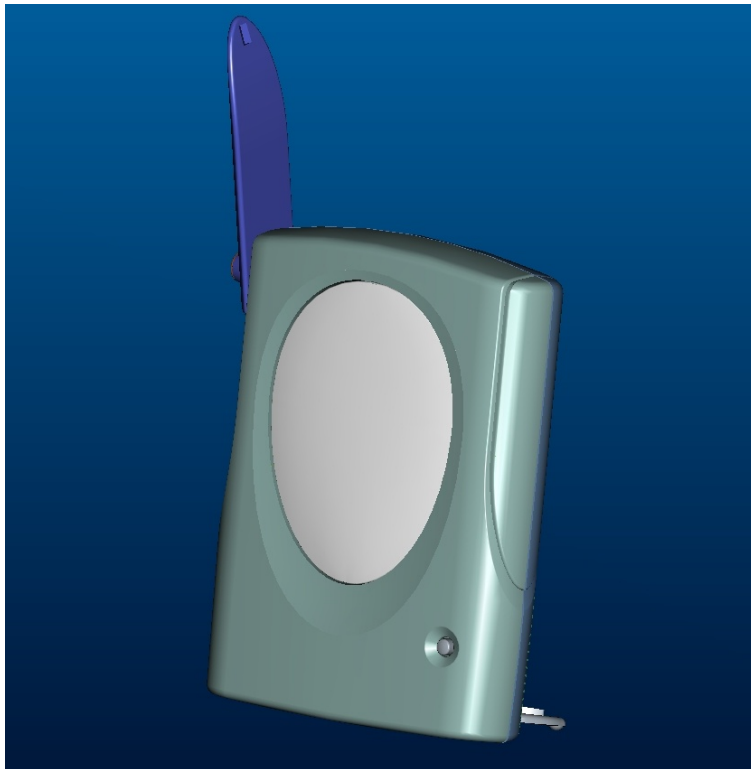


IPWireless Broadband Modem

1C User Guide

Version 1.0



Feb 18, 2003



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Introduction

Congratulations on your selection of the IPWireless Broadband Modem. Your IPWireless Broadband Modem is designed to give you exceptional performance combined with easy installation and operation. Please read all safety and care instructions in Chapter 1 before installing your IPWireless Broadband Modem for the first time.

The IPWireless Broadband Modem is a portable, wireless, cellular device that provides high-speed access to the Internet and offers high-bandwidth data downloads, uploads, and web browsing when connected to networks authorized for use with the IPWireless Broadband Modem.

The design of the IPWireless Broadband Modem is based on the standards of the latest third generation cellular communication technology, commonly known as 3G technology. The IPWireless Broadband Modem doesn't require an outdoor antenna, telephone jack, or additional home or office wiring. What's more, the IPWireless Broadband Modem connects to the Internet through radio access -- you will never encounter dial-up busy signals or need to install an extra line to access the Internet and use the telephone at the same time.

The speed at which your IPWireless Broadband Modem will perform is dependent upon the radio signal quality available and the IPWireless service level that you select. Information on how to determine and boost the signal quality is located in Chapter 3. Of course, your IPWireless Broadband Modem can only connect to systems authorized for use with IPWireless equipment. Service is not available in all areas; consult your Internet Service Provider (ISP) for details.

The IPWireless Broadband Modem is USB (Universal Serial Bus) compatible. USB is a "plug and play" interface between a computer and an add-on device, such as a modem or printer, eliminating the need to add an adapter card. The USB also provides a trickle charge to the internal battery of the IPWireless Broadband Modem.

Technical Support

This User Guide provides you with step-by-step instructions on how to install and use your IPWireless Broadband modem. However, if you need further assistance, please contact your Service Provider for Technical Support.

Chapter 1 – Safety and Care Instructions

Before using your IPWireless Broadband Modem for the first time, please read and follow all warnings, safety, care, cleaning, and operating instructions on the IPWireless Broadband Modem label and in this guide. These guidelines will help protect your IPWireless Broadband Modem from potential damage and ensure your personal safety.

Safety Guidelines for Power Connection

Danger - Do not place or use the IPWireless Broadband Modem near any body of water such as a bathtub. Accidental immersion can result in electric shock.

Danger - Never alter the AC adapter or plug. If the plug will not fit into the electrical outlet without force, contact a qualified electrician to install a proper outlet.

Connect the AC adapter to 120V or 240V electrical outlets only.

To disconnect the unit from mains power, remove the AC adapter from the wall socket.

To reduce the risk of damage, always remove each end of the power cable by pulling the plug rather than the cable.

Do not allow anything to rest on the power cable.

Do not position the power cable in any area where people will step on it.

Do not use the IPWireless Broadband Modem if the power cable becomes frayed or damaged in any way.

Do not overload the power outlet. Power overloads are often caused by too many electrical devices connected by extension cords and can result in electric shock or fire.

See Appendix B for important safety information about the internal battery.

Safety Guidelines for the IPWireless Broadband Modem

Do not attempt to disassemble the IPWireless Broadband Modem; doing so may expose you to unsafe conditions. The IPWireless Broadband Modem does not contain consumer serviceable components. Service should be performed by the IPWireless Service Center only. Contact IPWireless Customer Service to find the nearest IPWireless Service Center.

Position the IPWireless Broadband Modem so that it is protected from falling objects.

Do not allow liquids to spill on or into the IPWireless Broadband Modem.

Do not expose the IPWireless Broadband Modem to extreme hot (over 131° F/+55°C) or cold (under 14° F/-10°C) temperatures.



Do not leave the IPWireless Broadband Modem in a motor vehicle parked in direct sunlight for more than fifteen minutes.

Do not expose the IPWireless Broadband Modem to open flames.

Do not alter the antenna or substitute any other antenna. Doing so may be unsafe.

Switch your IPWireless Broadband Modem off when near medical equipment, fuel, chemicals, a potentially explosive atmosphere such as a gasoline station, or when in an area in which blasting is in progress. Also, switch it off when on an aircraft. Follow any other rules, regulations, or posted notices that apply to the use of electronic or radio equipment.

Before using the IPWireless Broadband Modem near a pacemaker or similar device, consult a physician or the device manufacturer for more information. In any event, do not use the IPWireless Broadband Modem within 8" (20 cm) of a pacemaker or similar device.

Do not use the IPWireless Broadband Modem when you need to pay attention to other activities. For example, never use it while driving or while supervising or operating machinery.

The IPWireless Broadband Modem, like any other wireless communications device, cannot guarantee a connection in all circumstances. Do not rely on it for matters where a connection is essential.

Exposure to Radio Frequency Signals

The following information includes important safety guidelines regarding exposure to radio frequency (RF) signals and the use of electronic devices as determined by the Federal Communications Commission (FCC).

Before using your modem, please read the RF label that is attached to the outside of the modem. This label identifies the minimum separation distance between the modem antenna and the user or any other person when the modem is in use. Do not use the modem when the antenna is closer to anyone than the specified distance.

Your modem is a low power radio transmitter and receiver. When it is ON, it receives and also sends out RF signals. The FCC has adopted RF exposure guidelines with safety levels for wireless cellular devices. The FCC guidelines are consistent with the safety standards previously set by the U.S. and international standards bodies: American National Standards Institute - ANSI C95.1 (1992); National Council on Radiation and Measurements - NCRP Report 86 (1986); International Commission on Non-Ionizing Radiation Protection - ICNIRP (1996). If you use the modem in accordance with these guidelines, the level of RF exposure will fall within the FCC guidelines and the standards previously identified.

Care and Cleaning Guidelines

Use a soft, clean cloth slightly moistened with water and wipe the outside surface of the IPWireless Broadband Modem only.



Do not use aerosol sprays, solvents, or abrasives when cleaning your IPWireless Broadband Modem. These items may scratch the surface or damage the interior components of the IPWireless Broadband Modem.

To avoid the risk of electric shock, always unplug the IPWireless Broadband Modem from the AC power outlet before cleaning it.

Avoid dropping, shaking or striking the IPWireless Broadband Modem. This may damage its components.

Chapter 2 - Getting Started

Required Equipment

To install and use your IPWireless Broadband Modem, you will need the following configuration:

- ▶ Computer:
 - IBC Compatible PC
 - Pentium-class II processor or greater (300 MHz or higher recommended)

- ▶ Operating Systems Supported
 - Microsoft Windows 98 (SE2),
 - Microsoft Windows ME,
 - Microsoft Windows 2000 (Administrative privileges required)
 - Microsoft Windows XP Home (Administrative privileges required)
 - Microsoft Windows XP Professional (Administrative privileges required)

- ▶ Memory
 - Minimum 64 megabytes (MB) of RAM (128 MB recommended)

- ▶ Connector
 - USB port, or
 - Ethernet port

- ▶ Display:
 - VGA or Super VGA (recommended) monitor with the following settings:
 - Screen resolution set to at least 800 ×600

- ▶ Free disk space required:
 - 20 megabytes (MB) free in the target directory (minimum)
 - 40 megabytes (MB) for future software upgrades

Package Contents

In addition to this User Guide, the following items are included in the IPWireless Broadband Modem package:

Computer Interface Cable

A USB computer interface cable is included with your IPWireless Broadband Modem. Use this cable to connect the IPWireless Broadband Modem to your computer. If needed, refer to your computer manual for the location of a USB port.

If you have ordered a modem with a LAN connection then an Ethernet cable will also be included in the pack.

AC Power Adapter

The AC power adapter provides power to the IPWireless Broadband Modem. The power adapter plugs into a 120V or 240V AC power outlet. The pin end of the power cable plugs into the power jack located on the side of the IPWireless Broadband Modem. Do not use any power adapter other than the one provided with your IPWireless Broadband Modem.

Installation CD

The installation CD includes the IPWireless PC Software and an HTMLHelp version of this guide.

External Stand

The external stand is used when the IPWireless Broadband Modem is used in a desktop installation.

Other Informational Material

Your IPWireless Broadband Modem packaging may contain additional informational material pertaining to the use or care of the IPWireless Broadband Modem within your service area. Please review all such information carefully before using the IPWireless Broadband Modem.

Key Areas on Your IPWireless Broadband Modem

Figure 1 below identifies key areas on the IPWireless Broadband Modem. Please review this information before you begin the installation.

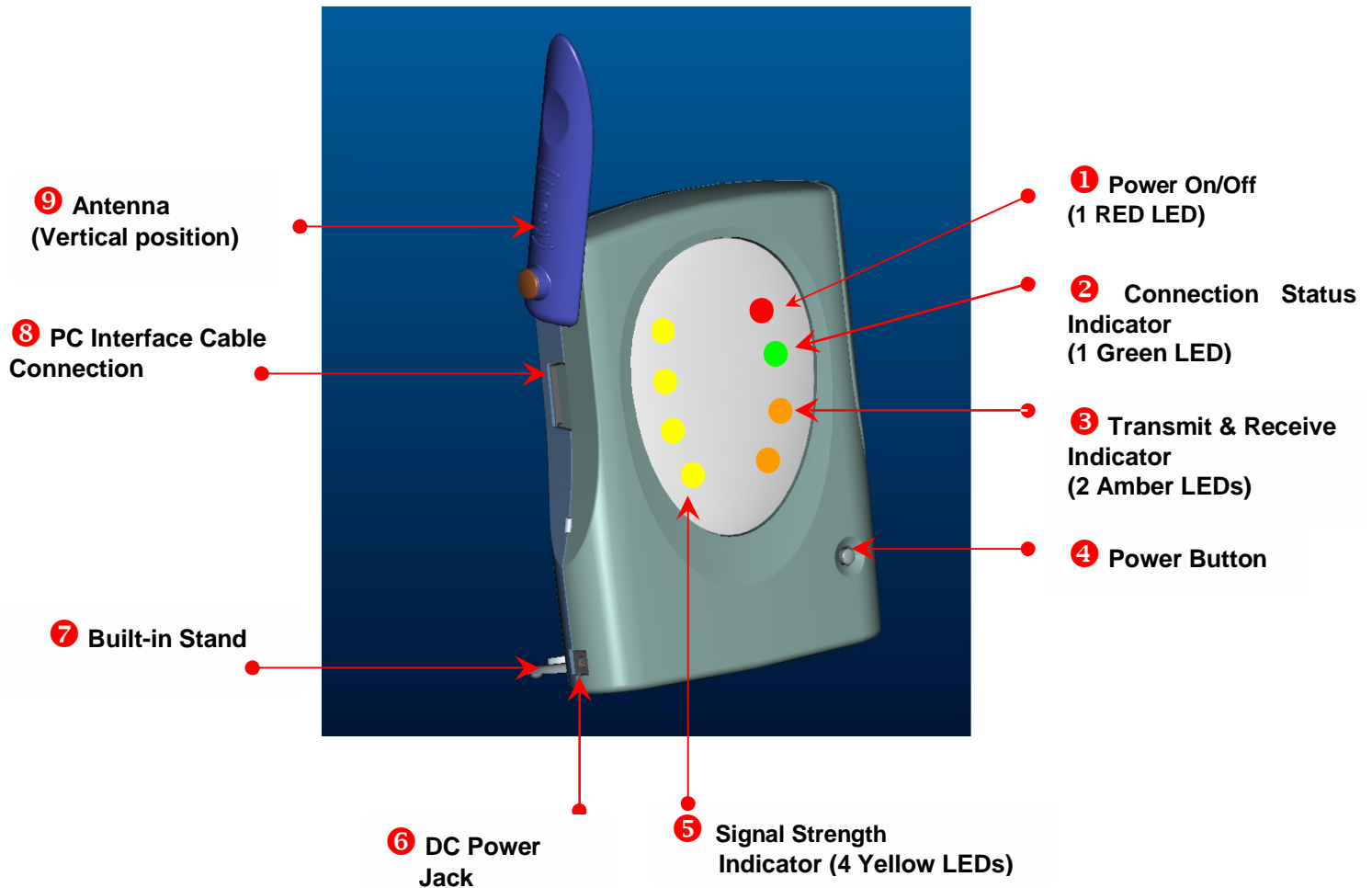


Figure 1

❶ Power On/Off (1 Red LED)

The single red LED at the top-right of the IPWireless Broadband Modem display indicate that the modem is ON.

❷ Connection Status Indicator (1 Green LED)

The single Green LED shows the connection status. The green LED will be illuminated when you are connected to the Internet.

❸ Transmit and Receive Indicator (2 Amber LEDs)

The LEDs show data transmit (Tx) and receive (Rx) activity. The LEDs will flicker when data is transferring.

4 Power Button

Press the power button for one second to turn the modem on. The red LED of the will illuminate when the unit is ON.

5 Signal Strength (4 Yellow LEDs)

The 4 yellow LEDs on the left of the display indicate the radio signal strength. When only the bottom yellow LED is illuminated, you have minimum signal strength required to transmit and receive data. Each subsequent LED indicates increasing signal strength. When all 4 LEDs are illuminated, you can transfer data at the maximum speed of the IPWireless Broadband Modem, or at the service level you have selected.

6 DC Power Jack

The pin end of the power cable plugs into the DC power jack located on the side of the IPWireless Broadband Modem.

7 Built-in Stand

The built-in stand on the back of the unit supports the IPWireless Broadband Modem.

8 PC Interface Cable Connection

The 20-pin connector on the USB or Ethernet cable plugs into the PC port on the side of the modem.

9 Antenna

Raise the antenna to its vertical position to connect the PC Interface Cable. When the antenna is vertical, it receives signals equally in all directions. Place the antenna in the vertical position (as shown in Figure 1) when the IPWireless Broadband Modem is in use, and in the down position (adjacent to the body of the IPWireless Broadband Modem) when not in use. Do not force the antenna beyond its vertical position.

Chapter 3 – Installation and Registration

This chapter explains how to install the software, register your user information, and operate your IPWireless Broadband Modem. The instructions explain how to:

- Support the IPWireless Broadband Modem using the built-in stand
- Support the IPWireless Broadband Modem using the external stand
- Connect the AC Power Adapter
- Find the Best Radio Signal
- Install the IPWireless PC Software
- Connect the Cable between the Modem and the Computer
- Perform On-line Registration

Support the IPWireless Broadband Modem Using the Built-in Stand

On the lower back panel of the IPWireless Broadband Modem is a removable battery cover, which incorporates a stand that supports the IPWireless Broadband Modem. Complete the following steps to support the IPWireless Broadband Modem using the built-in stand:

1. Insert your index finger into the slot at the top of the battery cover.
2. Gently pull the stand toward you until it locks in position. See Figure 2 below. See also closing of stand below.
3. Set the IPWireless Broadband Modem on a flat surface, such as a desk or windowsill, but avoid direct sunlight.

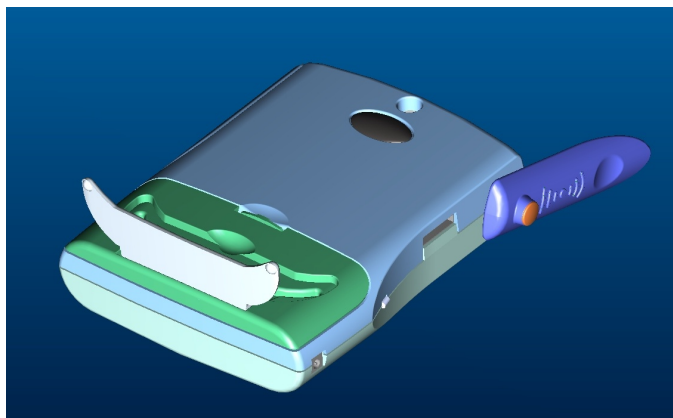


Figure 2

Connect the AC Power Adapter

1. Plug the pin end of the power cable into the DC power jack located on the side of the IPWireless Broadband Modem as shown in Figure 4 below.

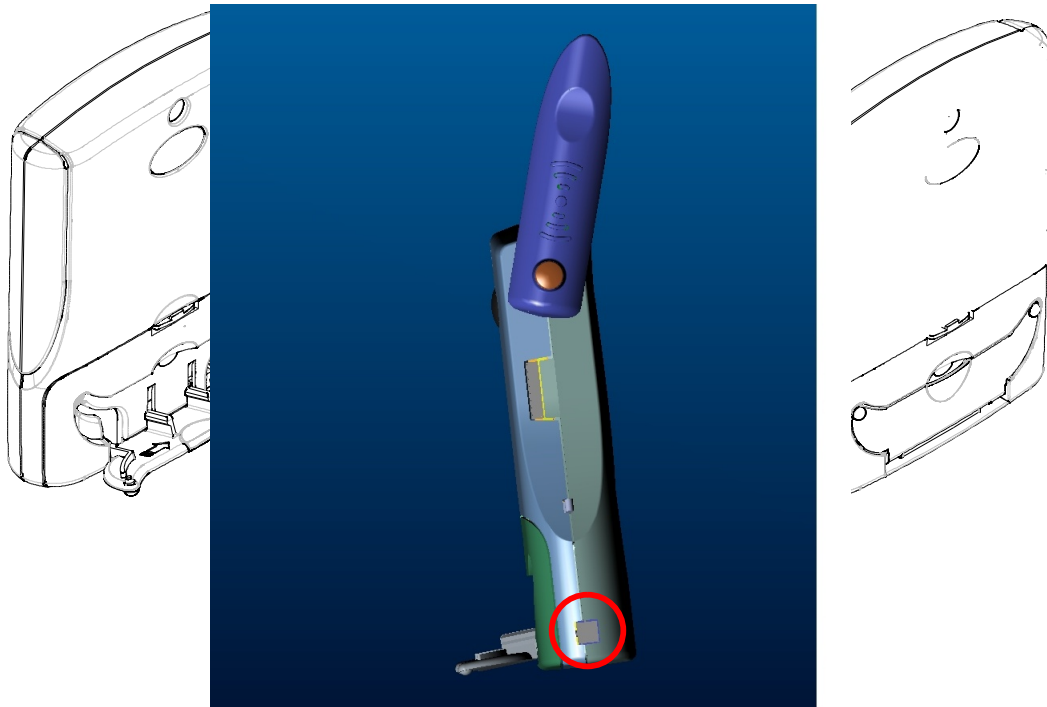


Figure 4

Note: Before connecting your IPWireless Broadband Modem to a power source in the next step, you may want to consider using a power surge protector. A surge protector is designed to protect electronic devices from electrical surges and lightning strikes that may damage your computer or modem. If you don't have a surge protector, contact your local computer or electronics retailer for further details.

2. Plug the AC power adapter into a 120V or 240V AC power outlet.
3. To disconnect the unit from mains power, remove the mains adapter from the wall socket.

Find the Best Radio Signal

1. Place the IPWireless Broadband Modem near your computer and press the power button for one second to turn it on.
2. Your IPWireless Broadband Modem will perform a short self-test that will last for approximately five seconds. The IPWireless Broadband Modem will search for the best radio signal and then display the signal strength on the left side of the modem display.

3. When the self-test is complete, the power on LED will illuminate. If this indicator flashes on and off, there may be a problem with the IPWireless Broadband Modem. Call your Service Provider for Technical Support. **Note:** The display will dim after two minutes to conserve battery life -- this is normal. A momentary press of the power button will restore the brightness of the display.
4. The IPWireless Broadband Modem will 'search' for a base station, in a manner similar to a cellular phone. Whilst the modem is searching, the two LEDs marked Tx and Rx on the right hand of the will illuminate alternatively.
5. Observe the four signal indicators (LEDs) on the left hand side of the IPWireless Broadband Modem display to help you determine when the IPWireless Broadband Modem has located a radio signal. Adjust the position of the IPWireless Broadband Modem until the center ring is illuminated. This is similar to moving an FM radio to receive the best sound quality. When the bottom yellow LED is illuminated, you have the minimum signal strength required to transmit and receive data. Each subsequent LED indicates increasing signal strength. When all four LEDs are illuminated, you can transfer data at the maximum speed of the IPWireless Broadband Modem, or at the service level you selected. See Figure 5, below.

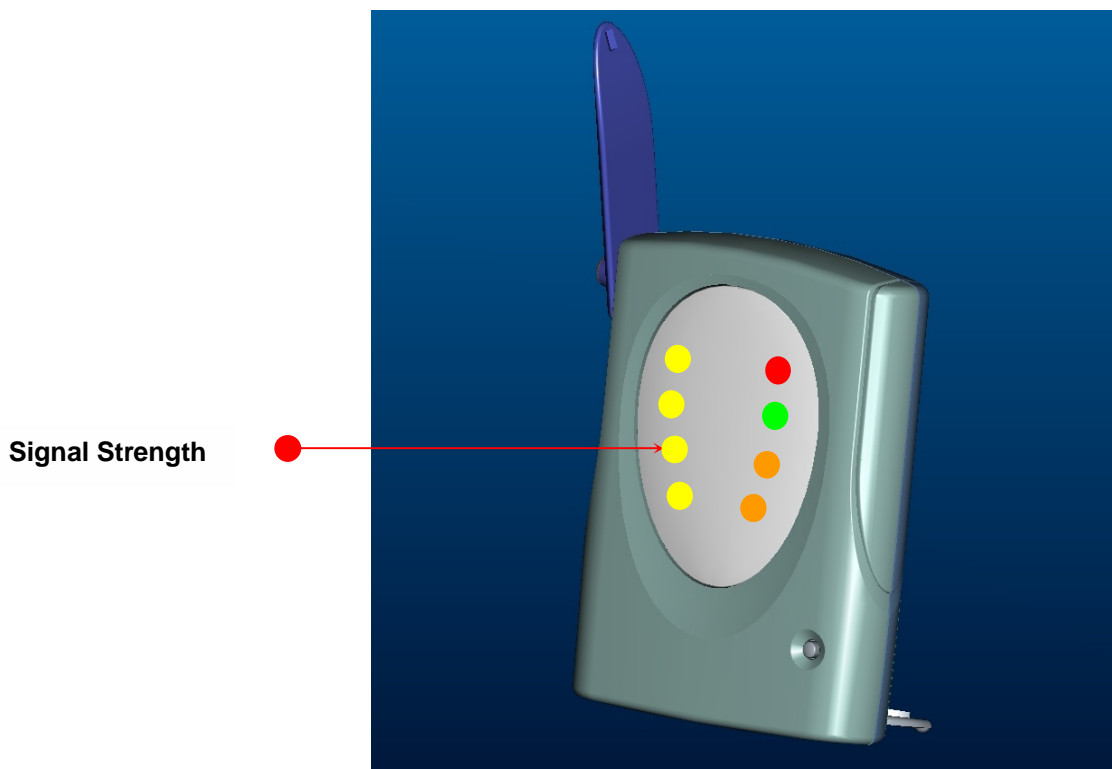


Figure 5

3. Continue to adjust the position of the IPWireless Broadband Modem to achieve the strongest radio signal possible from your location. **Tip:** Placing the IPWireless Broadband Modem near a window can boost the signal strength.



4. If only one or two signal strength indicators illuminate, refer to the troubleshooting section in Appendix A.
5. You are now ready to install the IPWireless PC Software. **Note:** Install the IPWireless PC Software before connecting the Computer Interface Cable.

Install the IPWireless PC Software

The IPWireless PC Software employs an InstallShield Wizard that will guide you through the installation process. You will be asked to make selections on some of the installation screens.

Please be sure that your computer meets the minimum requirements before you begin the installation.

1. Close all programs that may be running on your PC and then insert the CD into the CD-ROM drive on your computer. The Windows operating system should detect the CD and start the installation program. If the installation program does not start automatically, open Windows Explorer or My Computer and select your CD drive to view the contents of the CD. Double-click the '**Setup.exe**' program to begin the installation. The InstallShield Wizard will now guide you through the installation screens described on the following pages. Follow the on-screen prompts to complete the installation.
2. **License Agreement Screen** - The use of the IPWireless Broadband Modem is subject to acceptance of the License Agreement. Scroll through the display window to read the entire agreement. The installation of the IPWireless PC Software will proceed only if you accept the License Agreement. If you want a printed version of the License Agreement, use the Print function on your browser before you click the '**Accept**' button. Click '**Accept**' to continue.
3. **Copying Files Screen** - All installation options have now been made and the InstallShield Wizard will copy the necessary files to your computer.
4. **Installing the Modem Driver Files.** The installation will now copy the necessary modem driver files to your computer, so that the PC will detect the IPWireless Broadband Modem when you connect the computer interface cable. A number of information/warning boxes will be displayed, indicating the progress of the modem driver installation. The final information box will prompt you to connect the computer interface cable to the IPWireless Broadband Modem and your computer.

Connect Cable between the Modem and the Computer

There are three possible cable connections supported by the IPWireless Broadband Modem; USB or LAN/Ethernet.

USB Cable Connection

If you are connecting via a USB cable, your computer operating system should detect that new hardware has been added and automatically plug and play the modem device. The plug and play function adds the IPWireless Broadband Modem to your PC and may take approximately 1 minute to complete. During this time, a number of plug and play messages will display confirming that new hardware has been found and that the software for the IPWireless Broadband Modem is being detected. After the plug and play is finished, click the 'OK' button and connect the USB Cable.

1. Plug the 20-pin connector on the USB cable into the PC port on the side of the modem as shown in Figure 8 below.
2. Connect the other end of the USB cable into a USB port on your computer. If needed, refer to your computer manual for the location of the USB port.

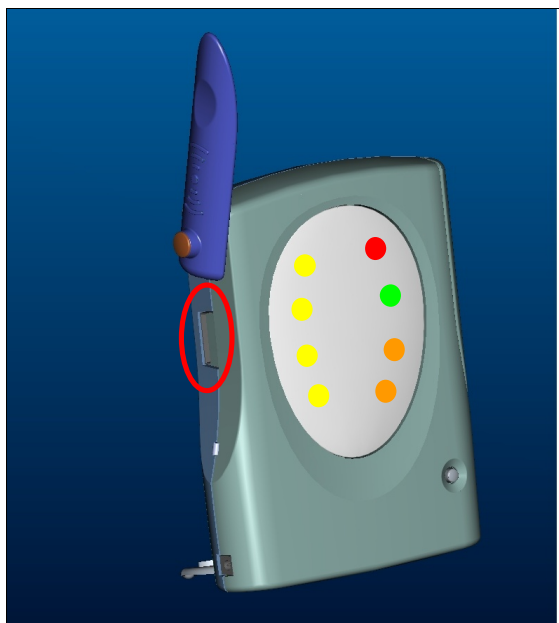


Figure 8

Ethernet Cable Connection

Before connecting your 3G Modem to your network via the *Ethernet connection*, registration should be performed via USB as described in the section below.

Perform Registration

You are now ready to register your user information. **Please note:** You can complete the registration process at a later time; however User Registration is not optional.

You must register in order to create a username and password, register your account and payment information, and receive software and modem upgrades.



The registration process takes place on-line using an internet browser that must already be installed on your computer. Typically, the browser might be Microsoft Internet Explorer or Netscape Navigator.

The only requirements are that you have a default browser installation, and that your browser is capable of accepting 'cookies'. If you have disabled cookies, you need to enable them before registration. If you wish, you may disable receipt of cookies after registration. See Frequently Asked Questions (FAQs) in Appendix C for instructions on how to set cookie preferences on your browser.

1. **To Continue with Registration Now** - Make sure that there is a checkbox is selected to the left of **Connect To The Internet** and then click '**Next >**'.
2. The IPWireless 3G Modem Dialler application will then automatically start. The application will communicate with the IPWireless 3G Modem and after a short delay (23-30 seconds) it will attempt to establish a wireless internet connection. The default Internet browser will be automatically launched and will automatically display your **Service Providers Customer Registration** web page.
Note: If a connection cannot be made, the IPWireless PC Software will timeout and display a message indicating that the connection failed. If this happens, see the Troubleshooting Tips in Appendix A.
3. To create a new account via your **Service Providers Customer Registration** web page follow the on-screen instructions.
4. When you have created a new account, close the Internet Browser session (Click the Windows close icon (x) in the upper right corner of the screen to close the browser software).
5. Upon closing the Internet Browser session, the IPWireless 3G Modem Dialler application will then automatically disconnect the wireless internet connection. The IPWireless 3G Modem Dialler application will then attempt to read the cookies returned from the Service Providers registration server to the PC. There will be a short delay of about 10 seconds, after which the IPWireless 3G Modem Dialler application will indicate if the registration has been successful before the application automatically closes.
6. Click **Finish** to exit the installation program.
7. You are now ready to connect to the Internet.

Once the registration has completed the Installation Wizard will finish. The software should now be installed with your computer having the following entries listed from the Start->Programs menu bar.

Programs	IPWireless Software	IPWireless 3G Modem Dialler
		IPWireless Help System
		IPWireless Home Web page
		IPWireless Registration Web page
		IPWireless User Guide



Windows Operating System Patches

The IPWireless Broadband Modem can work at high data speeds, to achieve these rates may require a Windows Operating System patch to be applied. The installation software will determine if any operating system patch is required and it is recommended that the windows operating system patch is applied if required.

At the end of the Windows Operating System patch installation, a window will be displayed stating that the computer needs to be rebooted for the patch to take effect. Since the IPWireless Broadband Modem will work with your original settings (at a slower rate), it is advised that you do not reboot here but continue with the rest of the installation.

Windows Internet Configuration Setting

Again, due to the high data speeds that the IPWireless Broadband Modem can work at, in order to achieve these rates will require that some TCP/IP settings are modified to take full advantage of this high rate.

These settings will only be used by the operating system the next time the computer is rebooted.

At the very end of the IPWireless PC Software installation it is advised that you reboot the computer so that the changes applied to the computer during the installation can take effect.

Chapter 4 – Connect to the Internet

The IPWireless PC Software is used in conjunction with your IPWireless Broadband Modem to connect to the Internet. This section describes how the IPWireless PC Software is used to initiate the connection, and also how it may be used to download software upgrades for your IPWireless Broadband Modem and IPWireless PC Software from the IPWireless web site.

To start the IPWireless PC Software, go to your desktop and double click on the icon labeled 'IPWireless 3G Modem Dialler', as shown below, Fig 10.

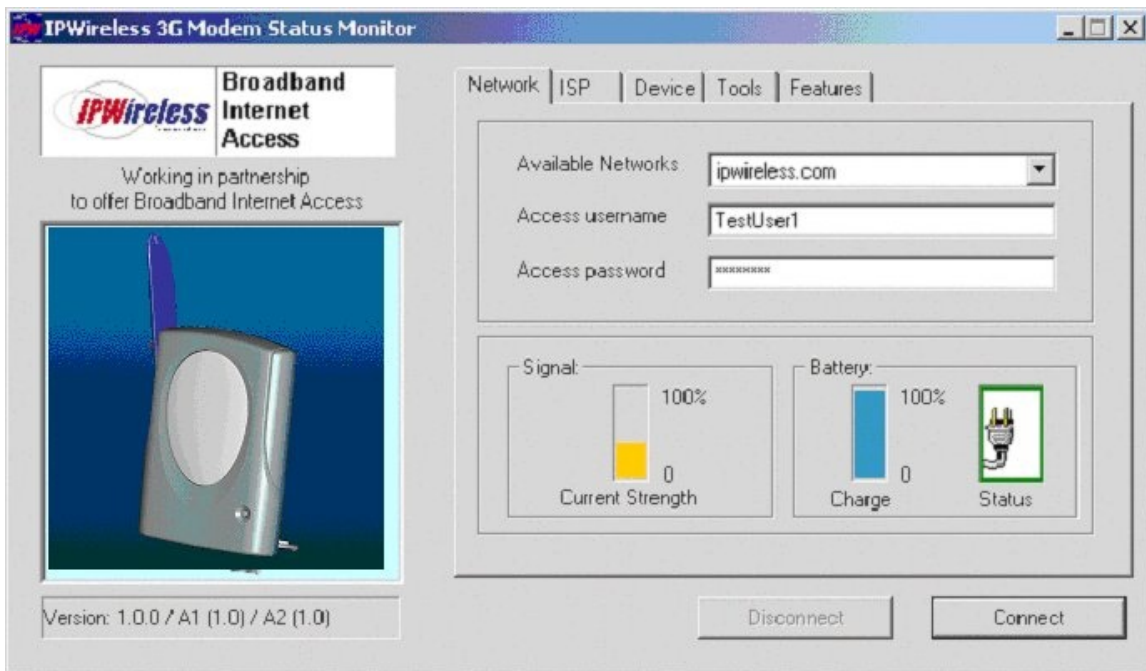


Figure 12

The main screen has four tabs that display associated screens when you click on them. These tabs are described in more detail below. A single button is used to initiate (Connect) and terminate (Disconnect) the connection to the Internet. This button also indicates the state of the connection since if, for example, the connection is currently inactive, the button will be greyed out and the button text will indicate "Connect". The button is available regardless of which tab is currently visible.

The other main feature of the main screen is the status bar, located below the modem picture. The status bar provides useful information concerning the status of the Internet connection, and other error or warning messages.

Network Tab - The Network tab shown in Figure 12 displays three main groups;



Access Network Parameters - The current version of the IPWireless PC Software only supports ipwireless.com as the network operator. This is shown in the drop down list. The other two parameters are the user access name and access password. These parameters are set automatically during the registration procedure, and the user should have no need to modify them manually.

Signal Strength - shows the level of the radio signal strength currently achieved by the IPWireless Broadband Modem. Zero indicates poor signal strength while 100 indicates a strong signal.

Battery Charge - The IPWireless Broadband Modem comes with an internal battery. The scaling shows zero representing no battery power while 100 indicates a fully charged battery. See Appendix B for more information on the battery

Battery Status – the following icons are used as follows:-



modem currently battery powered



mains powered, external battery fitted and charging internal or external



mains powered and charging internal battery



modem currently powered by internal battery



modem currently powered by internal battery, external fitted



modem currently powered by external battery

ISP Tab – This tab shows the username and password information that is sent to your Internet Service Provider (ISP) during the connection procedure.



These details are established during the registration procedure, and the user should have no need to modify them manually. Note that this information is actually maintained by the Windows phonebook, and is extracted automatically by the IPWireless PC Software.

Devices Tab – This tab shows information for the currently connected IPWireless modem.

This includes the physical communication port to which the modem is bound, the modem IMEI (international mobile equipment identity) number, the modem version string, and the modem initialization and reset strings.

Tools Tab - IPWireless may periodically provide upgrades for both the PC Software and the IPWireless Broadband Modem software.

These upgrades will usually be a combination of bug fixes and additional features. Whilst connected, click on the “Check WWW for Software Upgrade” button in order to download over the air the latest software upgrade. The download takes place by way of a File Transfer Protocol (FTP) link to the IPWireless web site. Once complete, the new image is then available on the PC hard disk, and may be transferred to the IPWireless 3G Modem by clicking on the “Upgrade UE” button (remember to Disconnect from the Internet before attempting the upgrade).

Establishing the Connection to the Internet

You should establish an Internet connection using the IPWireless PC Software before launching your browser (or any other Internet associated software such as FTP, telnet, etc).

1. Start the IPWireless PC Software and wait until the signal strength indicator on the **Network** tab indicates that there is sufficient signal strength for the connection. At this point, the button should be highlighted and have the text “**Connect**” displayed on button which may be clicked.
2. The user is automatically taken to the ISP tab so that the progress of the connection to the Internet may be observed. When the connection to the ISP has been established, the status bar should indicate that the session is active and the button is now highlighted but the text changes from “**Connect**” to “**Disconnect**”. For convenience, the IPWireless PC Software is automatically minimized once the connection is established, but can be restored by clicking on the IPWireless icon on the taskbar.
3. Go to your desktop and double-click on your Internet browser icon to connect to the Internet. You can configure your browser to set any web page as your home page. To set your browser home page, see the FAQs in Appendix C.
4. You may terminate the internet connection in many ways;
 - (a) Right click the IPWireless 3G Modem icon on the taskbar, and select disconnect from the menu



- (b) Click the IPWireless 3G Modem icon on the taskbar to restore the main screen, then click the button when labeled "**Disconnect**".
- (c) Close the IPWireless 3G Modem application by clicking the X button in the top right corner of the window

Appendix A – Troubleshooting Tips

Troubleshooting Tips

Please review these troubleshooting tips if you experience trouble with software installation, user registration, finding a radio signal, or connecting to the Internet. You may achieve a faster resolution to your trouble if you first consult and follow the tips before calling your Service Provider for Technical Support.

Warning: Do not attempt to repair the IPWireless Broadband Modem yourself. Any damage you may cause to the IPWireless Broadband Modem may create an unsafe condition.

If your trouble is not listed in this section, call your Service Provider for Technical Support. The technical support representative will ask for your name, your location, your phone number, the serial number located on the back of the IPWireless Broadband Modem, and any error messages that may have displayed. You may need to provide your username and password if the problem is related to your service or your account rather than the IPWireless Broadband Modem and its associated software.

Remember, your PC operating system must be compatible with the supported operating systems: Windows 98 (Second Edition), Windows ME, Windows 2000 and Windows XP.

THE POWER BUTTON IS ON BUT THE DISPLAY DOES NOT ILLUMINATE

1. If you are connected with the AC Adapter, check to see if you are using a switched outlet. You may need to simply flip the switch. (If you are using the modem away from an AC power source, you could have a dead battery.)
2. Plug the IPWireless Broadband Modem into another outlet to check the power.
3. Check for loose ends on the power cable. If the display still does not illuminate, your IPWireless Broadband Modem may have been damaged. Contact your Service Provider for Technical Support for assistance.

NO SIGNAL RING INDICATORS ARE ILLUMINATED ON THE IPWIRELESS BROADBAND MODEM DISPLAY

1. Following power up, allow about thirty seconds for the IPWireless Broadband Modem to communicate with a local base station, at which point there should be some indication of signal strength.

2. If this is the first time you have tried to use the IPWireless Broadband Modem and you do not see any signal strength rings illuminated, try repositioning the modem to see if the center ring (or dot) signal strength indicator appears. Remember, your IPWireless Broadband Modem is similar to an FM radio that often receives a better sound quality when you move it. If you still can't find a signal, try moving the modem near a window. The IPWireless Broadband Modem is fully functional when the center ring signal strength indicator is illuminated. If all the above fails, you may not be within the coverage area of the service network. Call your Service Providers Customer Service for more information about the coverage area.
3. If you have used the IPWireless Broadband Modem successfully at least once, and you have changed your location, you may not be within the coverage area of the service network. Call your Service Provider for Technical Support to determine the coverage area.

ONLY ONE OR TWO SIGNAL STRENGTH RINGS ARE ILLUMINATED

1. Although you have sufficient signal strength to connect to the Internet, your modem may not be optimally positioned to receive the best signal strength and achieve the best data transfer rates. Try moving the position of the modem to maximize the number of illuminated rings.
2. You may also achieve a stronger signal if you place the modem near a window, but avoid direct sunlight.
3. If you cannot achieve more than three rings wherever you place the modem, call your Service Provider for Technical Support.

THE IPWIRELESS BROADBAND MODEM DISPLAY IS NOT FUNCTIONING AS EXPECTED

The display will signal a number of error or warning conditions if the modem experiences a hardware fault, software upgrade or dialer attachment is required. Please refer to Appendix D for a detailed list of all possible display warning combinations.

THE IPWIRELESS BROADBAND MODEM DISCONNECTS UNEXPECTEDLY

Check for loose connections on both ends of the computer interface cable and the power cable. If all connections are secure, you may have had a bad connection. Try connecting to the Internet again. If your subsequent connection attempts fail, call your Service Provider for Technical Support.

THE IPWIRELESS BROADBAND MODEM SPEED IS NOT FAST ENOUGH

There are several conditions that can result in slower access speed that are not related to your IPWireless Broadband Modem's performance:

The access speed is related to the radio signal strength. If the signal strength indicated on the modem display shows less than all five rings illuminated, you may have reduced access speed due to a condition such as a marginal coverage area.

You may have subscribed to a Service Level that limits the data rate. You can increase your Service Level on the registration web page or call your Service Providers Customer Service.

You may be accessing a slow web site. A web site can cause a traffic jam on the Internet's backbone because many people converge on it at once or that site's server does not have the capacity to handle its traffic. In these cases, it does not matter what speed your modem can achieve. Tip: Surf these sites when Internet traffic is low. Heaviest traffic is usually on weekends and evenings. You can also configure your browser so it won't display graphics, animations, sound, video or other multimedia content.

If you do not think that any of the above conditions are causing the problem, call your Service Provider for Technical Support.

CONNECTED MODEM BEFORE INSTALLING THE IPWIRELESS PC SOFTWARE

If you connect you IPWireless modem to your PC before installing the Driver Software contained on the PC Software installation CD your modem drivers are likely to be missing preventing you from making a connect via your 3G modem. It is necessary for the modem to be uninstalled from the system and the documented procedure be followed carefully to insure your 3G modem is correctly installed. The IPWireless Modem MUST remain connected to you PC during the following removal process. Open "Device Manager" by clicking the right mouse button (left button if configured for a left handed user) on the "My Computer" icon and select "Properties". Windows 98/ME users should select the "Device Manger" Tab located at the top of the "System Properties" Dialog window. Windows 2000/XP users should select the "Hardware" Tab and select the "Device Manager". Locate the IPWireless 3G Modem and "Uninstall/Remove" the device. Ensure the IPWireless 3G Modem has been removed from Device Manager and now DISCONNECT the IPWireless Modem from your PC. The IPWireless 3G Modem must now be physically disconnected from your PC before continuing. Under "Control Panel" open "Modem Options" if the IPWireless 3G Modem is shown as installed remove/uninstall all references to your IPWireless 3G Modem. Removal is now complete and you MUST restart you computer before executing the installation CD.

DRIVER INSTALLATION FAILS DUE TO "DIGITAL SIGNATURE NOT FOUND"

Your system is configured to "Block" or "Warn" you when an attempt is made to install a device driver that does not contain a valid digital signature. If configured to "Block" the installation operation will fail, if set to "Warn" you will be given the option to continue the installation by selecting "Yes" on the warning dialog window. To avoid problems during the installation it is advisable to configure your system to ignore Digital Signatures during the installation of IPWireless 3G Modem software and device drivers. You can revert to your original configuration once the IPWireless drivers are installed. To change your systems Digital Signature configurations follow these simple steps. Right click "My Computer" and select "Properties", under the "Hardware" tab within the "Device Manager" section select "Driver Signing". Within the "File Signature Verification" section you will notice the options "Ignore/Warn/Block" select "Ignore" and "Apply" change. Repeat the installation procedure as before.

REGISTRATION FAILS BECAUSE THE PC DOES NOT ACCEPT “COOKIES”

When you register with the ISP, you provide a username and password that the IPWireless network uses to identify you when you connect. For your convenience, these attributes are stored within the PC so that you do not need to enter them manually. The registration server sends a small file, called a cookie, to your PC. The cookie contains the username and password information. In order for the registration process to complete successfully, you must configure your browser application to accept cookies. Once registration has completed, you may disable receipt of cookies, if desired. See the FAQs in Appendix C for instructions on how to set cookie preferences on your browser.

THE BROWSER DID NOT GO DIRECTLY TO THE REGISTRATION SCREEN

Manually type the registration web page URL (check the IPWireless 3G Modem packaging or contact your Service Provider for this information) in the browser address window and then press enter on your keyboard. If you get an error message similar to the “page cannot be displayed”, there might be maintenance occurring on the web site. Call your Service Provider for Technical Support or try again later.

THE CONNECT AND DISCONNECT BUTTONS ARE NOT HIGHLIGHTED ON THE STATUS MONITOR SCREEN BUT A RADIO SIGNAL IS PRESENT

On rare occasions, the “IPWireless 3G Modem Status Monitor” will lose contact with the IPWireless 3G Modem. The “IPWireless 3G Modem Status Monitor” should be shut down and restarted to clear the problem. If the problem persists the computer COM port that the IPWireless PC Software and the IPWireless 3G Modem are using may have become “locked up” and cannot be freed until the computer is shutdown (powered off) and restarted.

If there is still a problem after shutting down and restarting you computer, call your Service Provider for Technical Support.

ERROR MESSAGE “INVALID PASSWORD”

1. This error message means that the network no longer recognizes your username and/or password.
2. Check that your username and password were entered correctly.
3. The ISP’s server does not allow more than one simultaneous connection to the network with the same username and password. Do not share your username and password with other IPWireless Broadband Modem users.
4. If you cannot correct the problem, call your Service Provider for Technical Support.

ERROR MESSAGE “NO ANSWER”

On rare occasions, the server will not receive the message advising it that the previous session has ended. There is a timeout of a few minutes before the server will accept a subsequent connection. If you recently had a successful connection, wait a few minutes before trying again.



IPWIRELESS BROADBAND MODEM NOT RESPONDING

1. Check that the computer interface cable is securely connected to the PC and modem.
2. Check that the modem power button is on.
3. If the IPWireless Broadband Modem still does not respond, try restarting the PC and then restart the IPWireless PC Software application. Occasionally, the PC COM port that the IPWireless PC Software and the IPWireless Broadband Modem are using can become “locked up” and cannot be freed until the PC is restarted.
4. If the status bar still reports “IPWireless Broadband Modem not Responding”, contact your Service Provider for Technical Support for assistance.

Appendix B – Battery Information

Internal Battery

Your IPWireless Broadband Modem has an internal lithium ion battery that charges automatically from the USB connection or the AC Adapter. The six battery bars at the top of the IPWireless Broadband Modem display indicate the charge level. When the battery is fully charged, all six bars will be fully illuminated. Each bar represents a sixth of the charge available. The bar indicating the highest charge is on the far right, and the bar indicating the lowest charge is on the far left. When the battery capacity drops below 10%, the battery bar will flash.

The internal battery will allow you to operate the IPWireless Broadband Modem with your laptop without connection to an AC power source. The internal battery life depends upon your usage of the IPWireless Broadband Modem. For example, video conferencing will consume battery life faster than web browsing. The IPWireless Broadband Modem display dims after 2 minutes of power ON to conserve battery life.

Battery Safety Guidelines

When the internal battery no longer holds a charge, do not attempt to replace the battery yourself. Contact your Service Provider for Technical Support for a replacement. Use batteries authorized by IPWireless only; replacing or recharging the battery may be unsafe. Use the battery only for its intended purpose. Never dispose of batteries in a fire or incinerator, or in municipal waste. Batteries must be disposed of or recycled properly. Never use a battery that is damaged or worn out.

Tip: To conserve internal battery life, remember the following:

When you are mobile and not using the modem, turn it off.
Avoid exposing the modem to extreme hot or cold temperatures such as leaving it in a hot car for more than fifteen minutes.

Appendix C – Frequently Asked Questions

Q. HOW DO I CHANGE MY PASSWORD?

A. Connect IP Wireless Broadband modem. Click start -> Programs -> IPWireless Software -> IPWireless Registration Webpage. On the registration front page click on Modify User -> put in username and password and proceed to next page where password may be changed.

Q. HOW DO I CHANGE MY ADDRESS AND PHONE NUMBER?

A. Connect IP Wireless Broadband modem. Click start -> Programs -> IPWireless Software -> IPWireless Registration Webpage. On the registration front page click on Modify User -> put in username and password and proceed to next page where address and phone number may be changed.

Q. WHERE CAN I FIND A COVERAGE MAP?

A. Call Service Provider.

Q. HOW DO I CHANGE MY SERVICE LEVEL?

A. See registration process above.

Q. HOW DO I REBOOT THE IPWIRELESS BROADBAND MODEM (WHEN THE POWER BUTTON DOES NOT RESPOND)?

A. Press the button on the front of the modem for 2 seconds.

Q. HOW DO I SET COOKIE PREFERENCES ON MY BROWSER?

A. Using Netscape Navigator:

Go to the browser drop-down **Edit** menu and select **Preferences**. Click on the **Advanced** heading. Go to the **Cookies** box and click on **Accept all cookies**. After successful registration, you may return to **Edit>Preferences>Advanced** and click on **Disable cookies**.

A. Using Microsoft Internet Explorer:

Go to the browser drop-down **Tools** menu and select **Internet Options**. Click on the **Security** tab. Click on the **Custom Level** button. Scroll down to the **Cookies** heading. Click on **Enable** to accept all cookies. After successful registration, you may return to **Tools>Security>Custom Level** and click on **Disable**.

Q. HOW DO I SET MY HOME PAGE?



A. Using Microsoft Internet Explorer:

Go to the browser drop-down **Tools** menu and select **Internet Options**. Select the **General** tab. Click **Use Current** in the **Home Page** area if you are currently viewing the Web page you want as your home page. If you are not viewing the web page you want to use, type in the URL (Universal Resource Locator -- the web address) of the web page you want to use as your home page. Click **OK**.

A. Using Netscape Navigator:

Click on the **Options** menu and select **General Preferences**. Select the **Appearance** tab. In the **Startup** box, type in the address of the web page you want to use as your home page. Click **OK**.

Q. HOW WILL I KNOW WHEN TO UPGRADE MY PC SOFTWARE?

A. The user will access a web site and select the appropriate files to download. Information regarding PC Software upgrade alerts will be provided at that time.

Q. HOW DO I PERFORM AN IPWIRELESS PC SOFTWARE UPGRADE?

A. Using the IPWireless 3G Modem Dialler, establish a connection to the internet. On the IPWireless 3G Modem Dialler change to the **Tools** tab, and press the button labeled "Check WWW for Software Upgrade". This will automatically check to see if there is a newer version of software, and if one is available it will be automatically downloaded to the computer with the progress of the download being displayed using the sliding bar.

Q. HOW WILL I KNOW WHEN TO UPGRADE MY IPWIRELESS BROADBAND MODEM?

A. Using the IPWireless 3G Modem Dialler, establish a connection to the internet. On the IPWireless 3G Modem Dialler change to the **Tools** tab, and press the button labeled "Check WWW for Software Upgrade". This will automatically check to see if there is a newer version of software and if one is available, it will be automatically downloaded to the computer.

Q. HOW DO I PERFORM AN IPWIRELESS BROADBAND MODEM UPGRADE?

A. Having used the IPWireless 3G Modem Dialler to obtain any new software available for the upgrade of the Modem, disconnect the current internet connection. The button "Upgrade Modem" should now be highlighted. Pressing this Upgrade Modem button will start the download of the new software to Modem and the progress of the download will be displayed on the progress bar. This may take a number of minutes to complete.

Q. ARE ANY MODEM ACCESSORIES AVAILABLE?

A. Access the IPWireless web site at www.ipwireless.com to view available accessories.



Q. HOW DO I INSTALL MY MODEM ON A DIFFERENT COMPUTER?

A. If you have already installed your modem on ONE PC and wish to use it on a SECOND PC or laptop, insert the Installation CD into the second PC and run the installation software. You will automatically connect to the registration web pages. Select 'Support Services'. You may modify your settings here, if needed. If you leave all fields unchanged and click 'Apply', the username/password cookie will access your second PC and the dialer will automatically configure the modem.

Q. WHEN SHOULD I DE-INSTALL THE MODEM AND/OR PC SOFTWARE?

A. You should de-install the Modem and PC software only when you wish to discontinue service.

Appendix D – Modem Display Warnings

The IPWireless Broadband Modem LED display contains 8 individual LEDs, as shown in Figure 1, used to indicate various activities on the modem, such as ON/OFF, current signal strength, data traffic activity and network connection status.

However if the modem experiences certain error conditions the display will be used to signal the condition back to the user.

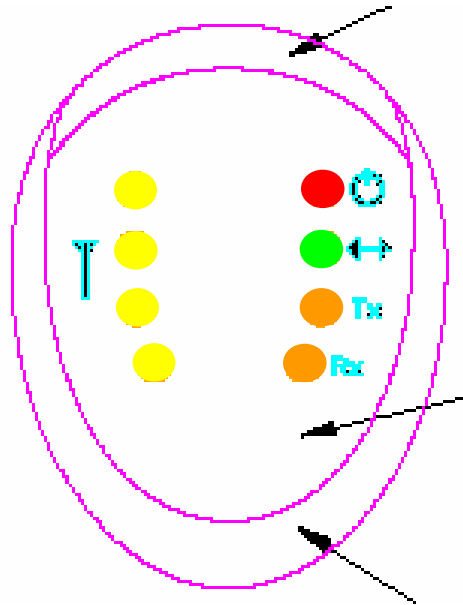


Figure 13

Figure 13 shows the Modem LED Display fully illuminated.

In normal operation 4 yellow LEDs on the left are used for the signal strength, the red LED indicates ON/OFF, the green LED is used to show network connection status and the 2 amber LEDs are used to indicate base station search and data traffic activity.

However the display can signal warning or error scenarios and this section will aid the user in interpreting such a display combinations.



Power-On Self Test Failure

At power-on the Modem will carry out a number of tests to confirm the operational integrity of various onboard components. If segments 1 to 29 (excluding segment 6 the "IPW" logo) are illuminated following power-on then the Modem is indicating a particular test has failed.

If a segment/segments is/are illuminated for a period of 5 seconds followed by the modem returning to normal operation then this indicates a warning that a non-critical self-test has failed but will not hamper the operational capability of the modem.

If a segment/segments is/are constantly illuminated following power-on then a critical self-test has failed and the modem will not be initialized in order to protect against possible damage to onboard components.

In both scenarios it is recommended the user switch off the modem and contact **your Service Provider** for Technical Support.

Software Upgrade Warning

If the Modem display, in normal operation, flashes on and off at an interval of 2 seconds then the network is informing the user that a Modem software upgrade is required.

Please refer to Appendix C for details on performing software upgrades.

Attach Dialer Indication

If the dialer is not attached the Modem will illuminate the outer signal strength segment (segment 26). This segment will remain illuminated until the user attaches the dialer.

The remaining EL display segments will be illuminated as in normal operation, such as the battery charging, base station searching wheel and connection status.

Figure 14 illustrates a Modem that has camped on to a base station but the dialer has not yet been attached. Note that the normal signal strength indication has been replaced by the single outer signal ring being illuminated.

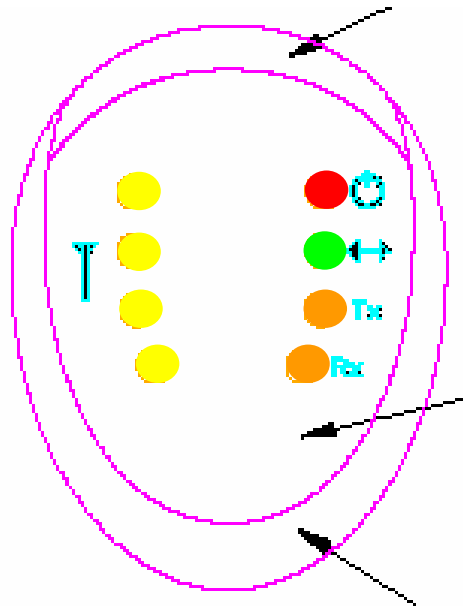


Figure 14

Once the user has activated the PC dialer software the outer signal ring will be switched off and normal signal strength indication will resume.

USIM Failure Indication

If the Modem has a Universal Subscriber Identity Module (USIM) inserted and this card fails whilst connecting to or connected on a network the Modem will immediately terminate the call session. Following session termination the Modem will go into an off but charging the battery state and illuminate the second outer signal strength ring (segment 25) to indicate fatal USIM failure as illustrated in Figure 15.

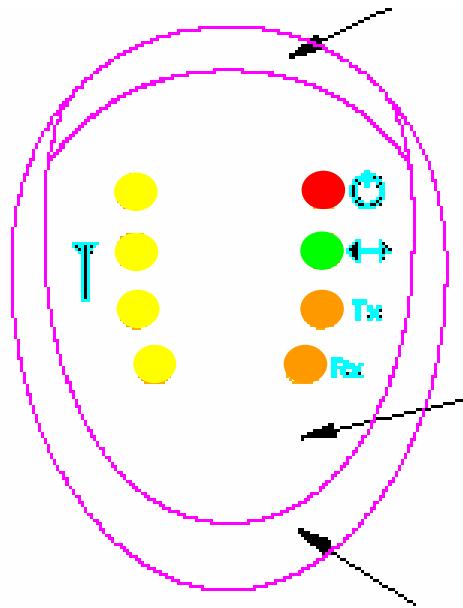


Figure 15

The Modem will remain in this state until switched off by the user.

If the USIM card fails the user should contact the Network Operator and call your Service Provider for Technical Support immediately.



Appendix E – [Technical Specifications]

Physical

Height (antenna down).....	150 mm (5.91 inches)
Width	130 mm (5.122 inches)
Depth	30 mm (1.182 inches)
Weight.....	250 grams (8.825 ounces)

Indicators

Signal (4 yellow LEDs).....	
Power (1 red LED)	
Online (1 green LED)	
Transmit (1 amber LED)	
Receive (1 amber LED)	

Power

AC Power Adapter:

Current	1.0A
AC input voltage.....	100V-240V
DC output voltage.....	5.0V
Cable.....	2m length (6.56 ft.)

Environmental

Temperature:

Normal.....	+15°C to +35°C (59°F to 95°F)
Extreme (short periods)	-10°C to +55°C (14°F to 131°F)
Storage.....	-20°C to +65°C (-4°F to 149°F)

Relative humidity:

Operating.....	25% to 75%
Extreme	25% to 75%

Maximum vibration:

Operating.....	5 Hz to 20Hz: 0.96 m2/s3 at 5 to 20 Hz
Extreme	20 Hz to 500 Hz: 0.96 m2/s3 at 20 Hz,thereafter -3dB/Octave

Integral Antenna



Frequency of operation2.5 to 2.69 GHz
Impedance:.....50 ohms nominal
Omni-directional gain: 2dBi
Polarization: vertical
Input return loss:..... -10dB nominal across band
Maximum power:.....24dBm
VSWR: 1.7

Size:

Length:65 mm (2.56 inches)
Width:.....20 mm (.81 inches)
Depth:5 mm (.198 inches)



Appendix F – [PPPoE Routers Tested]

The IPWireless 3G Modem has been tested on and found to be compatible with the following PPPoE hardware routers.

Supplier	Model
Linksys	BEFW11S4, BEFSR41, BEN2PS4
Netgear	RT311, RT314
Sonicwall	SOHO2
Cisco	800 series
Cisco	2621
SMC	7004ABR
Asante	FR3004

Appendix G – [PPPoE Clients Tested]

The IPWireless 3G Modem has been tested on and found to be compatible with the following PPPoE software clients.

Operating System	Product Name	Type
Windows 98	EnterNet	PPPoE
Windows 2000	EnterNet	PPPoE
Windows 2000	EnterNet	RASPPPoE
Windows XP	Internal Windows XP	PPPoE
Mac	Internal Mac	PPPoE

Regulatory Information

North America and Canada

Your IPWireless Broadband Modem may cause TV or radio interference (e.g., when using the modem in close proximity to a TV or radio receiver). The FCC/Industry Canada can require you to stop using the modem if such interference cannot be eliminated. If the modem does cause interference with other radio communications services, 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:

- Reposition the modem's receiving antenna.
- Reposition the TV or radio's receiving antenna.
- Relocate the modem with respect to the TV or radio receiver.
- Move the modem away from the TV or radio receiver.
- Plug the modem into a different outlet so that the modem and the TV or radio receiver are on different branch circuits.

If necessary, consult an experienced radio/television technician for additional suggestions. You may also find the *FCC Interference Handbook*, 1986, to be helpful. It is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock No. 004-000-00450-7, or on the World Wide Web at <http://www.fcc.gov/Bureaus/Compliance/WWW/tvibook.html>.

This device complies with part 15 of the FCC rules. Operation is subject to the condition that this device may not cause harmful interference.

Caution: Changes or modifications not covered in this manual must be approved in writing by the Manufacturer. Changes or modifications made without written approval may void the users authority to operate this equipment.

Europe

Statements of Conformity

English Hereby, IPWireless Inc, declares that this Wireless Broadband Modem Model: **XX** is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

Deutsch Hiermit erklärt IPWireless Inc, dass sich dieses Wireless Broadband Modem Model: **XX** in Übereinstimmung mit den grundlegenden Anforderungen und den anderen relevanten Vorschriften der Richtlinie 1999/5/EG befindet".

The IPWireless Broadband Modem will not transmit without suitable network coverage.

Caution: Only use IPWireless approved accessories with your wireless broadband modem.