



**Sprint Mobile Broadband
Express Card
by Novatel Wireless
Merlin™ EX720**

www.sprint.com

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Welcome to Sprint

We are committed to bringing you the best wireless technology available, and we built our network right from the start, so no matter where you are on the Nationwide Sprint PCS® Network, all your services will work the same.

When it comes to mobile connectivity, the Sprint Mobile Broadband Express Card offers more freedom than ever before. No wires, no cables, just access to your data when you need it. The power of the Internet and company data is truly at your fingertips.

This guide will familiarize you with our technology and with your new Sprint Mobile Broadband Express Card and Sprint PCS Connection ManagerSM software through simple, easy-to-follow instructions.

Welcome and thank you for choosing Sprint.

Introduction

This User Guide introduces you to Sprint PCS Service and all the features of your new Sprint Mobile Broadband Express Card. The guide is divided into five sections:

- ◆ **Section 1:** Sprint Mobile Broadband Express Card Basics
- ◆ **Section 2:** Installing the Sprint Mobile Broadband Express Card
- ◆ **Section 3:** Sprint Power VisionSM
- ◆ **Section 4:** Technical Specifications and Regulatory Information
- ◆ **Section 5:** Safety and Terms & Conditions

Throughout this guide, you'll find tips that highlight special shortcuts and timely reminders to help you make the most of your Express Card and wireless network service. The Table of Contents and Index will also help you quickly locate specific information.

You'll get the most out of your new Sprint Mobile Broadband Express Card if you read each section. However, if you'd like to get right to a specific feature, you can go directly to that page. Follow the instructions in that section and you'll be ready to use your Express Card in no time.

Note:

You can print out this guide to keep on hand or view it online. If you're viewing it online, simply click on a topic in the Table of Contents or on any page reference within a section to go directly to that topic.

Section 1

Sprint Mobile Broadband Express Card Basics



Introducing the Sprint Mobile Broadband Express Card

In This Section

- ◆ **Your Sprint Mobile Broadband Express Card**
 - ◆ **CDMA Networks**
 - ◆ **Express Card Broadband Wireless Modem**
 - ◆ **Global Positioning System Receiver**
 - ◆ **About This Guide**
-

This section introduces the basic features and functions of your Sprint Mobile Broadband Express Card, the materials included with your card, and an overview of the sections in this User Guide.

Your Sprint Mobile Broadband Express Card

Your Sprint Mobile Broadband Express Card connects to an ExpressCard slot and functions as a wireless network EVDO device. This card allows you to:

- Access your company network.
- Send and receive email.
- Access the Internet.
- Access real-time visual maps, get driving directions, perform local business searches, and find nearby ATMs, gas stations, and restaurants even when you are uncertain of area ZIP codes.

CDMA Networks

The Sprint Mobile Broadband Express Card operates over a type of wireless network called CDMA (Code Division Multiple Access). This network technology has many features beyond providing a wireless link, such as Web Messaging, which allows you to receive short messages using the Sprint Mobile Broadband Express Card. To use the Sprint Mobile Broadband Express Card, you need an account that gives you access to a CDMA network.

Every CDMA network operates on one of three radio frequency bands. Your Sprint Mobile Broadband Express Card takes advantage of the latest high-speed CDMA 1xEV-DO Revision A network and operates on the 1900 MHz band.

The Sprint Mobile Broadband Express Card uses CDMA 1xEV-DO Rev A technology and is backwardly compatible with currently deployed EV-DO Rev 0 and 1xRTT, enabling

real-time high-speed wireless access to email, the Internet, or your company network. Download complex files and large email attachments easily and access online information when and where you need it most. The card runs on most current Windows-compatible laptop or desktop computers that have an ExpressCard slot, and it provides data transmission of up to 2.4 megabits per second (Mbps) (average speed of 300-800 kbps before bandwidth optimization).

Tip:

More information about CDMA networks is available on the CDMA Development Group Web site, www.cdg.org.

Express Card Broadband Wireless Modem

An Express Card (EVDO Wireless Broadband Express Card) incorporates the latest hot-pluggable PCI ExpressCard™ technology developed by the Personal Computer Memory Card International Association (PCMCIA). This new design provides a smaller and faster solution than previous technologies as it supports both PCI Express and USB 2.0 connectivity through the ExpressCard slot or card bay – increasing bandwidth dramatically. The newer ExpressCard standard also uses lower voltages and thus less power than the previous PC Card standards, while delivering the most advanced multimedia streaming services at faster speeds.

During Sprint PCS connections, the Sprint Mobile Broadband Express Card is a true modem, functioning just like the modems familiar to most business computer users. It has an advanced dual band diversity antenna system design that incorporates an external flip antenna, maximizing data speed performance, and allows for stronger network signal reception. Once installed and configured for NDIS mode, the Express Card connects instantly to the CDMA network with just a few mouse clicks. To surf the Web, you simply insert the Express Card into an ExpressCard slot, click a few buttons, and launch your Internet browser. To access your

company network, you may need to launch an extranet client after you connect to the CDMA network.

Tip:

To optimize your settings for faster speeds and data conservation when accessing your company network, work in "Offline" mode and synchronize periodically to send and receive company email. Do not use the Preview Pane, and save or drag and drop attachments to a desktop folder before opening them (rather than double-clicking them in the email). For more detailed information, see the Microsoft white paper located at: www.microsoft.com/office/outlook/evaluation/perform.doc.

Global Positioning System Receiver

The Express Card also has a built-in high sensitivity Global Positioning System (GPS) receiver. A GPS receiver uses signals from a constellation of 24 satellites with worldwide coverage in six orbital planes to pinpoint its exact location.

Access online information when and where you need it most. Get real-time, visual driving directions, perform local business searches, and access live traffic directly from your GPS-ready card. Using wireless communication and GPS technology, your card will retrieve the positions automatically with the highest sensitivity and accuracy.

GPS satellites circle the earth twice a day in a very precise orbit and transmit radio signal information to earth. The GPS receiver then takes this information to calculate your precise location. A GPS receiver must be locked on to the signal of at least three orbiting satellites to calculate a 2D position (latitude and longitude) and track movement. With four or more satellites in sight, the Express Card's GPS receiver can determine your 3D position (latitude, longitude and elevation) as well as the horizontal 3D estimated position error (HEPE).

Package Contents

Your Sprint Mobile Broadband Express Card package contains the following components:

- Sprint Mobile Broadband Express Card by Novatel Wireless Merlin EX720
- A Guide to Using Your Sprint Mobile Broadband Express Card
- Sprint PCS Connection ManagerSM CD

About This Guide

This User Guide is designed to provide you with all the information you need to install and use your Sprint Mobile Broadband Express Card.

- **Section 1** (which you are reading) gives you an overview of the Express Card and its basic features.
- **Section 2** provides detailed, step-by-step instructions for installing and using the Sprint Mobile Broadband Express Card and Sprint PCS Connection Manager Software.
- **Section 3** introduces Sprint Power Vision Services.
- **Section 4** provides electrical, radio frequency, and other specifications for the Sprint Mobile Broadband Express Card, as well as regulatory notices concerning your Sprint Mobile Broadband Express Card.
- **Section 5** provides important safety and liability information and includes the Terms and Conditions of use for the Sprint Mobile Broadband Express Card.

Getting Started With Your Sprint Mobile Broadband Express Card

In This Section

- ◆ **Getting Started**
 - ◆ **The Sprint Mobile Broadband Express Card Software**
 - ◆ **Activating and Using Sprint PCS Service**
 - ◆ **Care and Maintenance**
-

This section outlines the basics of getting started with your Sprint Mobile Broadband Express Card, including installing the Sprint PCS Connection Manager Software and activating your account.

Getting Started

Before you can begin using your Sprint Mobile Broadband Express Card, you must first:

1. Install the Sprint PCS Connection Manager Software, including the Sprint Mobile Broadband Express Card driver software.
2. Activate your Sprint PCS account (unless the Express Card has been preactivated).
3. Configure the Sprint Mobile Broadband Express Card to use your account.

The Sprint Mobile Broadband Express Card Software

The Sprint Mobile Broadband Express Card comes with the following software:

- **Sprint PCS Connection Manager Software** allows you to manage the card's actions and monitor your connections.
- The **driver software** establishes the interface between the Express Card and your Windows® operating system.
- The **Novatel Wireless, Inc. Wireless Connections Network Adapter (NDIS)**, with which you can expand your high-speed broadband wireless connection from the Internet to your corporate email and network taking advantage of 1xEVDO speeds. This customizable feature enables an always-on connectivity experience like an Ethernet card.
- The **Bytemobile Optimization Client** allows you to enjoy increased speeds and enhanced graphics to further improve your experience with image and data optimization in an easy-to-use visual interface.

The software must be installed before you insert the Sprint Mobile Broadband Express Card for the first time. Detailed instructions are provided starting on page 18.

Activating and Using Sprint PCS Service

Before using your Sprint Mobile Broadband Express Card, you must first set up your Sprint PCS wireless network account.

Call Sprint Customer Service

- If you will be using your Sprint Mobile Broadband Express Card primarily for business purposes, call **1-888-788-4727**.
- If your card is intended primarily for personal use, call **1-888-715-4588**.

You should have the following information available:

- Your billing address
- Your Social Security number or Tax ID number
- Your driver's license number
- Your Sprint Mobile Broadband Express Card's ESN (electronic serial number) (The ESN is printed on the card's label and can also be displayed during the installation process.)
- A pen and paper to write down your account information

During this call, Sprint Customer Service will help you select your service plan and guide you through the activation process. They will also provide you with the following important account information:

- Your card's Activation Code
- Your card's phone number
- Your card's Lock Code

Tip:

You can use the Lock Code feature to prevent others from using your account should your card be lost or stolen. See page 67 for instructions on using this feature.

Unless your card has been preactivated, the Sprint PCS Connection Manager Software application will automatically detect that no account has been configured when you run it for the first time. The Sprint Activation Wizard will then start and guide you through the activation and configuration process.

Care and Maintenance

As with any electronic device, the Sprint Mobile Broadband Express Card must be handled with care to ensure reliable operation. Follow these guidelines while using and storing your card:

- Do not apply adhesive labels to the card. They may cause the card to become jammed inside the card slot.
- The card should fit easily into your ExpressCard slot. Forcing the card into a slot may damage the connector pins.
- Protect the card from liquids, dust, and excessive heat.
- Store the card in a safe place, when not in use.
- Never force the card in or out of your computer's ExpressCard slot.
- When using a laptop computer, always remove the card from the ExpressCard slot to avoid any damage. (See page 22 for instructions on proper removal.)

Section 2

Installing the Sprint Mobile Broadband Express Card



Installing the Sprint Mobile Broadband Express Card

- ◆ **Getting Started**
 - ◆ **Installing the Sprint PCS Connection Manager Software**
 - ◆ **Inserting and Removing the Sprint Mobile Broadband Express Card**
 - ◆ **Activating Your Sprint Mobile Broadband Express Card**
-

This section guides you through the steps necessary to install your Sprint Mobile Broadband Express Card and make it operational on your computer.

Getting Started

Before you can use your Sprint Mobile Broadband Express Card, you must:

1. Install the Sprint PCS Connection Manager Software, located on the installation CD, onto your computer.

Note:

Before installing your new software, delete or uninstall any previously existing modem or dialer software from your system.

Do not insert the card into your computer's ExpressCard slot until you have installed the Sprint PCS Connection Manager Software onto your computer or until instructed to do so by the installation CD.

2. Insert the Express Card into your computer's ExpressCard slot. Windows will detect the card and automatically install the necessary device drivers.

Note:

A driver is software that forms the interface between a device (such as the Sprint Mobile Broadband Express Card) and the operating system on your computer.

3. Launch the Sprint PCS Connection Manager Software application.
4. Activate your Sprint Mobile Broadband Express Card and Sprint PCS account, unless the card was preactivated. If your card has not previously been activated, the Activation Wizard will automatically launch and guide you through the process.

System Requirements

The Sprint Mobile Broadband Express Card is supported on the following operating systems:

- Windows® 2000
- Windows® XP

To install and run the Sprint Mobile Broadband Express Card and accompanying Sprint PCS Connection Manager Software, your system requires these minimum resources:

CPU	Pentium (166 MHz or higher)
Card Slots	ExpressCard34/54/Card Bay* (*Card Bay requires card caddy accessory)
Communications Ports	2 available; one modem and one serial
Optical Drive	CD-ROM
I/O Resources	1 IRQ, 4096 bytes I/O space
Memory	32 MB
Disk Space	14 MB
Other	Internet Browser Software

Installing the Sprint PCS Connection Manager Software

Follow the instructions below to install the Sprint PCS Connection Manager Software from the installation CD. This process requires you to restart your computer at the end of the installation; therefore, we recommend that you quit all open applications before you begin installation. The Sprint PCS Connection Manager Software automatically determines your PC's operating system and installs all appropriate software.

Note:	You may be required to log in with administrative privileges, depending on your operating system, to install the Sprint PCS Connection Manager Software.
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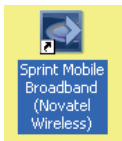
Installing the Sprint PCS Connection Manager Software and the Sprint Mobile Broadband Express Card driver:

1. Insert the installation CD into your CD-ROM drive. The Setup program should start automatically. If it does not, launch, select **Start > Run** and enter **d:\Autorun.exe**, where **d** is your CD-ROM drive letter.
2. Select **Install Sprint Mobile Broadband (Novatel Wireless)**. (The InstallShield® Wizard will start and guide you through the installation process.)
3. Use the **Next** and **Back** buttons to navigate through the installation wizard, noting the following:
 - In order to continue with the installation, you must select **"I accept the terms of the License Agreement."**
 - Select the default option, **Sprint Mobile Broadband Express Card by Novatel Wireless, Inc.**, if prompted, and click **Next**.
 - Please wait a few minutes while the software installs.

Note:

You may also be given the option of selecting the Bytemobile™ Optimization Client feature at this time. This option provides increased speeds and enhanced graphics to further improve your experience with image and data optimization in an easy-to-use visual interface. If this option is available you may place a check mark in the check box to add Bytemobile Optimization.

4. Skip to step 7 if you did not check the Bytemobile Optimization Client option from the Sprint PCS Connection Manager Installer screen (see Note above).
5. If you chose to install the Bytemobile Optimization Client, the Installshield Wizard and ByteMobile Optimization Welcome window appear. Click **Next** and wait a few moments for the software to install.
6. Now click **Finish** to complete installation of Bytemobile.
7. Click **Restart** or **Finish** to complete installation of the Sprint PCS Connection Manager. Once the installation procedure is complete and you have rebooted your computer (either automatically or manually), launch Sprint PCS Connection Manager by clicking the Sprint Mobile Broadband (Novatel Wireless) desktop icon.



8. The Sprint PCS Connection Manager starts and the Insert your device... dialog appears. (Do not Insert the card until instructed to do so by Sprint PCS Connection Manager.)

9. Insert the card into your computer's ExpressCard slot. (See page 22 for complete instructions on proper insertion and removal.)

Note:

Sprint PCS Connection Manager will check to ensure you have the latest firmware installed. If there is a new firmware release for the software, the "Firmware Update" pop-up dialog will appear. See "Firmware Updates" in this section, beginning on page 21.

10. Please wait a few moments while Windows automatically installs the necessary drivers for your card. A series of Found New Hardware messages appears and the Found New Hardware Wizard starts.
11. If your card has not been activated, the Activation Wizard automatically starts and guides you through the activation process. (For account activation information, see Section 1B, Getting Started With Your Sprint Mobile Broadband Express Card beginning on page 9.)
12. Windows detects the new hardware (Sprint Mobile Broadband Express Card) and installs the necessary drivers. The **Add New Hardware** Wizard or **Found New Hardware** Wizard starts, depending on your operating system. (For additional information about driver installation, see "Reinstalling the Sprint Mobile Broadband Express Card Driver" on page 74.)
13. Follow the prompts to allow the wizard to install the drivers.
14. Click **OK** when you are notified that the installation is complete.

On completion of this step, the Sprint PCS Connection Manager Software and the Sprint Mobile Broadband Express Card driver are installed and you can proceed to activate your card (if it

has not already been activated). See “Activating and Using Sprint PCS Service” on page 26.

Note:	During this time, the Sprint PCS Connection Manager message area displays “Updating Hardware” and the Go button is disabled.
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Firmware Updates

The first time you attempt to connect your card to your computer, Sprint PCS Connection Manager will check to ensure you have the latest firmware installed. If Sprint PCS Connection Manager detects that your card needs to be updated a “Firmware Update” pop-up dialog appears.

To update firmware

1. If you are using a laptop, the AC power adapter must be plugged into your computer before proceeding.
2. Click **OK** to launch the firmware update utility and update the firmware in your Express Card. The software installation begins. This process takes approximately five minutes. You may stop the installation at any time by clicking **Cancel**.

Caution:	Do not remove the card from your computer until the installation process is complete. Interrupting this process may cause permanent damage to your card.
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3. Once the firmware has been successfully downloaded, a confirmation screen appears. Click **OK** to return to the Sprint PCS Connection Manager main user interface.
4. When the firmware update is completed, it will reset the card. Please wait a few minutes to initialize the card from the Sprint PCS network. If the card has not been activated, it will automatically launch the Sprint PCS Vision Activation Wizard.

Note:	During this time, the Sprint PCS Connection Manager message area displays “Updating Hardware” and the Go button is disabled.
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Once the card is provisioned successfully, it will start IOTA (Internet Over-the-Air) Activation to update your user profile from the Sprint PCS network settings. If the card is not provisioned or out of the Sprint coverage area, the Sprint PCS Vision User Interface will display “Sprint PCS Vision: Searching for service...”.

Inserting and Removing the Sprint Mobile Broadband Express Card

Inserting the Sprint Mobile Broadband Express Card

Before you insert the card, you must first install Sprint PCS Connection Manager (see page 18 in this section). Once you have completed the software installation procedure, you may insert your card into your computer’s ExpressCard slot or card bay.

Note:	The card should fit snugly, but you should be able to insert or remove it easily from your computer’s ExpressCard slot or Card Bay.
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A portion of the card (the black section) will remain outside the ExpressCard slot or card bay. This section contains the card’s antenna and the LED (light emitting diode). Because the card is not entirely contained in your computer’s ExpressCard slot, it is important to remove the card when transporting your notebook or Tablet PC.

When you insert the card, the following should occur:

- The card is powered as soon as you insert it into the computer's ExpressCard slot or card bay.
- The LED indicator on the card lights up, blinks and turns solid green.
- If sound effects are enabled, the computer beeps.
- The Sprint PCS Connection Manager Software starts (unless the auto-launch feature has been disabled).
- The Unplug/Eject Hardware icon appears in the system tray (unless the feature has been disabled).



- The Sprint PCS Connection Manager Software starts (unless the auto-launch feature has been disabled).

Note:

The Sprint Mobile Broadband Express Card also contains an antenna that can be used for better coverage; this is an integral part of the card. To use this feature, flip open the card's antenna by gently gripping the top right side of the external cover with your forefinger.

Turning Off the Sprint Mobile Broadband Express Card

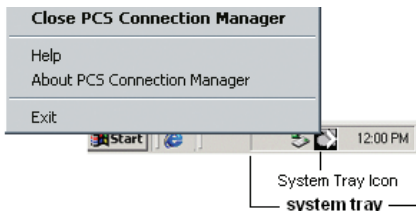
When the card is connected to the computer, it has power and is trying to communicate with the network. To turn the card off, Sprint PCS Connection Manager must be closed and the card must be properly ejected from the ExpressCard slot.

Removing the Sprint Mobile Broadband Express Card

1. Close the Sprint PCS Connection Manager program if it is running. There are three ways to close the program:
 - Click the close icon on the interface.

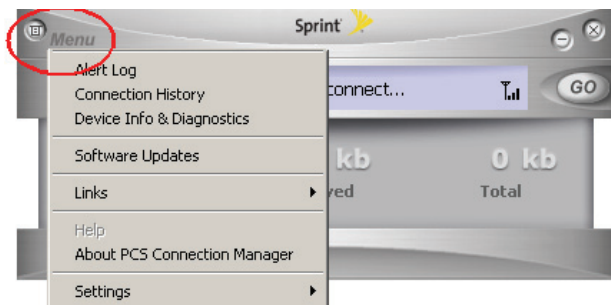
– or –

- Right-click the Sprint PCS Connection Manager system tray icon and select **Exit** from the menu.



– or –

- Click **Menu** in the upper left-hand corner of the Sprint PCS Connection Manager window and select **Exit**.



2. Left-click the Unplug/Eject Hardware icon in the system tray. A message bar appears.



3. Click **Safely remove NEC PCI to USB Open Host Controller**. A dialog box notifies you that it is safe to remove the card.



Windows 2000: Once the Safe to Remove Hardware message appears, click **OK**. Use the ejector button (located next to the ExpressCard slot and PC Card slot, if using a card bay accessory, on most notebooks) to remove the card.

Windows XP: Once the Safe to Remove Hardware message appears in the system tray, use the ejector button (located next to the ExpressCard slot and PC Card slot, if using a card bay accessory, on most notebooks) to remove the card.

4. Remove the card from your computer's ExpressCard slot by gripping the card on both sides and pulling straight out. (If available, use your computer's card ejector tool.)

Activating Your Sprint Mobile Broadband Express Card

The final step to making your card operational is configuring it to use your account.

Tip:

For an overview of account activation and configuration, see “Activating and Using Sprint PCS Service” on page 11.

If you purchased a preactivated card, this step is not necessary. Once the application software and driver are installed, the card is ready for use.

Otherwise, you must use the Sprint Activation Wizard to activate and configure your account. Activation involves phoning Sprint Customer Service, exchanging information and entering your account information into the appropriate fields in the wizard.

To activate an account and configure your card:

1. Insert the card into your computer. The Activation Wizard will launch automatically.
2. Click **Next** to begin the activation process. The wizard will guide you through the process.

Note:

Sprint PCS Connection Manager checks to ensure you have the latest firmware installed. If there is a new firmware release for the software, the “Firmware Update” pop-up dialog appears.

3. Call Sprint Customer Service to set up your Sprint PCS wireless network account.
 - If you will be using your Sprint Mobile Broadband Express Card primarily for business purposes, call **1-888-788-4727**.

- If your card is intended primarily for personal use, call **1-888-715-4588**.

You should have the following information available:

- Your billing address
- Your Social Security or Tax ID number
- Your driver's license number
- Your card's ESN (electronic serial number) (The ESN is printed on the card's label and can also be displayed during the installation process.)
- A pen and paper to write down your account information

Inform your Sprint Customer Service Specialist that you are activating a Sprint Mobile Broadband Express Card by Novatel Wireless, Inc. (Merlin EX720). During this call, Sprint Customer Service will help you choose a service plan and guide you through the activation process.

4. Click **Next** when you are asked for your device's ESN (electronic serial number). A third window will appear, which displays your device's ESN in the top field.
5. Carefully repeat the ESN to the Service Representative. You will be given an activation code.
6. Enter the activation code into the bottom field of the window and click **Next** to continue to the next window.
7. Once your Sprint Customer Service Specialist has given you your card's phone number (also called MDN), and MSID (IMSI_S) numbers, enter them in the top and bottom fields and click **Next** to continue.
8. A confirmation screen appears. Verify that your phone number (MDN) and MSID (IMSI_S) are correct. Be sure to write these numbers down for future reference. Click **Yes** to continue.
9. You have now successfully completed the activation process. Click **Finish** to exit the Sprint Activation Wizard.

Note:

You may manually access the Activation Wizard from the Sprint PCS Connection Manager sub menu. See “Sprint PCS Vision - Novatel Wireless settings” on page 67.

On completion of this step, your card is ready for use. Section 2B: Sprint PCS Connection Manager Software, beginning on page 30, explains how to use the Sprint PCS Connection Manager Software to manage and monitor your connections.

Sprint PCS Connection Manager Software

In This Section

- ◆ **The Sprint PCS Connection Manager Software**
 - ◆ **The Sprint PCS Connection Manager Software Window**
 - ◆ **System Tray Icons**
 - ◆ **Establishing and Terminating Connections**
 - ◆ **Sprint PCS Connection Manager Software Menu Options and Settings**
-

This chapter outlines the Sprint PCS Connection Manager Software interface for your computer including the components of the main window, button usage, system tray icons, and more. Once you've mastered the basics here, you'll be ready to begin using your card.

The Sprint PCS Connection Manager Software

Sprint PCS Connection Manager Software allows you to manage and monitor the connection between your Sprint Mobile Broadband Express Card and the CDMA network. Use the software to:

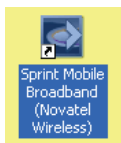
- Determine your signal strength, roaming status, Sprint PCS® connection availability, and other network parameters.
- Initiate data calls.
- View call statistics.
- Enable and disable features such as Location-Based Services and Always on Top (which allows you to set the card software to display in front of other application windows).
- Set options related to Web messages, sounds played, and the lock code security feature (which you can use to prevent others from using your card).

You must run the Sprint PCS Connection Manager Software anytime you use the card unless you have configured the card to run in NDIS mode with Novatel Wireless, Inc. Network Adapter. (See “Novatel Wireless Network Adapter (NDIS)” on page 62.)

Starting the Sprint PCS Connection Manager Software

To launch the Sprint PCS Connection Manager Software:

- ▶ Double-click the Sprint Mobile Broadband (Novatel Wireless) desktop icon, located on your desktop.



– or –

Select **Start > Programs > Sprint > Novatel Wireless > Sprint Mobile Broadband (Novatel Wireless)**.

Depending on your settings in the Options window, the software starts automatically anytime you insert the Sprint Mobile Broadband Express Card.

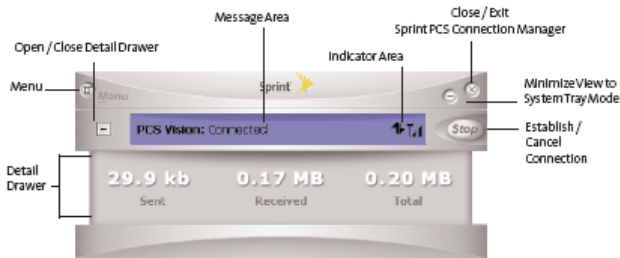
Once you make a connection in the card software, you can launch whichever application you want to use (such as your Web browser or email application).

Use the close button in the upper-right corner of the interface to exit the software.

The Sprint PCS Connection Manager Software Window

The Sprint PCS Connection Manager Software features its own Custom Main Interface (CMI) window. It includes the following components:

- A Menu button in the upper-left corner
- Minimize and Close buttons in the upper-right corner
- A message area (the left portion of the display)
- An indicator area (to the immediate right of the message area)
- A button (“GO”) used to establish or cancel a connection
- A Detail Drawer that displays the amount of data being transferred and received



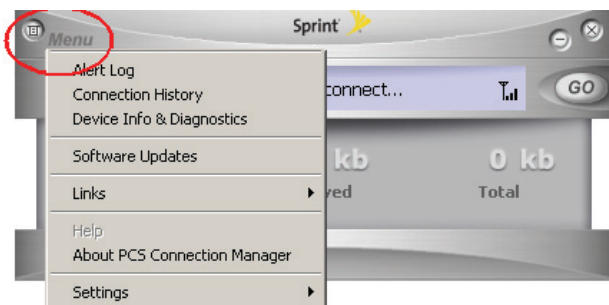
About the Interface

The following application functions are available within the main window of the Sprint PCS Connection Manager Software:

- Close: Closes the interface and exits the software.
- Go: Initiates a connection.
- Stop: Ends or cancels a connection.
- Minimize: Minimizes the interface to System Tray Mode.
- Menu: Provides access to tools and options settings.
- Message Area: Displays “Insert your device...,” “Ready,” “Disconnect,” “Connect,” “Authenticating,” “Connecting,” or “Connected” states. Other connection messages may apply depending on your custom options. (See page 36.)
- Image Compression (if applicable): Indicates that data and image compression is enabled for enhanced speed performance.
- Transfer/Receive: Visual indicator of data activity.
- Signal Strength: Visual indicator of signal strength.
- Detail Drawer: Displays the byte counter. Click “+” to expand and “-” to close.

The Menu Button

Clicking the Menu button, located in the upper-left corner of the interface, provides access to the Sprint PCS Connection Manager Software menu.



Some menu options will remain inactive or unavailable if a connection has not been established. Once a connection is made, the options will become active. The Links menu option and the Settings menu option both contain submenus. See Section 2C, Menu Options, beginning on page 43, for details on the Sprint PCS Connection Manager options and settings.

The Minimize and Close Buttons



The Minimize button closes the window but leaves the program running. When the program is minimized, its icon in the system tray can be used to determine the card status. (See “System Tray Icons” on page 40.)

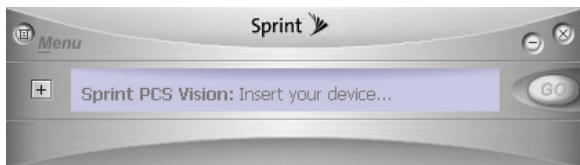
Once minimized, you can redisplay the program by double-clicking the desktop shortcut or launching the card’s software from the Start menu. (See page 41 in this section.) You can also click the icon in the system tray. (The icons are defined in “System Tray Icons” on page 40.)

The Close button is used to exit the card’s software.

Connection Status

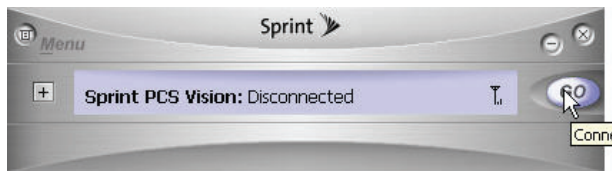
The Sprint PCS Connection Manager Software interface provides information about your current connection status. Other messages may appear as a result of customized options.

Insert your Device...



If the Sprint PCS Connection Manager Software fails to detect your card the message “Insert your Device...” is displayed. In this state, the GO button is disabled (grayed out) to indicate it cannot be engaged. Also, the signal strength and image compression icons also are not visible.

Disconnected



In this state, the **GO** button is available and the signal strength icon is visible. Click **GO** to make a connection.

Connecting

In this state, the Sprint PCS Connection Manager is attempting to make a connection. During this action, the display will progress from “Connecting” to “Authenticating,” to “Authenticated.” The signal strength icon is visible and the GO button changes to Stop.

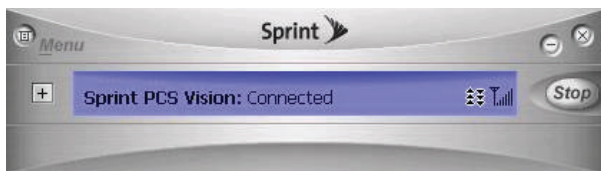


If you attempt to establish a Sprint PCS Vision connection that requires a password, a dialog box appears. Enter the relevant information and click **OK** to continue the connection process.

To cancel the connection, click **Stop**.

Connected

Once the connection is established, the message area displays “Connected” and the transfer/receive icon is now visible.









For other messages, see “Settings” on page 54 and “Troubleshooting Tips” on page 71.

Indicator Area

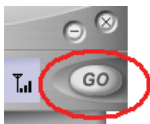
The indicator area displays icons that help you keep track of your signal strength and roaming status, notify you when you receive messages, and indicate whether certain options or features are enabled.

The following table lists the indicator area icons and explains the significance of each icon.

Indicator Area Icons

Icon	Meaning
	The Signal Strength indicator uses bars to show the strength of the radio signal. The number of bars increases (up to a maximum of six) as the signal strength increases. Note: This icon is displayed only when data services are available.
	When no bars are shown, no connection is possible for one of the following reasons: <ul style="list-style-type: none">● You are outside of the Nationwide Sprint Network service area.● The signal strength is too weak.● A network problem is preventing the Sprint Mobile Broadband Express Card from obtaining service.
	The Transmit/Receive icon lets you know that a Sprint Power Vision data connection is active.
	The Optimization image compression software is active.
	The CDMA 1xEVDO icon appears when CDMA 1xEVDO service is available and active.
	The Roaming indicator lets you know that you have roamed from a Sprint Network to a roaming partner's system.

The GO Button








The GO button is used to establish and cancel a connection. The text on the button changes during different connection stages.

- **GO** – Ready to establish a connection. Click the button to start a connection.
- **Stop** – Once a connection is established, the Go button changes to read Stop. A connection is being established or is already established. Click the button to cancel or disconnect.

System Tray Icons

The Sprint PCS Connection Manager Software displays an icon in the system tray (in the lower-right portion of the display screen on your computer). The system tray icon indicates your connection status.

Icon	Meaning
	Connecting - Sprint Mobile Broadband USB Modem ready for connection or currently making a connection.
	Connected - Connection established to Nationwide Sprint PCS Network and data transfer in process.
	Dormant - Connection established but no data transfer taking place.
	Disconnected - Sprint PCS Connection Manager running, but no connection in progress.
	Error - Sprint PCS Connection Manager has encountered a hardware failure in your computer's device or another error while attempting to connect.

Establishing and Terminating Connections

The Sprint PCS Connection Manager Software interface can be used to establish and terminate connections with the Sprint Mobile Broadband Express Card by simply clicking the **GO** or **Stop** buttons.

Sprint PCS Connection Manager Software Menu Options and Settings

Click the **Menu** button, located at the upper left of the interface (see page 31), to launch the Sprint PCS Connection Manager menu.

Menu options are described in Section 2C, Menu Options beginning on page 44.

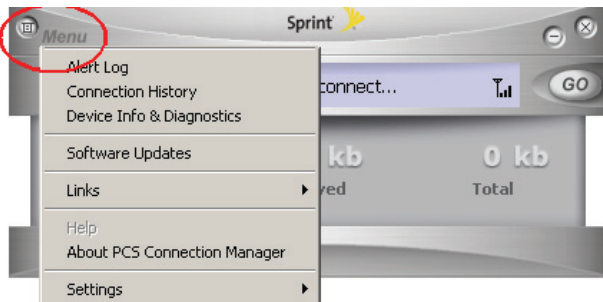
Menu Options

In This Section

- ◆ **Overview of Menu Items**
 - ◆ **Menu Item Details**
 - ◆ **Settings**
-

The Sprint PCS Connection Manager's primary menu options allow you to manage your card's connections and settings. This chapter provides an overview and brief description of each of the options available under the Menu drop-down list.

Overview of Menu Items



To display the Sprint PCS Connection Manager's primary menu, click the **Menu** button at the top left corner of the interface.

The table on the following page outlines various menu items and provides a brief description of the items and links to more detailed information.

Menu Items

Menu Item	Description	For more information, see:
Alert Log	View information on device errors or failures by date/time, alert, connection name, and type.	Page 46
Connection History	View information on data connections by date/time, type, and duration.	Page 46
Device Info & Diagnostics	View detailed information about the Sprint Mobile Broadband Express Card, software, and connections.	Page 47
Location & Search Services	Access real-time 3D visual maps; get driving directions or perform local business searches directly from you GPS-enabled Express Card.	Page 48
Software Updates	Check for posted updates to the Sprint PCS Connection Manager Software or configure to automatically check for updates.	Page 52
Links	When connected to the Nationwide Sprint PCS Network, provides a link to the Sprint PCS Web site.	Page 53
Help	Open the Sprint PCS Connection Manager Help file.	Page 53
About Sprint PCS Connection Manager	View the opening Sprint PCS Connection Manager Software identification screen.	Page 53

Settings	Configure the Sprint PCS Connection Manager Software to best suit your needs and preferences.	Page 54
Exit	Close the Sprint PCS Connection Manager Software application.	Page 23

Menu Item Details

Alert Log

The Alert Log provides a record of all alerts that have been generated while establishing and maintaining your connections and settings. You can use the Alert Log to help isolate and resolve connection issues.

To display the Alert Log:

- ▶ Select **Menu > Alert Log**.

To clear the Alert Log:

1. From the Alert Log window, click **Clear**.
2. You will see a prompt: "Clear all entries from the Alert Log?" Click **Yes** to delete all records. Click **No** to cancel.

Connection History

The Connection History dialog maintains a record of your data connections. You can choose whether to keep a record of your connection history by enabling or disabling this feature to suit your preference.

To enable or disable Connection History:

- ▶ Select **Menu > Settings > General > Keep Connection History**.

A check mark next to the option indicates that it is enabled.

To display the Connection History:

- ▶ Select **Menu > Connection History**.

For each message, the Connection History displays:

- The date and time the connection was initiated.
- The phone number dialed for data connections.
- The type of connection.
- The duration of the connection.

Deleting Records

To delete all records in the Connection History:

1. From the Connection History window, click **Clear**.
2. You will see a prompt: “Clear all entries from the Connection History?” Click **Yes** to delete all records. Click **No** to cancel.

Device Info & Diagnostics

The Device Info & Diagnostics window displays detailed information about your Sprint Mobile Broadband Express Card, Sprint PCS Connection Manager Software, signal strength, port configuration, and more.

The information displayed in this window includes:

- The manufacturer.
- The Sprint Mobile Broadband Express Card.
- Your Sprint Mobile Broadband Express Card phone number.
- The hardware version.
- The version of firmware in use.
- The Sprint PCS Connection Manager Software version and build.
- The version of the PRL (Preferred Roaming List, which specifies the radio frequency channels that the Express Card is permitted to use).
- The card’s designed capabilities and coverage.

- Various communication and device tests and results.

To access the **Device Info & Diagnostics** menu:

- ▶ Select **Menu > Device Info & Diagnostics**.

To view information about your system, including installed files:

- ▶ Click the **System Information** button.

Information obtained from the System Information sections can be used to create a report, which can be saved and then sent via email to a Sprint PCS Customer Service Representative to help them in troubleshooting your notebook.

Location & Search Services

The Location & Search Services menu provides quick access to real-time 3D visual maps; get driving directions or perform local business searches directly from you GPS-ready card. Your GPS-ready card can identify your locale instantly in order to get the directions, help or services you need while mobile. Use Location & Search Services to find the nearest Sprint store; nearby restaurants, banks, hotels, gas stations or coffee houses using the wireless-assisted global positioning system (GPS) built into your card.

When you use Sprint Location & Search Services and agree to the Privacy Consent Message, your Internet browser will start and connect to either Microsoft Live™, MapQuest®, Yahoo!® Maps, or Google™ Maps depending upon the service you select under Mapping and Search Service preferences. The default is Microsoft Live. To change these settings see “Mapping and Search Service” on page 58.

Accessing the Location & Search Services Menu

1. Click Menu on the Sprint PCS Connection Manager Interface.
2. Select Location & Search Services from the submenu.

The Privacy Consent Agreement screen appears (if this option is enabled or turned on). Please read the Privacy Consent Agreement carefully and select Accept to agree to the Privacy Consent Agreement terms or Do Not Accept to cancel the service.

Note:	If you do not wish to see the Privacy Consent Agreement, select the Do not show again check box. You can change these settings at any time by selecting (checking) this option from the Settings > Sprint Location Services menu.
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Once you accept the agreement a series of messages will appear. Your card will attempt to connect and acquire the services that you selected.

Note:	There are limitations to this service that you should be aware of. Please refer to Location-Based Service Limitations below.
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After service is found, click **GO** from the Sprint PCS Connection Manager main window to connect.

Location-Based Service Limitations

This section describes the limitations that apply to all Sprint's Location-Based Search Services sold under a Sprint Agreement. Please note the following:

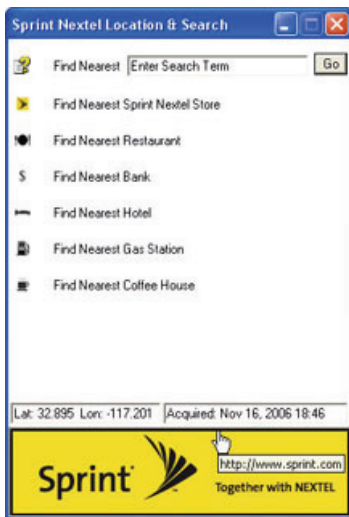
1. You are allowed only one location fix per hour while indoors.
2. You must be in Sprint's coverage area in order to obtain a location fix indoors.
3. You must also be connected to the Sprint Mobile Broadband network in order to acquire a location fix while indoors.
4. Location mobility is not fully supported in this release.

Location-Based Services use Advanced Forward Link Trilateration (AFLT). AFLT is a type of handset-based position location technology. Unlike A-GPS, AFLT does not use GPS satellites to determine location. To determine location, the card takes measurements of signals from nearby cellular base stations (towers) and reports the time/distance readings back to the network, which are then used to triangulate an approximate location of the card. In general, at least three surrounding base stations are required to get an optimal position fix.

Note:	<p>AFLT accuracy is limited by the geometry of the cell towers surrounding the card requesting location information.</p> <p>If you are outside you may be able to obtain an updated GPS fix more often than once an hour depending on the level of visibility.</p> <hr/> <p>Weather conditions may also limit your ability to acquire a GPS fix while outside.</p>
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Sprint Nextel Location & Search Menu

The Sprint Nextel Location & Search menu is displayed once service has been acquired (shown below). From this menu you can locate the nearest Sprint store, restaurants, banks, hotels, gas stations, or coffee houses by clicking on one of the hyperlinks.



Location-Based Service (LBS) Information

Your exact latitude and longitude coordinates are shown in the box above the Sprint NEXTEL Logo along with the time service was acquired.

Location & Search menu options

The Sprint Nextel Location & Search menu gives you the following options to choose from:

Find Nearest

- ▶ To search for specific information you can type directly in the **Find Nearest** search box. Enter your search term and click **Go**.

Finding a Sprint Store, Restaurant, Bank, Hotel, Gas Station, or Coffee House

- ▶ Click on any of the hyperlinks to launch your Internet browser and perform a live search. For example, clicking **Find Nearest Coffee House** using Microsoft Live will launch your browser and automatically connect to the Microsoft Live Web site using your search criteria.

Note:	To change your settings refer to Settings, Sprint Location Services. You must close out of the Location & Search Services menu in order to change your settings.
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Accessing Sprint's Web site

Click on the Sprint NEXTEL Logo to access Sprint's Web site. Through Sprint's Web site, you can access most of the services described in this section, including technical support, and product information.

Software Updates

From time to time, Sprint may release updates for your Sprint PCS Connection Manager Software. These updates may add new features or improve the network performance. This menu option allows you to check for any posted updates or to set up an automatic monthly check for updates.

To check for software updates:

- ▶ Select **Menu > Software Updates > Check Now.**

To enable or disable automatic monthly checks:

- ▶ Select **Menu > Software Updates > Check for updates once a month.**

A check mark next to the option indicates that it is enabled. Click **OK** to save changes and exit the Software Updates dialog box.

Links

During an active Sprint PCS Vision connection, this menu option provides a hyperlink to the Sprint PCS Web site. To access this link, select **Menu > Links > Sprint PCS Web Site.**

Note:	The Sprint PCS Connection Manager Software Links menu does not allow you to add or remove links. Continue to manage direct links to your favorite Web sites through your Web browser menu.
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Help

This menu item provides direct access to Sprint PCS Connection Manager's online help file. You can also access the help file from any window within Sprint PCS Connection Manager by pressing the <F1> key on your keyboard. To access Help, select **Menu > Help.**

About Sprint PCS Connection Manager

The About Sprint PCS Connection Manager menu option allows you to display the Sprint PCS Connection Manager Software opening splash screen, which appears when you launch the Sprint PCS Connection Manager Software.

- ▶ Select **Menu > About Sprint PCS Connection Manager.**

Settings

The Settings window from the Menu allows you to configure the Sprint PCS Connection Manager Software to suit your preferences. In the Settings window you can:

- Enable and disable several features, including Window Always on Top and Connection History, set program launch and optimization options, and customize Sprint PCS connection settings.

To access the Settings menu:

1. Click **Menu** on the Sprint PCS Connection Manager Software interface.
2. Select **Settings** from the submenu.

Settings Window

The Settings window contains four options:

- General
- Optimization
- Sprint Location Services
- Sprint PCS Vision - Novatel Wireless or Sprint PCS Data Link

Note:

If you installed the Bytemobile Optimization Client, the Optimization option will also be available.

General

To display the General settings options, select **Menu > Settings > General**. Then you can customize your Sprint PCS Connection Manager by selecting the following options:

- **Play Sound Effects** – Select this check box to hear a clicking sound whenever an action is taken on the Sprint PCS Connection Manager Software.
- **Always on Top** – When checked, the Sprint PCS Connection Manager window displays in front of all other open application windows, even if another window is placed over the Sprint PCS Connection Manager Software window.
- **Start in System Tray** – Select this check box to have the Sprint PCS Connection Manager interface visible on your screen regardless of which applications are open.
- **Keep Connection History** – When selected, the Sprint PCS Connection Manager Software logs all connections in the connection history. (For details on Connection History, see page 46.)
- **Launch when Windows Starts** – When selected, Sprint PCS Connection Manager opens automatically upon startup of your computer.

When finished, click **Apply** and then **OK** to save changes and close the Settings dialog box.

Optimization

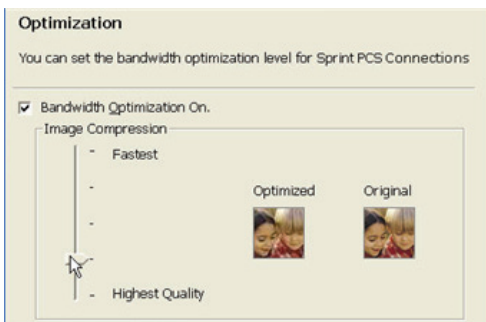
Bandwidth Optimization enhances the connection to your company's enterprise network; it is a combination of data compression, TCP/IP optimization, and caching. This can result in a two- to five-time improvement in your perceived system speed, depending on your applications.

To display the Optimization settings menu, select **Menu > Settings > Optimization**. Then check or uncheck the available options to select your image compression setting:

- **Enable Optimization Client** – To enable Bandwidth Optimization, place a check mark in the check box designated Bandwidth Optimization On. When selected, the image compression software is enabled.

Note: The Bandwidth Optimization screen provides a visual display of the original image as well as an optimized version. You can choose from fastest (low quality) to highest quality by sliding the image compression bar up and down the scale (see image below.)

Bandwidth Optimization Screen



Protocol Compression

Select the Protocol Compression check boxes to enable compression for the following types for data:

- SSL - Secure Socket Layer
- FTP - File Transfer Protocol
- SMTP - Simple Mail Transfer Protocol, a communications protocol used on the Internet to route email
- HTTP - Hypertext Transfer Protocol
- POPv3 - Post Office Protocol standard in common use on TCP/IP networks
- IMAP - Acronym for Internet Message Access Protocol, a method for an email program to gain access to email and bulletin board messages stored on a mail server.

Tip:

Limitations to Bandwidth Optimization include minimal improvements with email applications. Email performance can be improved by working offline as much as possible, dragging and dropping attachments to desktop folders rather than opening attachments directly from email.

- ▶ Click **Default** if you want to return to the default settings.



When finished, click **Apply** and then **OK** to save changes and close the Settings dialog box, or click **Cancel** to undo any changes.

Sprint Location Services Settings

To customize your Sprint Location Services settings, select **Menu > Settings > Sprint Location Services**, and then select from the following menu options:

- **Enable Location On Device** – Select this check box if you would like to have the location on your device enabled upon a successful connection to the Sprint network. You can disable this feature at any time for your privacy by de-selecting (unchecking) the Enable Location on Device check box from this menu.
- **Display ‘Location & Search Service’ on the menu** – Select this check box if you would like to have this option available from the Sprint PCS Connection Manager main menu. Unchecking this option will remove Location & Search Service from the main menu. You can display the Location & Search Service on the menu at any time by selecting this option.
- **Do Not Display Privacy Consent Agreement for ‘Location & Search Services’ on the menu** – Select this check box if you do not wish to see the Privacy Consent Agreement for ‘Location & Search Services’ on the menu. You can change these settings at any time by selecting (checking) this option from the Settings > Sprint Location Services menu.
- Click **OK** or **Apply** on the Settings > Sprint Location Services dialog box to disable.

Mapping and Search Service

The Mapping & Search Service section is used to set your connection preferences or service settings. You can select to connect to Microsoft Live, Map Quest, Yahoo! Maps, or Google Maps.

This section gives you the following options to choose from:

- **Microsoft Live** – Select the Microsoft Live option if you would like to have Sprint PCS Connection Manager connect to Microsoft Live every time you perform a location search. By selecting this option, your browser will automatically connect to the Microsoft Live Web site.
- **Map Quest** – Select the Map Quest option if you would like to have Sprint PCS Connection Manager connect to only Map Quest . You can disable Map Quest at any time if you are not connected to any network by selecting another option.
- **Yahoo! Maps** – Select the Yahoo! Maps option if you would like to have Sprint PCS Connection Manager connect to only Yahoo! Maps. When you apply this option, the next time you make a connection and perform a location search Sprint PCS Connection Manager will perform a location search for only Yahoo! Maps.
- **Google Maps** – Select the Google Maps option if you would like to have Sprint PCS Connection Manager connect to only Google Maps.

GPS Mode

The GPS Mode section is used to set your GPS connection preferences or service settings. You can select to connect to only basic services, or premium services once this is available. There may be surcharges for premium services depending upon your service and the type of account you have.

The GPS Mode section gives you the following options to choose from:

- **Basic:** Select the Basic option for basic services.
- **Premium:** Select the Premium option to have Sprint PCS Connection Manager connect to only premium services once this service becomes available. You can disable this option at any time if you are not connected to any network by selecting another option.

Note:

There are limitations to Location-Based Services. Please review the Location-Based Service limitations below.

Location-Based Service Limitations

You are only allowed one location fix per hour while indoors. Location mobility is not fully supported in this release. Please note the following:

- You must be in Sprint coverage area in order to obtain a location fix while indoors.
- You must also be connected to the Sprint Mobile Broadband network in order to acquire a location fix while indoors.

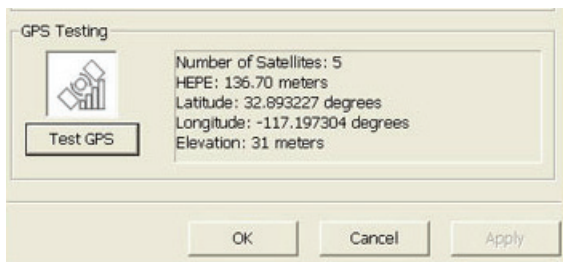
Applying your GPS Mode Preference

1. Click **OK** or **Apply** on the Settings dialog box to set your mode preference.
2. Click **OK** to close the dialog box.

GPS Testing

You can perform GPS pre-connection tests prior to connecting to the Sprint network. Your device's GPS receiver must be locked on to the signal of at least three orbiting satellites to calculate a 2D position (latitude and longitude) and track movement. With four or more satellites in sight, the GPS receiver can determine your 3D position (latitude, longitude and elevation).

- ▶ Click the **Test GPS** button to perform the test. The number of satellites found, your HEPE(Horizontal 3D estimated position error), Latitude, Longitude and Elevation will be shown in the box to the right of this section.



Note: There are limitations to Location-Based Services. Please review the Location-Based Service limitations above.

Sometimes geomagnetic disturbances in the earth's atmosphere and sun-spots can affect the ability to fix on your position. If you are within Sprint's coverage area and still cannot connect, this may be the cause.

Sprint PCS Settings

To customize your Sprint PCS Vision - Novatel Wireless settings or Sprint PCS Data Link settings, select **Menu > Settings > Sprint PCS** (connection name), and then select from the following menu options:

- **Always Show Welcome Screen** – Select this check box if you would like to have a welcome screen appear upon a successful connection to the Sprint Power Vision network.
- **Go Automatically When Ready** – Select this check box if you would like to have Sprint PCS Connection Manager to automatically connect to the Sprint PCS Vision - Novatel Wireless network when you connect your device or insert your card.
- **Enable Network Adapter (NDIS)** – Allows you to establish a Novatel Wireless (1xEV-DO) connection to connect to the Sprint PCS Network automatically without launching Sprint PCS Connection Manager. You can disable the Enable Network Adapter mode at any time by deselecting the Enable Network Adapter (NDIS) check box from this menu. (See below for more information about enabling NDIS.)

Novatel Wireless Network Adapter (NDIS)

Enabling the Novatel Wireless Network Adapter enables always-on connectivity like an Ethernet card and eliminates the need to use the Sprint PCS Connection Manager Software. As soon as the Express Card is inserted into your ExpressCard slot, the device connects to the network automatically. The connection is also reestablished automatically coming out of hibernate and standby modes.

To enable the Novatel Wireless Network Adapter:

1. Disconnect the Sprint Mobile Broadband Express Card from the Sprint PCS Network. (If you are connected to

the Sprint PCS network, the Enable Network Adapter [NDIS] check box will be disabled.)

2. Access **Menu > Settings > Sprint PCS Vision - Novatel Wireless.**

Note:

The first time you enable the Network Adapter (NDIS) mode, Windows will automatically install the network drivers for the Sprint Mobile Broadband Express Card - Novatel Wireless EV-DO Network Adapter. Once Windows detects the new hardware, a "Found New Hardware" pop-up message will appear in your system tray followed by the "Ready to Use" message.

Your Express Card must be activated with Sprint PCS and you must be within the Sprint PCS coverage area for your device to work.

3. Place a check mark in the check box designated Enable Network Adapter (NDIS), click **Apply**, and then click **OK**.

- You may now use your device in NDIS mode and experience automatic connectivity without launching Sprint PCS Connection Manager.

Service Settings (Mode)

The Mode section is used to set your connection preferences or service settings. You can choose to connect to only 1xEV-DO (high speed) or 1xRTT (low speed) wireless networks, or you can let Sprint PCS Connection Manager manage your network connections.

The Mode section gives you the following options to choose from:

- **Automatic:** Select the Automatic option if you would like to have Sprint PCS Connection Manager manage your connections. By selecting this option, Sprint PCS Connection Manager will automatically select one of the cellular networks available in your area when you launch a connection.
- **EVDO Only:** Select the EVDO Only option if you would like to have Sprint PCS Connection Manager connect to only 1xEV-DO networks. You can disable EVDO Mode at any time if you are not connected to any network by selecting another option.

Note: Sprint PCS Connection Manager will always try to connect to a Sprint CDMA 1xEV-DO network first before attempting to connect to a 1xRTT network. 1xEV-DO networks always have priority! If a 1xEV-DO network is unavailable then Sprint PCS Connection Manager will search for a available 1xRTT network.

- **1xRTT Only:** Select the 1xRTT Only option if you would like to have Sprint PCS Connection Manager connect to only 1xRTT networks. When you apply this option, the next time you make a connection Sprint PCS Connection Manager will search for only 1xRTT networks.

Tip: If the signal strength is too weak and you are unable to connect using 1xRTT in the 1900 MHz frequency, or if your connection fails due to this selection, disable the setting.

Applying your Mode Preference

1. Click **OK** or **Apply** on the Settings dialog box to reset your device. When you apply your service preference the following dialog will appear: “Service setting was changed successfully. Please wait while the modem is reset for the changes to take effect.”
2. Click **OK** to close the dialog box. When the modem is reset the Go button will be visible and the Connection Manager User Interface will display “Disconnected.” This may take a moment.

Roaming Preference

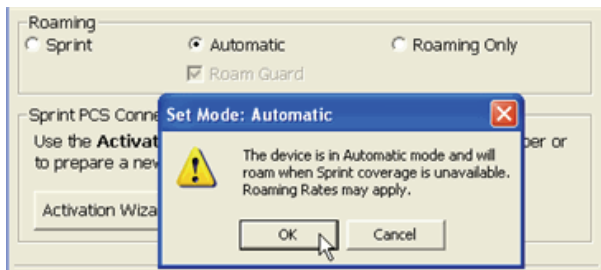
The Roaming section is used to change your roaming preference. Your coverage area and billing charges depend upon your service and the type of account you have. There may be surcharges for roaming service that vary based on whether you are in a preferred roaming area or a non-preferred roaming area. If there is no roaming agreement

between Sprint and the local carrier, you may be unable to complete calls in a non-preferred zone.

The Roaming section gives you the following options to choose from:

- **Sprint:** Select the Sprint option to direct the Sprint Mobile Broadband Express Card not to roam. If this option is selected, you will not be able to roam off the Sprint PCS network. This is the default setting.
- **Automatic:** Select Automatic to direct the Sprint Mobile Broadband Express Card to automatically search for any accessible network in the local area if you travel outside the Sprint PCS Service Area.

Note: When you select Automatic mode you will see a prompt: “The device is in Automatic mode and will roam when Sprint coverage is unavailable. Roaming Rates may apply.”



- ▶ Click **OK** to change your settings and close the dialog box or click **Cancel** to return to the previous screen.

Enabling and Disabling Roam Guard

- ▶ Check the **Roam Guard** box if you want Sprint PCS Connection Manager to notify you each time you make a connection and roam outside the Sprint PCS network.



Roaming

Sprint Automatic Roaming Only

Roam Guard

Each time you roam, the following message will appear: “Outgoing or Incoming Roaming Data detected, roaming rates may apply.”

- ▶ Press **Roam** to continue, or **Cancel** to close the data session.

Tip:

If you do not wish to see this message when you are roaming deselect “Roam Guard” by unchecking it.

Once you deselect the Roam Guard check box, a confirmation message will appear. Click **OK** to change your settings and close the dialog box. **Data Roam Guard** will not appear when you data roam.

- **Roaming Only:** Select Roaming Only when you travel outside the Sprint PCS Service Area. By selecting this option the Sprint Mobile Broadband Express Card will select a network that has a roaming agreement with Sprint.

Applying your Roaming Preference

1. Click **OK** or **Apply** on the Settings dialog box to reset your device. When you apply your roaming preference the following dialog will appear: “Roaming setting was

Note: When you select this option you are roaming within a “preferred” roaming area. If there is no roaming agreement between Sprint and the local carrier, you may be unable to complete calls in a “non-preferred zone.”

Once you select this option a confirmation message will appear. Click **OK** to change your settings and close the dialog box or click **Cancel** to return to the previous screen.

changed successfully. Please wait while modem is reset for the changes to take effect.”

2. Click **OK** to close the dialog box.
3. Wait for the device to reset. This may take a moment. When the device is reset the **Go** button will be visible and the Connection Manager User Interface will display: “Disconnected.”

Tip: When you change your roaming preference an informational message will appear in your system tray.

Sprint PCS Connection Device Settings

- **Activation Wizard** – This option is used only when activating a new Sprint PCS device. To manually activate your Sprint PCS account click **Activation Wizard**. (See “Activating Your Sprint Mobile Broadband Express Card” on page 26.)
- **Change User Lock** – This option enables you to change and customize your User Lock Code. (See below for more information on using your User Lock Code.)

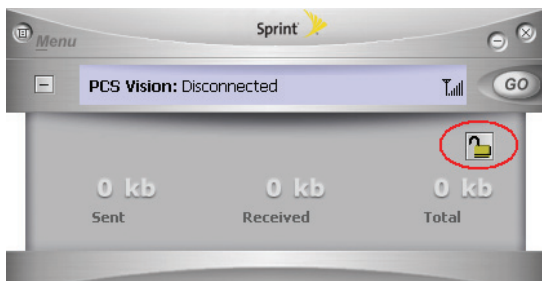
User Lock Code

The Lock Code feature can be used to prevent others from using your Express Card and your account. When the lock code is enabled, the message area will display “Device Locked” and the lock icon will appear in the indicator area.

While the Express Card is in lock mode, you may not launch a data session without first entering your four-digit lock code. The default lock code is the last four digits of your Sprint Mobile Broadband Express Card phone number. (See the “Tip” on page 69.)

To enable the lock feature:

1. Click the Locked/Unlocked Icon located in the Detail Drawer of the Sprint PCS Connection Manager interface.



2. The Enter User Lock Code window appears.



3. Enter your lock code and click **OK**.

Tip:	Your default lock code is the last four digits of your Express Card's phone number. If you can't recall your Express Card's phone number, go to Menu > Device Info and Diagnostics or call Sprint Customer Service at 1-888-211-4PCS (4727).
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To change your lock code:

1. Select **Menu > Settings > Sprint PCS Vision - Novatel Wireless**.
2. Click the **Change User Lock** button. The Change User Lock Code window appears.

Note:	Running the Activation Wizard resets the lock code to the last four digits of the most recently activated phone number.
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3. Enter your new four-digit lock code into the dialog box.
4. Re-enter your new lock code.
5. Select a lock status: **Unlock** to leave the Express Card unlocked; **Lock** to enable the lock code feature immediately.

Troubleshooting Tips

In This Section

- ◆ **Problem Causes and Suggestions**
 - ◆ **Reinstalling the Sprint Mobile Broadband Express Card Driver**
 - ◆ **Resolving Resource Conflicts**
 - ◆ **Additional Troubleshooting Tools**
-

This section provides assistance in diagnosing and solving many common problems you may experience while using your Sprint Mobile Broadband Express Card and Sprint PCS Connection Manager Software with your PC.

Problem Causes and Suggestions

When properly installed, the Sprint Mobile Broadband Express Card is a highly reliable product. Most problems are caused by one of these issues:

- The wrong driver has been installed.
- System resources required by the Express Card are being used by other devices.
- Network coverage is not available (either because you are outside the Nationwide Sprint PCS Network or because of an account or network problem).

This section describes how to diagnose and solve these and other problems. If, after reading this section, you are unable to resolve a problem, please visit www.sprint.com or contact Sprint Customer Service at 1-888-211-4PCS (4727).

Error: Searching for Sprint Mobile Broadband Express Card...

The Sprint PCS Connection Manager Software interface displays this message: “Searching for Sprint Mobile Broadband Express Card...”

Possible Causes	Suggestions
<ol style="list-style-type: none">The Express Card is not properly connected to the computer.The wrong driver is installed for the Express Card.There is a resource conflict.	<ol style="list-style-type: none">Check the USB connection.See “Reinstalling the Sprint Mobile Broadband Express Card Driver” on page 74.See “Resolving Resource Conflicts” on page 80.

Error: Splash Screen is Frozen

The splash screen of the Sprint PCS Connection Manager Software is frozen.

Possible Causes	Suggestions
You may have a resource conflict.	Restart your PC. If you are unable to resolve this problem by restarting your PC, see “Resolving Resource Conflicts” on page 80.

Error: Not in Service

The Sprint PCS Connection Manager Software interface displays the message, “Not in Service.”

Possible Causes	Suggestions
Inadequate signal strength may occur for either of these reasons: a. You are outside the Nationwide Sprint PCS Network. b. You may be inside a building or near a structure that is causing radio interference.	a. Verify that you are within the Nationwide Sprint PCS Network. Coverage maps are available at www.sprint.com . b. Change your location.

Error: Connection Gets Dropped (Windows® 2000 and XP)

When attempting a data connection with Sprint PCS Connection Manager Software, the connection gets dropped as soon as it is established. (The status goes from “Connecting” and “Connected” back to “Click ‘GO’ to Connect.”)

Possible Causes	Suggestions
The connection properties are not optimal.	<ol style="list-style-type: none">1. Click Start > Connect To > Sprint PCS Vision - Novatel Wireless (or Sprint PCS Data Link) from the Windows start menu.2. Click the Properties button on the connection settings dialog.3. Click the Networking tab.4. Click the Settings button.5. Ensure that Negotiate multi-link for single-link connections is not selected in the PPP Settings dialog.6. Click OK to save your settings.

Reinstalling the Sprint Mobile Broadband Express Card Driver

There is a Sprint Mobile Broadband Express Card driver for each supported Windows operating system. Unless the appropriate driver for your version of Windows is installed, you will not be able to establish a network connection with the Express Card. This section provides instructions on verifying that you have the correct device driver installed.

Note:	You must have the Sprint Mobile Broadband Express Card installation CD to complete this procedure.
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Windows® 2000

To verify that the correct driver is installed:

1. Locate the existing driver.
2. Update the driver.

To locate the driver:

1. Close all Windows programs and open the Control Panel by selecting **Start > Settings > Control Panel**.
2. Double-click the **System** icon.
3. Click the **Hardware** tab.
4. Click the **Device Manager** tab.
5. Locate the Sprint Mobile Broadband Express Card entries by using the “+” signs to expand the listings. (For example, to see all the installed modems, click the “+” sign to the left of **Modems**.) The card should have these driver entries listed in Device Manager:
 - The device driver should appear under Modems as Novatel Wireless Expedite EV-DO Modem.
 - The card should appear under Network adapters as Novatel Wireless Expedite EV-DO Network Adapter (if Network Adapter (NDIS) is enabled).
 - The card should appear under Ports (COM & LPT) as Novatel Wireless Expedite EV-DO Diagnostics Port (COM#).
 - The card should appear under Ports (COM & LPT) as Novatel Wireless Expedite EV-DO GPS Port (COM#).
 - The card should appear under Ports (COM & LPT) as Novatel Wireless Expedite EV-DO Status Port (COM#).

If the listings above do not appear, identify the listing for the Sprint Mobile Broadband Express Card by disconnecting the card. This causes the driver listing for the device to disappear from the list. Reconnect the card to cause the driver listing to reappear. You

can identify the entries for the Sprint Mobile Broadband Express Card by observing which entries are affected when you disconnect and reconnect the card, or by disabling Network Adapter (NDIS). (See “Novatel Wireless Network Adapter (NDIS)” on page 62.)

Updating the Driver

1. If the installation CD is not already in your CD-ROM drive, insert it. If the CD start-up menu appears, use the exit option in the lower-left corner of the screen to exit the menu.
2. Right-click **Novatel Wireless Expedite EV-DO Modem**.
3. Click the **Properties** button.
4. Click the **Driver** tab.
5. Click the **Update Driver...** button to launch the Update Device Driver Wizard.
6. Click **Next**.
7. Select **Display a list of known drivers for this device so that I can choose a specific driver** and click **Next**.
8. Enter **C:\Program Files\Novatel Wireless\Sprint\Sprint PCS Connection Manager\Drivers**.
9. Click **OK**.
10. If the “Digital Signature Not Found” window is displayed, click **Yes**.
11. Click **Finish**. Repeat steps 6-12 as prompted.

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

The correct driver should then be installed.

Windows® XP

To verify that the correct driver is installed:

1. Uninstall the existing driver.
2. Install the Windows XP driver from the Sprint Mobile Broadband Express Card installation CD.

To uninstall the existing driver:

1. Open the Control Panel by selecting **Start > Control Panel**.
2. If “Pick a Category” is displayed, select **Switch to Classic View**.
3. Double-click the **System** icon.
4. Click the **Hardware** tab.
5. Click the **Device Manager** button.
6. Locate the Sprint Mobile Broadband Express Card entries by using the “+” signs to expand the listings. (For example, to see all the installed modems, click the “+” sign to the left of **Modems**.) The card should have these driver entries listed in Device Manager:
 - The device driver should appear under Modems as Novatel Wireless Expedite EV-DO Modem.
 - The card should appear under Network adapters as Novatel Wireless Expedite EV-DO Network Adapter (if Network Adapter (NDIS) is enabled).
 - The card should appear under Ports (COM & LPT) as Novatel Wireless Expedite EV-DO Diagnostics Port (COM#).
 - The card should appear under Ports (COM & LPT) as Novatel Wireless Expedite EV-DO GPS Port (COM#).
 - The card should appear under Ports (COM & LPT) as Novatel Wireless Expedite EV-DO Status Port (COM#).

If the listings above do not appear, identify the listing for the Sprint Mobile Broadband Express Card by removing it. This

causes the driver listing for the card to disappear from the list. Reinsert the card again to cause the driver listing to reappear. You can identify the entries for the Sprint Mobile Broadband Express Card by observing which entries are affected when you remove and replace the card, or by disabling Network Adapter (NDIS). (See “Novatel Wireless Network Adapter (NDIS)” on page 62.)

7. Right-click **Novatel Wireless Expedite EV-DO Modem**.
8. Select **Uninstall** from the pop-up menu.
9. Click **OK** to confirm the uninstall.

The Sprint Mobile Broadband Express Card listings should be removed.

Installing the Windows XP Sprint Mobile Broadband Express Card Driver

1. If the installation CD is not already in your CD-ROM drive, insert it. If the CD start-up menu appears, use the exit option in the lower-left corner of the screen to exit the menu.
2. Remove and replace the Sprint Mobile Broadband Express Card to launch the Found New Hardware Wizard.
3. Select **Install** from a list or specific location (Advanced) on the first window of the Found New Hardware Wizard and click **Next** to proceed.
4. Select the **Search for the best driver in these locations** radio button and the **Include this location in the search** check box, and then enter **C:\Program Files\Novatel Wireless\Sprint\Sprint PCS Connection Manager\Drivers..** Click **Next** to proceed to the next window.

5. If a warning appears stating that the Sprint Mobile Broadband Express Card has not passed Windows Logo testing, click **Continue Anyway**.
6. Click **Finish** and repeat steps 1 to 5 as prompted.

The correct driver is then installed.

Resolving Resource Conflicts

Note:	You must have your Sprint Mobile Broadband Express Card installation CD to complete this procedure.
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The Sprint Mobile Broadband Express Card requires these system resources:

- 1 IRQ.
- 4096 bytes of I/O space.
- 2 available communications ports (one modem, one serial).

If these resources are not available to the card, you have a resource conflict. If another card device is installed, you may be able to free the necessary resources simply by ejecting the other device. Otherwise, you may need to disable another device (such as an internal modem, infrared device, or network device) to resolve the resource conflict. This section explains how to disable other devices.

Windows® 2000

To resolve a resource conflict in Windows 2000:

- ▶ Disable a device (internal modem, infrared device, or network card).

Disabling an Internal Modem, Infrared Device, or Network Card

1. Close all Windows programs and open the Control Panel by selecting **Start > Settings > Control Panel**.
2. Double-click the **System** icon.
3. Click the **Hardware** tab.
4. Click the **Device Manager** button.

5. Locate the device that you want to disable:
 - If you want to disable an internal modem, expand the Modem tree by clicking the “+” sign to its left.
 - If you want to disable an infrared device, expand the Infrared Devices tree by clicking the “+” sign to its left.
 - If you want to disable a network card, expand the Network Adapters tree by clicking the “+” sign to its left.
6. Right-click the device you want to disable, choose **Disable** from the pop-up menu that appears, and click **OK**.

Windows® XP

To resolve a resource conflict in Windows XP:

- ▶ Disable a device (internal modem, infrared device, or network card)

Disabling an Internal Modem, Infrared Device, or Network Card

1. Close all Windows programs and open the Control Panel by selecting **Start > Settings > Control Panel**.
2. Double-click the **System** icon.
3. Click the **Hardware** tab.
4. Click the **Device Manager** button.
5. Locate the device that you want to disable:
 - If you want to disable an internal modem, expand the Modem tree by clicking the “+” sign to its left.
 - If you want to disable an infrared device, expand the Infrared Devices tree by clicking the “+” sign to its left.
 - If you want to disable a network card, expand the Network Adapters tree by clicking the “+” sign to its left.
6. Right click the device you want to disable, choose **Disable** from the pop-up menu that appears and click **OK**.

Additional Troubleshooting Tools

Connection History

Connection History provides you with a detailed record of the connections established using your Sprint Mobile Broadband Express Card. Since Connection History allows you to sort records by connection name, you can easily distinguish between personal and business usage. You can also save any of the messages on the Connection History screen to a log file that you can print out for your record.

Accessing Connection History

- ▶ Select **Menu > Connection History** from the Sprint PCS Connection Manager Software interface.

About Connection History

The Connection History window displays a table with three columns: Date/Time, Type, and Duration.

You can select entries by using the arrow keys or your mouse. Selected entries are highlighted. By default, no entries are selected.

Click the **Clear** button to access the Clear Connection History dialog box. Click **Yes** to confirm the delete or **No** to cancel.

To generate a text file containing your Connection History:

1. Select **File > Export** from the Sprint PCS Connection Manager Connection History Window. A **Save As** dialog box appears.
2. In the file name box type a name for the CSV log file and click **Save**. The file name is called "Connection Log.txt" by default, however, you can name the file any descriptive name you like.

Alert Log

The Alert Log provides a record of all alerts that have been received while establishing and maintaining your connections. You can use the Alert Log to help isolate and resolve connection issues.

Accessing the Alert Log

- ▶ Select **Menu > Alert Log** from the Sprint PCS Connection Manager Software interface.

About the Alert Log

The Alert Log displays a table with four columns: Date/Time, Alert, Connection Name, and Type.

You can select entries by using the arrow keys on your keyboard or the mouse. Selected entries are highlighted. By default, no entry is selected.

Click the **Clear** button to access the Clear Alert Log dialog box. Click **Yes** to confirm the delete or **No** to cancel.

Device Info & Diagnostics

Device Info & Diagnostics can help identify problems associated with connecting to the Nationwide Sprint PCS Network. Device Info & Diagnostics evaluates issues with your Express Card port, port configuration, Sprint Mobile Broadband Express Card signal strength, the Nationwide Sprint PCS Network, and more. Once the program runs a diagnostics check it can recommend possible solutions.

Accessing Diagnostics

- ▶ Select **Menu > Device Info & Diagnostics** from the Sprint PCS Connection Manager Software interface.

About Device Info & Diagnostics

The Device Info & Diagnostics dialog box allows you to select a number of ways to troubleshoot or obtain more information about your Sprint Mobile Broadband Express Card.

The tests automatically run when the window opens.

To view your system parameters, including installed files:

- ▶ Click the **System Information** button.

Information obtained from the System Information sections can be used to create a report, which can be saved and then sent via email to a Sprint PCS Customer Service Representative to help troubleshoot your computer.

Section 3

Sprint Power VisionSM



Sprint Power Vision

In This Section

- ◆ **Web**
 - ◆ **Sprint Power Vision FAQs**
-

Sprint Power Vision brings you clarity you can see and hear, with enhanced, always-on advanced multimedia services like email and Web browsing that are easy to learn and simple to use. This rich, colorful graphic experience is a revolutionary way to look at wireless communications.

Web

Accessing the Web

To access the Web:

1. Start Sprint PCS Connection Manager by double-clicking the icon on your desktop.
2. Click **GO** to launch your Sprint Power Vision connection.
3. Once your Sprint Power Vision connection is established, you may start your browser application (for example, Internet Explorer or Netscape Navigator).

Your User Name

When you buy a Sprint Mobile Broadband Express Card and sign up for service, you're automatically assigned a user name. Your user name identifies you on the Nationwide Sprint PCS Network and is also useful as an address for email and text messaging, as a way to personalize Internet services, and as an online virtual identity.

A user name is typically based on the customer's name and a number, followed by "@sprintpcs.com." For example, the third John Smith to sign up for Sprint PCS Vision services might have jsmith003@sprint.com as his user name. If you want a particular user name, you can visit www.sprint.com and get the name you want – as long as nobody else has it.

Your user name will be automatically programmed into your Express Card. You don't have to enter it.

Sprint Power Vision FAQs

How will I know when my Express Card is ready for Sprint Power Vision service?

Your user name (for example, bsmith001@sprint.com) will be displayed on the Sprint PCS Connection Manager display screen.

How do I sign in for the first time?

You are automatically signed in to Sprint Power Vision services when you launch Sprint PCS Connection Manager.

How do I know when my Express Card is connected to Sprint Power Vision services?

Your Express Card automatically connects when Sprint Power Vision service is used or an incoming message arrives.

When is my data connection active?

Your connection is active when data is being transferred and “Connected” appears on the Sprint PCS Connection Manager display screen.

When is my data connection dormant?

If no data is transmitted or received for approximately 10 seconds, the connection goes dormant. (The connection can go active again quickly.) If no data is transmitted or received for an extended period of time, the connection will terminate.

Can I sign out of data services?

You can sign out without turning off your Express Card, however you will not be able to browse the Web or use other Sprint Power Vision services. You may sign in again at any time. To sign out, go to **Settings > Internet > Sign Out** in the Sprint PCS Connection Manager menu.

How can I optimize my settings to achieve faster speeds and send and receive less data while dialing into my company network?

For optimized results, work in “Offline” mode and synchronize periodically to send and receive company email. Also, save attachments or drag them into desktop folders before opening them (rather than double-clicking them in the email).

For more detailed information, see the Microsoft white paper at <http://www.microsoft.com/office/outlook/evaluation/perform.doc>.

Section 4

Technical Specifications and Regulatory Information



Technical Specifications

In This Section

- ◆ **Environmental Specifications**
 - ◆ **Mechanical Specifications**
 - ◆ **Software Specifications**
 - ◆ **Transmitter Specifications**
 - ◆ **Receiver Specifications**
 - ◆ **Hardware Specifications**
 - ◆ **Miscellaneous**
-

This section outlines the environmental and technical specifications for your new Sprint Mobile Broadband Express Card.

Environmental Specifications

Operating temperature	0° C to +55° C (32°F to 131° F)
Storage temperature	-20° C to +65° C (-4° F to 149° F)
Humidity	5% to 90% over operating temperature
Vibration Stability	5 Hz to 500 Hz, 0.1 octave/second
Drop	1 meter drop, no damage – fully operational

Mechanical Specifications

Dimensions (W x D x H)	34 mm x 5 mm x 112 mm
Weight	43 g (1.4 oz.)
Battery Pack	N/A
LED	Yes
Antenna	External Flip-Up and Internal Mobile Receive Diversity Antenna

Software Specifications

CDMA specification	EVDO Rev A
Data service	Support
SMS (IS-637)	Currently not supported
IOTA	Support
OTAPA (IS-683A)	Support
PRL (preferred roaming list)	Support
Authentication	Support
NAM	1
Mobile IP	Support
WNP (wireless number portability)	Support

Transmitter Specifications

Type of multiplexing	EVDO and 1xRTT
Normal output power	7-10 dBm
TX Max power	23 dBm
Frequency range	1850 MHz to 1919 MHz
Frequency stability	Compliant with CDG1
Bandwidth	1.25 MHz
Occupied bandwidth	1.25 MHz
Modulation method	O-QPSK/HPSK
Waveform quality	.944
Conducted spurious emission	Complies with Title 47, Part 24 of the FCC Rules
Common RF impedance	50 ohms

Receiver Specifications

Type of receiving	EVDO and 1xRTT
Frequency range	1930 MHz to 1990 MHz
Bandwidth	1.25 MHz
Occupied bandwidth	1.25 MHz
Modulation method	O-QPSK/HPSK
Receiver sensitivity	-104 dBm
Inter-modulation spurious response attenuation	Complies with CDG stage 1
Common RF impedance	50 ohms

Hardware Specifications

Interface type	USB; ExpressCard34/54/Card Bay* (* Card Bay requires card caddy accessory)
Common air interface	1xEVDO Rev A
Channel spacing	50 kHz
Chip set	QUALCOMM™ MSM6800
Transmitting (max. data rate)	Forward link: 3.1 Mbps Reverse link: 1.8 Mbps
Supply voltage	500 mA
Battery	N/A
Charger (charging time)	N/A
Current consumption	
Sleep/idle	60 mA
Average in-use	400 mA
Max. (peak)	700 mA
Communication ports	USB
Voice capability	No support
GPS capability	Support

Miscellaneous

Certification & Approval	FCC (parts 2, 22, & 24, SAR), UL, CDG, etc.
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Regulatory Information

In This Section

- ◆ **WARNING (EMI) – United States FCC Information**
 - ◆ **WARNING (EMI) – Canada**
-

This section outlines important regulatory notices concerning your new Sprint Mobile Broadband Express Card.

Regulatory Notices

This device is compliant with Parts 2, 22, and 24 of the FCC Rules. Operation of this device is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesirable operations.

In order to comply with FCC RF Exposure requirements, this device must be installed so that a minimum separation distance of 8.5mm (0.33”) is maintained between the antenna and all persons during ordinary operating conditions contingent upon the following:

1. The laptop or PC is placed on a desktop, table or flat surface
2. The device is placed on a flat surface

FCC ID: PKRNVWMX720

CAUTION Unauthorized modifications or changes not expressly approved by Sprint Communications Company L.P. 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 Parts 2, 22, and 24 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 notebook PC.
- 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.

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.

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.

Section 5

**Safety and
Terms & Conditions**



Safety and Notices

In This Section

- ◆ **Important Notice**
 - ◆ **Safety and Hazards**
-

This section outlines important liability and safety guidelines concerning your new Sprint Mobile Broadband Express Card.

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 Sprint Mobile Broadband Express Card are used in a normal manner with a well-constructed network, they 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. SPRINT SPECTRUM L.P. accepts no responsibility for damages of any kind resulting from delays or errors in data transmitted or received using the Sprint Mobile Broadband Express Card, or for failure of the Sprint Mobile Broadband Express Card to transmit or receive such data.

Safety and Hazards

Do not operate the Sprint Mobile Broadband Express Card in areas where blasting is in progress, where explosive atmospheres may be present, near medical equipment, life support equipment, or any equipment which may be susceptible to any form of radio interference. In such areas, the Sprint Mobile Broadband Express Card **MUST BE POWERED OFF**. It can transmit signals that could interfere with this equipment.

Do not operate the Sprint Mobile Broadband Express Card in any aircraft, whether the aircraft is on the ground or in flight. In aircraft, the Sprint Mobile Broadband Express Card **MUST BE POWERED OFF**. When operating, it can transmit signals that could interfere with various onboard systems.

The driver or operator of any vehicle should not operate the Sprint Mobile Broadband Express 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 jurisdictions, operating such communications devices while in control of a vehicle is an offense.

Terms and Conditions

In This Section

- ◆ **Terms and Conditions of Services**
-

This section contains the terms and conditions of service for your new Sprint Mobile Broadband Express Card.

Terms and Conditions of Services

Terms and Conditions of Services

(Effective September 1, 2005)

Thanks for choosing Sprint. These terms and conditions are part of your agreement with Sprint for PCS (CDMA) Services. Separate terms apply for any iDEN products or services.

Please note these terms may not be the most current version. You can get a current version of the terms on our Web site at www.sprint.com or by requesting a copy from us at **1-888-211-4PCS**.

Para solicitar esta literatura en español, por favor contactar a **1-888-211-4PCS (4727)**.

General. This agreement ("Agreement") covers the terms on which we agree to provide and you agree to accept any service or product we make available to you, including your wireless services, wireless devices, etc. (collectively "Services"). You accept this Agreement when you do any of the following: (a) provide your written or electronic signature; (b) accept through an oral or electronic statement; (c) attempt to or in any way use any of the Services; (d) pay for any Services; or (e) open any materials or package that says you are accepting when you open it. The Agreement includes the terms in this document together with the terms associated with the Services you select (as described in our marketing materials, e.g., service plan brochures, or on our Web site). You represent that you are at least 18 years old. In this document, we use the words "we," "us," "our" or "Sprint" to refer to Sprint Spectrum L.P. and its affiliates doing business as Sprint PCS.

Agreement. We may change the Agreement at any time with notice. Any changes to the Agreement are effective when we

publish them. If you use our Services or make any payment to us on or after the effective date of the changes, you accept the changes. If we change a material term of the Agreement and that change has a material adverse effect on you, you may terminate the Agreement without an Early Termination Fee by calling 1-888-567-5528 within 30 days after the changes go into effect. You understand and agree that taxes, Universal Service fees and other charges imposed by the government or based on government calculations may increase or decrease on a monthly basis, and that this paragraph does not apply to any increases in such taxes, Universal Service fees or other charges.

Activating Service. Before activation, we may check your credit and verify your identity. You must have and maintain satisfactory credit to receive and continue to receive Services. We may charge a nonrefundable activation fee, deposit, prepayment or other fee to establish or maintain Services.

Term Commitments. Unless we specifically tell you otherwise, our service plans require that you maintain service for a minimum term (“Term Service Plan”), usually 1 or 2 years. After satisfying this minimum term, your service plan will continue on a month-to-month basis unless you have agreed to extend the term for additional period(s). Certain service, promotional or product offers may require that you agree to or extend a Term Service Plan. As discussed below, we may charge you an Early Termination Fee if you deactivate a Term Service Plan before the end of the term.

Using Services. You agree to not use our Services in an unlawful, fraudulent or abusive manner. You may not resell or lease Services to anyone. Sprint is not responsible for any opinions, advice, statements, services applications or other information provided by third parties and accessible through our various Services, including the internet. Neither Sprint, its vendors or licensors guarantees the accuracy, completeness or usefulness of information that is obtained through these Services. You are responsible for evaluating such content. You are also responsible for any use of

our Services through any wireless device on your account including, but not limited to, use by children or minors. We strongly recommend that you closely monitor any such usage

Changing Services. Changes to Services will generally be effective at the start of your next full invoicing cycle. In certain instances, the changes may take place sooner, in which case your invoice will reflect pro-rated charges. Certain changes may be conditioned upon payment of an Early Termination Fee or certain other charges.

Termination of Services. Consistent with this Agreement: (a) we may terminate Services at any time with notice to you and, in certain instances, without notice; and (b) you may terminate Services at any time with prior notice to us. Except as otherwise provided in this Agreement, IF YOU TERMINATE YOUR TERM SERVICE PLAN EARLY, OR WE DO SO FOR GOOD CAUSE, YOU WILL BE REQUIRED TO PAY THE APPLICABLE EARLY TERMINATION FEE ASSOCIATED WITH YOUR SERVICES. We will not charge an Early Termination Fee for deactivations consistent with our Return Policy or for service plans being provided on a month-to-month basis. If any Services are terminated before the end of your current invoicing cycle, we will not prorate charges to the date of termination, and you will not receive a credit or refund for any unused Services.

Wireless Devices, Numbers & E-mail Addresses. We did not manufacture your wireless device and we are not responsible for any defects or for the acts or omissions of the manufacturer. The only warranties on your device are any limited warranties extended by the manufacturer directly to you or passed on to you through us. Your device may not accept Services directly from any other carrier. You do not have any rights to any number, e-mail address or other identifier we may assign to your device or account; you may not modify, change or transfer any of these except as we allow or as allowed for by law. In certain instances, you may

transfer your number from another carrier to us, or from us to another carrier. We do not guarantee that transfers to or from us will be successful. If you transfer your number away from us, the terms of this Agreement (e.g., Early Termination Fee, etc.) still apply. If a transfer to Sprint is not successful, you will be responsible for any discounts provided to you with the purchase of your device. See our printed in-store materials or visit www.sprint.com for additional important information on number transfers.

Coverage. Available coverage areas for Services are generally identified in our mapping brochures and at www.sprint.com. This may include coverage on our digital network (the “Nationwide Sprint PCS Network”) as well as coverage we make available to you through agreements with other carriers (“off network” or “roaming” coverage). All coverage maps are high level representations of outdoor coverage and there are gaps in coverage within areas shown as covered on the maps. Coverage is not available everywhere, nor can we guarantee you will receive coverage at all times, or without interruptions or delays (e.g., dropped calls, blocked calls, etc.) in the coverage areas we identify. Actual coverage and quality of Services may be affected by conditions within or beyond our control, including network problems, software, signal strength, your equipment, structures (including buildings in which you may be located), atmospheric, geographic, or topographic conditions.

Roaming Coverage. You are roaming anytime your phone indicates that you are roaming. Roaming coverage is only available with certain devices and, unless included as part of your Services, will result in additional charges. Roaming calls placed “manually” (through an operator or with a credit card) will always incur separate and additional charges. Depending on your phone settings, you may automatically roam if there is a gap or interruption in coverage within the Nationwide Sprint PCS Network coverage area and roaming coverage areas. See your

phone guide for how to adjust phone settings. Certain features and services may not be available in roaming coverage areas (including PCS Vision, voicemail, call waiting, call forwarding, etc.).

Charges. Carefully review the terms of your Services. You will be assessed charges based on the terms of your Services including, without limitation, monthly recurring charges and charges based on actual usage (e.g., charges for long distance, roaming, call forwarding, directory assistance, etc.). Airtime and other time based usage charges are calculated from when your device first initiates contact with a network until the network connection is broken, whether or not you were actually successful in connecting to the intended destination. However, you will not be charged for voice calls that ring and do not pick up, or if you get a busy signal. For voice calls received by your device, you are charged from the time shortly before the phone starts ringing until the call is terminated. You are charged for an entire voice call based on the time period in which the call is initiated. Partial minutes of use are rounded up to the next minute.

Sprint PCS Vision Charges. Vision usage is measured in bytes, not in minutes. Bytes are rounded up to kilobytes. Usage rounding occurs at the top of each clock hour while in a session and at the end of each session and is then charged to you based on the terms of your Services. Depending on your Services, usage may be charged against an allowance or on a fixed price per kilobyte. Usage charges may be rounded up to the next cent at monthly or other intervals. In certain instances, you may not know that your session has not ended. As long as your device is connected to our network, you will incur data usage charges. You will be charged for all data directed to the internet address (or "IP address") assigned to your device, regardless of who initiates the activity or whether your device actually receives the data.

This includes, but is not limited to, the amount of data associated with the particular information/item (e.g. game, ringer, email, etc.), additional data used in accessing, transporting and routing this information/item on our network, data from partial or interrupted downloads, re-sent data, and data associated with unsuccessful attempts to reach websites or use applications. Based on these and a number of other factors (e.g., the specific application, network performance, etc.) data used and charged to you will vary widely, even for the same activity. Estimates of data usage – for example, the size of downloadable files – will not be accurate or a reliable predictor of actual usage. Your invoice will not separately identify the number of kilobytes attributable to your use of specific sites, sessions or services.

Taxes and Surcharges. We invoice you for taxes, fees and other charges levied by or remitted directly to federal, state, local or foreign governments including, without limitation, sales, gross receipts, Universal Service, use, and excise taxes. If you claim any tax exemption, you must provide us with a valid tax-exempt document. Tax exemptions are not applied retroactively. We also invoice you for surcharges that we collect and keep to pay for the costs of complying with government programs such as number pooling and portability, and Enhanced 911 service; these charges are not the taxes nor government imposed assessments.

Invoicing & Payment. Invoicing cycles and dates may change from time to time. Monthly recurring and related charges for Services are generally invoiced one invoicing cycle in advance. Other charges are invoiced soon after they are incurred. Most usage is generally applied to the invoicing cycle in which they are incurred, but in some instances may be applied to subsequent invoicing cycles. You are responsible for all charges associated with any device activated on your account, regardless of who used the device. You must pay all charges by the due date on the invoice. Past due amounts accrue late charges until paid at the rate of 5% per month or at the highest rate allowed by law and may result in

immediate suspension of your account. If you agree to any auto-payment option through banking or credit account, we may initiate payment from the account for all amounts we invoice you without additional authorization or notice. Based on your credit or payment history, we may require certain forms of guaranteed payment as a condition of maintaining Services. If we invoice you for amounts on behalf of a third-party, payments received are first applied to amounts due to us. You may be charged additional fees for certain methods of payment and for payments denied by a financial institution. Acceptance of payments (even if marked “paid in full”) does not waive our right to collect all amounts that you owe us.

Disputed Charges. Disputes concerning any charges invoiced must be raised within 60 days of the date of the invoice. You accept all charges not disputed in this time period. Disputes can only be made by calling or writing us as directed on your invoice.

Account Spending Limit & Deposits. We may impose an account spending limit (“ASL”) on any account without notice. We will notify you of an ASL based on your credit or payment history and may reduce the ASL at any time with prior notice. An ASL should not be relied on to manage usage on your account. We may suspend an account without prior notice when the account balance reaches the ASL, even if the account is not past due. Services can be restored upon payment of an amount that brings the account balance below the ASL and any past due amounts. If we require a deposit for you to establish or maintain an account, we will hold the deposit as partial guarantee of payment for Services. We may change the deposit amount at any time with notice for good reason. Except as we allow, a deposit may not be used to pay any invoice or delay payment. The deposit amount, the length of time we hold the deposit and changes to the deposit amount are determined based on your credit

and payment history. The rate of interest, if any, on the deposit is subject to change. We may mix deposits with our other funds. If your account is terminated for any reason, we may without notice apply your deposit to any outstanding charges. We may send any remaining deposit amounts to your last known address within 75 days after account termination. If the funds are returned to us, you may claim these funds for one year from the date of return. Any money held during this one-year period will not accrue interest for your benefit and are subject to a servicing fee charged against the balance. You forfeit any portion of the money left after the one-year period.

Other Sprint PCS Vision Terms. You will not receive voice calls while using Vision. Vision is not available for use with server devices or host computer applications, other systems that drive continuous heavy traffic or data sessions, or as substitutes for private lines or frame relay connections. Unlimited Vision plans/options may not be used with Sprint PCS phones or smart phones being used as a modem in connection with other equipment (e.g., computers, etc.) through use of connection kits or other phone-to-computer/PDA accessories, or Bluetooth or other wireless technology. We may terminate services without notice for any misuse. You may have access to certain games, ringtones, screen savers and other items on our Vision site ("Premium Services") that are available for an additional charge. You will be billed for Premium Service purchases on your Sprint PCS invoice based on the charges as specified at purchase. Subject to the terms of the content purchased, we may delete premium and non-premium items downloaded to any storage areas we may provide, including any pictures, games and other content. We may limit the amount of Premium Services you may purchase in a specific timeframe (month, week, day, or other time period).

Voice Command. Calls to 911 or similar emergency numbers cannot be placed through the Voice Command feature. See our printed in-

store materials or visit www.sprint.com for additional important information on this option.

Wireless Web. Wireless Web Services may be available depending on your device and Service plan/option. This is not a Vision service. Usage is calculated on minutes used and generally deducts from your Service plan minutes. See our printed in-store materials or visit www.sprint.com for additional important information on this option.

Lost or Stolen Equipment. If your device is lost or stolen, please notify us immediately by calling 1-888-211-4PCS. You are responsible for all charges incurred before you notify us of the loss or theft. You agree to cooperate reasonably with us in investigating suspected unlawful or fraudulent use.

Messaging. You may incur charges in accessing, sending or receiving messages on your device. We may impose limits on the number of voicemail, text, email or other messages that can be retained through your account. Indicators of messages on your device, including mailbox icons, may not always provide an up to date indication of new messages and you may at times need to manually reset or clear your mailbox indicator. Legitimate messages may be interrupted by software aimed at prevention of SPAM or similar messages.

Caller ID. If you do not want people you call to receive the number assigned to your phone, call us at 1-888-211-4PCS for information about automatic Caller ID blocking. The number assigned to your phone can be blocked on a per-call basis by dialing *67 + Destination Number + TALK (or similar key). Caller ID blocking is not available when using Vision or Wireless Web services.

TTY Access. A TTY (also known as TDD or Text Telephone) is a telecommunications device that allows people who are deaf or hard of hearing, or who have speech or language disabilities, to communicate by telephone. TTY doesn't work

with all devices. If you have a TTY-capable device, it may not function effectively, or at all, when attempting 911 calls and should not be relied on for such calls.

Disclaimer of Warranties. WE MAKE NO REPRESENTATIONS OF WARRANTIES, EXPRESS OR IMPLIED, INCLUDING (TO THE EXTENT ALLOWED BY LAW) ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE CONCERNING YOUR SERVICES OR WIRELESS DEVICE. WE DO NOT PROMISE UNINTERRUPTED OR ERROR-FREE SERVICES AND YOU AGREE TO HOLD US HARMLESS FOR ALL SUCH PROBLEMS.

Limitation of Liability. Neither we nor our vendors, suppliers or licensors are liable for any damages arising out of or in connection with any: (a) act or omission by your, or another person or company; (b) providing or failing to provide Services, including deficiencies or problems with your wireless device, our network coverage or Services (e.g., dropped, blocked, interrupted calls/ messages, etc.); (c) traffic or other accidents, or any health-related claims allegedly arising from the use of Services, any wireless devices or related accessories; (d) content or information accessed while using our Services, such as through the internet; (e) interruption or failure in accessing or attempting to access emergency services from your phone, including through 911, E911 or otherwise; or (f) events due to factors beyond our control, including acts of God (including, without limitation, weather-related phenomena, fire or earthquake), war, riot, strike, or orders of governmental authority. In the event we are found to be responsible to you for monetary damages relating to the Services (including wireless devices), you agree that any such damages will not exceed the pro-rated monthly recurring charge for your Services during the affected period.

NO CONSEQUENTIAL OR OTHER DAMAGES. UNDER NO CIRCUMSTANCES ARE WE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR SPECIAL DAMAGES OF ANY NATURE WHATSOEVER ARISING OUT OF OR IN CONNECTION WITH

PROVIDING OR FAILING TO PROVIDE SERVICES, PHONES OR OTHER EQUIPMENT USED IN CONNECTION WITH THE SERVICES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS, LOSS OF BUSINESS, OR COST OF REPLACEMENT PRODUCTS AND SERVICES. THIS SECTION SURVIVES TERMINATION OF THIS AGREEMENT.

MANDATORY ARBITRATION OF DISPUTES. INSTEAD OF SUING IN COURT, YOU AND SPRINT AGREE TO ARBITRATE ANY AND ALL CLAIMS, CONTROVERSIES OR DISPUTES AGAINST EACH OTHER ARISING OUT OF OR RELATING TO THIS AGREEMENT, INCLUDING, WITHOUT LIMITATION, THE SERVICES, ANY PHONES/EQUIPMENT, OR ADVERTISING, EVEN IF IT ARISES AFTER YOUR SERVICES HAVE TERMINATED, AND INCLUDING CLAIMS YOU MAY BRING AGAINST SPRINT'S EMPLOYEES, AGENTS, AFFILIATES OR OTHER REPRESENTATIVES, OR THAT SPRINT MAY BRING AGAINST YOU ("CLAIMS"). THE FEDERAL ARBITRATION ACT APPLIES TO THIS AGREEMENT AND ITS PROVISIONS, NOT STATE LAW, GOVERN ALL QUESTIONS OF WHETHER A CLAIM IS SUBJECT TO ARBITRATION. THIS PROVISION DOES NOT PREVENT EITHER YOU OR SPRINT FROM BRINGING APPROPRIATE CLAIMS IN SMALL CLAIMS COURT, BEFORE THE FEDERAL COMMUNICATIONS COMMISSION OR A STATE PUBLIC UTILITIES COMMISSION.

YOU AND SPRINT FURTHER AGREE THAT NEITHER SPRINT NOR YOU WILL JOIN ANY CLAIM WITH THE CLAIM OF ANY OTHER PERSON OR ENTITY IN A LAWSUIT, ARBITRATION OR OTHER PROCEEDING; THAT NO CLAIM EITHER SPRINT OR YOU HAS AGAINST THE OTHER SHALL BE RESOLVED ON A CLASS-WIDE BASIS; AND THAT NEITHER SPRINT NOR YOU WILL ASSERT A CLAIM IN A REPRESENTATIVE CAPACITY ON BEHALF OF ANYONE ELSE. IF FOR ANY REASON THIS ARBITRATION PROVISION DOES NOT APPLY TO A CLAIM, WE AGREE TO WAIVE TRIAL BY JURY.

A single arbitrator engaged in the practice of law will conduct the arbitration. The arbitration will be filed with and the arbitrator will be selected according to the rules of either JAMS or the National Arbitration Forum (“NAF”), or, alternatively, as we may mutually agree. We agree to act in good faith in selecting an arbitrator. The arbitration will be conducted by and under the then-applicable rules of JAMS or NAF, wherever the arbitration is filed or, if the arbitrator is chosen by mutual agreement of the parties, the then-applicable rules of JAMS will apply unless the parties agree otherwise. All expedited procedures prescribed by the applicable rules will apply. We agree to pay our respective arbitration costs, except as otherwise required by rules of JAMS or NAF, as applicable, but the arbitrator can apportion these costs as appropriate. The arbitrator's decision and award is final and binding, and judgment on the award may be entered in any court with jurisdiction.

If any party files a judicial or administrative action asserting a claim that is subject to arbitration and another party successfully stays such action or compels arbitration, the party filing that action must pay the other party's costs and expenses incurred in seeking such stay or compelling arbitration, including attorneys' fees.

If any portion of this Mandatory Arbitration of Disputes section is determined to be invalid or unenforceable, the remainder of the Section remains in full force and effect.

Miscellaneous. You may notify us by calling us at 1-888-211-4PCS, or use that number to get our current address for written notice. We may send you notice to your last known address in our invoicing records, or by calling leaving you a voice message on your wireless device or home phone. Properly addressed written notice is effective three days after deposit in the U.S. mail, postage prepaid. This Agreement is governed by and must be construed under federal law and the laws of the State of Kansas, without regard to choice of law principles. If either of us waives or fails to

enforce any requirement under this Agreement in any one instance, that does not waive our right to later enforce that requirement. If any part of this Agreement is held invalid or unenforceable, the rest of this Agreement remains in full force and effect. Section headings are for descriptive, non-interpretive purposes only. You may not assign this Agreement to any other person or entity without our prior written approval. This Agreement (including any referenced documents and attachments) makes up the entire agreement between us and replaces all prior written or spoken agreements.

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