Sprint

Sprint Mobile Broadband 2-in-1 Card
Merlin™ C777 by Novatel Wireless

NOVATEL WIRELESS

www.sprint.com

Table of Contents

Your Merlin C777 Device

Thank you for purchasing a Novatel Wireless Merlin C777 device. This device offers more freedom than ever before. No wires, no cables—just access to your data when you need it. The power of the Internet is truly at your fingertips.
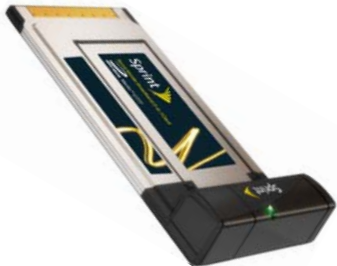
How to Use This Guide

The advantages of Sprint are as clear as each wireless connection you make. With Sprint service, we give you what you really want from a wireless service provider— clear connections, easy-to-understand service plans, and self-servicing options for managing your account. All this is designed to make your life easier and worry-free.

We know you're eager to start using your device right away, and the sections of this guide are designed to help you do just that.

1 The first section (page 1) gives an overview of the device package contents.

2 The second section (page 5) guides you through the steps to install the Windows or Mac software and your device, and describes how to start the software once it is installed.

3 The third section (page 19) lists technical specifications, and regulatory, safety, and warranty information for your device.

Getting More Information About the Device and Service

This guide describes how to install and start the software. To learn how to use all the features of your device and software, consult the user guide (see page 14 of this document) or online help.

Introducing the Merlin C777 Device

Sprint

Introducing the Merlin C777 Device

This section introduces your Merlin C777 device.

Your Merlin C777 Device

The Novatel Wireless Merlin C777 device is a dual-band wireless card. It enhances the functionality of your mobile computing devices by adding wireless connectivity to the Internet.

Your device fits into a PC Card or ExpressCard® slot (available on most notebook and some desktop computers).

Package Contents

Your Merlin C777 device package contains the following components:

- Sprint Mobile Broadband 2-in-1 Card Merlin C777
- Installation CD containing the Sprint SmartView℠ software
- Get Started guide (this document)

Care and Maintenance

As with any electronic device, the Merlin C777 device must be handled with care to ensure reliable operation. Follow these guidelines in using and storing the device:

● The device should fit easily into an available PC Card or ExpressCard slot (by removing the integrated adapter). Forcing the device into a slot may damage the connector pins.

● Protect the device from liquids, dust, and excessive heat.

● When not installed in your computer, store the device in a safe place.

● Remove the device before storing or transporting your computer.

● When inserting or removing the device, always grip it by the sides rather than the end, as this prevents damage to the device's antenna and connector.

● Do not handle or operate the device while driving or operating a vehicle. Doing so may distract you from properly operating the vehicle. In some jurisdictions, operating communication devices while in control of a vehicle is a criminal offense.

Section 2

Setting Up and Using the Merlin C777 Device

Sprint

Setting Up Your Sprint Account

♦ *Setting Up Your Device On Your Sprint Account (page 6)*

Setting Up Your Device On Your Sprint Account

Normally your device will be set up on your Sprint account at the time of purchase.

To verify that your device is set up on your Sprint account:

1. Log on to your account at *www.sprint.com* by entering your username and password.

2. Confirm that the Merlin C777 device is on your account with a Mobile Broadband connection plan.

If you don't see your device listed, you will need to contact Sprint Customer Service to complete setting up the device on your account. Have the following available before calling:

● Your Sprint account information.

● The ESN number of your device (displayed on the back of the device and on the packaging).

Installing the Software and Activating Your Device

The installation process has two stages:

- ● *Installing the Software and Drivers* — Install the Sprint SmartView software and device drivers (for Windows, see page 7; for Mac, see page 9).
- ● *Activating the Device* — Sprint's hands-free activation feature will automatically begin activating your device on the network (page 12).

Note	*For information on using the Merlin C777 device with Linux, please see* www.sprint.com/downloads.

Installing the Software and Drivers on a Windows Computer

System Requirements

The Merlin C777 device is supported on:

- ● Windows Vista
- ● Windows XP with Service Pack 2 or later
- ● Windows 2000 with Service Pack 4

Installing the Software

Installing the Software and Drivers

To install and run the card and accompanying Sprint SmartView software, you will need an available ExpressCard slot or a PC Card slot and a CD-ROM or DVD-ROM drive on your computer.

Note	Windows Vista and Windows 2000 users: *You must log in with administrative privileges to install the software and drivers.* Windows XP users: *You may need to log in with administrative privileges, depending on your Windows configuration.* *As part of the installation process you may need to restart your computer; save any open documents.*

Important	*Do not insert your card until you have installed Sprint SmartView onto your computer or until instructed to do so by Sprint SmartView.*

1. Insert the Sprint SmartView installation CD into your computer's CD-ROM or DVD-ROM drive. The installer should run automatically. If the setup program does not start, select *Start > Run* and enter **d:\setup.exe**, where *d* is your CD-ROM drive letter.

2. Follow the onscreen instructions using the *Next* and *Back* buttons to navigate through the installation wizard, noting the following:

   - In order to continue with the installation, you must click *Yes* to accept the terms of the License Agreement.
   - You will be asked to choose between the new interface and the classic interface.
   - Please wait a few moments for the software and drivers to install.
   - Click *Finish* to complete the installation. You may be prompted to restart your computer to complete the installation.

Proceed to "Inserting the Device" beginning on page 10.

Installing the Software and Drivers on a Mac Computer

System Requirements

The Merlin C777 device is supported on Mac OS® X, version 10.4 or higher.

To check your version, from the Apple menu (🍎) choose *About This Mac*. If your version is earlier, then:

▶ Visit *www.apple.com/downloads/macosx/apple* for upgrading instructions.

– or –

1. In Finder™, select *Applications* > *System Preferences*.

2. Double-click the System Preferences icon.

3. Double-click *Software Update*.

4. Click *Check Now*.

To install and run the card and accompanying Sprint SmartView software on a Mac computer, you will need an available ExpressCard slot or PC Card slot and a CD-ROM or DVD-ROM.

Installing the Software and Drivers

Note *As part of the installation process you will be prompted to restart your computer; save any open documents first.*

Important *Do not insert your card until you have installed Sprint SmartView onto your computer or until instructed to do so by Sprint SmartView.*

1. Insert the Sprint SmartView installation CD into your CD-ROM or DVD-ROM drive. The installer should launch automatically. If the setup program does not start, go to Finder and open the contents of the CD drive. Click to open Sprint SmartView Installer.mpkg.

Note *The Sprint SmartView software can also be downloaded from www.sprint.com/downloads.*

2. Follow the onscreen instructions using the *Continue* and *Go Back* buttons to navigate through the installation wizard, noting the following:

- In order to continue with the installation, you must accept the terms of the License Agreement.
- Click *Install* to load the software. You may be prompted to restart your computer to after the installation completes, if so, click *Continue Installation*.
- Click *Restart* to complete the installation when the **Finish Up** screen appears.

Proceed to "Inserting the Device" beginning on page 10.

Inserting the Device

Your device may be used in computers equipped with a Type II PCMCIA (PC Card) slot or an ExpressCard slot.

Inserting the Device into a PC Card Slot

To use the device in a Type II PCMCIA (PC Card) slot, use the integrated adapter as follows.

▶ Insert the device, with the integrated adapter attached, into your computer's PC Card slot, Sprint label facing up. (Do not forcefully insert the device, as this may damage it.)

Inserting the Device into an ExpressCard Slot

To use the device in an ExpressCard slot, you must remove the integrated adapter as follows.

1. Locate the locking mechanism on the bottom of the adapter.

2. Push the lock slightly out.

3. Pull the device out of the adapter.

4. Insert the device into your computer's ExpressCard slot, Sprint label facing up. (Do not forcefully insert the device, as this may damage it.)

Activating Your Merlin C777 Device

After you have successfully installed Sprint SmartView and while your device is connected to your computer, Sprint SmartView will inform you that hands-free activation has started and will periodically give you updates about activation status. No intervention is required on your part.

If activation is successful, Sprint SmartView will display "Hands Free Activation Complete," after which you are ready to connect to the network.

Using Your Merlin C777 Device

Starting the Software

1. Double-click the program's icon () on your desktop.

   – or –

   ■ *Windows:* Select *Start > All Programs > Sprint > Sprint SmartView.*

   ■ *Mac:* In Finder, select *Applications > Sprint SmartView*, and then double-click *Sprint SmartView*.

2. Sprint SmartView launches and the "Ready: Sprint Mobile Broadband" dialog appears.

Using Your Device

Viewing the User Guide

The user guide provides detailed information on the Windows and Mac versions of the Sprint SmartView software.

▶ In Windows, select *Start > All Programs > Sprint > SmartView > User Guide*.

– or –

Mac, in Finder, select *Applications > Sprint SmartView > SmartView_User_Guide.pdf*.

Removing the Device

1. Exit the Sprint SmartView software if it is open.

2. If your computer has a PC Card or ExpressCard ejector, use it to eject the device from the slot.

3. Remove the device from your computer's PC Card or ExpressCard slot by gripping both sides of the device and pulling straight out.

| *WARNING* | *When inserting or removing your device, always grip it by its sides, as this prevents damage to the device.* |

Using the Removable PC Card Adapter

For instructions on inserting the device into either a PC Card or an ExpressCard slot, see "Inserting the Device" on page 10.

External Antenna Connector

This Sprint Mobile Broadband device is equipped with an external antenna connector.

Note	*Your device does not come with an external antenna.*

To access the external antenna connector

▶ Gently flip open the unlabeled rubber tab on the side of the device.

Note	*The rubber tab is removable. If removed, place the tab in a secure location for future use.*

This device is only authorized for use in laptop computers that are identical or substantially similar to those in its grant application. At least 8 inches (20 centimeters) of separation between the device with an attached external antenna and the user's body must be maintained at all times. In order to comply with FCC/IC regulations limiting both maximum RF output power, and human exposure to RF radiation, the maximum antenna gain must not exceed 6dBi in the Cellular or PCS bands of operation. If this device is intended for use in a portable device, you (the user) are responsible for separate approval to satisfy the SAR requirements of FCC Part 2.1093 and IC RSS-102/Safety Code 6.

Contacting Sprint Customer Service

You can reach Sprint Customer Service by:

- Logging on to your account at *www.sprint.com*.
- Calling us toll-free at *1-888-211-4727* (personal use) or *1-800-927-2199* (business use).
- Writing to us at Sprint Customer Service, P.O. Box 8077, London, KY 40742.

Troubleshooting

For a more complete listing of errors and possible solutions, please see the user guide or online Help. You may also visit *www.sprint.com/support* to find up-to-date FAQs, Troubleshooting Guide and User Guides specific to this device.

Problem/error	*Solution*
The device has no power. (The LED indicator is off.)	Ensure the following: ● The device is properly inserted. ● The computer is turned on and not in suspend mode (Windows) or sleep mode (Mac).

Problem/error	Solution
No service is available. (The LED indicator is red.)	Try the following: ● Reorient your computer. ● If you are inside a building or near a structure that may be blocking the signal, change the position or location of your computer. ● Check with Sprint — a network or account problem may be preventing the device from obtaining service.

Technical Specifications, Regulatory and Safety Information, and Warranty

Sprint

Technical Specifications

- ♦ *LED Overview (page 20)*
- ♦ *Environmental Specifications (page 22)*
- ♦ *Mechanical Specifications (page 22)*
- ♦ *Software Specifications (page 23)*
- ♦ *Transmitter Specifications (page 23)*
- ♦ *Receiver Specifications (page 24)*
- ♦ *Hardware Specifications (page 24)*
- ♦ *Miscellaneous (page 25)*

This section describes the LED indicators and various specifications of your Merlin C777 device.

LED Overview

Your device has an LED light that operates as follows:

LED Status	*Indicates*
Off (no light)	The device has no power. The device may not be completely inserted into the computer.

LED Status	Indicates
Red	No service is available. If this state persists, try the following: ● Try reorienting your computer. ● If you are inside a building or near a structure that may be blocking the signal, change the position or location of your computer. ● Check with Sprint — a network or account problem may be preventing the device from obtaining service.
Amber	Error; reset device.

LED Status	Indicates
Green (solid)	The device is powered but is not transmitting or receiving data.
Green (blinking slowly)	The device is powered and is searching for the network.
Green (intermittent blinking)	The device is powered, connected, and is sending or receiving data.
Blue	The device is roaming.

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% within 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)	120 mm x 54 mm x 19 mm
Weight	47 g/1.65 oz
Battery pack	N/A
LED	Yes
Antenna	Internal

Software Specifications

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

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

Inter-modulation spurious response attenuation	Complies with CDG stage 1
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

Hardware Specifications

Interface type	PCMCIA and ExpressCard
Common air interface	1xEVDO Rev A
Channel spacing	50 kHz
Chipset	QUALCOMM™ QSC6085
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
Communication ports	PCMCIA and ExpressCard
Voice capability	Not supported
GPS capability	Supported

Miscellaneous

Certification and approval	FCC (parts 2, 22, & 24, SAR), UL, CDG, etc.

Regulatory Information

This section contains important regulatory notices about your Merlin C777 device, and also patent and other information.

Regulatory Notices

This device is designed to be activated on the Sprint network and has a software programming lock that, in part, protects many of the device's features and functions against tampering and unauthorized reprogramming. This device will work with Sprint services–service plans and other services/options must be purchased separately. Operates within the Sprint CDMA frequency band of 800 MHz/1.9 GHz. This device will not operate on any iDEN network. Coverage is not available everywhere. Product meets current FCC Radio Frequency Emission Exposure Guidelines. FCC Equipment Authorization ID number: PKRNVWCC760.

Federal Communications Commission Notice (FCC – United States)

Electronic devices, including computers and wireless modems, generate RF energy incidental to their intended function and are therefore subject to FCC rules and regulations.

This equipment has been tested to, and found to be within the acceptable limits for a Class B digital device, pursuant to part 15 of the FCC Rules and Industry Canada ICES-003. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates radio frequency energy and is designed for use in accordance with the manufacturer's user manual. However, there is no guarantee that interference will not occur in any particular installation. If this equipment causes harmful interference to radio or television reception, which can be determined by turning the equipment off and on, you are encouraged to try to correct the interference by one or more of the following measures:

● Reorient or relocate the receiving antenna.
● Increase the separation between the equipment and the 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/television technician for help.

This device complies with Part 15 of the Federal Communications Commission (FCC) Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

WARNING: DO NOT ATTEMPT TO SERVICE THE WIRELESS COMMUNICATION DEVICE YOURSELF. SUCH ACTION MAY VOID THE WARRANTY. THE MERLIN C777 DEVICE IS FACTORY TUNED. NO CUSTOMER CALIBRATION OR TUNING IS REQUIRED. CONTACT SPRINT TECHNICAL SUPPORT FOR INFORMATION ABOUT SERVICING YOUR WIRELESS COMMUNICATION DEVICE.

FCC CAUTION: Any changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

MODIFICATIONS: The FCC requires that you be notified that any changes or modifications made to this device that are not expressly approved by Sprint may void your authority to operate the equipment.

This device is approved for use in normal size notebook computers only (typically with 12-inch or

larger display screens). To comply with FCC RF exposure requirements, this modem should not be used in configurations that cannot maintain at least 1 cm (approximately 0.39" or 10 mm) from users and bystanders; for example, in certain notebook and tablet computers and configurations where the USB connectors are unable to provide or ensure the necessary separation is available between the modem and its users to satisfy compliance.

RF Exposure/Specific Absorption Rate (SAR) Information

This product has been evaluated for SAR and meets the FCC Guidelines for exposure to radio waves.

FCC Equipment Authorization ID: PKRNVWCC760

Your wireless modem is a radio transmitter and receiver. It is designed and manufactured not to exceed the exposure limits for radio frequency (RF) energy set by the Federal Communications Commission (FCC) of the U.S. Government. These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

The exposure standard for wireless devices including mobile cards and wireless modems uses a unit of measurement known as the Specific Absorption Rate, or SAR. Tests for SAR are conducted using standard operating positions reviewed by the FCC with the device under test transmitting at its highest certified power level in all frequency bands. Although the SAR is determined at the highest certified power level, the actual SAR level of the device while operating can be well below the maximum value. This is because the device is designed to operate at multiple power levels so as to use only the power required to reach the network. In general, the closer you are to a wireless base station antenna, the lower the power output.

Before this device is made available for sale to the public, it must be tested and certified to the FCC that it does not exceed the limit established by the government-adopted requirement for safe exposure. The tests are performed in positions and locations (for

example, at the ear or worn on the body) as required by the FCC for each model.

THE FCC HAS GRANTED AN EQUIPMENT AUTHORIZATION FOR THIS WIRELESS MODEM WITH ALL REPORTED SAR LEVELS EVALUATED AS IN COMPLIANCE WITH THE FCC RF EXPOSURE GUIDELINES. THE HIGHEST SAR VALUE FOR THIS MODEM WHEN TESTED FOR COMPLIANCE AGAINST FCC STANDARDS WAS 1.179 W/KG USER-LAP POSITION.

Trademarks

Sprint and the logo are trademarks of Sprint.

Novatel Wireless, Merlin, and the Novatel Wireless logo are trademarks of Novatel Wireless.

Windows is a registered trademark of Microsoft Corporation.

Mac OS is a trademark of Apple Inc., registered in the United States and other countries.

QUALCOMM® is a registered trademark of QUALCOMM Incorporated.

All other marks are the property of their respective owners.

Copyright

Patents and Licenses

Visit www.novatelwireless.com/patents for a complete list of all Novatel Wireless patents.

Limitation of Liability

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

Notwithstanding the foregoing, in no event shall Novatel Wireless and/or its affiliates aggregate liability arising under or in connection with the Novatel Wireless product, regardless of the number of events, occurrences, or claims giving rise to liability, be in excess of the price paid by the purchaser for the Novatel Wireless product.

Additional Information and Updates

For up-to-date product descriptions, documentation, application notes, firmware upgrades, troubleshooting tips, and press releases, visit *www.sprint.com*.

Section 3C

Important Safety Information

- ♦ *Important Notice (page 31)*
- ♦ *Safety and Hazards (page 31)*

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 Merlin C777 device 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 Merlin C777 device or for failure of

the Merlin C777 device to transmit or receive such data.

Safety and Hazards

Do not operate the Merlin C777 device 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 Merlin C777 device MUST BE POWERED OFF. It can transmit signals that could interfere with this equipment.

Do not operate the Merlin C777 device in any aircraft, whether the aircraft is on the ground or in flight. In aircraft, the Merlin C777 device 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 Merlin C777 device 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.

Novatel Wireless Limited Warranty and Liability

Novatel Wireless warrants for the 12 month period immediately following receipt of the Product by Purchaser that the Product will be free from defects in material and workmanship under normal use. THESE WARRANTIES ARE EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

The exclusive remedy for a claim under this warranty shall be limited to the repair or replacement, at Novatel Wireless' option, of defective or non-conforming materials, parts or components. The foregoing warranties do not extend to (I) non conformities, defects or errors in the Products due to accident, abuse, misuse or negligent use of the Products or use in other than a normal and customary manner, environmental conditions not conforming to Novatel Wireless' specification, of failure to follow prescribed installation, operating and maintenance procedures, (II) defects, errors or nonconformity's in the Product due to modifications, alterations, additions or changes not made in accordance with Novatel Wireless' specifications or authorized by Novatel Wireless, (III) normal wear and tear, (IV) damage caused by force of nature or act of any third person, (V) shipping damage, (VI) service or repair of Product by the purchaser without prior written consent from Novatel Wireless' (VII) products designated by Novatel Wireless as beta site test samples, experimental, developmental, reproduction, sample, incomplete or out of specification Products, or (VIII) returned products if the original identification marks have been removed or altered.