

NETWORK

EXPERTISE



APPLICATIONS

SERVICE

CINGULAR WIRELESS MAKES BUSINESS RUN BETTER

Cingular Wireless Laptop Connect Installation and User Guide



Table of Contents

Section 1

Cingular Laptop Connect – Solution Overview

- Laptop Connect Overview 4

Section 2

Getting Started

- Required Materials 5
- Step 1 > Install Communication Manager Software 6
- Step 2 > Prepare PC Card Modem or Data-Capable Device 7
- Step 3 > Software Configuration and Device Installation 8
- Step 4 > Connect to the Cingular Network 9

Section 3

Using the Software

- Communication Manager User Interface 10
- Connecting to the Cingular Network 11
- Checking Signal Strength 12
- Configuring Communication Manager to Launch VPN 13
- Optimizing Wireless Performance 15
- Acceleration 15
- Updating Communication Manager Software 16
- Changes to the Installation Process from Previous Versions 17

Section 4

Using a Wi-Fi-Enabled Laptop PC

- Connecting to a Wi-Fi Network 18
- Connecting to Cingular Wi-Fi Hotspots 19

Section 5

Device Wizard

- Configuring a Data-Capable Handset 21



Section 6

Managing Your Network Connections

- Overview 23
- Setting Connection Behavior 24
- Define Connection Profiles 26

Section 7

Device Maintenance

- Upgrading Your PC Card Modem Firmware 27
 - Sony Ericsson 27
 - Sierra Wireless 28
 - Novatel Wireless 29

Section 8

Troubleshooting

- Where to Get Help 30
- Common Issues/Resolution 31

The information in this user guide is provided “as-is” and is subject to change without notice. Cingular Wireless makes no warranty of any kind with respect to this user guide, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Cingular Wireless shall not be liable for any errors contained in this user guide. © 2005 Cingular Wireless, LLC. Cingular and the graphic icon are registered trademarks of Cingular Wireless, LLC. Raising the Bar is a service mark of Cingular Wireless, LLC.

BUS MS P 1105 1428 E



SECTION 1: SOLUTION OVERVIEW

Cingular Laptop Connect Overview

Welcome!

Laptop Connect from Cingular Wireless allows you to free your laptop from wired connections. With this solution you can wirelessly access the Internet, personal and business e-mail, and attachments, as well as your company's intranet and business applications — all while on the go!

Note: Additional software, hardware and/or subscription to other services may also be required for some wireless business solutions.

This Installation and User Guide will lead you through the four-step process to get your Laptop Connect solution up and running. This Guide also provides assistance in how to configure Communication Manager software, use a VPN with Laptop Connect, and update your PC card modem firmware in addition to providing some troubleshooting tips.

Laptop Connect Overview

Laptop Connect is Cingular's laptop mobility solution that uses a compatible PC card modem, data-capable handset, or Wi-Fi-enabled laptop, along with Communication Manager software and the appropriate Data Connect rate plan to provide wireless data access through Cingular's Broadband Connect and EDGE networks.*



*Note: Access to Cingular Wi-Fi hotspots requires a Wi-Fi Connect plan in addition to a Data Connect Plan.



SECTION 2: GETTING STARTED

Installation and setup time is approximately 15 minutes.

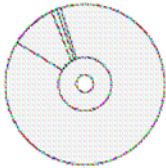
This Getting Started section details the 4 step process to install and setup your Laptop Connect solution:

- Step 1 > Install Communication Manager Software
- Step 2 > Prepare PC Card Modem or Data-Capable device
- Step 3 > Software Configuration and Device Installation
- Step 4 > Connect to the Cingular Network

Required Materials

Here are the materials you need to get started:

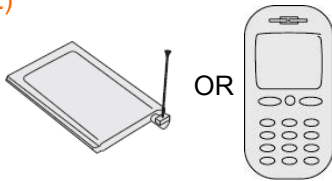
1)



Communication Manager software allows you to manage your connection to the Cingular Wireless network.

CD-ROM included in box with PC card modems. Also, download free of charge from <http://www.cingular.com/communicationmanager>

2)



PC card modem (or data-capable handset) sends and receives data between your laptop and the wireless network. PC card modems are designed to fit in the Type II slot available on most laptops.

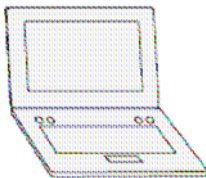
3)



smartchip™ — an information chip that stores your subscriber information. It is required for your PC card modem or data-capable handset to operate on the Cingular Wireless network.

(Note: 3G devices require a 3G smartchip in order to achieve desired performance. A 3G smartchip can be identified by the text: “3G” on the chip.)

4)



Laptop PC: The laptop PC you want to wirelessly enable.



IMPORTANT: Do not insert the PC card modem (or attach the data-capable handset) into your laptop PC until the Communication Manager software installation is complete.



Step 1 > Install Communication Manager Software

Follow the instructions below to install the Communication Manager software onto your laptop PC.

If you do not have a CD with Communication Manager software, you can download the latest software free of charge from <http://www.cingular.com/communicationmanager>

Note: If you have a previous version of Cingular Communication Manager (or Cingular Connection Manager) installed, it's OK to install over the previous version, as long as you have version 4.2 or later.


To check your version, go to: Start > Settings > Control Panel (Classic View) > Add or Remove Programs. Click the Communication Manager support information link.

If your Communication Manager version is earlier than 4.2, uninstall it now. After uninstall is complete, restart your PC and continue with the steps below.



IMPORTANT: Do not insert the PC card modem (or attach the data-capable handset) into your laptop PC until the Communication Manager software installation is complete.

Install Cingular Communication Manager

- 1) Exit all open applications.
- 2) If your PC card modem is inserted, stop the device via the Safely Remove Hardware icon in the system tray near your clock. Then remove the PC card modem from your laptop PC. 
- 3) Insert the Communication Manager CD into your laptop PC. If the CD does not automatically run, click Start >Run. Enter X:\setup, where X is the letter of your CD drive. Click OK.

- If you downloaded the software, simply double-click on the file.

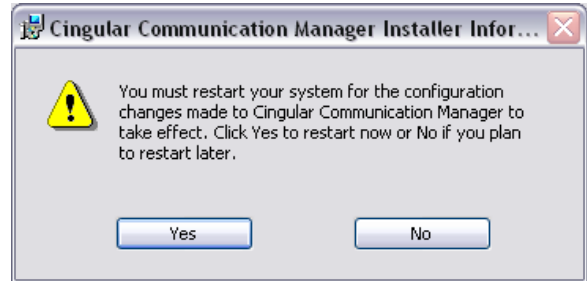
- 4) Install the Communication Manager software by following the onscreen instructions for installation and configuration.

- The InstallShield Wizard will lead you through a series of standard dialog boxes.
- Proceed through the dialog boxes, accepting the license agreement, specifying default target installation folder, etc.; until you arrive at the Completed dialog box.





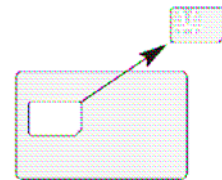
- 5) After completing the Communication Manager installation, you will be prompted to restart your laptop PC. Restart your laptop PC and go to the next step in the installation process.
 - By clicking “Yes”, Communication Manager will close all your existing applications and automatically re-start your laptop PC.



Step 2 > Prepare PC Card Modem or Data-Capable Device

Prepare the PC card modem or data-capable device

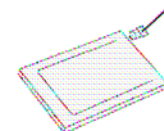
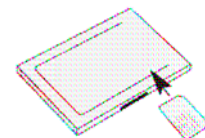
- 1) Prepare the smartchip™
 - Carefully snap out and remove the smartchip from the larger plastic card (see details on back of smartchip holder).



Note: The smartchip may be packaged outside the box. A smartchip is an information chip that stores your subscriber information and is required for your device to operate on the Cingular Wireless network.

Note: 3G devices require a 3G smartchip in order to achieve desired performance. A 3G smartchip can be identified by the text: “3G” on the chip.

- 2) Insert the smartchip into the slot in the PC card modem or data-capable device.
 - Depending on the device manufacturer, the smartchip position may vary. Refer to the documentation provided with the device.
- 3) For PC card modem users, either attach or extend the antenna.
 - Depending on the model, the antenna may vary.



IMPORTANT: Do not insert the PC card modem (or attach the data-capable handset) into your laptop PC until the Communication Manager software installation is complete.



Step 3 > Software Configuration and Device Installation

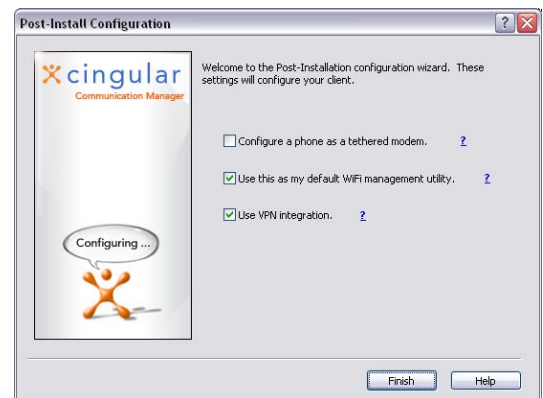
Software Configuration and Device Installation

- 1) After you restart your laptop PC, launch the Communication Manager application by going to Start > Programs > Cingular Communication Manager or double-clicking the Cingular Communication Manager desktop icon.
- 2) In order to complete the Communication Manager installation, a final set of configuration choices need to be made. The first time that Communication Manager is run after installation, you will be presented with the following choices:



Configure a phone as a tethered modem

- PC Card modem users can leave this box unchecked.
- If this box is checked, Communication Manager will launch the Device Wizard to install the appropriate drivers for your data-capable handset as soon as you exit this screen.
 - If you wish to install a device later, you can launch the Device Wizard at any time by selecting Device Wizard from the Tools menu.
- For a list of devices compatible with Communication Manager, go to <http://www.cingular.com/communicationmanager>



Use this as my default Wi-Fi management utility

- Check this box if you want Communication Manager to be able to connect to Wi-Fi networks. This will enable the display of the Wi-Fi user interface. When this box is not checked, the display of Wi-Fi-related screens and controls will be suppressed.
 - If you wish to change this setting later, it can be found in the Application tab of the Settings window.

Use VPN Configuration

- Check this box if you want the Virtual Private Network (VPN) functionality of Communication Manager.
- If you are a new user or have not previously configured VPN settings, you will need to complete the configuration. Simply click the VPN button on the main User Interface to start configuration.
- If you are upgrading from a previous version of Communication Manager for which you have configured VPN settings, Communication Manager will retain your settings.

Note: Communication Manager automatically recognizes VPN software that already exists on your laptop PC. You can use Communication Manager to launch your VPN client by simply clicking the VPN button.



Once you have finished the Post-Install Configuration, you are ready to connect to the Cingular Network using Communication Manager.

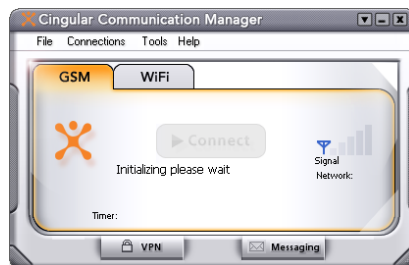
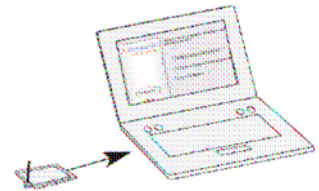
If you chose to configure a phone as a tethered modem, you will be automatically presented with the Device Configuration Wizard. Please go to the section **Configuring a Data-Capable Handset** that starts on page 21 for instructions on setting up your handset.

Step 4 > Connect to the Cingular Network

Connect to the Cingular Network

You are now ready to attach your device and connect to the Cingular Network.

- 1) Insert your PC card modem into an available Type II slot on your laptop PC.
 - Ensure you have already inserted the smartchip into the PC card modem.
 - If using a data-capable handset for the first time, ensure you have run through the Device Install Wizard. Go to Tools > Device Wizard to configure your handset.
 - Please go to the section **Configuring a Data-Capable Handset** that starts on page 21 for instructions on setting up your handset.
- 2) The PC card modem will take a few seconds to initialize and find the wireless network. (Note: Some devices may take up to two minutes to find the wireless network.)



- 3) When the Ready prompt appears, click the Connect button to access the Cingular Wireless network.

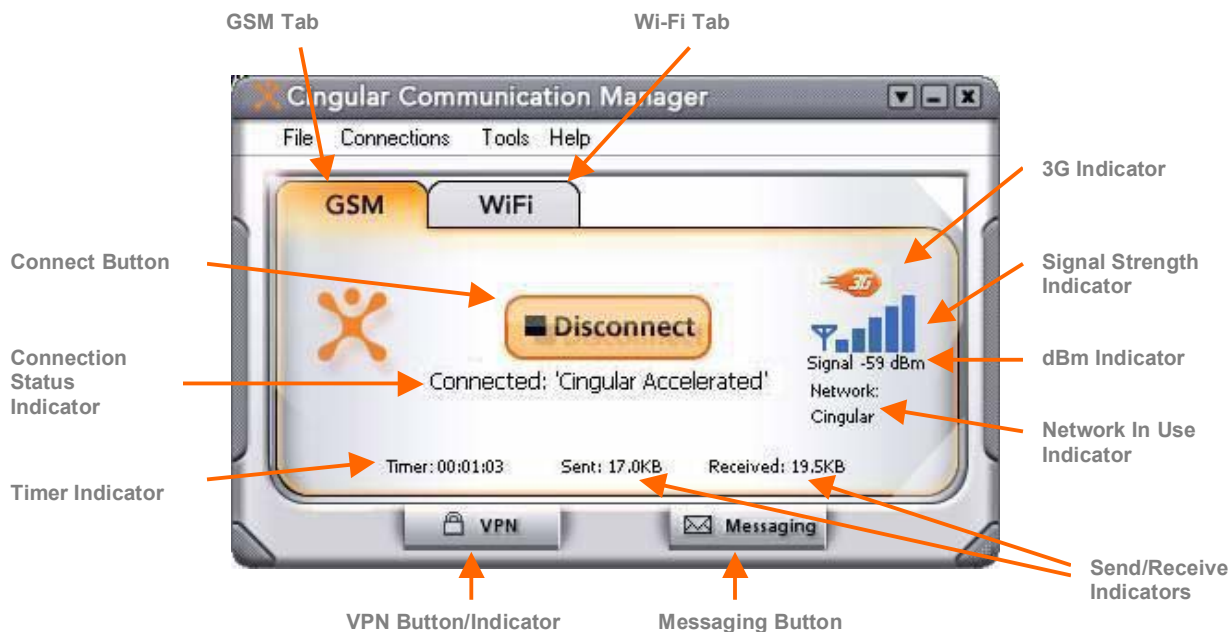


- 4) Once connected, you can wirelessly access the Internet, personal and business e-mail, attachments, and business applications, as well as your company's intranet.



SECTION 3: USING THE SOFTWARE

Communication Manager User Interface



Connect Button: Click this button to connect to the Cingular Wireless network. Once you are connected, the button dynamically switches to read “Disconnect.” When you are ready to end your wireless connection, click the same button to disconnect.

Connection Status Indicator: After inserting the card and starting the Communication Manager software, wait a moment until the card registers with the network (typically 10–15 seconds) before clicking the Connect button. You will see the words “Ready to Connect” appear at the Connection Indicator. The card is then registered, attached, and ready to connect to the Cingular network. Once your card is connected, the Connection Indicator will display the status of the connection (Connected, Disconnected, etc.) as well as the current connection Profile.

GSM Tab: Click this tab to view, manage, and connect to the GSM settings and network options.

Wi-Fi Tab: Click this tab to view, manage, and connect to the Wi-Fi (WLAN) settings and network options.

3G Indicator: Indicates when Broadband Connect, Cingular’s 3G network, is available. This indicator will not appear when only non-3G (i.e. EDGE or GPRS) networks are available.

Signal Strength Indicator: Indicates your signal strength in bars. The more bars, the better the signal strength. A warning will appear when signal strength is weak.

dBm Indicator: Indicates your signal strength numerically. The less negative the dBm, the better the signal strength.

VPN Button/Indicator: Once the VPN Client or Client Profiles have been defined, this button allows “one-click” launch of the your defined VPN of choice. In addition, the button changes based on VPN connection state – gray lock is “VPN not connected,” green lock is “VPN connected.”



Network In Use Indicator: Displays the name of the network or network roaming partner in use.

Timer Indicator: Indicates the time connected to the network during the current session.

Send/Receive Indicators: Provides information regarding the amount of data that has been transmitted (sent or received) during the current session. (Note: Indicators are an approximation and are not used for calculation of charges.)

Messaging Button: By clicking on the Messaging button, the Text Messaging inbox is opened. This gives the users the ability to send and receive text messages with other mobile devices. In addition, the users can sort, send, receive and manage their text messages via the Text Messaging inbox.

You will also find a Cingular Communication Manager icon in the system tray in the lower right of your desktop. Clicking this icon will make the main User Interface appear.



Connecting to the Cingular Network

To connect to the Cingular Wireless network, follow these steps:

- 1) Launch the Communication Manager application and verify sufficient signal strength. See Software > Checking Signal Strength.
- 2) If the application is started in “minimized” mode, click the system tray icon to display the main user interface.
- 3) When the Connection Status Indicator displays “Ready,” click the Connect button (center of screen).
- 4) Once you have connected to the network, the display should look similar to this:



- 5) Once connected, you can wirelessly access the Internet, personal and business e-mail, and attachments, business applications, as well as your company’s intranet.



User Interface Element	Expected State
Connection Status Indicator	This should display “Cingular Accelerated” as the profile.
Network In Use Indicator	This should show “Cingular” (or a roaming partner). This value can take up to a minute to display.
Signal Strength	More bars means a better signal (A lower numeric value means a better signal).
Timer	Time elapsed since current connection established.
Sent	Kilobytes sent since current connection established.
Received	Kilobytes received since connection established.

Checking Signal Strength

Note: Wireless Cellular data is signal dependent. Obstructions between the cell tower and you “attenuate,” or weaken, and degrade the signal. Often signal strength and quality can be improved by moving slightly, approaching the windows of a building, or laying the antenna down flat away from the laptop LCD.

In order to check signal strength, the main user interface of Communication Manager should be displayed and ready for you to use. If not, follow these steps:

- 1) Launch the Communication Manager application by going to Start > Programs > Cingular Communication Manager or double-clicking the Cingular Communication Manager desktop icon.
- 2) If the application is started in “minimized” mode, click the system tray icon to display the main user interface.
- 3) From the main user interface, verify that the GSM tab is selected, if attempting to connect to the Cingular Network. Please wait for the PC card modem or data-capable handset to detect the network.
- 4) After a few seconds, the connection status should display “Ready” with the default connection profile “Cingular Accelerated” on the “Cingular” network. The signal strength indicator should have at least one bar highlighted. When using a roaming partner, the roaming network name will appear.



Note: Some devices may take up to two minutes to find the wireless network.



If there is no network found or the signal strength is showing a value of -91 dBm or lower, you may need to move to another location with better reception.

The less negative the dBm, the better the signal strength:

- 60 dBm is an exceptionally strong signal
- 70 dBm is quite good
- 80 dBm is satisfactory
- 90 dBm is a weaker signal with reduced throughput
- 100 dBm is a borderline unusable signal level
- 113 dBm indicates a "no signal" condition



IMPORTANT: Signal strength is not the only variable factor in determining the throughput of your wireless connection. Distance from cell site, network availability and traffic, device, applications, tasks, file size, transmission limitations and interference, and other factors also impact the speed of your connection.

NOTE: If the Connection Status Indicator displays "No Wireless Device," yet the PC card modem is inserted or your data-capable handset is attached, proceed to the Troubleshooting section.

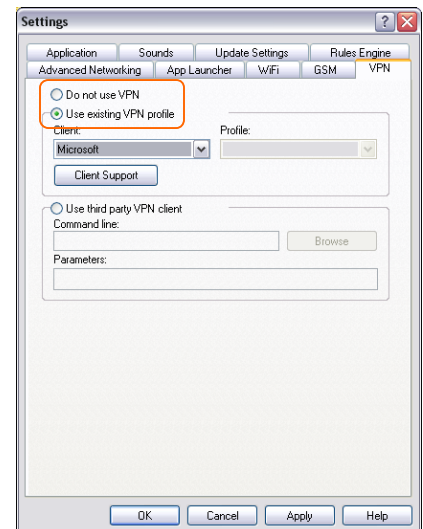
Configuring Communication Manager to Launch VPN

Communication Manager automatically recognizes VPN (Virtual Private Network) software that may already exist on your laptop PC. You can configure Communication Manager to launch your pre-existing VPN client software application by simply clicking the VPN button.

The VPN Auto Launch option is configurable by profile so you have the flexibility to connect it on some networks and not on others.

Setting up the VPN integration with Communication Manager is a two-step process:

- 1) Define the VPN client application:
 - From Tools > Settings > VPN, define the VPN client and profile that you will use. If you have not previously defined your VPN in Communication Manager, you can also launch the setting box by simply clicking on the VPN button on the main User Interface.



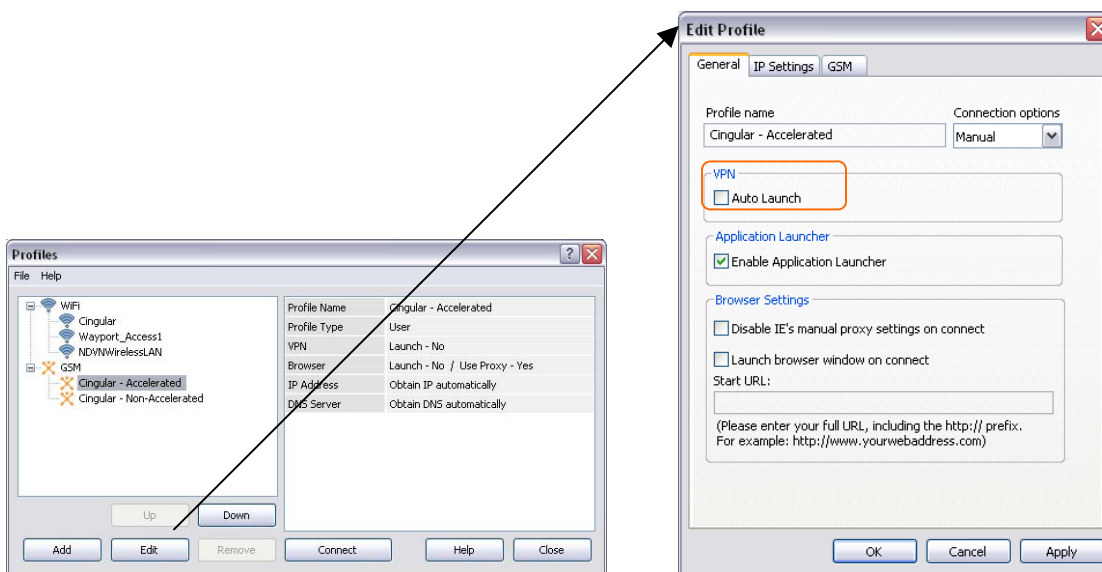


If desired, you can disable the Communication Manager VPN functionality completely by selecting “Do not use VPN.”

Note: Communication Manager automatically recognizes previously installed VPN clients from Microsoft, Cisco Systems, Nortel Networks, and CheckPoint. If you are using a different VPN client, select “Use a third party VPN client,” and click “Browse,” and choose your desired VPN client application.

2) Set VPN Auto Launch for each desired connection profile:

- For each connection profile, you must define whether you want the VPN you have configured in Step 1 to Auto Launch on each connection attempt. To configure your connection profiles, go to Connections > Edit Connection Profiles, select the desired profile and check the Auto Launch box on the General tab.

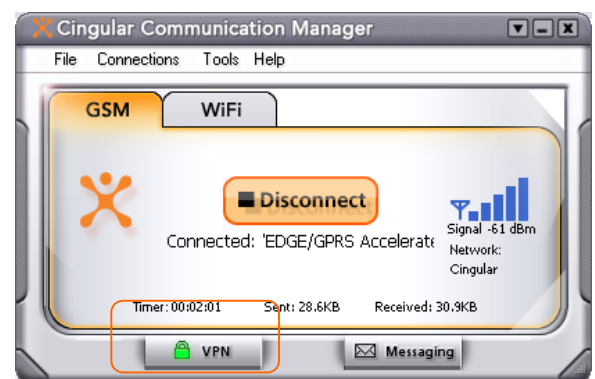


After completing the VPN configuration, simply click the VPN button on the main User Interface to engage/disengage the VPN.

When launched and engaged, the VPN lock indicator on the main User Interface will show a green lock status.

Lastly, it is recommended that you tune the Wireless TCP/IP to improve performance while running via a VPN. It is recommended you contact your IT department to make sure the following configuration will work with your system configuration.

See **Software > Optimizing Wireless Performance**.



Note: Enterprises often use VPNs to provide additional security for remote access to their corporate network. If you receive Cingular Wireless services through an enterprise (such as a place of employment), the network administrator for that enterprise may actually require you to establish a VPN connection whenever you use your wireless service. If this is the case and you fail to establish a VPN connection within a set period of time after you establish a wireless connection, you will be disconnected with an error indicating that VPN access is required. For more information, contact your enterprise network administrator.



Optimizing Wireless Performance

In order to optimize the performance of Cingular Wireless PC card modems and other data-capable devices, Cingular has provided an Advanced Networking feature within Communication Manager.

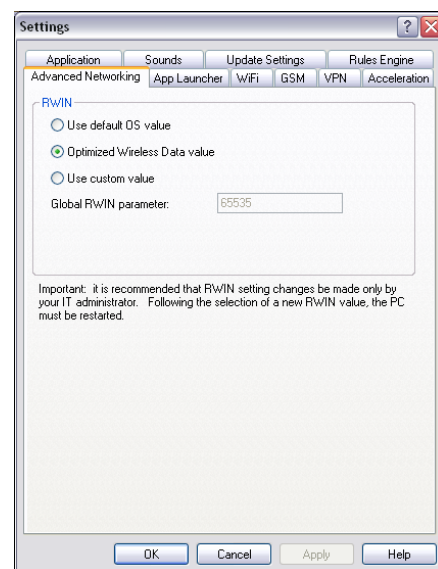


IMPORTANT: Modifying RWIN values is an advanced networking task. If you have any questions about RWIN please contact your IT systems administrator.

Communication Manager allows you to adjust the global RWIN value of your laptop PC to a value that is optimized for use with Cingular’s wireless networks. Go to Tools > Settings > Advanced Networking to find this feature. You may choose to adjust the setting to “Optimized Wireless Data Value.”

You can always revert back to the original RWIN value of your OS (Operating System) by returning to the Advanced Networking screen and choosing the “Use default OS value” option.

Note: Following the selection of a new RWIN value, your laptop PC must be re-started for the change to take effect.



Acceleration

When connected to a Cingular GSM network, Communication Manager uses data compression and acceleration techniques to increase the effective network throughput. The acceleration works by reducing the quality of graphics and limiting content received while web browsing.

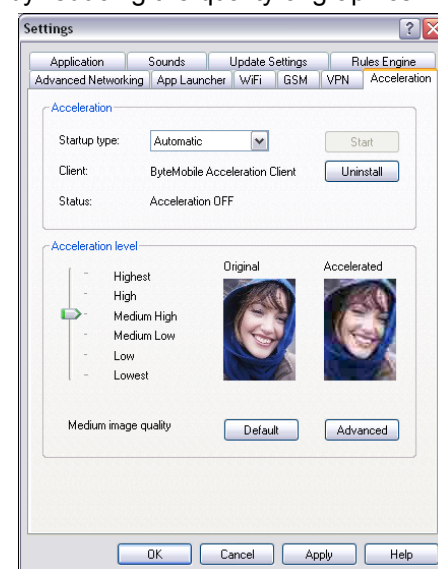


IMPORTANT: Communication Manager does not optimize data traffic over a VPN or a Wi-Fi connection.

The settings in the Tools > Acceleration tab configure the data acceleration used. The slider with the Acceleration Level allows you to adjust the amount of performance optimization, and balance that against the quality of the displayed graphics while browsing.

- The higher the level of acceleration, the lower the quality of the graphics image while on a Web page.
- The highest acceleration setting disables the receipt of all graphic images on a Web page.

On the right side of the tab, you can view a sample of the typical graphical quality of the selected “Accelerated” level.



Note: Some applications, such as Symantec personal firewall software, occasionally conflict with Acceleration client. If you are using a Symantec personal firewall and are experiencing conflicts, Cingular recommends uninstalling the Acceleration client. You can uninstall the client by clicking “Uninstall” on the Tools > Acceleration tab.



Updating Communication Manager Software

Communication Manager contains a powerful update engine that makes it easy for you to keep your software up to date with the latest network configurations, software enhancements, and hotspot locations. The update engine sends no personally identifiable information about you to the update server when the update request is made.

The Tools > Settings > Update Settings tab allows you to specify how often Cingular Communication Manager attempts to retrieve updates to its software and its databases.

Your software can be updated one of three ways:

Automatically

Every 14 days, Communication Manager will automatically check for an update when you are connected to the Internet (either through the Cingular Network or any other Internet connection). If there is an update available, then it will be automatically downloaded.

Prompt (default)

Every 14 days (or whichever interval you enter), Communication Manager will automatically check for an update when you are connected to the Internet (either through the Cingular Network or any other Internet connection). If an update is available, you will be informed in the Available Update window that there is an update available, what updates are included, and how large a particular update is. Please note that updates, while recommended, are optional.

If you would like to accept the update, click “Download.”

A web page will be launched that will list all updates currently available. If you want to install one of the updates listed, click the corresponding Install button.

If you would like to not accept the update, click “Cancel.”

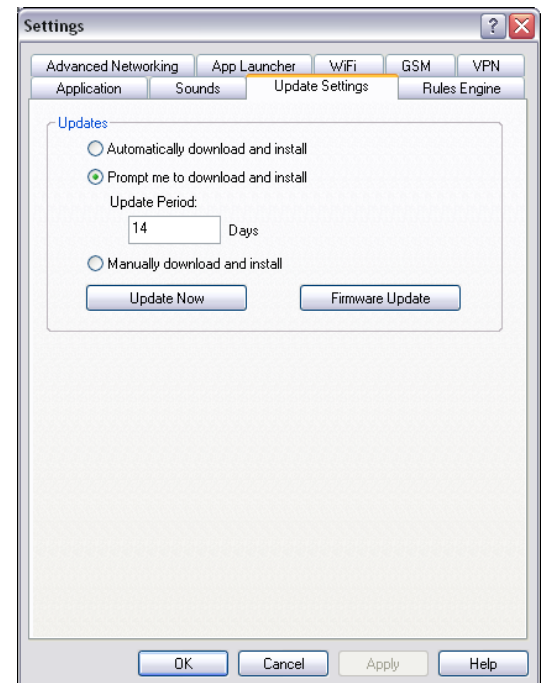
Manually

Communication Manager will not check for available updates until you click “Update Now.” Manual check requires that you are connected to the Internet (either through the Cingular Network or any other Internet connection).

To check for updates at any time, click either

- Tools > “Check for Updates” or
- Clicking the “Update Now” button on the Tools > Settings > Update Settings tab

Note: Some updates may be large: standard wireless usage charges apply. You can also download updates over a wireline or other broadband connection.

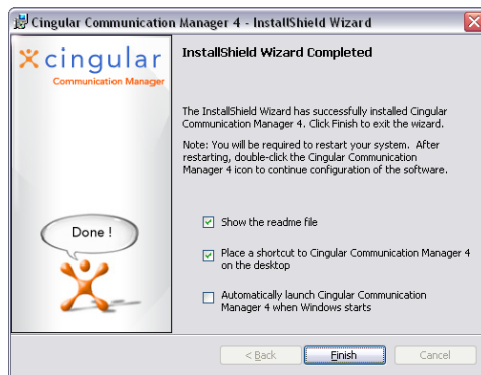




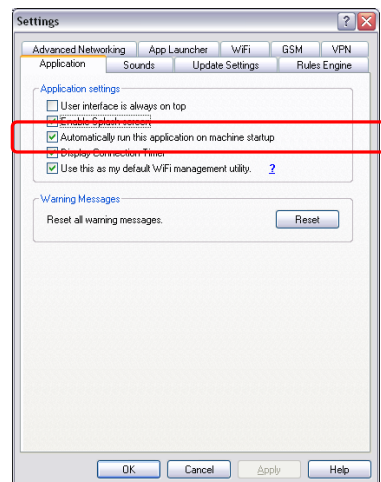
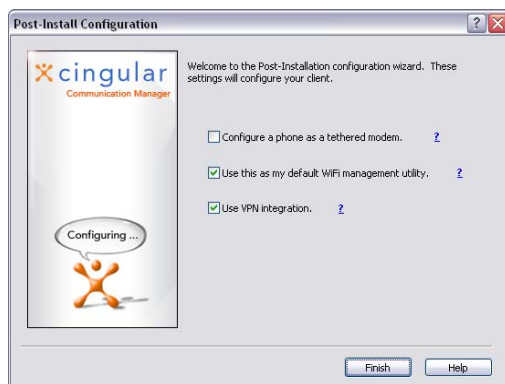
Changes to the Installation Process from Previous Versions

Cingular has made several simplifications to the Communication Manager installation process. As a result, users or enterprise IT administrators familiar with earlier versions (v4.3 or previous) who are making a fresh install of version 5.0 or later should take note of the following:

- 1) Communication Manager now requires a laptop PC restart after installation.
- 2) PC card modem users no longer have to run the Device Wizard to install and use their device.
- 3) The traditional post-installation screen has been updated with new options. See the **Getting Started** section for guidance on making selections on this screen.
 - The functions previously on the “post-installation” screen can now be found under the following locations:
 - Read me file — All Readme information is now contained within the Communication Manager Help System. See Section 8: **Troubleshooting**.
 - Desktop Shortcut — always placed on desktop by default.
 - Automatically launch on Windows start — under Tools > Settings > Application.



Post-Installation Screen - Communication Manager 4.3 or earlier



Post-Installation Screen - Communication Manager 5.0 or later



SECTION 4: USING A WI-FI-ENABLED LAPTOP PC

Connecting to a Wi-Fi Network

Cingular Communication Manager can be used to access public and private Wi-Fi hotspots as well as Cingular Wi-Fi hotspots.

To connect to a Wi-Fi network, follow these steps:

Note: Wi-Fi access is subject to network availability, signal strength and access permissions. Access to Cingular Wi-Fi hotspots requires a Wi-Fi Connect plan in addition to a Data Connect plan.

- 1) Verify that your laptop PC is Wi-Fi-enabled. Your laptop PC can be enabled in several ways, including:
 - Wi-Fi functionality is already included (i.e., embedded) in your laptop PC
 - Wi-Fi-capable PC card (802.11a, 802.11b, or 802.11g). If using a Wi-Fi PC card, make sure the card is inserted in an available Type II slot on your laptop PC.
- 2) Launch the Communication Manager application by Going to Start > Programs > Cingular Communication Manager or double-clicking the Cingular Communication Manager desktop icon.
- 3) If the application is started in “minimized” mode, you can make the main user interface appear by clicking on the system tray icon.



- 4) On the main user interface, verify that the Wi-Fi tab is selected if attempting to connect to a Wi-Fi network. Please wait a few moments for the embedded Wi-Fi functionality or (Wi-Fi-capable PC card) to detect the available Wi-Fi networks.
- 5) If one or more Wi-Fi networks are available, then the Communication Manager display should look similar to the screen at right.
- 6) To view the available Wi-Fi networks, click on the network available status line. A pop-up window will appear, displaying all available Wi-Fi networks.



Connect	Preferred	Network	Mode	BSSID	Channel	Encryption	Signal Strength
Connect	ANY	Home		3E-DA-0B-A4-F4-07	11		
Disconnect		Home		8A-2A-1D-17-FE-15	11		

- 7) To connect to a Wi-Fi network, click either the Connect button in the center of the Communication Manager display or the Connect button in the Networks pop-up window

Once you have connected to a Wi-Fi network, the Communication Manager display should look similar to this:

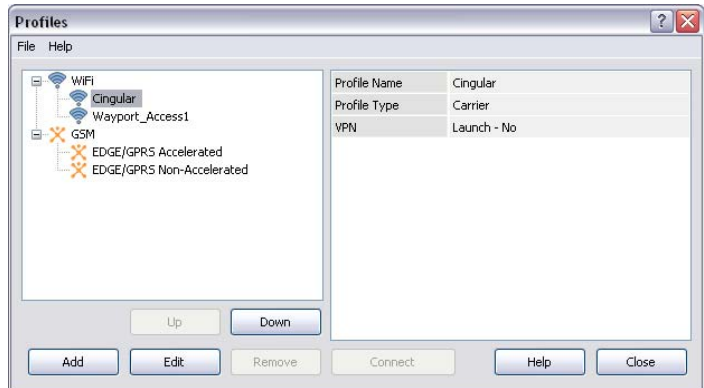




Connecting to Cingular Wi-Fi Hotspots

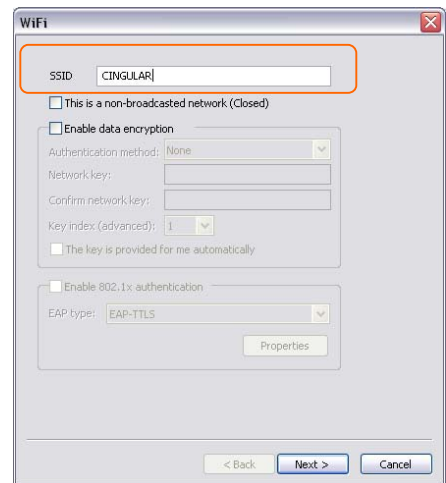
For Cingular Wi-Fi hotspot users, ensure that you have a profile named “CINGULAR” under the Wi-Fi profile tree.

You can review your connection profiles by going to Connections > Edit Connection Profiles.

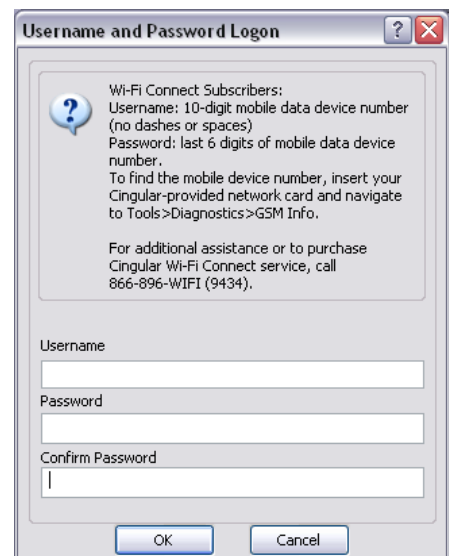


If a “Cingular” Wi-Fi does not exist, add a “Cingular” Wi-Fi profile and set the SSID to “CINGULAR.”

Note this SSID is case-sensitive.



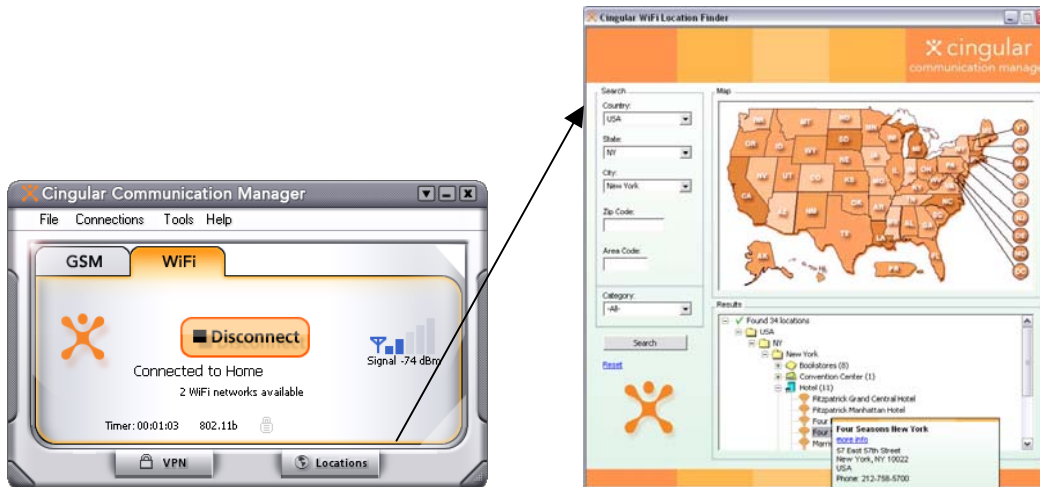
The first time you attempt to access a Cingular Wi-Fi hotspot, you will be automatically prompted to enter a username and password. Please enter your username (full 10-digit mobile data device number) and password (the last six digits of the same number, unless changed by Cingular Customer Care). No dashes or spaces. See the image at right.





Section 4: Using a Wi-Fi-Enabled Laptop PC

Your mobile number, listed as the “Phone Number,” can be found under Tools > Diagnostics > GSM Info > Device. To search for available Cingular Wi-Fi Hotspots, click on the Locations button. A pop-up Location Finder window will appear. Use the search criteria in the upper left to find Cingular Wi-Fi venues.



Note: Cingular Wi-Fi service available only on select plans. Contact your Cingular Wireless sales representative or call 1-866-CINGULAR to get more information or subscribe to this service.

See Managing Your Connections to learn how to manage your Wi-Fi connection profile(s).



SECTION 5: DEVICE WIZARD

Configuring a Data-Capable Handset

Communication Manager supports a variety of wireless connection devices, including any of the following methods:

- PC card
- USB
- Infrared
- Bluetooth
- Serial

Communication Manager is designed to support Cingular wireless devices. Please visit <http://www.cingular.com/communicationmanager> for a list of supported devices.



IMPORTANT In order to use your device with Communication Manager, you will need to have an appropriate Cingular Data Connect plan provisioned for the device and associated smartchip. (3G devices require a 3G smartchip.)

- 1) In order to configure a data-capable handset to work with Communication Manager, you will need to run the Device Wizard. Go to Tools > Device Wizard to run with Wizard.

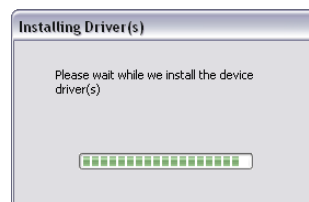
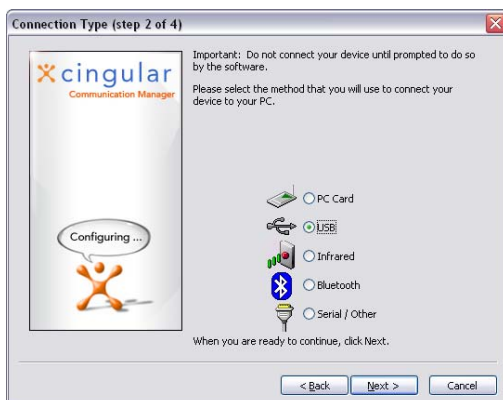


IMPORTANT: Do not insert the PC card modem (or attach the data-capable handset) into your laptop PC until the Device Wizard prompts you to do so.

- 2) You will be asked to specify how you want to attach your wireless handset for use with Communication Manager. Please make the choice depending on the capabilities of your device. After making your choice, click "Next."



Once you click "Next", the software will automatically install the appropriate device drivers for your selected device connection method.

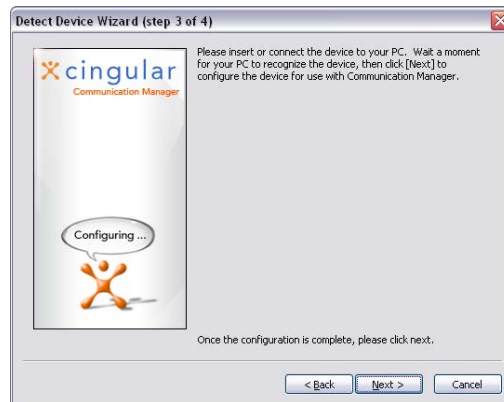




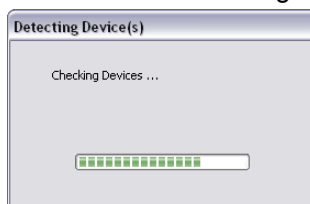
- 3) After installing the device drivers, the Device Wizard will ask you to insert or connect the device you wish to configure.
- If you are using a **PC card**, insert the card into an empty PCMCIA (Type II) slot on your computer. Make sure your card is face up and the antenna is connected. Please refer to your PC's owner's manual for additional details on how to install PC cards.
 - If you are using a **Serial or USB cable**, connect your handset to the cable and connect the other end of the cable to the appropriate port on your PC.
 - If you are using **Infrared**, align your handset's infrared port with your PC's infrared port. Consult your phone's owner's manual for details.
 - If you are using **Bluetooth**, consult your user's manual for instructions on how to connect your handset to your PC. You will need to manually pair your handset and laptop PC before continuing.

Bluetooth Users: In order to use Bluetooth to connect your device to your laptop PC, your laptop PC and handset must both support Bluetooth the Dial-Up Networking (DUN) profile/service. Consult your PC and handset owner's manuals for support details.

Once the device is attached, you should momentarily see a New Hardware pop-up message near the System Tray (lower right of laptop PC desktop) for the device being installed. It is important not to interrupt this hardware recognition process.



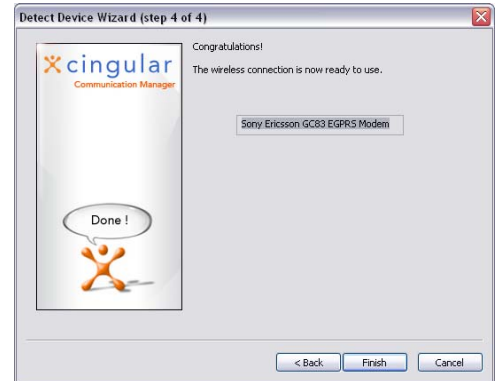
- 4) Click the Next button once it is available. The following will display momentarily:





- 5) Once your device is detected and configured, the display at right should be seen, indicating that the wireless device is ready to use.

- 6) Click “Finish.” At this point, you are ready to use Communication Manager with this device.



Note: Once you have set up a particular device on your laptop PC, you no longer have to run through the Device Wizard again when using that device. Simply attach the device to your laptop PC and Communication Manager will detect it and be ready to use.



IMPORTANT: Bluetooth users must pair their handset and laptop PC each time *before* attempting to connect via Communication Manager.

SECTION 6: MANAGING YOUR NETWORK CONNECTIONS

Overview

How the Cingular Communication Manager Works

Cingular Communication Manager is preconfigured to prefer Wi-Fi Profiles over GSM (GPRS) profiles to ensure that you get the best available wireless connection for your particular location. This means that:

- When a Wi-Fi network (which has been saved as a profile by you or by Cingular) becomes available, Cingular Communication Manager will take action based on the connection settings in the Wi-Fi profile.
- When a Wi-Fi network (which has been saved as a profile by you or by Cingular) is not available, Cingular Communication Manager will search for an available GSM network. Once an available GSM network is detected, Cingular Communication Manager will take action based on the connection settings in the GSM profile.

Managing Network Connections

There are two primary places where you can manage the way Communication Manager connects you to the network.

- **Settings** — Found in the Tools menu, “Settings” allows you to configure a variety of connection behaviors such as roaming connection preferences, preferred VPN client, etc.
- **Connection Profiles** — Found in the Connections menu, “Edit Profiles” allows you to configure the specifics required to connect to each network you access.



Setting Connection Behavior

Found in the Tools menu, the Settings window allows you to configure a variety of connection behaviors:

- Rules Engine tab — define preferred connection technology and switching preferences.
- GSM tab — configure device and network selection as well as roaming selection
- Wi-Fi tab — configure new Wi-Fi network preferences and encryption support.
- VPN tab — define VPN client settings (See the “**Configuring Communication Manager to Launch VPN**” section).

Settings > Rules Engine

The Rules Engine tab allows you to specify the conditions under which the Cingular Communication Manager will attempt to switch from one type of connection technology (Wi-Fi or GSM/GPRS) to another type of technology connection.

Use Rules Engine

- When this box is checked, Cingular Communication Manager will attempt to automatically switch to the preferred connection technology whenever networks using preferred technology are available.
- “Use Rules Engine” box must be checked for the auto-connect upon Communication Manager start-up feature to be enabled.
- When this box is NOT checked, Cingular Communication Manager will never switch technologies by itself. To switch technologies, you must manually select a different type of connection in the main window and then click the Connect button. Note that this selection also disables GSM auto-reconnect.

Retry to Connect Interval

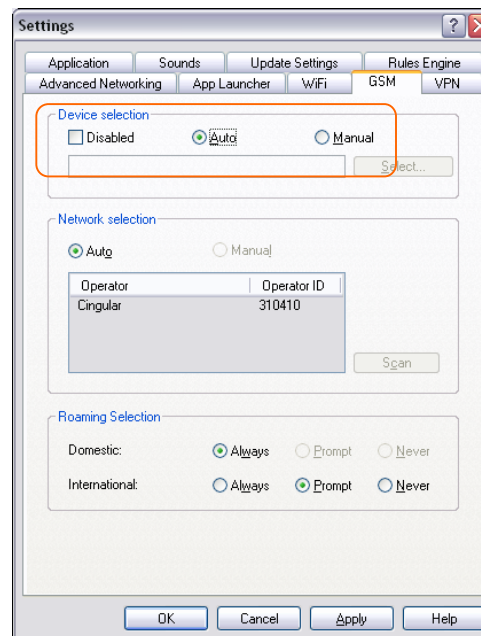
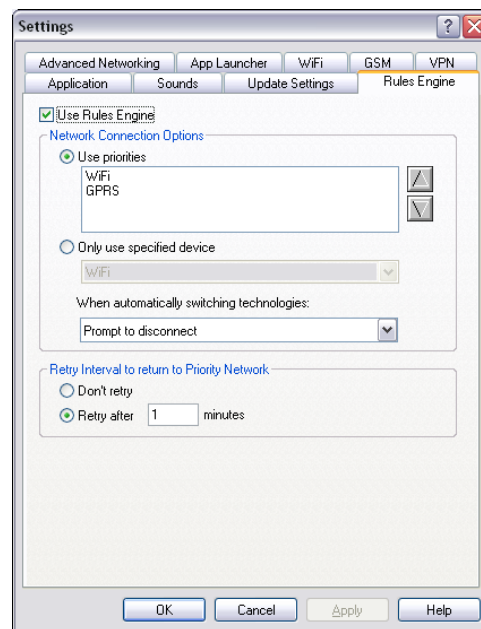
- Select how many minutes after you lose a connection that Cingular Communication Manager should attempt to reconnect.

Settings > GSM

The GSM section allows you to configure Communication Manager's ability to make data connections over wireless GSM networks (GPRS/EDGE/UMTS/HSDPA).

Device Selection

- This allows you to select which device you would like the Communication Manager to use to establish connections. Normally, Communication Manager will automatically select the most appropriate device it detects. However, if you would like to select a specific device to always use for GSM connections, you can do so here.



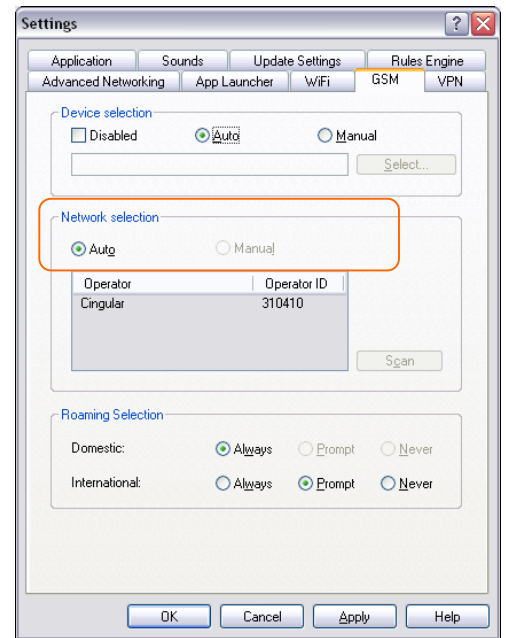


Network Selection

- Selecting the manual option here will allow you to manually select from a list of available GSM networks. Note that this option is only available when using older devices. This option will not be available if you are using an ENS (Enhanced Network Selection) capable device and 3G smartchip.

Roaming Selection

- **Domestic** — The selected option in this box dictates whether Communication Manager will attempt to connect to a roaming network in the USA. Since domestic data roaming within the United States is included in Data Connect plans, the domestic roaming setting has been locked in the “always” position. This allows Communication Manager to connect to a qualified roaming network, if available, should Cingular’s own network be unavailable.
- **International** — The selected option in this box dictates whether Communication Manager will attempt to connect to a roaming network when outside of the USA. Typically, international connections are subject to roaming charges.
- Roaming outside of the U.S. and Canada requires an international roaming plan. Additional credit and eligibility restrictions apply. *Consult your service agreement for more information about international roaming service and any charges that such service might incur.*



Settings > Wi-Fi

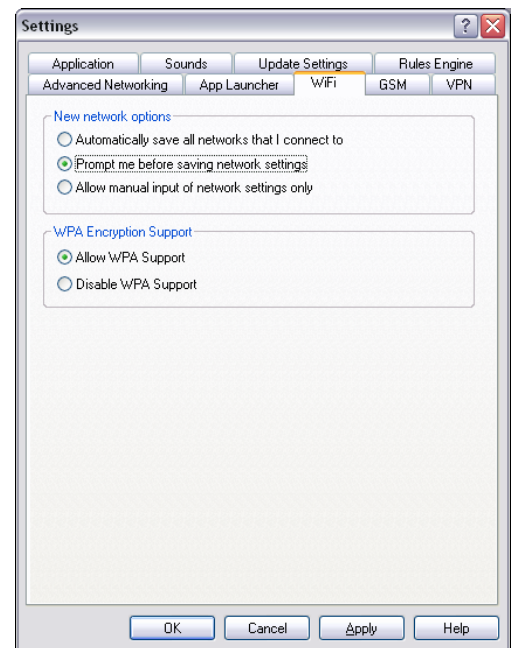
The Wi-Fi section allows you to configure the Communication Manager’s ability to connect to Wi-Fi networks.

New Network Options

- These settings allow you to configure Communication Manager to automatically create a new network connection profile for each new Wi-Fi network that you connect to.

WPA Encryption Support

- If your Wi-Fi device does not fully support WPA encryption, you may run into problems connecting to Wi-Fi networks that use this form of encryption. If this is the case, you may wish to disable Communication Manager’s support of WPA in order ensure more reliable connections.





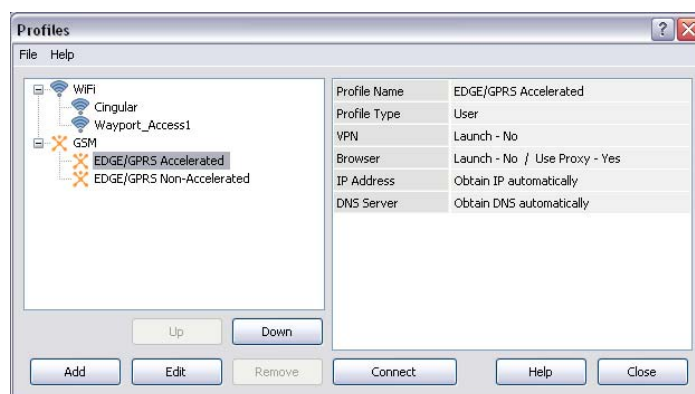
Define Connection Profiles

Connection Profiles allows you to configure the specifics required to connect to each network you access. You can add, delete, and edit profiles simply by clicking Connections > Edit Connection Profiles from the main window.

The Profiles window has three parts. The left window displays a tree view of all currently available profiles. The right window displays information about the currently selected profile. The action buttons are available at the bottom of the window. When selected, the action buttons will act on the profile selected in the left-hand window.

To edit or delete a profile, simply select that profile in the tree view and hit the desired action button. Note: Cingular Wireless' predefined profiles cannot be deleted.

To add a profile, highlight either Wi-Fi or GSM, depending on the type of profile you wish to create, and click the Add button.

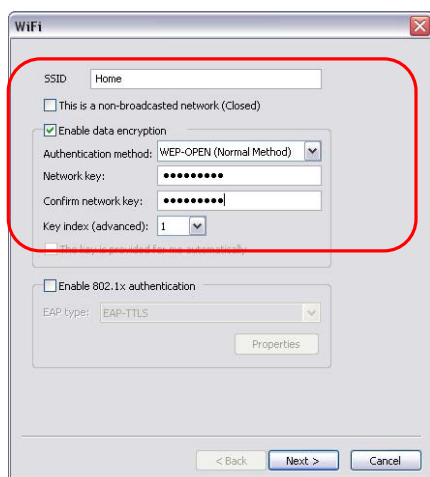
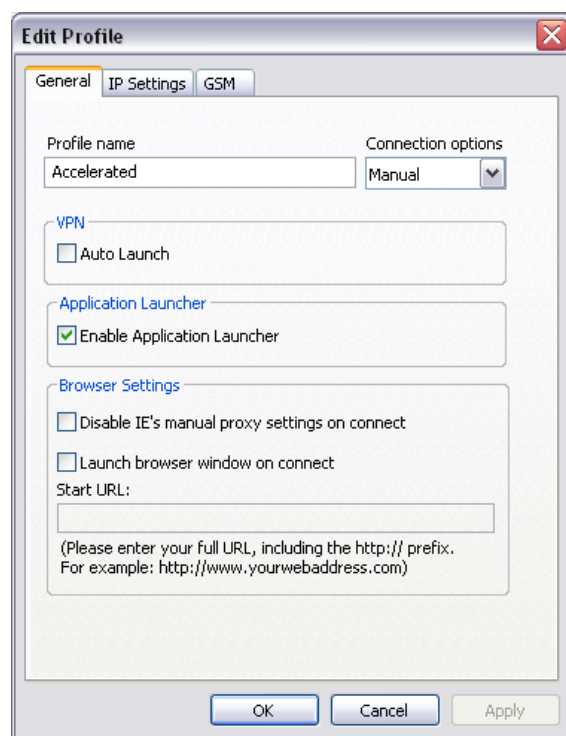


IMPORTANT: If you wish to have your web browser, VPN client or other application automatically launch upon network connection, you need to define that action for each connection profile.

To adjust VPN, auto-application launch, and browser settings, click "Edit" with the correct connection profile highlighted. Then make the appropriate selections on the General tab.

To have consistent behavior across multiple profiles, you will have to make the same profile setting modifications for each profile.

When attempting to access a "secure" (encrypted) Wi-Fi network, ensure the associated Wi-Fi connection profile has the correct SSID as well as the proper network authentication method and network key. See the image below:





SECTION 7: DEVICE MAINTENANCE

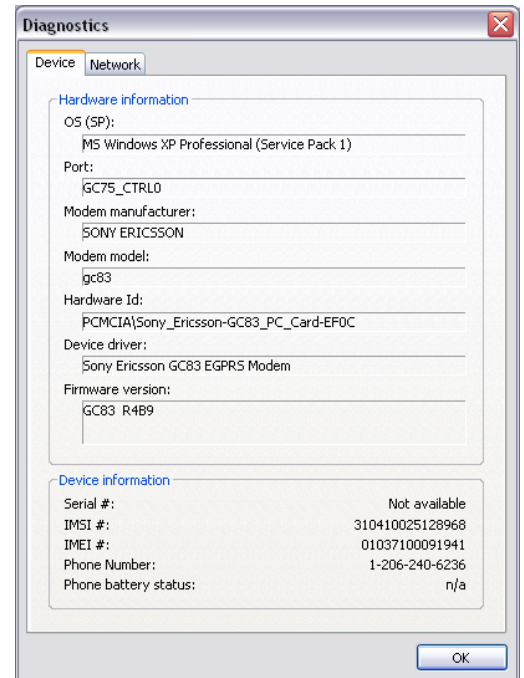
Upgrading Your PC Card Modem Firmware > Sony Ericsson

Periodically, PC card modem manufacturers release new firmware that improves the overall performance and reliability of the wireless PC card. It is recommended that you check for the latest firmware version available.

Upgrading Sony Ericsson PC Card Modem Firmware

To double-check that you have the latest firmware, follow these steps:

- 1) From the Communication Manager interface with the card inserted, go to Tools > Diagnostics > GSM Info. A dialog box like the following will be displayed. In this case, the firmware version is "R4B9."
- 2) Next, go to <http://www.cingular.com/laptopconnect/support> or <http://www.sonyericsson.com>
- 3) From the Cingular Laptop Connect Support site, click the link for your Sony Ericsson PC Card modem model to be redirected to the location with the latest firmware.
- 4) Follow the instructions on the website to update your PC card modem firmware.



Laptop Connect Support

Laptop Connect Support



Welcome to the Laptop Connect Support site. Here you will find current information for existing customers of Cingular's Laptop Connect solution.

Modem Card Firmware Downloads

From time to time, Cingular's modem vendors release firmware upgrades to existing products in our device portfolio. We work with the vendor to determine if, how, and when, to distribute the upgrade. The most current firmware for each modem Cingular offers is below.

1. [Firmware for the Sony Ericsson GC82](#)
2. [Firmware for the Sony Ericsson GC83](#)
3. [Firmware for the Sierra Wireless AC710/750](#)
4. [Firmware for the Sierra Wireless AC775](#)



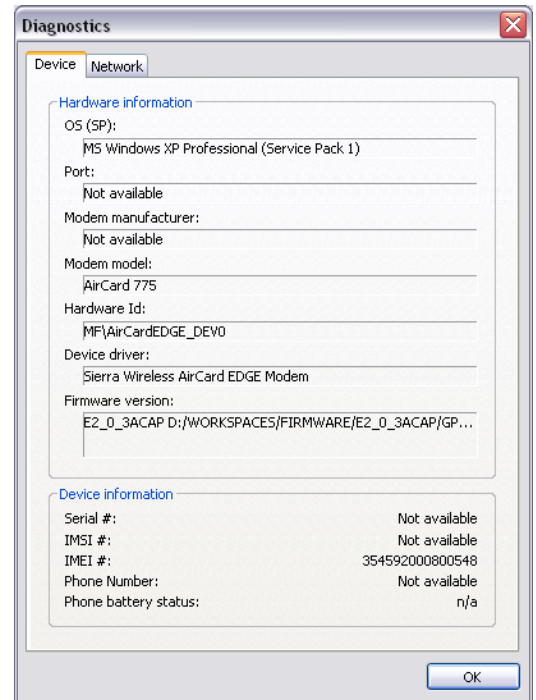
Upgrading Your PC Card Modem Firmware > Sierra Wireless

Periodically, PC card modem manufacturers release new firmware that improves the overall performance and reliability of the wireless PC card. It is recommended that you check for the latest firmware version available.

Upgrading Sierra Wireless PC Card Modem Firmware

To double check that you have the latest firmware, follow these steps:

- 1) From the Communication Manager interface with the card inserted, go to Tools > Diagnostics > GSM Info. A dialog box like the following will be displayed. In this case, the firmware version is "E2_0_3A."
- 2) Next, go to <http://www.cingular.com/laptopconnect/support> or <http://www.sierrawireless.com>
- 3) From the Cingular Laptop Connect Support site, click on the link for your Sierra Wireless PC Card modem model to be redirected to the location with the latest firmware.
- 4) Follow the instructions on the website to update your PC card modem firmware.



Welcome to the Laptop Connect Support site. Here you will find current information for existing customers of Cingular's Laptop Connect solution.

Modem Card Firmware Downloads

From time to time, Cingular's modem vendors release firmware upgrades to existing products in our device portfolio. We work with the vendor to determine if, how, and when, to distribute the upgrade. The most current firmware for each modem Cingular offers is below.

1. [Firmware for the Sony Ericsson GC82](#)
2. [Firmware for the Sony Ericsson GC83](#)
3. [Firmware for the Sierra Wireless AC710/750](#)
4. [Firmware for the Sierra Wireless AC775](#)



Upgrading Your PC Card Modem Firmware > Novatel Wireless

Periodically, PC card modem manufacturers release new firmware that improves the overall performance and reliability of the wireless PC card. It is recommended that you check for the latest firmware version available.

Upgrading Novatel Wireless PC Card Modem Firmware

To double-check that you have the latest firmware, follow these steps:

- 1) From the Communication Manager interface with the card inserted, go to Tools > Diagnostics > GSM Info. A dialog box like the following will be displayed. In this case, the firmware version is “37.0.”
- 2) Next, go to <http://www.cingular.com/laptopconnect/support> or <http://www.novatelwireless.com/support/index.html>
- 3) From the Cingular Laptop Connect Support site, click the link for your Novatel Wireless PC card modem model to be redirected to the location with the latest firmware.
- 4) Follow the instructions on the website to update your PC card modem firmware.



Laptop Connect Support

Laptop Connect Support



Welcome to the Laptop Connect Support site. Here you will find current information for existing customers of Cingular's Laptop Connect solution.

Modem Card Firmware Downloads

From time to time, Cingular's modem vendors release firmware upgrades to existing products in our device portfolio. We work with the vendor to determine if, how, and when, to distribute the upgrade. The most current firmware for each modem Cingular offers is below.

1. [Firmware for the Sony Ericsson GC82](#)
2. [Firmware for the Sony Ericsson GC83](#)
3. [Firmware for the Sierra Wireless AC710/750](#)
4. [Firmware for the Sierra Wireless AC775](#)



SECTION 8: TROUBLESHOOTING

Where to Get Help

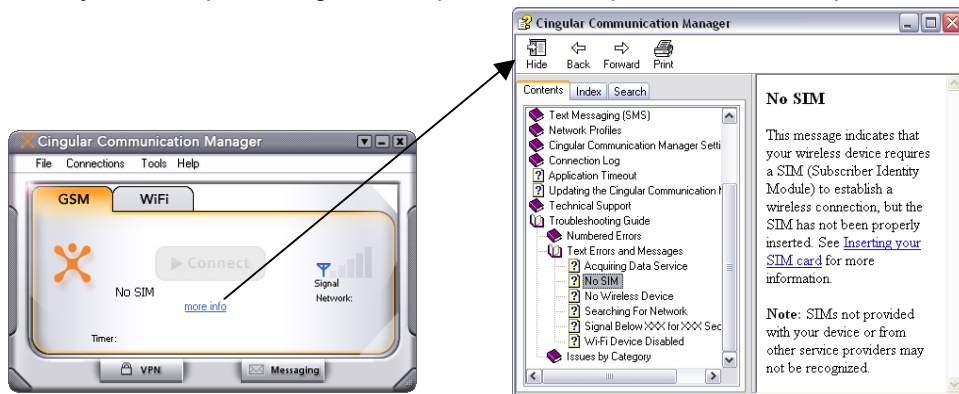
Help System included with Communication Manager

Communication Manager has a comprehensive Help system integrated within the software. There are several ways to access the Help information:

- Click “Help” on the main User Interface toolbar to access the Help utility.
- Click “Help” while on a setting or configuration screen.
- Context-sensitive Help is provided for most errors encountered during use.

Context-Sensitive Help

When Communication Manager detects an error during use, you will be provided with a link to a Help article specific to the issue you are experiencing. The Help article will explain the error and provide troubleshooting steps.



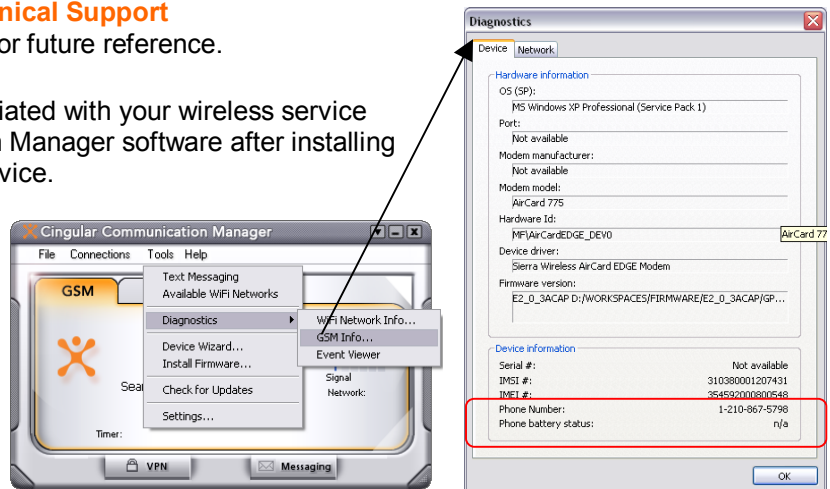
Contacting Cingular Wireless Care and Technical Support

Be sure to record your wireless phone number for future reference.

The Phone Number (Subscriber Number) associated with your wireless service account can be found within the Communication Manager software after installing the software, the smartchip, and the wireless device.

To find your phone number, go to Tools > Diagnostics > GSM Info.

If you need to call for support, this wireless number will be requested. It is strongly recommended that you note this number for later reference when needed.



Telephone Support


Customer Care: 1-866-CINGULAR

Technical Support: 1-800-331-0500

For Enterprise accounts that qualify, contact Enterprise Data Support at 1-800-999-5445. Please contact your Cingular account manager to see if you qualify.



Common Issues/Resolution

The connect button isn't enabled – and I cannot connect.	
Condition	Solution
Communication Manager has just been started and the card is still in the process of registering itself on the network (typically 20 seconds).	This process can take up to a minute or two to complete.
There is no usable network signal.	
Condition	Solution
No signal bars are filled and/or there is no Network name displayed under the signal bars.	<p>Try moving locations if possible. Wireless technology is “line of sight,” meaning obstacles like buildings and trees can degrade signal strength and quality. It’s not unusual for one side of a building to have significantly better signal than another. Try near a window.</p> <p>Make sure the antenna is inserted and/or extended (some models vary).</p> <p>To remedy a partially installed device, right-click the device component with the problem, choose “uninstall,” then eject the card and run through the Communication Manager Device Wizard to reinstall. From Communication Manager, select Tools > Device Wizard. Select your device connection method and follow the Wizard to install your device.</p>
No wireless device detected.	
Condition	Solution
The wireless PC card modem or device isn't being recognized by the operating system properly.	<p>Open the Safely Remove Hardware dialog box by clicking on the icon in the PC System Tray (lower right of the laptop PC desktop). This dialog box displays which removable devices are properly recognized by the Operating System. Click the checkbox labeled “Display Device Components.” Verify that all components are working. Check for any device component that may have a yellow “!” or a red “X” character in front of it, indicating a nonworking component. </p> <p>To correct a partially installed wireless device, go to Go to Start > Settings > Control Panel > System > Hardware > Device Manager and uninstall the wireless device by right-clicking and selecting “Uninstall.” Then eject the PC card modem or detach the wireless device. Be sure to close down all other applications, and rerun the Device Wizard from the Communication Manager Tools menu, following all prompts.</p>



I can no longer use my regular Wi-Fi connection management utility (i.e. Microsoft Zero Config.)

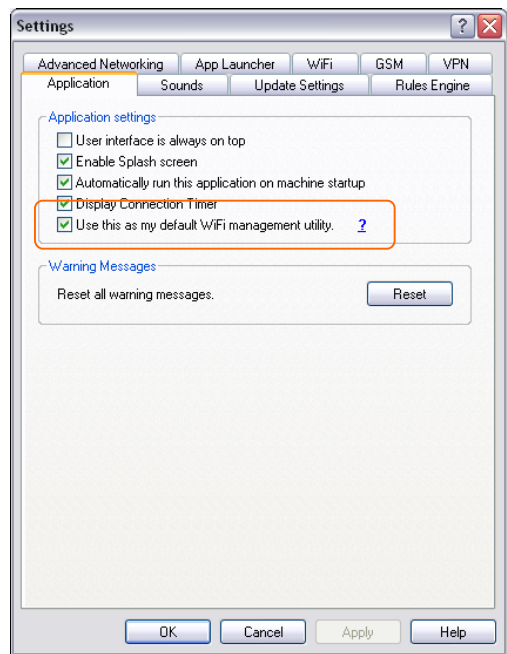
Condition

If Communication Manager Wi-Fi management is enabled on a Windows XP system, Communication Manager will shut down the Zero Config Wi-Fi management tool built into Windows each time Communication Manager starts (it may conflict with Communication Manager's Wi-Fi management capabilities).

Solution

The Windows Zero Config Wi-Fi management tool will be restarted automatically when you exit Communication Manager.

If you do not wish to use Communication Manager to manage your Wi-Fi connectivity, you can choose to disable the functionality by going to Tools > Settings > Application and uncheck the option "Use this as my default Wi-Fi management utility."



Note: Communication Manager Wi-Fi management must be enabled if you wish to access to the Cingular Wi-Fi hotspots. Access to Cingular Wi-Fi hotspots requires a Wi-Fi Connect plan in addition to a Data Connect plan.



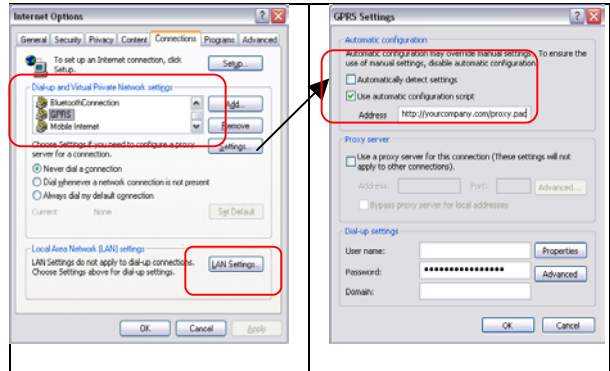
My card connects to the network but I can't browse the Internet.

Condition

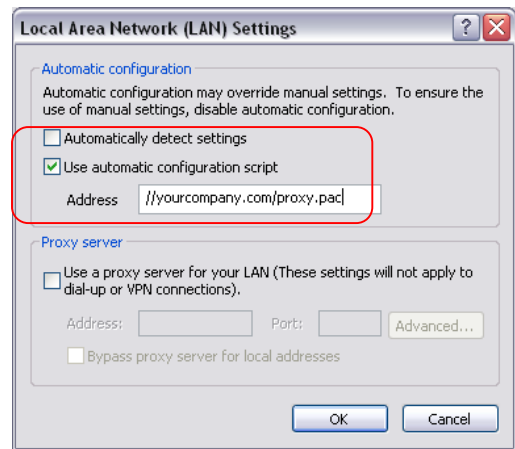
I can connect to the Internet, attach using my VPN, but I can't seem to browse the Web.

Solution



Communication Manager uses a Dial-Up Networking (DUN) entry called "GPRS." You may need to add your particular proxy setting to this DUN entry. To do this, go to Internet Explorer > Tools menu > Internet Options > Connections Tab. Scroll in the "Dial-up and Virtual Private Network settings" list, highlighting GPRS, then select "Settings."



Verify the GPRS proxy address settings are the same as your LAN settings (you may have to copy values from the LAN settings to GPRS settings).





I have good signal strength but slow or erratic performance.	
Condition	Solution
<p>I can connect and the main User Interface UI reports strong signal – several bars (-59 to -85 dBm) – but throughput is slow or erratic.</p>	<p>Throughput is affected by various factors, some that can be controlled, and some that can't, such as interference, network outages, roaming, etc. The factors that can be controlled include:</p> <ol style="list-style-type: none"> 1) Double-checking that VPN tuning settings are in place. See Software > Optimizing Wireless Performance on page 15. 2) Try clearing the browser cache. From Internet Explorer, choose Tools > Options > Temporary Internet Files and click "Delete Files." 3) Check that the wireless PC card or device is being recognized properly. Right-click the Remove Hardware icon in the PC System Tray (lower right of the desktop). Select your wireless device and click the Properties button. Verify that the Device Status is "This device is working properly." Otherwise, click the Troubleshoot button.  <p>Occasionally, the wireless PC card or device may lose its PDP context, the digital handshake that it uses to communicate with the wireless network. You will notice this because the Sent counter shows outbound transmission of data, but there are no inbound data receive counts. Often closing down the Communication Manager application completely and restarting will solve the problem. Other times, a full restart of your laptop PC is required.</p> <p>Turn off any Wi-Fi adapters (802.11) included in your laptop OC. The radio in the Wi-Fi adapter may be searching for a hotspot that isn't there.</p>
I have a 3G device and good signal strength but throughput is slow	
Condition	Solution
<p>I can connect my 3G device and the main User Interface UI reports strong signal – several bars (-59 to -85 dBm) – but throughput is slow.</p>	<p>Cingular 3G devices work on Cingular's Broadband Connect network (the new 3G network) as well as on the Cingular EDGE network.</p> <p>In order to achieve 3G performance, you need the following:</p> <ol style="list-style-type: none"> 1) A 3G device 2) A 3G smartchip. A 3G smartchip can be identified by the text: "3G" on the chip. 3) A Cingular Data Connect service plan 4) A 3G wireless signal. You can determine this by looking for the "3G" indicator icon in the Communication Manager software main user interface. See "Connection Manager User Interface". If you do not see the 3G indicator, the 3G network is currently not available in your location.  <p>If you use a 3G device in a non-3G Cingular coverage area, you will connect to the Cingular EDGE network.</p>



Throughput over VPN is extremely slow despite decent signal strength.	
Condition	Solution
I show strength signal strength (between -59 to -85 dBm), yet throughput when I turn my VPN on is very slow.	Refer to the sections “Software > Configuring Communication Manager to Launch VPN” and “Software > Optimizing Wireless Performance” to learn how to set parameters” for an additional performance enhancing adjustments.
Getting exchange mail with Microsoft Outlook is slow—how can I improve performance?	
Condition	Solution
Addressing, retrieving, or synchronizing e-mail is slow.	<p>Slow e-mail access and synchronization times can be exacerbated by:</p> <ul style="list-style-type: none">• Fragmentation or corruption of the OST (Offline Storage File)• Accessing the Microsoft Exchange server directly over the wireless connection vs. using Outlook in Offline mode with the send and receive button initiating transmission.• Allowing for large Address Book downloads while on a wireless connection.• Allowing for large public folder synchronization while on a wireless connection. <p>Consult your IT department on how to optimize your Outlook configuration for use with a wireless connection.</p>
Communication Manager is reporting a numbered error code, such as “Error 679.”	
Condition	Solution
Communication Manager is reporting a Windows Dial-Up Networking (DUN) Error Code.	Refer to the Communication Manager Help system for information and troubleshooting steps specific to the Error Code you are being notified of. Go to Contents > Troubleshooting Guide > Numbered Errors.
I am using Symantec personal firewall software and I am experiencing software conflicts with Communication Manager.”	
Condition	Solution
Some applications such as Symantec personal firewall software occasionally conflict with Acceleration client, included with Communication Manager.	If you are using a Symantec personal firewall and experiencing conflicts, Cingular recommends uninstalling the Acceleration client. You can uninstall the client by clicking “Uninstall” on the Tools > Acceleration tab. To recover the Acceleration client, you will need to re-install the Communication Manager application. The install package includes the Acceleration client.
I lost my antenna. How can I get a replacement?	
Condition	Solution
Lost antenna or broken antenna.	Information on how to obtain replacement antennas can be found on the following website: http://www.cingular.com/laptopconnect/support . Check under the Accessories section.
I want an external antenna to boost reception for my car or home office.	
Condition	Solution
Need external antenna.	Information on how to obtain external antennas can be found on the following website: http://www.cingular.com/laptopconnect/support . Check under the Accessories section.