yes.

7. Click Finish to proceed. Repeat steps 1 to 6 as prompted.

8. If you are prompted to restart your PC, click Yes. Otherwise, restart your PC from the Start menu. (You must restart your PC to complete the driver installation.)

Windows XP

1. Click Next on the first window of the Found New Hardware Wizard to proceed to the next window.

2. Select Search for a suitable driver for my device (recommended) and click Next.

3. Ensure that Specify a location, under Optional search locations, is selected and click Next to proceed.

4. Enter d:\Drivers\Win2k, where d is the drive letter for your CD-ROM drive, and click OK to proceed.

5. Click Next on the window that displays the file name.

6. If the Digital Signature Not Found window displays, click Yes.

7. Click Finish to proceed. Repeat steps 1 to 6 as prompted.

8. If you are prompted to restart your PC, click Yes. Otherwise, restart your PC from the Start menu. (You must restart your PC to complete the driver installation.)

Once your PC is restarted, the driver is installed and you can proceed to configure the AirCard network card to use your account (if it was not preactivated).

Windows 95 Driver Installation

Note: Windows system files may be required to complete installation of the AirCard 710 driver. These files are located on the Windows CD and may be stored on your hard drive in .CAB files. Ensure you have your Windows CD, or know the location of the .CAB files, before proceeding.

Depending on how Windows 95 was installed on your PC and what devices have since been installed, your PC Card (PCMCIA) slots may or may not have been enabled and the TCP/IP stack may or may not be installed.

These instructions guide you through these steps:

1. Verifying that the PC Card slots are enabled
2. Verifying that TCP/IP is installed
3. Installing the driver

Verifying That the PC Card Slots Are Enabled

1. Open the Control Panel by selecting Start > Settings > Control Panel.
2. Double click the PC Card icon.
3. If the PC Card (PCMCIA) Properties window is displayed, the slots are enabled and you can proceed to the section "Verifying That TCP/IP Is Installed".
4. If the PC Card (PCMCIA) Wizard is displayed, the slots are not yet enabled, and the wizard guides you through the enabling process. (Generally it is sufficient to click Next at each window.) Click Finish on the final window and click Yes when prompted to restart the PC.

Verifying That TCP/IP Is Installed

1. If the Control Panel is not already open, select Start > Settings > Control Panel to open it.
2. Double click the Network icon.
3. Look for TCP/IP next to any listing on the Configuration tab. If TCP/IP is listed, you can close the window and proceed to the section "Installing the Driver".
4. If TCP/IP is not listed, click the Add... button to open the Select Component Type window.

5. Select Protocol in the component type list and click the Add... button to open the Select Network Protocol window.

6. Select Microsoft under Manufacturers and TCP/IP under Network Protocols, then click the OK button.

7. Verify that a listing for TCP/IP appears in the Network window and then click the OK button to close the window.

8. If you are prompted that your network is not complete, make the selections appropriate to your network configuration.

9. If you are prompted for the Windows CD, remove the AirCard CD and insert the Windows CD in your CD-ROM drive, or enter the path to the .CAB files.

10. Click Yes at the prompt to restart your PC. Once the PC has restarted, proceed to the next section.

Installing the Driver

1. Insert the AirCard CD into your CD-ROM drive, if it is not already inserted, and close any Windows programs that are running.

2. If the CD start-up menu is displayed, use the exit option in the lower left corner of the screen to exit the menu.

3. With the label facing up, carefully insert the AirCard network card into your computer's PC Card slot. Windows should detect that a new device has been inserted and launch the wizard that guides you through the driver installation.

Figure 3-6: Inserting the AirCard 710 Network Card

4. Before working with the wizard, grasp the tip of the AirCard 710 antenna and pull it to extend the antenna fully (it should click into place). Then pivot the antenna hinge so that it is vertical, as shown.

Figure 3-7: Extending the AirCard 710 Antenna Until It Clicks Into Place

Figure 3-8: Pivoting the AirCard 710 Antenna at the Hinge

5. Click Next on the first window of the Update Device Driver Wizard to proceed to the next window.

6. Click the Other Locations... button to open the Select Other Location window.

7. Enter d:\Drivers\Win95 where **d** is the drive letter for your CD-ROM drive and click OK. The wizard should search for and find the Windows 95 AirCard driver on the CD-ROM drive.

8. Click Finish and repeat steps 4 to 6 as prompted.

9. If you are prompted to insert the Windows 95 CD, remove the AirCard CD and insert the Windows CD.

10. If you are prompted to restart your PC, click Yes. Otherwise, restart your PC from the Start menu. You must restart your PC to complete the driver installation.

Windows NT Driver Installation

Since Windows NT does not have the "Plug and Play" feature included in other Windows operating systems, installing the AirCard driver requires more steps. Installation involves:

1. Verifying that your PC Card slots are enabled

2. Checking whether Networking is installed

Note: You must re-install the Windows NT Service Pack following installation of the AirCard driver. Ensure you have your Service Pack CD before you begin. (Windows NT 4.0 Service Pack 6a is supported.)

Windows NT Users: *Your PC must be <u>powered off</u> whenever you insert or eject the AirCard network card.*

Once you have determined whether Networking is installed, proceed to the appropriate section:

- "Installing the Driver When Networking Has Not Been Installed" on page 26, or
- "Installing the Driver When Networking Is Already Installed" on page 27

Note: Windows system files may also be required to complete the installation. These files are located on the Windows NT CD and may also be stored as .CAB files on your hard drive. If the .CAB files are not available to you, copy the Windows NT driver from the AirCard CD to a directory on your hard drive. The Windows NT driver is located on the CD in the directory \Drivers\WinNT.

1. If your PC is on, close any Windows programs that are running and shut down the PC.
2. With the label facing up *and your PC powered off,* carefully insert the AirCard network card into your computer's PC Card slot.

Figure 3-9: Inserting the AirCard 710 Network Card

3. Grasp the tip of the AirCard 710 antenna and pull it to extend the antenna fully (it should click into place). Then pivot the antenna hinge so that it is vertical, as shown.

Figure 3-10: Extending the AirCard 710 Antenna Until It Clicks Into Place

Figure 3-11: Pivoting the AirCard 710 Antenna at the Hinge

4. Insert the AirCard CD into your CD-ROM drive, if it is not already inserted.

Figure 3-12: Inserting the AirCard 710 CD to Install the Windows NT Driver

5. If the CD start-up menu is displayed, use the exit option in the lower left corner of the screen to exit the menu.

Verifying That the PC Card Slots Are Enabled

1. Open the Control Panel by selecting Start > Settings > Control Panel from the taskbar.

2. Double click the PC Card icon.

3. If a window titled PC Card (PCMCIA) Properties displays, the slots are already enabled. Close this window and proceed to the next section.

4. If the PC Card (PCMCIA) Wizard displays, the slots are not yet enabled, and the wizard guides you through the installation process. (Generally it is sufficient to click Next at each window.) Click Finish on the final window and you should be prompted to restart your PC. Click Yes and allow the PC to shut down. Then restart it.

Determining Whether Networking is Installed

1. If the Control Panel is not open, select Start > Settings > Control Panel.

2. Double click the Network icon.

Installation on Notebook PCs

3. If the Network window opens, networking is already installed. Proceed to the section "Installing the Driver When Networking Is Already Installed " on page 27.

4. If a dialog box appears prompting you to install Networking, the component has not yet been installed. Proceed to the next section, "Installing the Driver When Networking Has Not Been Installed".

Installing the Driver When Networking Has Not Been Installed

1. Click Yes to the prompt, "Do you want to install it now?" to launch the wizard that installs Networking.

2. Click the check boxes on the first window of the wizard so that Wired to the network: is checked and Remote access to the network: is *not* checked. Click Next to proceed.

3. Click the Select from list... button to open the Select Network Adapter window.

4. Click the Have Disk... button to open the Insert Disk window.

5. If you have copied the driver from the AirCard CD to your hard drive, enter the path to the driver and click OK to open the Select OEM Option window.

6. If you are installing the driver from the AirCard CD, enter d:\Drivers\WinNT where d is the drive letter for your CD-ROM drive and click OK to open the Select OEM Option window.

7. If Sierra Wireless AirCard 710 is highlighted, click OK. The Sierra Wireless AirCard 710 should appear in the Network Setup Wizard under Network Adapters. Otherwise click Cancel and repeat the previous two steps.

8. Click Next to display a list of network protocols.

9. Ensure TCP/IP Protocol is checked (as well as any other protocols appropriate to your network configuration) and click Next to display a list of network services.

10. Select the services appropriate to your network configuration and click Next. (For the purpose of installing the AirCard 710, it does not matter what selections you make in this window.)

11. Click Next.

12. If the Windows NT Setup window appears, system files are required to install the components you checked. Either insert the Windows NT CD and enter your CD-ROM drive letter, or enter the path to the .CAB files. Click Continue.

13. Use the drop down menus to select an IRQ and I/O Space, noting that the AirCard 710 requires 1 IRQ and 40 bytes of

I/O Space. By default, Windows displays an available IRQ Level and available I/O Port Address. In most cases, these values will work. Click Continue.

14. If the Windows NT Setup window displays again, enter the path to your CD-ROM drive or the .CAB files.

15. Click Yes at the DHCP prompt to proceed to a display of network bindings. (DHCP or Dynamic Host Configuration Protocol is required by the AirCard 710 regardless of your network configuration.)

16. Click Next to start the Network component.

17. Click Next to proceed to the window in which you enter a Computer Name and Workgroup or Domain.

18. Enter the information appropriate to your network configuration and click Next.

19. Click Finish on the final window of the wizard.

20. Click Yes at the prompt to restart your PC. (You must restart your PC to complete the driver installation.)

21. When the PC restarts, re-install your Service Pack.

22. On completion of this step, the driver is installed and you can proceed to configure the AirCard network card to use your account (if it was not preactivated).

Installing the Driver When Networking Is Already Installed

1. Click the Adapters tab in the Network window.

2. Click the Add... button to open the Select Network Adapter window.

3. Click the Have Disk... button to open the Insert Disk window.

4. If you have copied the driver from the AirCard CD to your hard drive, enter the path to the driver and click OK to open the Select OEM Option window.

5. If you are installing the driver from the AirCard CD, enter d:\Drivers\WinNT where d is the drive letter for your CD-ROM drive and click OK to open the Select OEM Option window.

6. If Sierra Wireless AirCard 710 is highlighted, click OK. The Sierra Wireless AirCard 710 should appear under Network Adapters in the Network Setup Wizard. Otherwise, click Cancel and repeat the previous two steps.

7. Use the drop-down menus to select an IRQ and I/O Space, noting that the AirCard 710 requires 1 IRQ and 40 bytes of I/O Space. By default, Windows displays an available IRQ

Installation on Notebook PCs

Level and I/O Port Address. In most cases, these values will work. Click Continue.

8. Click the Close button on the Network window to display the Microsoft TCP/IP Properties window.

9. Click Yes when prompted to restart your PC. (You must restart your PC to complete the driver installation.)

10. When the PC restarts, re-install your Service Pack.

11. On completion of this step, the driver is installed and you can proceed to configure the AirCard network card to use your account (if it was not preactivated).

Account Configuration

The final step to making the AirCard 710 wireless network card operational is configuring it to use your account.

If you purchased a preactivated card, this step is not necessary. Once the software and driver are installed, the AirCard network card is ready for use. Otherwise, you must use the Activation Wizard to activate and configure your account.

Activation and Configuration Methods

Your service provider may offer several methods of setting up your AirCard network card to work on their GSM system—by telephone, on the Web, in person at a retail outlet, or automatically using your AirCard network card in your computer. Consult your service provider for the best one to use.

Manual Activation

Manual Activation, the most common way of activating and configuring your account, involves phoning your service provider (or visiting their web site), exchanging information, and entering your account information into the appropriate fields in the Activation Wizard. You require a phone or Internet connection, other than the AirCard network card itself, to use this method.

To activate an account and configure your AirCard network card:

1. Insert the AirCard network card into your PC Card slot, if it is not already inserted.

2. If the Activation Wizard does not launch automatically, run Watcher by selecting Start > Programs > Sierra Wireless>

Note: For information on obtaining a GSM wireless account from a service provider, see "Introducing the AirCard® 710 Wireless Network Card" on page 1 and "Getting Started" on page 7. In particular, consult the section "SIM Card Information" on page 9.

AirCard 710 > Watcher for AirCard 710 and in Watcher select Tools > Administration > Activation Wizard.

Figure 3-13: The AirCard 710 Activation Wizard

3. Use the Next and Back buttons to navigate through the Activation Wizard, noting the following:
   · Use the radio buttons to select Manual Activation as the method of activation you want to use, unless your service provider specifies another.
   · Obtain the billing information listed on the second window of the wizard before contacting the service provider or proceeding to the next window.
   · Tell the representative (or enter into the web form) the ESN number listed in the wizard.
   · Enter the information the service provider gives you back to activate and configure your wireless network card.
4. Click Finish on the final window of the wizard.

Now that your card is configured, proceed to "The Watcher Window and Indicators" on page 33.

Inserting and Removing the AirCard Wireless Network Card

Inserting the AirCard 710 PC Card

The AirCard wireless network card should be inserted into the PC Card slot with the label facing up.

Note: If you are using Windows NT, the PC must be powered off whenever you insert or eject the AirCard network card.

Figure 3-14: Inserting the AirCard 710 Network Card

In Windows 95, 98, Me, 2000, and XP, when you insert the AirCard network card, the following should occur:

1. If sound effects are enabled, the PC beeps.
2. The PC Card icon appears in the status area (also known as the system tray, at the far right edge of the Windows taskbar). The icon may already be displayed for another card, or it may not appear if the feature has been disabled.
3. The Network Adapter Manager icon for the AirCard 710 network card appears (unless another device is set as the primary network card—see "Network Adapter Manager (for Multiple Network Cards)" on page 85).

Figure 3-15: Status Area Icons, With AirCard 710 Icon Circled and PC Card Icon to Its Left

4. Watcher launches.

The AirCard network card is powered as soon as you insert it. For information about the meaning of the status light next to the antenna, see "LED Operation" on page 91.

Removing the AirCard 710 PC Card

Note: If you are using Windows NT, the PC must be powered off whenever you insert or eject the AirCard network card.

To remove the AirCard (Windows 95, 98, Me, 2000, or XP):

1. Close Watcher if it is open.
2. Click the PC Card icon in the status area to display the option to stop the card.

3. Click on "Stop Sierra Wireless AirCard 710 PC Card Parent".

4. Click OK in the dialog box that notifies you that it is safe to remove the card.

5. Pivot the antenna so that it is once again parallel to the end of the AirCard housing, then gently push it all the way into its retracted position.

Figure 3-16: Retracting the AirCard 710 Antenna

6. Push the PC Card eject button on your computer to eject the card.

Figure 3-17: Ejecting the AirCard 710 PC Card From Its Slot

7. Grasp the AirCard PC Card and remove it from the slot.

Figure 3-18: Removing the AirCard 710 PC Card From Its Slot

Installation on Notebook PCs

4: The Watcher Window and Indicators

- Launching the Watcher Program
- Menus and Window Controls
- Connection Displays
- Taskbar Status Area Icons

Watcher is the application that allows you to manage and monitor the connection between the AirCard® 710 network card and the GSM network. You use Watcher to:

- Determine your signal strength, roaming status, packet mode (GPRS) availability, and other network connection parameters

- Initiate voice, data, and fax calls

- View call statistics and SMS messages (text messages)

- Enable and disable features like Always On Top (which allows you to set the Watcher window to display in front of other application windows), and KeyGuard (which prevents accidental dialing)

- Set various options and preferences

Launching the Watcher Program

Whenever you use the AirCard 710 wireless network card, you must run Watcher.

Launching Watcher on Notebook PCs

On notebook PCs, Watcher should launch automatically anytime you insert the AirCard 710. You can also launch Watcher by:

1. Double clicking the Watcher icon on your desktop (as shown to the right)

2. Selecting Start > Programs > Sierra Wireless > AirCard 710 > Watcher

Figure 4-1: The Main Watcher Window

Menus and Window Controls

The Watcher window has these components:

- A menu bar (on the upper left side of the window)
- The Minimize, Toggle Full/Compact and Close buttons in the top right corner (on notebook PCs only)
- The Data and Voice tabs on the upper right side of the window
- A section of the window that resembles an LCD screen (beneath the menu bar) that includes these areas:
  - The Connection Status area at the top
  - The Call Status box in the middle
  - The Indicator area at the bottom

The Menu Bar

"Watcher Menu Options" on page 51 gives a detailed description of each option in each of Watcher's three menus: View, Tools, and Help.

The Minimize, Toggle Full/Compact and Close Boxes

- The Minimize button closes the Watcher window but leaves the application running. When Watcher is minimized, the Watcher icon in the Windows status area can be used to determine the AirCard status. (For details, see the section "Taskbar Status Area Icons" on page 39.)
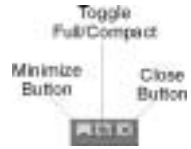
- The Toggle Full/Compact button is used to switch between the full Watcher window and the compact view:

  The compact view allows you to see connection status information while you use other applications.

- The Close button exits Watcher.

Connection Displays

The LCD-style panel on the left side of the Watcher window shows information about your connection status and call status, as well as other informational icons. It is divided into three regions, from top to bottom:

- The Connection Status area
- The Call Status box
- The Indicator area

Connection Status Area

The Connection Status area uses these icons:

Table 4-1 :Connection Status Area Icons

Icon	Meaning
	The Signal Strength indicator uses bars to show the intensity of the radio signal. The number of bars increases as signal strength increases to a maximum of five bars. When the bars are dimmed and the antenna icon is crossed out, no connection is possible for one of these reasons: • the antenna is retracted • you are outside the GSM network coverage area • the signal strength is too weak • a network or account problem is preventing the AirCard 710 from obtaining service To improve signal strength when you know there is GSM coverage in your area, try adjusting the position of the antenna (it should be vertical), moving near a window, or otherwise changing the position of your computer so that the AirCard antenna is better positioned to receive radio signals from nearby cellular radio towers.
	The In Use indicator shows whether a call is in progress. Depending on the in-use state, one of these icons is displayed:
	When the In Use indicator is a handset, a voice call is in progress.
	When the In Use indicator is a modem, a circuit mode data (or fax) call is in progress (see "Dial-Up Circuit Mode Calls" on page 42).
	When the In Use indicator is a modem with packet indicator, a packet mode (GPRS) data call is in progress. (See "Packet Mode Connections" on page 43.)
	When the In Use indicator is a large "X", the AirCard is not functioning properly and no connection is available. (Try closing Watcher and restarting your computer.)

Table 4-1 : Connection Status Area Icons

Icon	Meaning
	The packet mode indicator shows whether GPRS packet data coverage is available in this area. Where GPRS is available, you can make packet mode ("always on") data connections, if your billing plan allows for it. For more information, see "How Circuit Mode and Packet Mode Data Connections Differ" on page 3, and "Packet Mode Connections" on page 43.
	The Roaming Status indicator shows whether you are roaming onto the network of a service provider other than your own. When the indicator is off (gray), you are within the local coverage area of your service provider. When the indicator is on (solid black), you are in a "preferred" roaming area. When the indicator is blinking, you are within the coverage area of a GSM network but not in a "preferred" roaming area. Your coverage area and billing charges depend upon your service provider and the type of account you have. There may be surcharges for roaming service that vary based on whether you are in a preferred roaming area or a non-preferred roaming area. If there is no roaming agreement between your service provider and the local carrier, you may be unable to complete calls in non-preferred roaming areas.

Note: Watcher begins timing outgoing calls from the time the call is initiated—not from the time the call is answered.

Call Status Box

The Call Status Box displays one of these messages:

- "Ready to Connect" indicates that you have a network connection but there is no call in progress.
- "Dialing" indicates that the AirCard is attempting to connect to a phone number, either as a voice, fax, or circuit mode data call. "Connecting" (which will display only briefly) appears instead when using packet mode services.
- Once a call is connected, what appears depends on the type of call.

Use on Notebooks, HPCs, and PPCs

- For voice calls, "Time" indicates the current duration of the call. If available via Caller ID or your Address Book, the name of the other party appears—otherwise, Watcher displays "Unknown". Watcher also displays the other party's phone number.
- For data calls, Watcher displays " Time" for the current duration of the call, "Rx" for the number of bytes of data receives, and "Tx" for the bytes transmitted.

Indicator Area

The Indicator area displays icons that notify you when you receive messages and indicate whether certain options and features are enabled. The icons are black when "on" and gray when "off".

Table 4-2 :Indicator Area Icons

Icon	Meaning
	The SMS Message indicator shows whether you have unread text messages. If it is blinking, at least one of your unread messages is urgent. To read and respond to SMS messages, select Tools > SMS Manager… or click the icon. (For details, see "SMS Manager…" on page 53.)
	The Voice Mail indicator shows whether you have unheard voice messages.To hear the messages, you must dial your wireless service provider's voice messaging system. Click the icon to connect to your voice messaging system. (For information, see the Options section "Voice Tab" on page 77.)
	The Missed Call indicator displays if you failed to answer an incoming call. To view the phone number(s) of any missed calls, click the icon to display the Call Log (see "Call Log" on page 59).
	The Auto-Answer indicator shows whether Watcher is set to automatically answer incoming calls. You can enable and disable this feature under Tools > Options (see "Voice Tab" on page 77).

Table 4-2 : Indicator Area Icons

Icon	Meaning
	The Headset indicator shows whether a headset is connected to the AirCard headset connector, near the antenna at the end of the AirCard 710 housing. The connector is designed to use standard 2.5mm mobile voice headsets.
	The Silent Ringer indicator means that no sound is played when an incoming call is received. You can enable and disable this feature under *Tools > Options* (see "Voice Tab" on page 77) or with the Mute key when no call is underway (see "The Watcher Dial Pad" on page 46).
	The Privacy indicator shows whether encryption is in use on voice calls. (Encryption prevents your calls from being monitored.) Your service provider determines whether encryption is available its GSM network.
	The compression indicator shows whether data compression is in use. Where available (which depends on your service provider), compression can increase throughput and the effective data transmission speed.

Taskbar Status Area Icons

Watcher displays an icon in the status area (also known as the system tray, usually located in the lower right corner of your screen). The status area icon indicates your connection status or notifies you when you have voice mail or SMS messages, or when you have missed a call.

Table 4-3 : Status Area Icons

Icon	Meaning
	There is no GSM network connection.
	The AirCard 710 wireless network card is connected to the GSM network.

Table 4-3 :Status Area Icons

Icon	Meaning
	You missed (failed to answer) an incoming call. You can view the number of the caller in the Call Log (choose Tools > Call Log… in Watcher).
	You have one or more unread SMS (text) messages. Choose Tools > SMS Manager… to read them.
	You have voice mail. Dial your voice mail system to retrieve your messages.

5: Data Connections Through GSM and GPRS

- Dial-Up Circuit Mode Calls
- Packet Mode Connections

You use the Data tab in the main Watcher window to make data connections, such as for browsing the Web, sending and receiving e-mail, dialing into your corporate network, or sending and receiving faxes.

The AirCard® 710 network card offers two different types of data connections (also see "How Circuit Mode and Packet Mode Data Connections Differ" on page 3):

Note: You cannot have a data and a voice connection at the same time. If you have a data connection when an incoming call occurs, your caller will get a busy signal or be put through to your voice mail box.

- **Dial-up circuit mode call** – in this type of connection, the AirCard 710 network card functions as a modem. You provide the phone number and the AirCard modem dials the number and converts your data into sounds that are transmitted over the GSM voice circuit—just as a traditional modem sends sounds over a phone line.

  Using this type of connection, you can connect to any other modem (including one at your Internet provider) and receive faxes. The maximum speed of this type of connection is 9.6kbps. (Effective throughput may be faster with data compression.) For more information, see "Connection Speed" on page 4.

Note: Depending on your billing plan, there may be a surcharge or different billing arrangement for GPRS packet mode connections.

- **Packet mode network connection** – in this type of connection, the AirCard 710 network card behaves like a LAN card, and establishes a fully digital GPRS connection to the GSM network. (You do not need to provide a phone number and there is no dialing involved.) The maximum speed of this connection is 1 1 5kbps (see "Connection Speed" on page 4), but it is only available in areas where GPRS has been implemented by the GSM service provider.

Note: Although you may not be charged extra money while connected in packet mode, but not actively moving data, the AirCard network card continues to use power in that mode. For best power conservation from your computer, shut down any AirCard wireless connections if you do not need them.

The packet mode connection provides "always on" direct access to the Internet, without having to dial an Internet provider's modem bank first. Once the connection is established, you can browse the Web, send and receive e-mail, transfer files, connect to your company's virtual private network (VPN) and so on. Once you have made a packet mode connection, you can leave it running if you wish, since service providers usually charge only for data sent and received, not for the time you are connected (see 'How Circuit Mode and Packet Mode Data Connections Differ' on page 3).
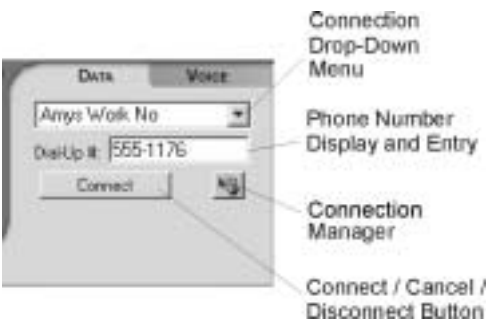
Figure 5-1: The Watcher Data Tab

Dial-Up Circuit Mode Calls

Before making a dial-up data call, you must set up the number in the Connection Manager. (This step is only necessary the first time you dial the number.) Choose Tools > Connection Manager, or click the Connection Manager button to the right of the Connect button. (For more, see "Connection Manager" on page 61.)

Initiating a Dial-Up Data Call

Note: You can make a dial-up data call anywhere there is GSM voice coverage, though data speeds may be affected by radio reception and network congestion.

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1. Select the connection name from the pull-down menu on the Data tab of the main Watcher window. The number is then displayed in the Dial-Up # field.

2. If necessary, change the phone number in the Dial-Up # field. (For example, depending on your location, you may need to add or remove the area code.)

3. Click the Connect button.

Note: If you change the number in the Dial-Up # field, the Connection Manager record is not changed. The next time you select the connection, the old number appears. If you want to permanently change the record, you can do so in the Connection Manager (see page 61).

Watcher then initiates the connection. Progress is shown in the Call Status area. Once the connection is established, the call statistics (duration, bytes transmitted, and bytes received) are displayed.

Figure 5-2: Call Status Area During a Data Connection

Closing a Dial-Up Data Call

To terminate a call:

- Click the Cancel button (during the connection process) or the Disconnect button (once the connection is established).

Incoming Data Calls

By default, the AirCard network card is set to answer all calls as voice calls. To receive a fax or data call, you must set Watcher to answer appropriately.

This setting is in the Options window (Tools > Options) on the General tab. For a detailed explanation, see "General Tab" on page 64.

Packet Mode Connections

When the packet mode indicator is on, you can make a packet mode (GPRS) connection.

Note: Packet mode connections are only available where GSM service providers have installed the appropriate GPRS infrastructure. Not all GSM coverage areas have GPRS coverage. Contact your service provider for coverage information in your area.

Initiating a Packet Mode Connection

To make a packet mode connection:

1. Select Packet Mode (GPRS) from the drop-down menu on the Data tab of the main Watcher window.
2. Click the Connect button. (No phone number or dialing is required.)

Once the connection is established, you can use any Internet application wirelessly. The speed of your connection depends on your service provider, as well as on network coverage and congestion in your current location. For more information, see "Connection Speed" on page 4.

Note: Depending on your billing plan, there may be a surcharge or different billing system for packet mode service.

Closing a Packet Mode Connection

To terminate a packet mode connection, click Disconnect button.

6: GSM Voice Connections

- The Dial Pad
- The Scratch Pad
- Making a Voice Call

You can use your AirCard® 710 network card as a GSM mobile phone simply by connecting any standard mobile headset with a 2.5 mm jack.

The headset plugs into the circular connector on the end of the AirCard housing, next to the antenna:

Headset Connector

Figure 6-1: Location of the AirCard 710 Headset Connector

The AirCard 710 network card has a number voice features:

- The Volume controls allow you to adjust the loudness of what you hear.
- The Mute button allows you to turn off the speaker so that you cannot be heard.
- The SEND button allows you to dial any number or select or enter, or to redial the previously dialed number.
- The Any-Key Answer feature allows you to answer an incoming call by pressing any button on the dial pad except END, CLR, or the Volume controls.
- The Auto-Answer feature can be enabled to automatically answer incoming calls within a specified number of rings.
- The KeyGuard feature prevents accidental dialing.
- The Silent Ringer feature prevents any sound from occurring when you receive calls.
- The Missed Call indicator notifies you of any incoming calls that were not answered.
- A Scratch Pad provides an easily accessible temporary place to record very brief notes.
- The Call Log window records details about all incoming and outgoing calls, providing useful information such as the phone numbers of missed calls.
- Watcher supports conference calling (three-way calling), voice mail, call alert, and Caller ID, if available to you.