

Contents

[About this Guide](#)

- [Everyday Basics](#)
- [MobiLink Basics](#)
- [Connection Basics](#)
- [SMS Basics](#)
- [Address Book Basics](#)
- [Troubleshooting](#)
- [Glossary](#)

[Regulatory Notices](#)

[Safety Notices](#)

[Specifications](#)

[LED States](#)

About this Guide

This guide provides the following information:

- [Everyday Basics](#): If you are working with the default settings and want a quick reference for daily activities, read this section.
- [MobiLink Basics](#): This section provides an overview of the MobiLink control panel. Read this to familiarize yourself with the control panel options.
- [Connection Basics](#): If you had trouble setting up your profile as part of the installation or you want to find out how to automatically connect to the network when you turn your laptop power on, read this section.
- [SMS Basics](#): This section shows you how to send and receive SMS.
- [Address Book Basics](#): Thinking about sending an SMS to a group of people? You'll want to read this section first.
- [Troubleshooting](#): This section provides assistance should you need it.
- [Glossary](#): Understanding all those technical terms

For installation instructions, please refer to the Quick Start Guide. A printed version of this guide was included in the product box. You'll also find a copy on the CD.

For information on advanced topics not included in this guide, please refer to the MobiLink online help.

Note: MobiLink software is for supported Windows platforms only. Support for Mac OS and Linux is provided through drivers. For more information, see <http://www.novatelwireless.com/support/index.html>

About this Guide

This guide provides the following information:

- [Everyday Basics](#): If you are working with the default settings and want a quick reference for daily activities, read this section.
- [MobiLink Basics](#): This section provides an overview of the MobiLink control panel. Read this to familiarize yourself with the control panel options.
- [Connection Basics](#): If you had trouble setting up your profile as part of the installation or you want to find out how to automatically connect to the network when you turn your laptop power on, read this section.
- [SMS Basics](#): This section shows you how to send and receive SMS.
- [Address Book Basics](#): Thinking about sending an SMS to a group of people? You'll want to read this section first.
- [Troubleshooting](#): This section provides assistance should you need it.
- [Glossary](#): Understanding all those technical terms

For installation instructions, please refer to the Quick Start Guide. A printed version of this guide was included in the product box. You'll also find a copy on the CD.

For information on advanced topics not included in this guide, please refer to the MobiLink online help.

Note: MobiLink software is for supported Windows platforms only. Support for Mac OS and Linux is provided through drivers. For more information, see <http://www.novatelwireless.com/support/index.html>

Everyday Basics

After you install the MobiLink™ software and set up your Novatel Wireless Data Product for first time use, it's time to get down to the everyday basics. The following steps provide a roadmap of typical usage activities. Use it as a guide and customize it according to your needs.

1 Turn on your laptop power.

Remove your Novatel Wireless Data Product from your laptop before you turn on the power.

2 Start MobiLink.

MobiLink is the communications software you use to send and receive SMS, and connect to the cellular network.



Doubleclick the **MobiLink** icon on your desktop to start the application. Want to have MobiLink start automatically each time you start your computer? [Click Here](#)

3 Insert your Novatel Wireless Data Product.

You'll see the message "**No Device Detected**" on the MobiLink control panel before you insert your Novatel Wireless Data Product. After you insert it, the message will change to "**Initializing Device**".

The LED on your Novatel Wireless Data Product will display a solid red light while it searches for available networks.

When a network is found and attached to, the light on the LED will begin to flash: green for GPRS, violet for EDGE, blue for UMTS. The LED will light yellow for HSDPA. The message on the MobiLink control panel will change to "Ready".

You'll find a complete list of LED colors and related states [here](#).

4 Send or receive SMS.

Once you are attached to a cellular network, you can send and receive SMS. Check the envelope icon on the MobiLink control panel. It will appear blue when SMS is available and gray when it is not.

Click the envelope icon on the MobiLink control panel to send and receive SMS.



SMS Button

Click to send and receive SMS

Need more information? [Click Here](#). Not sure what “**attached**” means? [Click Here](#)

5 Surf the web or check your email.

When you surf the web or send or receive email, you are sending and receiving data from the cellular network. Before you can do this, you have to connect to the network.

1. Select a profile from the drop down box.

1. Select a profile



2. Click the **Connect** button on the MobiLink control panel to connect to the network. If your SIM card is locked, type in your PIN code and click **OK**.

3. Click the Internet icon to launch your web browser.

3. Click to launch internet browser

2. Click connect

Not sure what your PIN code is? Check with your mobile operator.

Don't see a profile? You might have to set one up. [Click Here](#)

Want to connect to the cellular network automatically when you turn on your computer? [Click Here](#).

[Click here](#) to find out how your PIN code can provide extra security.

6 Disconnect from the network.

Click **Disconnect** to end your Internet session.

Click the **Menu** button and select **Exit**.



Click to disconnect

Click to disconnect

Remove your Novatel Wireless Data Product from the computer.

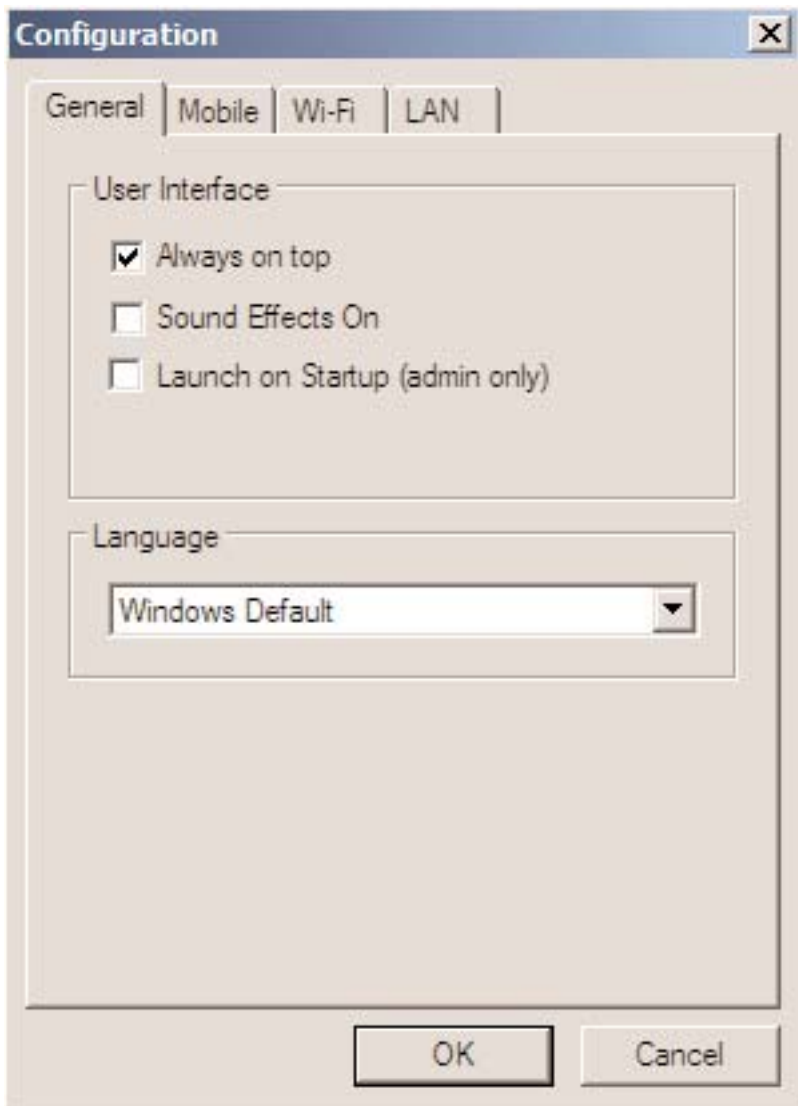
Want to find out how much time you spent online? [Click Here](#)

MobiLink Basics

To start MobiLink, doubleclick the MobiLink icon on your desktop. This opens the MobiLink control panel.



- | | |
|--|---|
| <p>1 SMS</p> <p>2 Address Book</p> <p>3 Views</p> <p>4 Internet</p> <p>5 Menu</p> <p>6 Help</p> <p>7 Minimize</p> <p>8 Exit</p> <p>9 Signal Strength</p> | <p>Click to send and receive SMS.</p> <p>Click to add SMS contacts or groups.</p> <p>Select the Mobile view to connect to the cellular network.</p> <p>Click to launch your web browser after you connect.</p> <p>Click to change your MobiLink settings.</p> <p>Click to access the online help.</p> <p>Click to minimize. A MobiLink icon displays in the system tray.</p> <p>To Exit MobiLink, use the Menu. This only closes the window.</p> <p>More bars indicate a stronger signal and better connection.</p> |
|--|---|



Always on Top

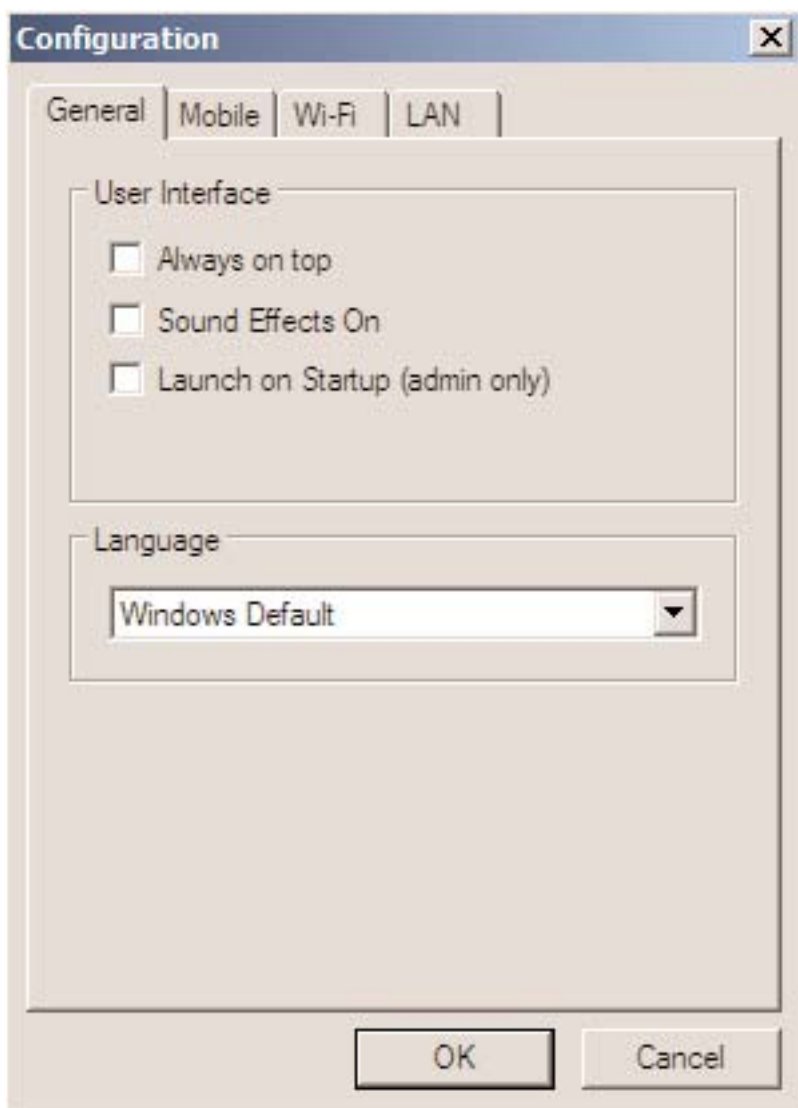
Use the Always on Top setting to keep your MobiLink control panel displayed on your screen when you switch programs or windows.

- Click the **Menu** button and select **Configuration**.
- Select the **General** tab.
- Select **Always on top**.
- Click **OK**.

Sound Effects

You can customize more than just visual effects with MobiLink. Use the Sound Effects On setting to hear a sound when you click on items on the MobiLink control panel. This setting is turned on by default.

- Click the **Menu** button and select **Configuration**.
- Select the **General** tab.

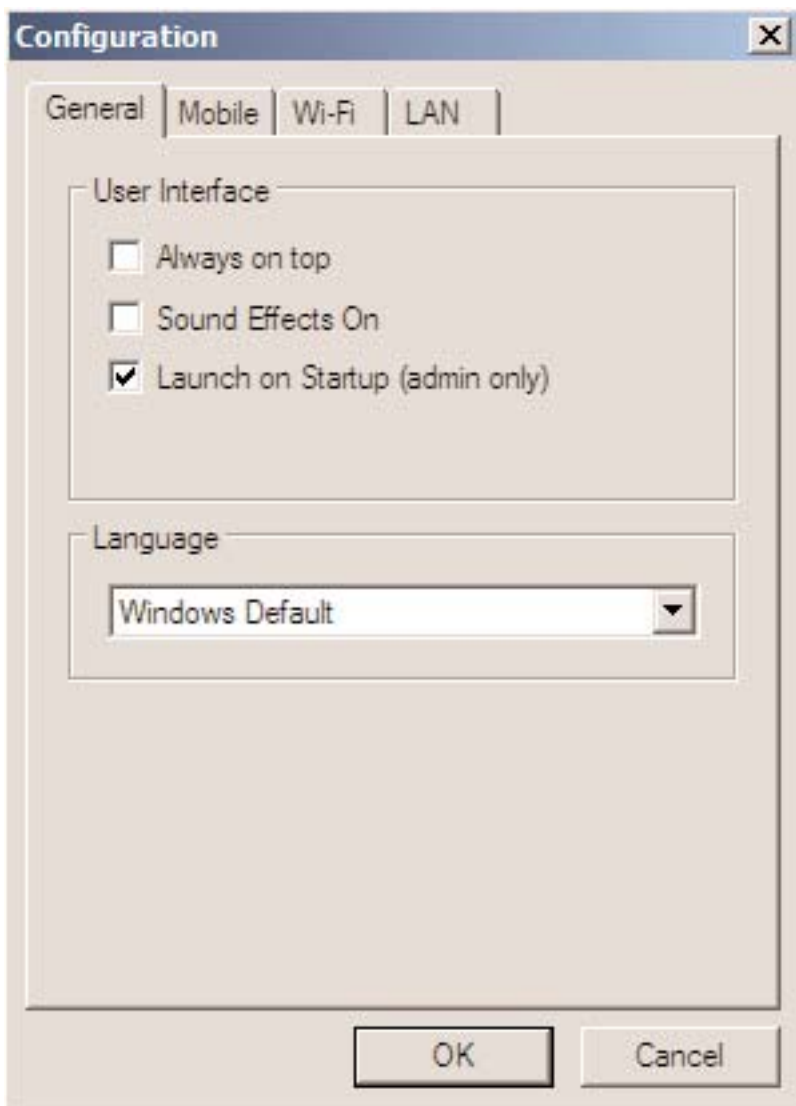


- Deselect **Sound Effects On** to turn the sound effects off.
- Click **OK**.

Launch at Startup

Use the Launch at Startup setting to automatically start MobiLink when you start your laptop. You must have Windows Administrator rights to enable this setting. Check your Windows system documentation for additional information on Administrator rights.

- Click the **Menu** button and select **Configuration**.
- Select the **General** tab.

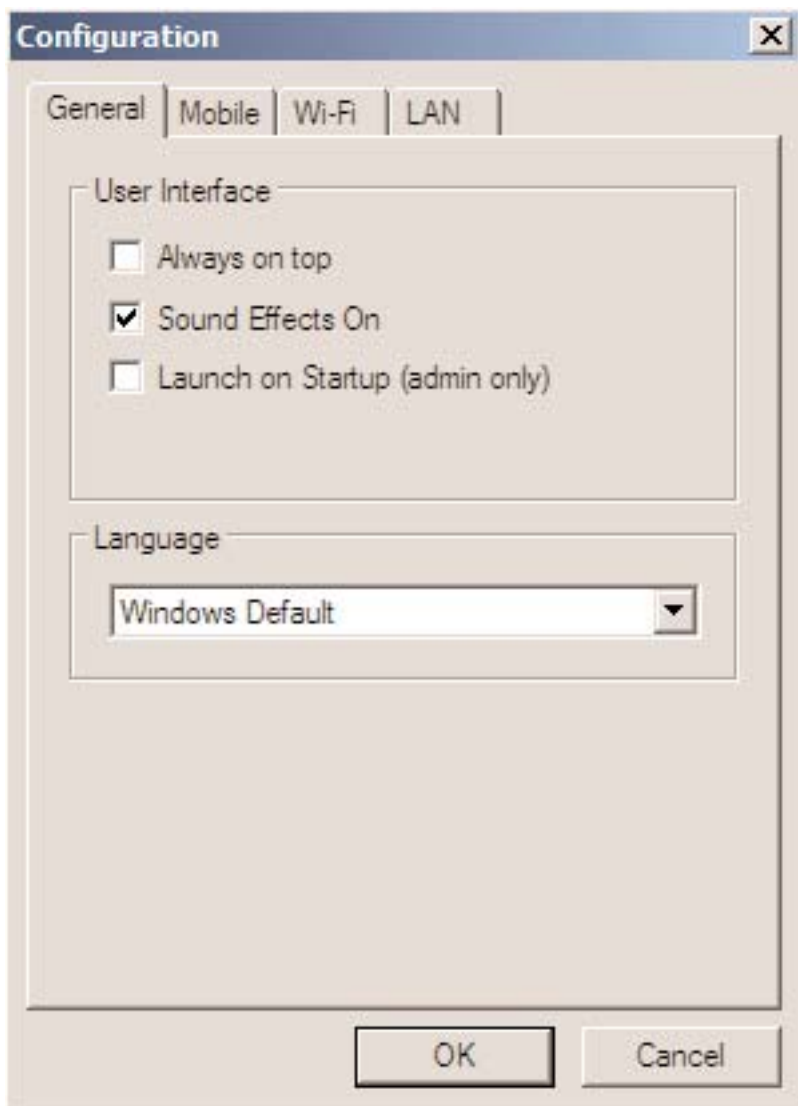


- Select **Launch at Startup**.
- Click **OK**

Language

MobiLink is automatically set to the language you use for Microsoft Windows (Windows Default). You can select a different language, if your operating system supports the language.

- Select the **General** tab.



- Select the language you require from the **Language** list.
- Click **OK**.



Transparency

Use the Transparency setting to allow desktop items to appear even when the MobiLink control panel is on top. Adjust it anywhere from 0 to 90 percent (0% being solid and 90% being the most transparent).

- Click the **Menu** button and select **Transparency**.
- Select the required transparency setting.

Get Connected

Connect to the cellular network when you want to surf the web or send or receive email.

Connection Profile

A connection profile is used to authorize your request and create a secure connection to the available cellular network. You'll need to get the Access Point Name (APN), Username and Password from your mobile operator. Most European operators do not require a User Name and Password.

Create a Profile Name that is meaningful to you. After you add a new profile, the Profile Name displays in the Profile list on the MobiLink control panel when a network is available.

- Click the **Menu** button and select **Profile Manager**.
- Click the **New** button.
- Enter the **Profile Name** and the **APN***.
- Click the **Next** button.
- If required, enter the **Username*** and **Password***.
- Click the **Finish** button.



Profile Wizard Step 1 of 2

Profile Name:

Please enter a name that you want to give to this profile. This can be any name of your choosing.

APN:

Please enter the APN. If you don't know the APN, please contact your service provider.

Back Next Cancel Help

Profile Wizard Step 2 of 2

Username:

Password:

Confirm Password:

Advanced...

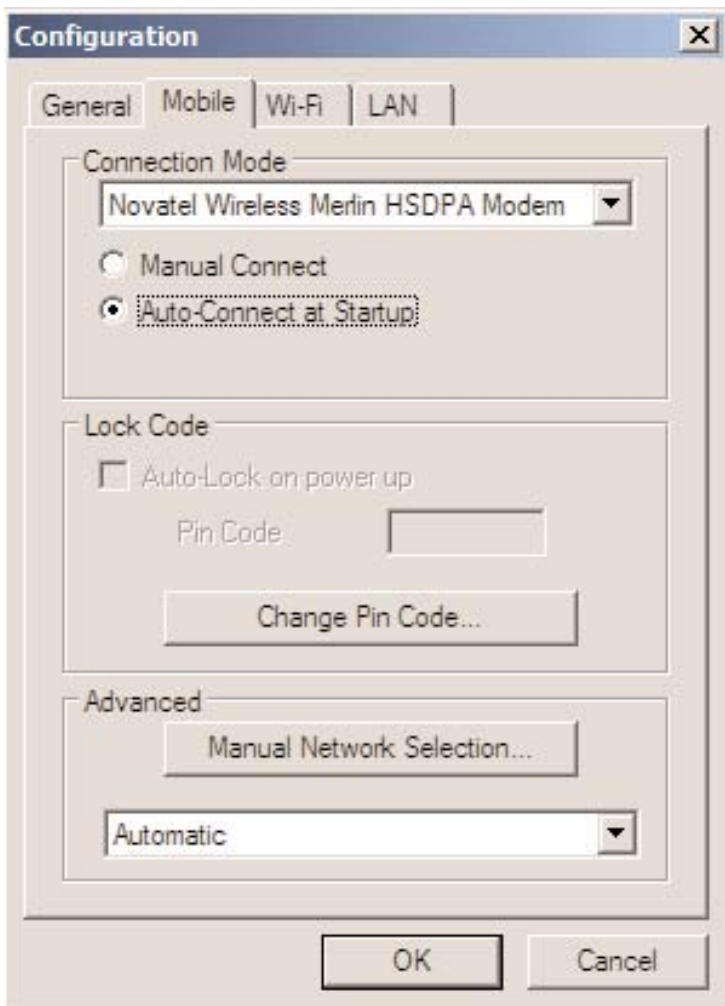
Back Finish Cancel Help

* The **APN**, **Username** and **Password** are specific to your mobile operator. Contact your mobile operator for more information.

Connection Mode

You can connect to the cellular network manually or automatically each time you start your computer. Your Novatel Wireless Data Product is set up by default to connect manually.

If you change this default to connect automatically, the profile you used the last time you connected manually will be used for the automatic connection. Your connection will be established as soon as you insert your Novatel Wireless Data Product without launching MobiLink.

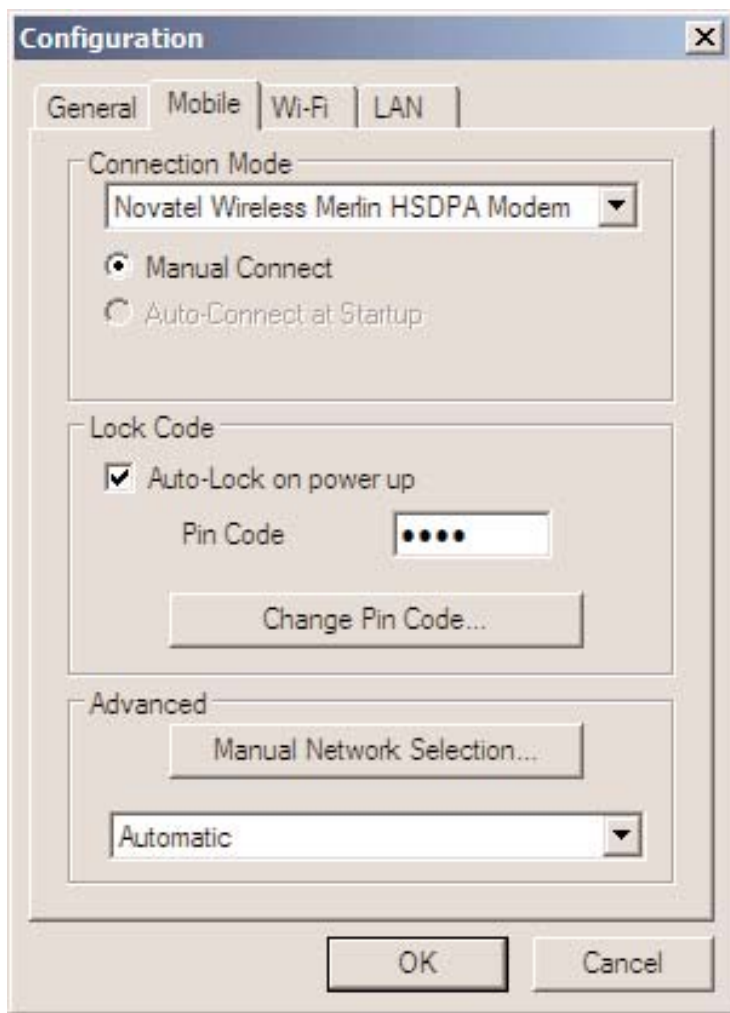


- Click the **Menu** button and select **Configuration** from the menu.
- Select the **Mobile** tab.
- Select **AutoConnect at Startup**.
- Click **OK**.

Lock Code

Use the Lock Code setting to secure your cellular network connections. When enabled, you will be prompted to enter the PIN code for your SIM card each time you connect.

- Click the **Menu** button and select **Configuration** from the menu.
- Select the **Mobile** tab.
- Select **AutoLock on power up**.
- Type your PIN code in the **Pin Code** box.
- Click **OK**.

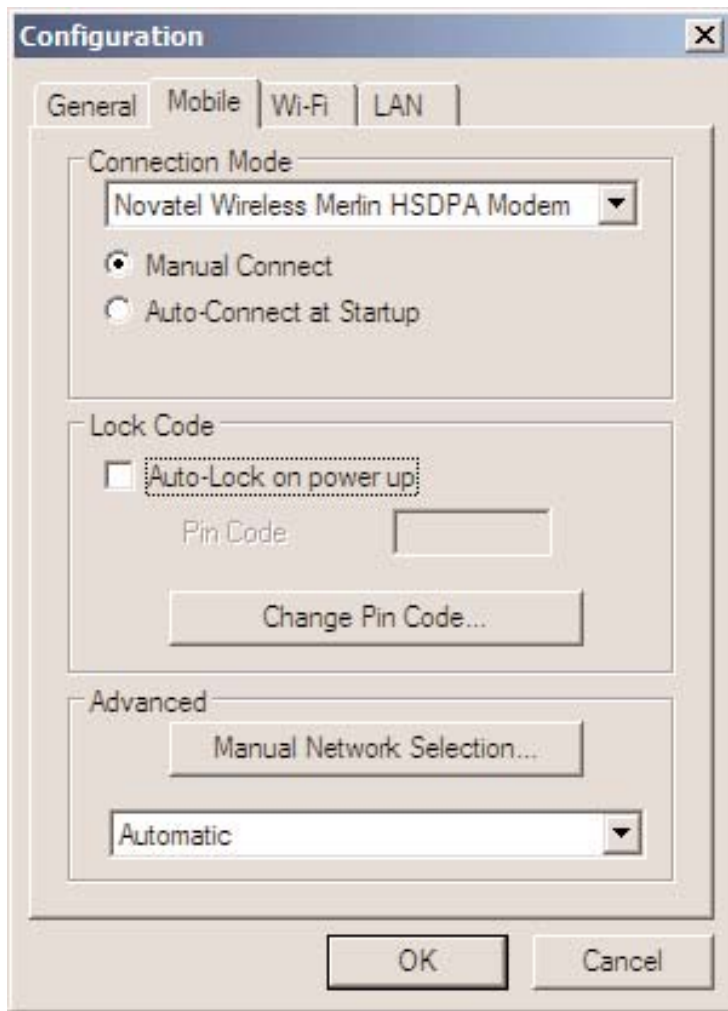


Note: To disable the AutoLock, delete the PIN code from the Pin Code box and then deselect **AutoLock on powerup**.

Change PIN Code

For security reasons, you should change your preset PIN code. The length of your PIN code will vary, depending on your mobile operator.

- Click the **Menu** button and select **Configuration** from the menu.
- Select the **Mobile** tab.
- Click the **Change Pin Code** button.



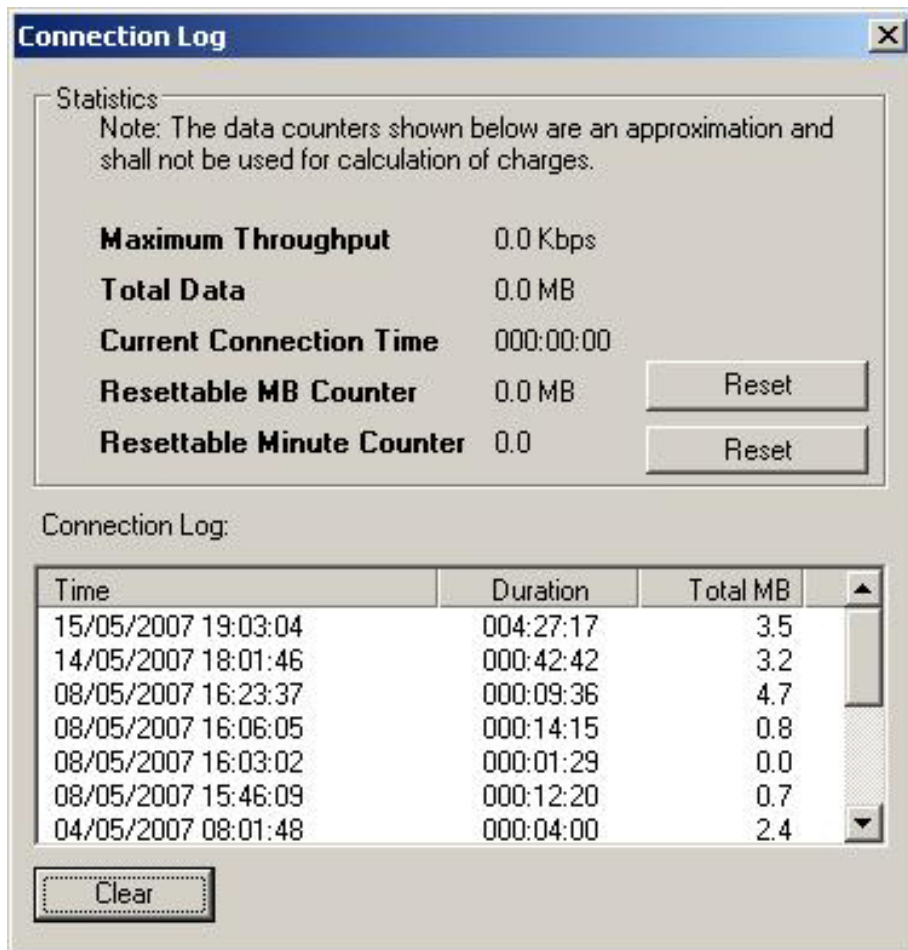
- Type your existing PIN code in the **Current Code** box and your new PIN code in the **New Code** box.
- Click **OK**.



Connection Log

To monitor the duration of your connection and data transferred, you can view connection statistics throughout the month. You can reset the Data and Time counters at any time. Please note that the usage information shown in MobiLink may be different from that shown on your bill.

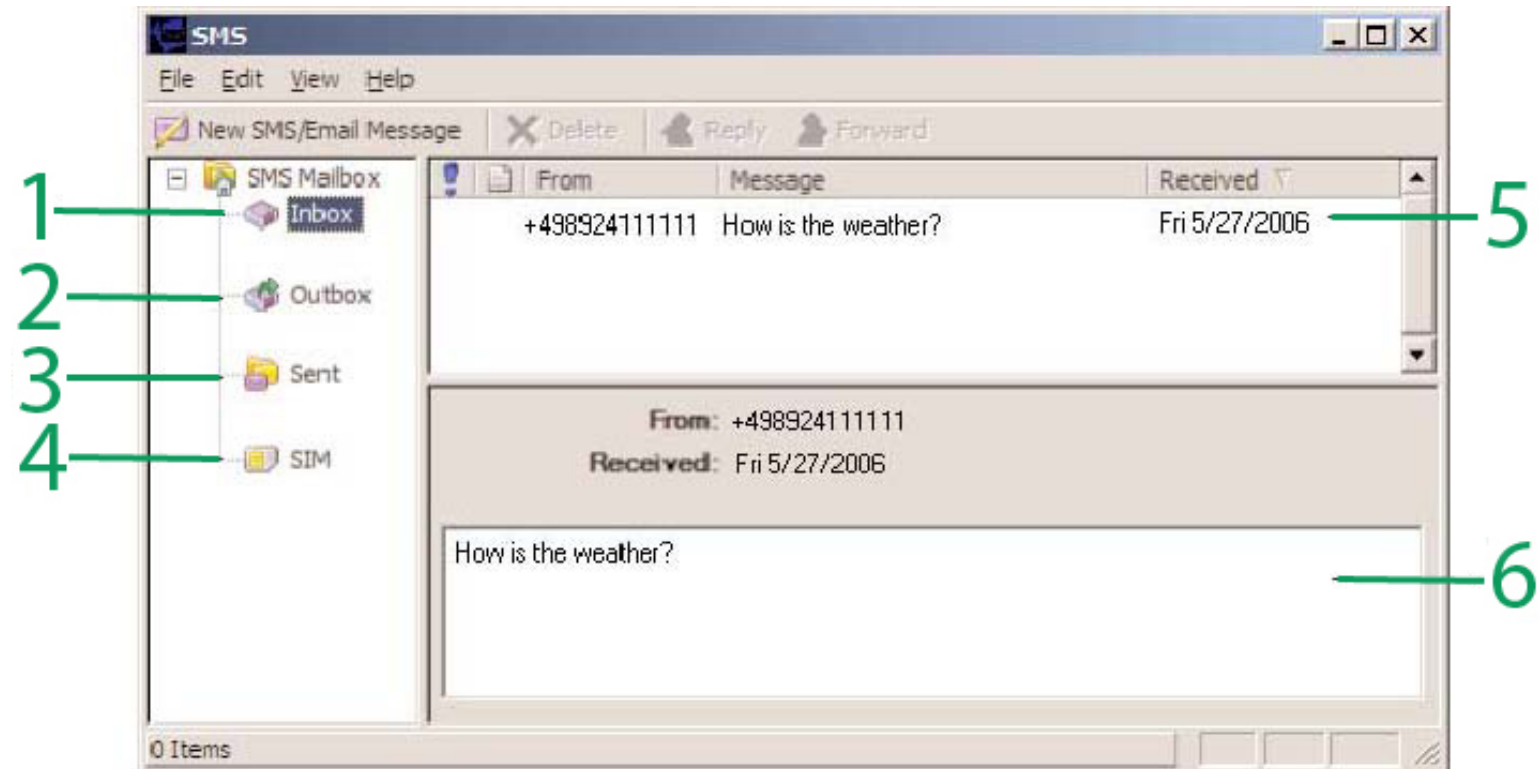
- Click the **Menu** button and select **Connection Log**.



Note: The Connection Log is intended for use by people who connect manually. If you are using the AutoConnect at Startup option, the log statistics may not be meaningful.

SMS Basics

Your Novatel Data Product is equipped to send and receive SMS. This feature may or may not be available, depending on your mobile operator. Click the SMS button on the MobiLink control panel to open the SMS window.

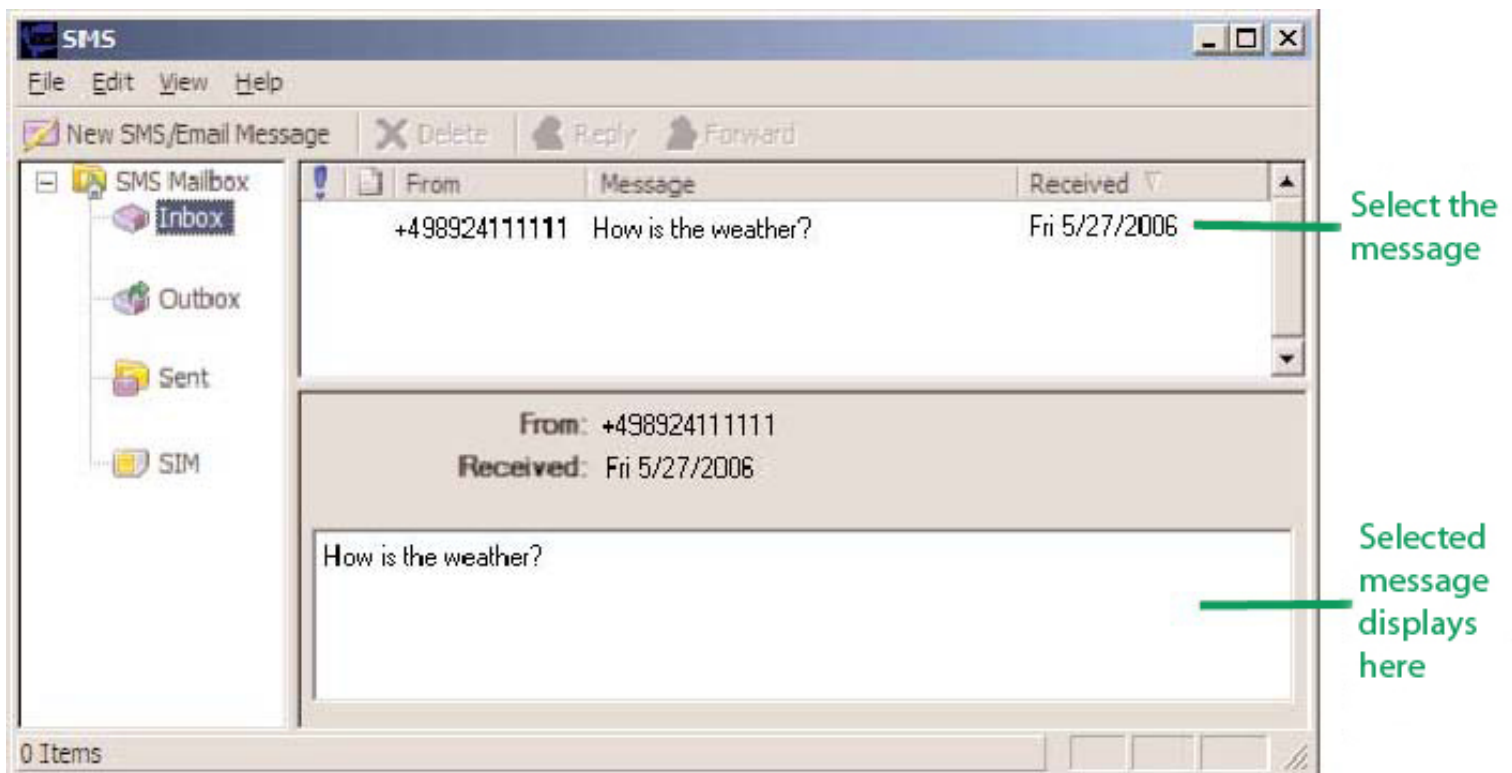


- 1 **Inbox** Messages you receive on your Novatel Wireless Data Product.
- 2 **Outbox** Messages waiting to be sent.
- 3 **Sent** Messages sent on your Novatel Wireless Data Product.
- 4 **SIM** When you use the same SIM card in both your mobile phone and in your Novatel Wireless Data Product, messages sent or received while using the SIM in your mobile phone display in this folder.
- 5 **Summary** Click a message header in the summary area to read.
- 6 **Message** Displays the message selected in the Summary area.

Read messages

An envelope icon will display in the top right corner of the MobiLink control panel when you receive a new message. Select the required folder.

Select the message you want to read in the top panel (Summary). The messages displays in the bottom panel (Message).

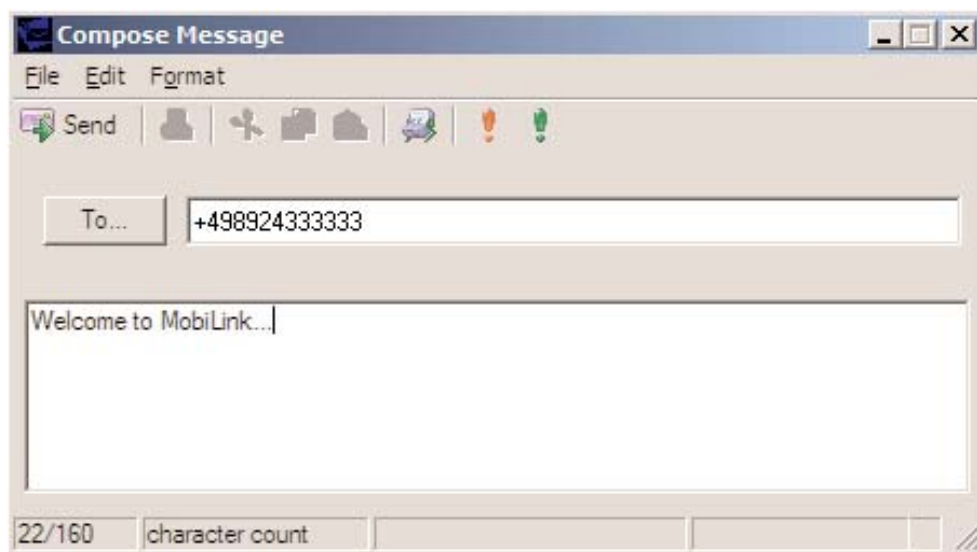


Send messages

The length of outgoing messages is limited to 160 characters. If your message is longer than this, it will be sent in multiple messages.

Click the **New SMS/Email Message** button.

In the **To** box, type the phone number of the recipient.



If you are sending the message to more than one person, separate the names or phone numbers with a semicolon (;).

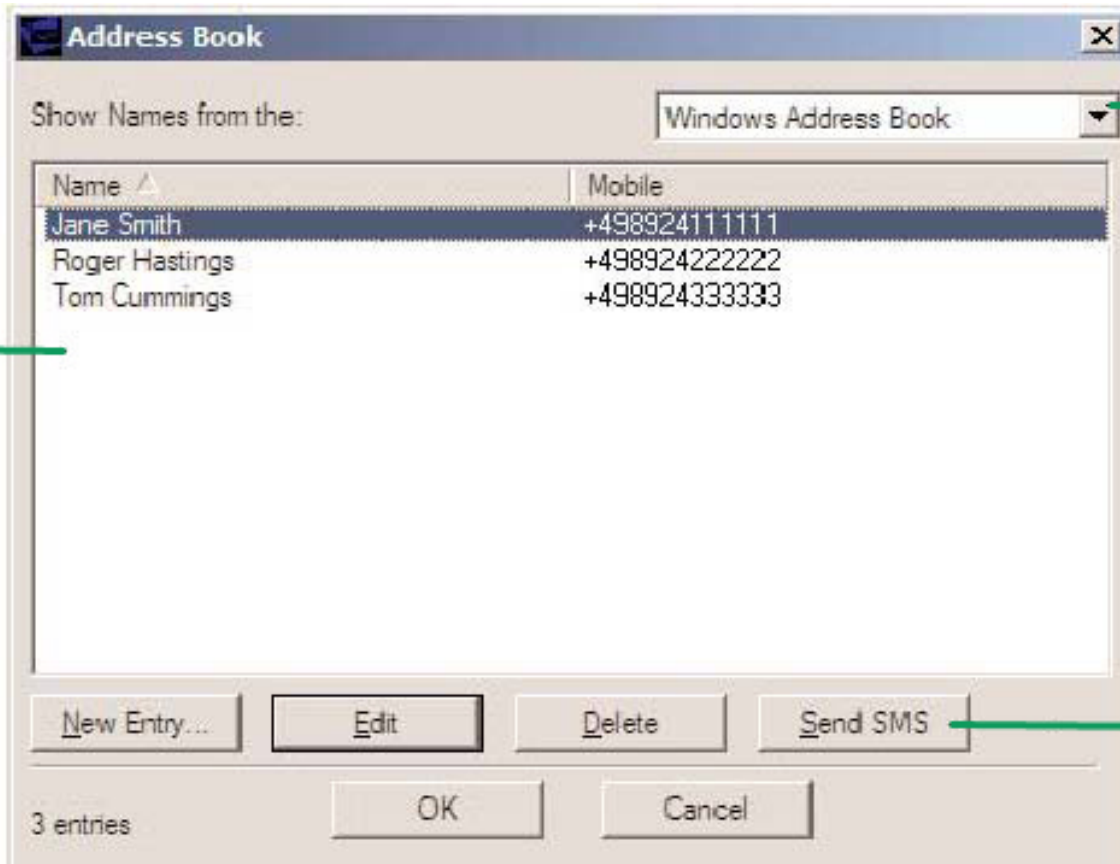
You can also click the **To** button to address the message to contacts or groups in your Address Book.

Click the **Send** button on the toolbar to send your message.

Address Book Basics

Tired of typing the same email address or phone number every time you send an SMS? Want to send an SMS regularly to a group of friends? Use the Address Book to set up contact information. You can also send an SMS to a contact in your Address Book without opening the SMS window.

To open the Address Book, click the **Address Book** icon on the MobiLink control panel.



1 Address Book

Store individual contacts either locally on your computer (Windows Address Book) or share them with your mobile phone (SIM). Use contacts from your Windows Address Book or SIM to create groups (Global Group Contacts).

2 Contacts

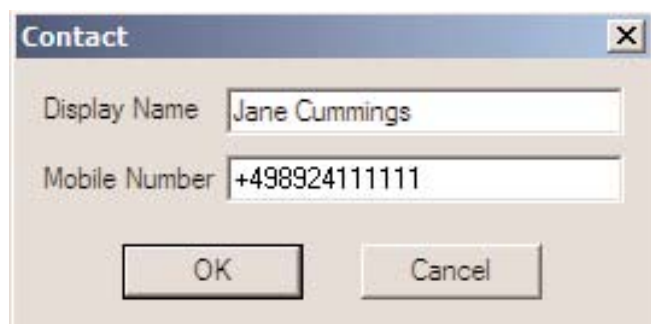
Contacts or groups display in this area.

3 Send SMS

Send an SMS to the selected contact or group.

Add a new contact

A display name is required for each contact. Be sure to include the correct phone number for your contact.



Select either **Windows Address Book** or **SIM** from the Address Book list.

Click the **New Entry** button.

Type the contact name in the **Display Name** box.

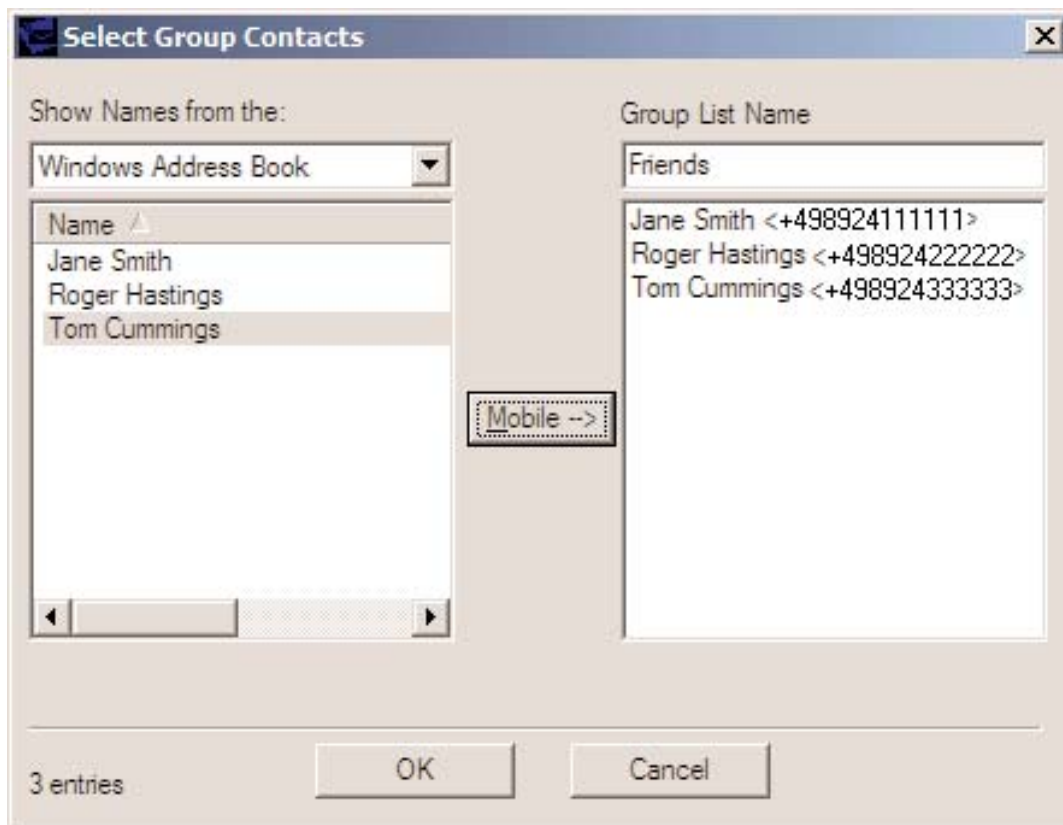
Type the phone number in the **Mobile Number** box.

Click **OK**.

Add a new group

Groups are useful when you want to send an SMS to several contacts at once. Create a group name and then add individual contacts from your Address Book to the group. To send an SMS to the group, just enter the name of the group in the To box.

- Select **Global Group Contacts** from the Address Book list.
- Click the **New Entry** button.
- Select either **Windows Address Book** or **SIM** from the Address Book list.
- Enter a unique name for the group in the **Group List Name** box.
- Select the contact from the **Name** list.
- Click the **Mobile** button to add the contact to the group.
- When you are finished adding contacts to the group, click **OK**.



Troubleshooting

Why can't I install MobiLink?

You might not have administrative privileges. Contact your system administrator, if applicable, or log on to your computer as an administrator and create a user account with administrator privileges.

Why do I see the message "No card detected" when I run MobiLink?

This can happen for any of the following reasons: Your XU870 is not inserted properly.

Exit MobiLink.

Remove your Novatel Wireless Data Product from the computer.

Restart your computer.

Restart MobiLink.

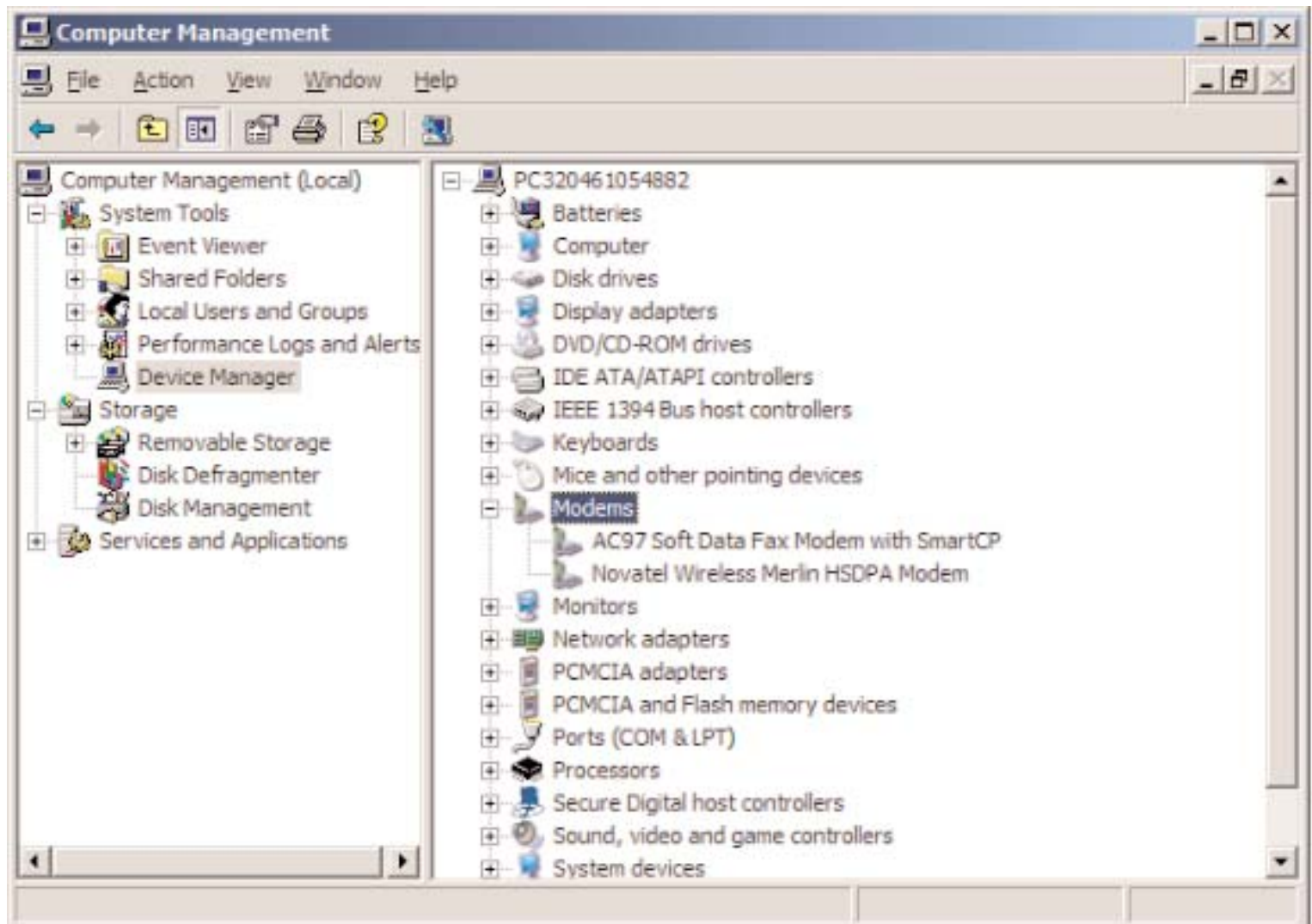
Insert your Novatel Wireless Data Product into the computer again.

Windows did not install the drivers for your Novatel Wireless Data Product correctly.

Right click on the **My Computer** icon on your desktop and select **Manage** from the shortcut menu.

Select **Device Manager**.

Click the plus sign (+) next to **modems**.



If you see a yellow exclamation mark (!) or red x beside any device, try the following:

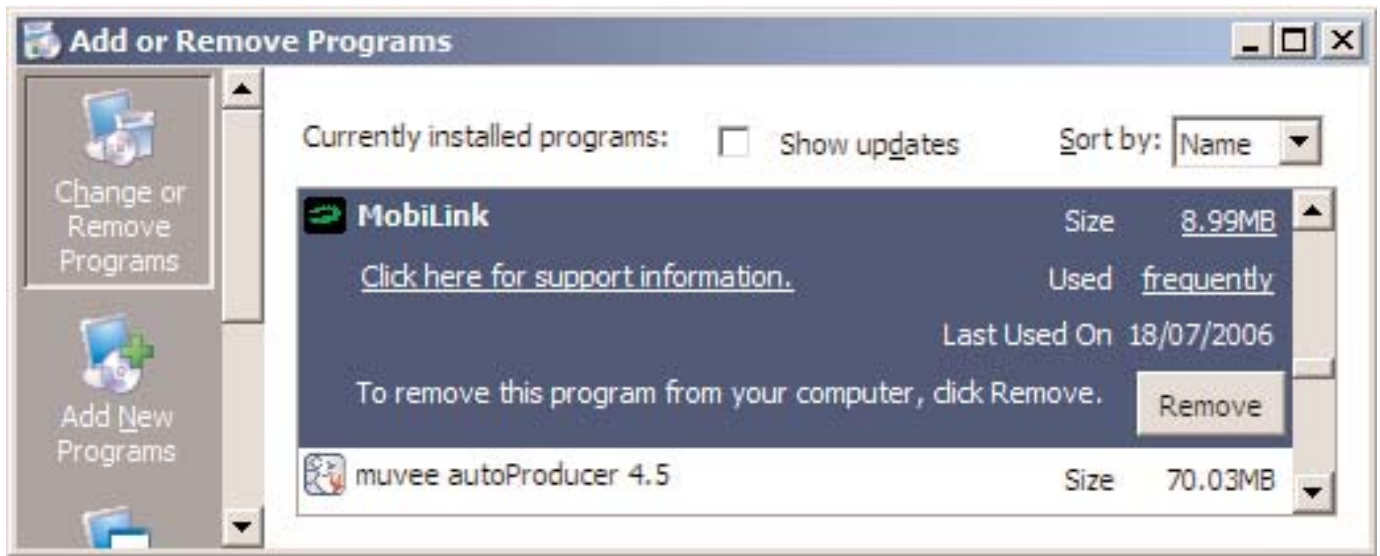
Restart your computer.

OR

Click on the **Start** button, select **Settings**, then **Control Panel**, and finally **Add or Remove Programs**.

(Note: Make sure your data device is in plugged in)

- Select **MobiLink** and click **Remove**.



Once the Uninstall process is complete, unplug your data device from the computer.

Reinstall the MobiLink software. See the Quick Start Guide for instructions.

Why do I see the message “SIM not found” when I run MobiLink?

Your SIM card uses contact points to connect with your Novatel Wireless Data Product. Take care not to touch or damage the contact points. Use the orientation notch as a guide to properly insert the SIM.

Why does the LED flash red?

This happens when your SIM card is locked. Enter your PIN code when prompted. If you enter the wrong PIN code 3 times, you will be prompted to enter your PUK code. If you enter the wrong PUK code 10 times, your SIM card will be locked forever. Contact your mobile operator to obtain a new SIM card.

Why does the message “Searching for network” display continuously when I run MobiLink?

You are outside of the coverage area. Contact your mobile operator to find out more about coverage areas.

Why can't I connect to the network?

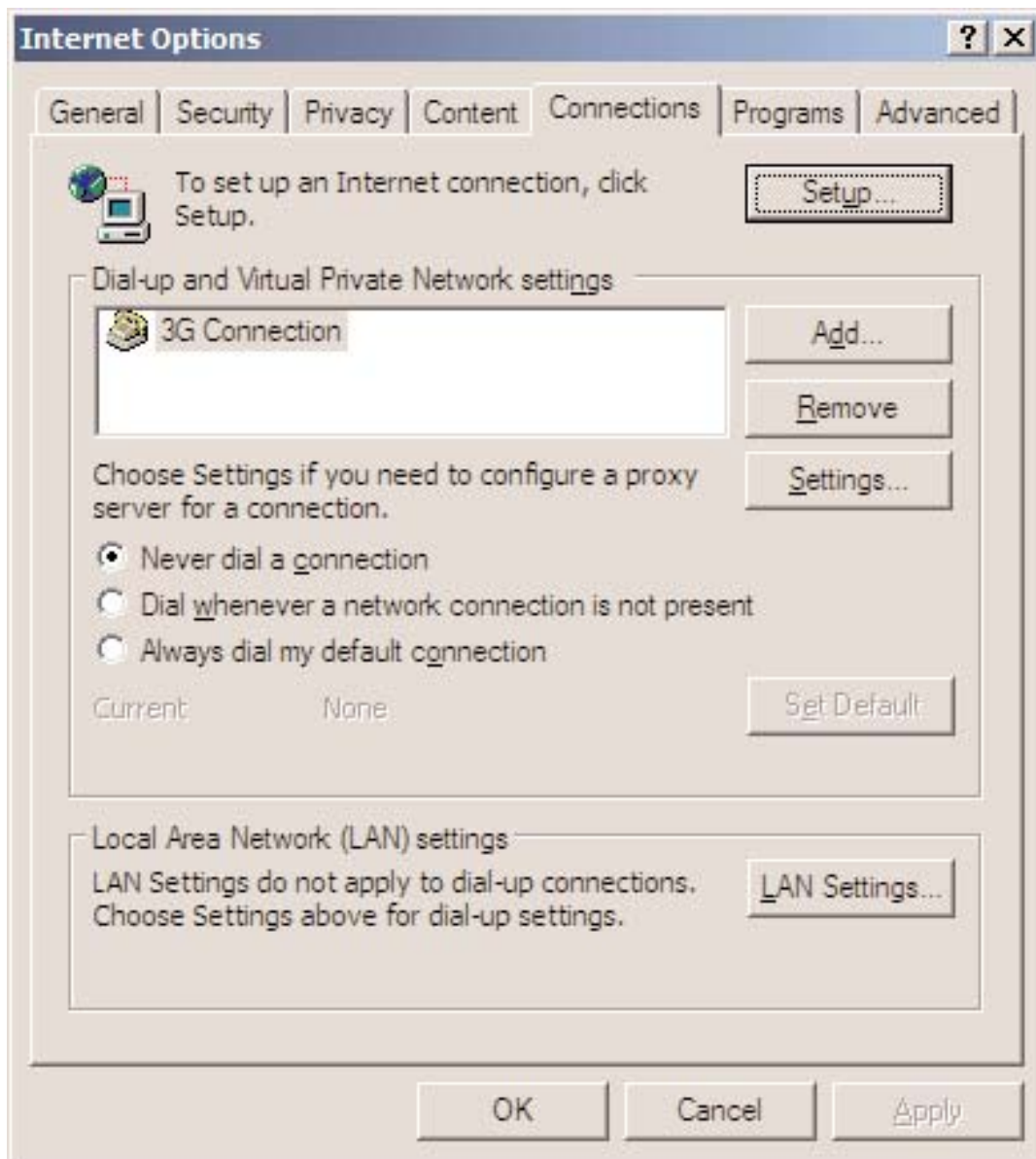
Check the **user name**, **password** and access point name (**APN**) in your connection profile . If any of these entries are wrong, you won't be able to connect to the network.

Why can't I browse the web?

Check your server settings:

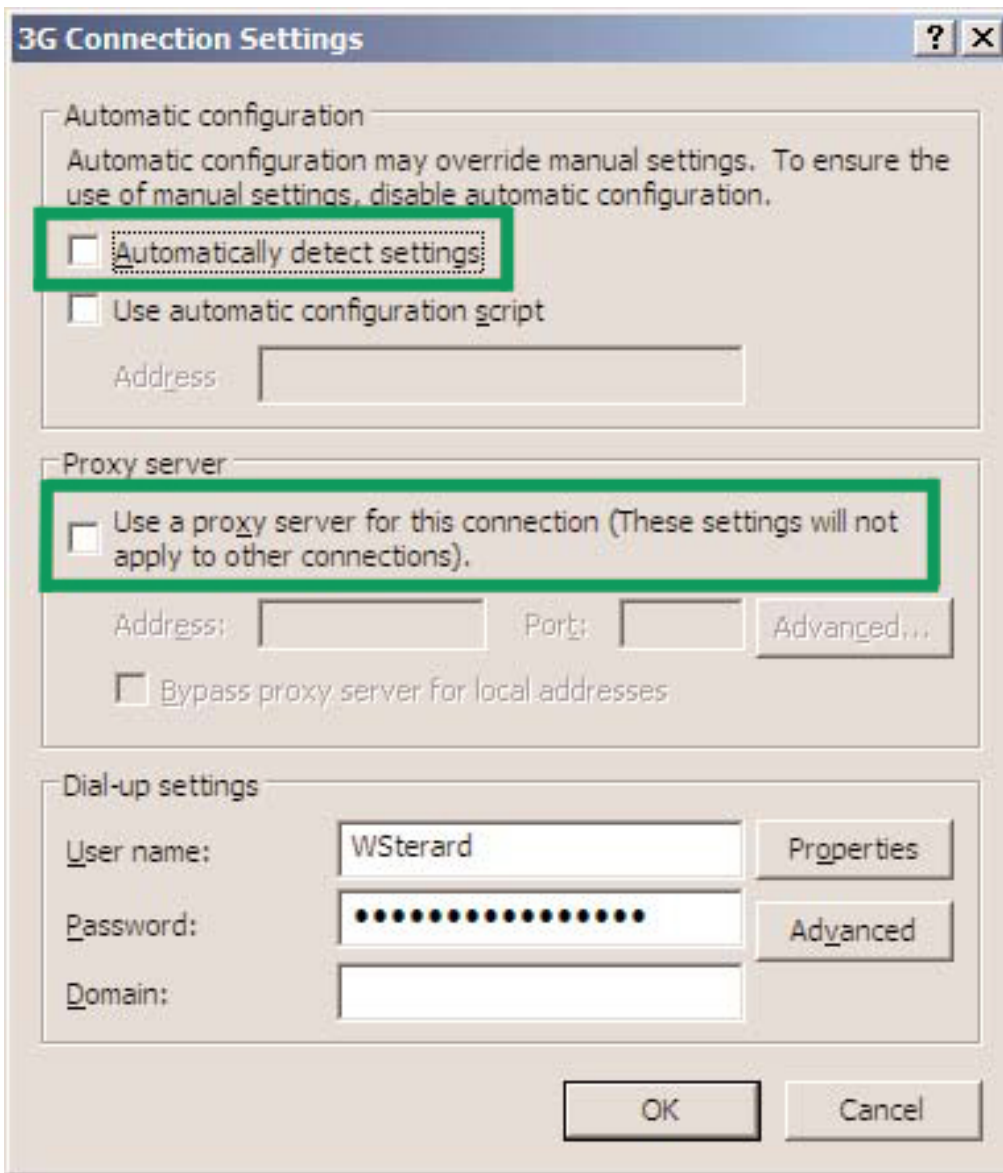
- Start **Internet Explorer**.
- Click on the **Tools** menu, and select **Internet Options**.

- Click on the **Connections** tab
- Doubleclick on **3G Connection***
- * This field name will vary, depending on your service provider.



Check your **Username** and **Password**:

- If you are using a proxy server, select the appropriate boxes.
- Click **OK** to finish



Glossary

- Attached** When your Novatel Wireless Data Product has found a cellular network and has registered to it, the LED will flash. In this state you can send and receive SMS. However, to pass data (i.e., surf the web or check your email), you must be connected.
- APN** Access Point Name. Provides routing information for GPRS. The APN consists of two parts; the Network ID, which identifies the external service requested by a user of the GPRS service, and the Operator ID, which specifies routing information.
- bps** Bits per second rate of data flow.
- Broadband** High capacity highspeed, transmission channel with a wider bandwidth than conventional copper telephone lines. Broadband channels can carry video, voice, and data simultaneously.
- Connected** To connect to the cellular network you require an APN. You might also require a user name and password, depending on your service provider. Once you are connected, you can pass data (i.e., surf the web or check your email).
- EDGE** Enhanced Data GSM Environment OR Enhanced Data for Global Evolution. EDGE is an enhanced version of GPRS that enables the delivery of multimedia and other broadband applications to mobile devices. It is designed to deliver data downloads at rates up to 237 kbps and is considered an evolutionary step to 3G/UMTS.
- Firewall** A hardware or software boundary that protects a network or single computer from unwanted outside traffic.

GPRS

General Packet Radio Service. GPRS is a packet based broadband service with download speeds up to 86 kbps. GPRS is considered an evolutionary step to more advanced technologies such as EDGE and WCDMA.

HSDPA

High Speed Downlink Packet Access. HSDPA is an enhanced version of WCDMA that supports broadband connections with download speeds up to 7.2 Mbps. This enhanced 3G technology enables the download of highbandwidth multimedia files, high resolution graphics, and other complex files, and viewing email attachments at broadbandlike speeds.

ISP

Internet Service Provider. Also referred to as the service carrier, an ISP provides Internet connection service.

IP

Internet Protocol. The mechanism by which packets are routed between computers on a network.

Kbps

Kilobits (1024 bits) per second rate of data flow.

LAN

Local Area Network. A data network confined to limited area with moderate to high data rates.

Mbps

Megabits (1,048,576 bits) per second rate of data flow.

MB

Megabyte. A unit of data equal to approximately 1 million bytes.

- NDIS** Network Driver Interface Specification. A Windows device driver interface that enables support for multiple network protocols.
- PPP** Point to Point Protocol. A method of connecting a computer to the Internet.
- PIN Code** Personal Identity Number. A code that is linked to your SIM card for security. This fourdigit code gives you access to the SIM card and allows you to access your operator's network.
- PUK Code** Pin Unlock Code. PUK is the code required to unlock a GSM SIM card that has disabled itself after an incorrect PIN code was entered three times in a row. If an incorrect PUK code is entered 510 times, the SIM card will permanently block (disable) itself.
- Proxy** A firewall mechanism that replaces the IP address of a host on the internal (protected) network with its own IP address for all traffic passing through it.
- SMS** Short Messaging Service. Short text messages of no more than 160 characters sent and received by broadband devices.
- TCP/IP** Transmission Control Protocol/Internet Protocol. A protocol for communicating over the Internet.
- VPN** Virtual Private Network. A way to communicate through a dedicated server securely to a corporate network over the Internet.
- WAN** Wide Area Network. A network which uses common carrierprovided lines. Contrasts with LAN.
- WCDMA** Wideband Code Division Multiple Access. Based on the GSM technology evolution roadmap, WCDMA supports upload and download speeds up to 384kbps. WCDMA is also referred to as UMTS.

WWAN

Wireless Wide Area Network. A communications technology that utilizes digital mobile phone systems to access data from any location in the range of a cell tower that is connected to a dataenabled network.

Regulatory Notices

CE Marking

This device has been tested to and conforms to the regulatory requirements of the European Union and has attained CE Marking. The CE Mark is a conformity marking consisting of the letters "CE". The CE Mark applies to products regulated by certain European health, safety and environmental protection legislation. The CE Mark is obligatory for products it applies to: the manufacturer affixes the marking in order to be allowed to sell his product in the European market.

This product conforms to the essential requirements of the R&TTE directive 1999/5/EC in order to attain CE Marking. A notified body has determined that this device has properly demonstrated that the requirements of the directive have been met and has issued a favorable certificate of expert opinion. As such the device will bear the notified body number 0682 after the CE mark.

The CE Marking is not a quality mark. Foremost, it refers to the safety rather than to the quality of a product. Secondly, CE Marking is mandatory for the product it applies to, whereas most quality markings are voluntary.

Marking: The product shall bear the CE mark, the notified body number(s) as depicted to the right.



0682

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. 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:

- This device may not cause harmful interference.
- 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 PC CARD IS FACTORY TUNED. NO CUSTOMER CALIBRATION OR TUNING IS REQUIRED. CONTACT YOUR SERVICE PROVIDER 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.

NOTE: The Radio Frequency (RF) emitter installed in your modem must not be located or operated in conjunction with any other antenna or transmitter, unless specifically authorized by Novatel Wireless Technologies.

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

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

FCC Equipment Authorization ID: NBZNRM-X950D

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 phones 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 phone or modem while operating can be well below the maximum value. This is because the phone or modem 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.

This device is only authorized for use in laptop computers that are identical or substantially similar to those in its grant application. At least 20cm (8 inches) of separation between the antenna and the users 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 8dBi in the cellular band, and 4 dBi in the PCS band. 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.

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.

Safety Notices

Important Notice

Due to the transmission and reception properties of cellular communications, data can occasionally be lost or delayed. This can be due to the variation in radio signal strength that results from changes in the characteristics of the radio transmission path.

Although data loss is rare, the environment where you operate the X950D may adversely affect communications. Variations in radio signal strength are referred to as fading. Fading is caused by several different factors including signal reflection, the ionosphere, and interference from other radio channels.

Novatel Wireless or its partners will not be held responsible for damages of any kind resulting from the delays or errors in data transmitted or received with the Merlin X950D, or failure of the Merlin X950D to transmit or receive such data.

Potential Hazards

Do not operate the Merlin X950D in an environment that may be susceptible to radio interference resulting in danger specifically:

Areas where prohibited by the law.

- Follow any special rules and regulations and obey all signs and notices. Always turn off the host device and remove the X950D from the card slot when instructed to do so, or when you suspect that it may cause interference or danger.

Where explosive atmospheres may be present.

- Do not operate your X950D in any area where a potentially explosive atmosphere may exist. Sparks in such areas could cause an explosion or fire resulting in bodily injury or even death. Be aware and comply with all signs and instructions.
- Users are advised not to operate the Merlin X950D while at a refueling point or service station. Users are reminded to observe restrictions on the use of radio equipment in fuel depots (fuel storage and distribution areas), chemical plants or where blasting operations are in progress.
- Areas with a potentially explosive atmosphere are often but not always clearly marked. Potential locations can include gas stations, below deck on boats, chemical transfer or storage facilities, vehicles using liquefied petroleum gas (such as propane or butane), areas where the air contains chemicals or particles, such as grain, dust or metal powders, and any other area where you would normally be advised to turn off your vehicle engine.

Near Medical and life support equipment.

- Do not operate your Merlin X950D in any area where medical equipment, life support equipment, or near any equipment that may be susceptible to any form of radio interference. In such areas, the host communications device must be turned off. The X950D may transmit signals that could interfere with this equipment.

On an aircraft, either on the ground or airborne.

- In addition to FAA requirements, many airline regulations state that you must suspend wireless operations before boarding an airplane. Please ensure that the host device is turned off and your Merlin X950D is removed from the card slot prior to boarding aircraft in order to comply with these regulations. The Merlin X950D can transmit signals that could interfere with various onboard systems and controls.

While operating a vehicle.

- The driver or operator of any vehicle should not operate a wireless data 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 countries, operating such communications devices while in control of a vehicle is an offense.

Electrostatic Discharge (ESD).

- Electrical and electronic devices are sensitive to electrostatic discharge (ESD). The MobiLink software will attempt to reinitialize the device should a substantial electrostatic discharge reset the device. If the software is not operational after an ESD occurrence, then restart MobiLink.

Merlin™ X950D



Merlin™ X950D HSDPA ExpressCard, powered by the Qualcomm MSM7200 chipset, is a smaller and faster version of a PCMCIA card that uses the ExpressCard/34 form factor. This global card, tri-band HSDPA/UMTS and quad-band EDGE/GPRS, allows for mobile broadband connections up to 7.2 Mbps.

This high performance card, with an integrated antenna, is sturdy in t. The X950D offers both diversity and equalizer support with diversity on for Europe and other parts of the world that use this frequency. No CD ware; it is flashed on the card thus simplifying user installation. T ExpressCard/34 and 54 slots; and with Novatel adapters, in PCMCIA and USB slots.



Worldwide Mobile Broadband

Peak download speeds to 7.2 Mbps for web surfing, e-mail, VPNs, and more. Use in home, office, on the road – virtually anywhere for on the go mobility. Works in North America, Europe and countries around the world in supported bands.

Small Compact Card

Uses the ExpressCard/34 form factor which is 40% smaller than a PCMCIA card and also takes advantage of the high bandwidth serial USB 2.0 interface. This 26-pin card is the newly adopted format for laptop vendors.

No CD Required to Install Software

Mobilink™ Lite Connection Manager will be pre-installed, flashed in the Express Card's memory. Dashboard customization as well as multiple languages is also available. MobiLink™ SDK is available for customizing the dashboard and for easy integration with third party dashboards.

Branding & Customization Available

Branding on ExpressCard, packaging, collateral, language, and software to keep the offering in sync with OEM or operator's marketing and branding strategies.

Address Multiple Market Segments with One Product

X950D fits in both ExpressCard/34 and 54 slots. With Novatel Wireless adapters, operators and OEMs can also sell for use in PCMCIA and USB slots. This simplifies inventory, carrying costs, and customer service in that this offering can be made to both desktop and laptop users.

Improve Coverage

An external antenna can be added to improve reception and minimize interference.

ExpressCard



Leading Provider of 3G Wireless Broadband Access Solutions for the Global Marketplace

Merlin™ X950D

Technical Specifications

HSDPA Mobile Broadband ExpressCard with Diversity & Equalizer

Technology/Bands

- Tri-band HSDPA/UMTS - 850/1900/2100 MHz
- Quad-band EDGE/GPRS - 850/900/1800/1900 MHz

Advanced Technologies

- Receive Equalization - improves performance in noisy & highly mobile environments
- Receiver Diversity on HSDPA/UMTS 2100 MHz band - improves performance at cell edges
- GPS option

Data Speeds

- Supports 7.2 Mbps Downlink
384 kbps upload speed at launch

Power Class

- WCDMA 850/1900/2100 – Power Class 3
- GPRS 850/900 – Power Class 4
- GPRS 1800/1900– Power Class 1
- EDGE 850/900/1800/1900 – Power Class E2

Dimensions and Weight

- 112 x 34 x 11 mm (4.4 x 1.3 x 0.4 in)
- 29 g (1.0 oz)

Form Factor

- ExpressCard/34
- USIM* card slot (card size: 25 mm x 15 mm)

Visual Indicator (LED)

- 5-color LED indicator for real-time service status, technology modes, and error conditions

Antenna

- Built-in 5 bands (integrated)
- High efficiency broadband
- One piece with integrated antenna

Power consumption

- HSDPA/UMTS - 1.0 amps (nominal);
1.3 amps peak
- Voltage 3.0 v to 3.3 v
- Idle & low power modes
(USB Selective Suspend)

Environmental

- Operating temperature: 0°C to 55°C
(32°F to 131°F)
- Storage temperature: -20°C to 65°C
(-4°F to 149°F)
- EMI Shielding

Applications

- Internet, Intranet
- e-mail
- Connection logging
- VPN

Connection Manager

- No CD installation - software in flash memory
- Dialup Connection
- Signal strength
- Connection Status
- Pre-configured Network Profile
- Power Management – standby & hibernate selective suspend
- MobiLink SDK - A variety of features including branding can be customized; minimal integration needed for third party dashboards.

Standards/Approvals/Certifications

- 3GPP Release 99 for GSM/GPRS
- 3GPP Release 5 for HSDPA
- FCC parts 2, 15, 22 & 24
- CE Marking
- GCF
- PTCRB
- GSM Phase 2+
- Microsoft WHQL
- ExpressCard™ Compliant
- IOT Compliance
- R&TTE Directive 1999/5/EC (health, safety, EMC, spectrum) Compliant
- RoHS Directive 2002/95/EC Compliant
- WEEE Directive 2002/96/EC Compliant

Operating Systems Supported

- Windows® 2000, XP & Vista
- Mac OS X 10.4 Connection Utility**
- Linux 2.6**



Minimum System Requirements

- Card Slot: ExpressCard/34/54 (with a Novatel Merlin adapter - USB or PCMCIA slot can be used)
- Hard Drive: 14 MB
- RAM: 32 MB
- Browser: Microsoft Internet Explorer 6.0 or higher

Standard Package Contents

- Merlin X950D ExpressCard Modem
- User Guide
- Quick Start Guide
- Plastic storage case
- Retail packaging
- Branding and customization available for packaging, collateral, language, and software settings

Accessories

- External antenna - Hirose MS-151 connector
- Merlin XCA-2 - adapts ExpressCard to PCMCIA Type II form factor for laptops without ExpressCard slot
- Merlin XUA-1 - adapts ExpressCard for use in USB slot

For More Information:

e-mail: sales@nvtl.com

NASDAQ: NVTL
www.novatelwireless.com

* SIM card provided by operator upon service subscription.

** MobiLink software is for Windows use only. Drivers available for MAC and Linux support.



LED States

LED Colour	SIM State	Description
RED	SIM	Flashing: SIM card may be inserted incorrectly or no service Solid: GPRS/EDGE/UMTS/HSDPA service not available
GREEN	GPRS	Flashing: GPRS service is available. Solid: Connected to a service using GPRS
VIOLET	EDGE	Flashing: EDGE service available. Solid: Connected to a network using EDGE
BLUE	UMTS	Flashing: UMTS service is available. Solid: Connected to a network using UMTS
YELLOW	HSDPA	Solid*: HSDPA service is available and is being used during the download

* The LED may appear to flash blue and then yellow/cyan as the service transitions from UMTS to HSDPA and back again.