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Introduction 1

Thank you for purchasing the *Action*tec Wireless-Ready Gateway. The Gateway is the simplest way to connect a number of computers to a single high-speed broadband connection. This easy-to-use product is perfect for the office or small business. If you want to take your computing to the next level, the *Action*tec Wireless-Ready DSL Gateway is sure to be one of the keys to your success.

Package Contents

- Four-port *Action*tec Wireless-Ready DSL Gateway
- Power adapter
- Phone filters
- DSL cable
- Ethernet cable
- USB cable
- Installation CD
- Quick start guides

Minimum System Requirements

- Active DSL service
- Computer with an 10 Mbps or 10/100 Mbps Ethernet connection, or USB connection
- Microsoft Windows 95, Windows 98, Windows 98 Second Edition (SE), Windows Millennium Edition (Me), Windows NT 4.0, Windows 2000, Windows XP, Mac OS 7.1+, Mac OS 8.0+, Mac OS 9.0+, or Mac OS X+

☞ ***Note***: USB LAN port is not supported with Microsoft Windows 95, Windows NT 4.0, and Mac OS

- Internet Explorer 4.0 or higher (5.x recommended) or Netscape Navigator 4.0 or higher (4.7 recommended)
- TCP/IP network protocol installed on each computer

Technical Support

Self Help

To obtain answers to DSL configuration questions, visit the Qwest DSL *Action*tec support page at this address:
`http://www.qwest.com/dsl/customerservice/Actiontec1520.html`

A help page is also available on the main page of the *Action*tec DSL Gateway Web interface. Enter
`192.168.0.1`
in the browser's address text box, and when the first screen appears, click **HELP**.

Basic Setup Support

If unable to access the Internet, look at the Internet light on the front of the DSL Gateway. If the light is **solid green**, call the ISP immediately. If it is **not solid green**, call Qwest at 1-800-247-7285.

Other Problems

Contact the ISP if experiencing problems with:

- DHCP addressing configuration
- Static IP addressing configuration
- Transparent bridging configuration

Contact Qwest at 1-800-247-7285 for:

- DSL service outage support and repair
- DSL service installation support
- NIC card installation of the Qwest-supplied Realtek NIC Card

☞ ***Note***: Before attempting any of the above, make sure access to the Internet is available.

Advanced Feature Support

Qwest DSL technical support provides the following advanced feature support for the *Action*tec DSL Gateway. Contact Qwest at 1-800-247-7285 for configuration assistance.

- Enabling Website Blocking
- Enabling VPN Pass-Through
- Enabling/Disabling NAT
- Firewall configuration
- Changing the LAN IP address of the DSL Gateway
- Enabling Services Blocking
- Enabling/Disabling DHCP
- VIP feature

These features are supported in the DSL Gateway only. Implementation of the above features within the network (LAN) is not supported.

Wired/Wireless Upgrade

Wired and wireless upgrade installation support is available from *Action*tec free of charge if the wired/wireless equipment was purchased from *Action*tec. Contact *Action*tec at 1-888-436-0675 for installation and configuration support information.

Networking (LAN) Support

If a wired/wireless network has been set up and support is needed in one of the following areas:

- LAN support of multiple computers and peripherals
- Microsoft Windows Networking
- Microsoft Internet Connection Sharing (ICS)
- Advanced LAN configuration with multiple computers

- Non-*Action*tec-provided network card/Ethernet cable installation, configuration, or troubleshooting
- Commercial firewall software configuration

contact the ***Action*tec Pay For Support Center** at 1-888-825-9025. *Action*tec networking support is provided for a fee of $29.95 per incident. Other fee-based feature support includes:

- Port Forwarding (Static NAT)
- Static Routing
- MAC Address Cloning
- Third-party vendor wireless equipment configuration
- DMZ Hosting
- NAT Routes
- RIP (Dynamic Routing)

This support service does not include an on-site field technician.

To purchase *Action*tec wireless cards and peripherals, visit the *Action*tec Web site at

www.actiontecstore.com/qwest

Setting Up the Gateway

2

The instructions that follow parallel the steps contained in the *Action*tec Installation Buddy™, which provides a visual guide to setting up the Gateway. It is recommended the user run the Installation Buddy first, before attempting any other procedures.

To set up the Gateway, it must be connected to a computer, and then configured. After connecting this first computer, other computers can be added to the network via USB, Ethernet, or wirelessly (see "Building a Network" on page 57).

Warning!

Read the following two sections (Alarm System, Automatic Water Heater) before proceeding with any installation!

Alarm System

If your home or business has an alarm system and Qwest DSL shares the same phone line, you have special wiring needs. If you did not order a technician install at the time of sale, please contact Qwest Sales as soon as possible to order and schedule your installation.
If you security alarm is wired incorrectly, it may not be able to make a notification call when the alarm is triggered. Professional wiring is required to insure interoperability. **Do not attempt the installtion yourself.** Qwest strongly recommends that you contact your security organization for more information about your security alarm system before you attempt to install Qwest DSL. Qwest also strongly recommends that you contact your security organization after installing Qwest DSL to have them conduct a test of your alarm system.

Automatic Water Meter

If your home or office has an automatic water meter that uses the same phone line as the Qwest DSL Gateway, you must put a DSL Phone Filter on the water meter. Call your water company for help when installing the DSL Phone Filter on your water meter.

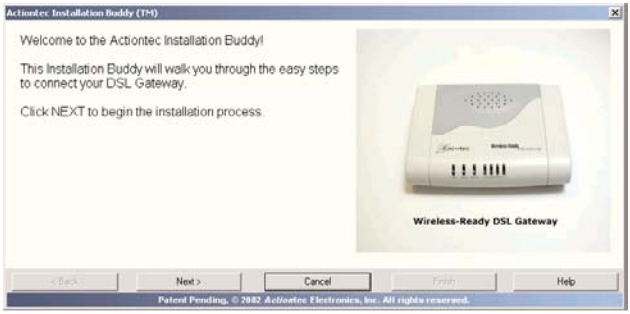
Connecting a Computer to the Gateway

Connecting a computer to the Gateway involves three basic steps: initial setup, plugging in the Gateway's Power Cord, and connecting the Gateway to the computer via Ethernet or USB cable. To connect this initial computer to the Gateway using an Ethernet cable, follow the procedure that begins below. For USB connections, see "Connecting Via USB" on page 14.

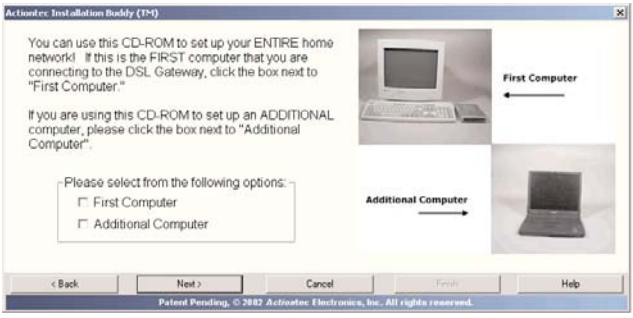
☞ ***Note***: The following procedures are for U.S. installations only.

Connecting Via Ethernet

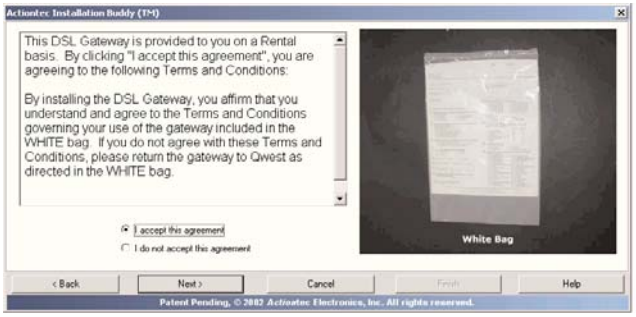
1. Insert the *Action*tec Installation Buddy CD-ROM in the CD-ROM drive of the computer. The Installation Buddy will start automatically. Wait until the following screen appears, read the onscreen instructions, then click **Next**.



2. The next window appears. Read the instructions, select **First Computer** by clicking on the check box, then click **Next**.



3. The next window appears. Read the onscreen information, then get the "Terms and Agreement" document from the White Bag and read it as well. Then, select **I accept this agreement** and click **Next**.



4. The next window appears. Select **Ethernet**, then click **Next**.

5. The next window appears. Read the onscreen instructions, then click **Next**.

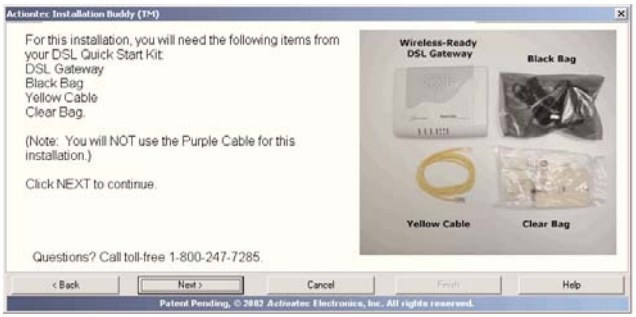
☞ ***Note***: You must have your Welcome Letter (ISP Worksheet) to complete this installation. If you have not received this document, contact your ISP immediately.

6. When the next window appears, read the information concerning home alarm systems, then click **Next**.

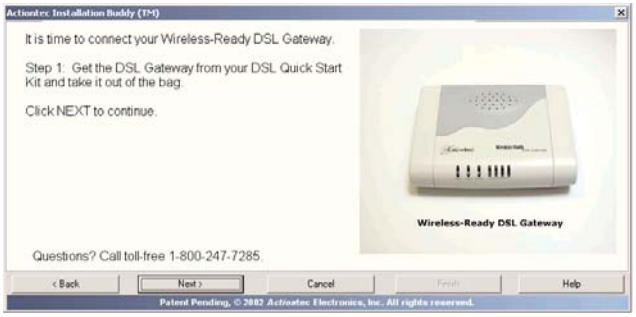
7. Another window concerning home alarms appears. Read the onscreen information, then click **Next**.

8. When the next window appears, read the information concerning automatic water meters, then click **Next**.

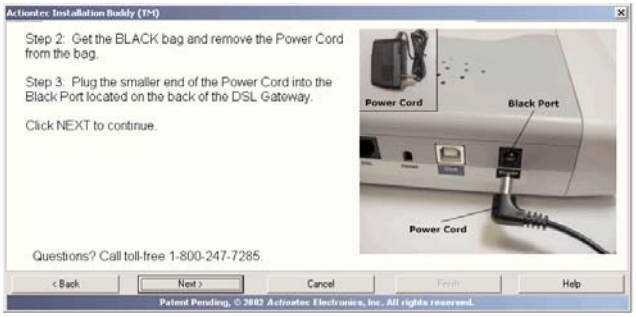
9. In the next window, read the instructions regarding the items needed to set up the Gateway, then click **Next**.



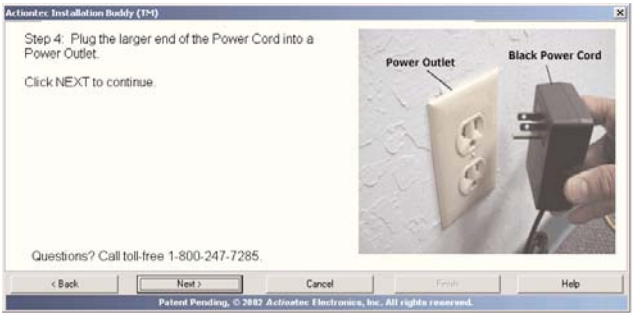
10. As shown in the next window, get the Gateway from the DSL Quick Start Kit, then click **Next**.



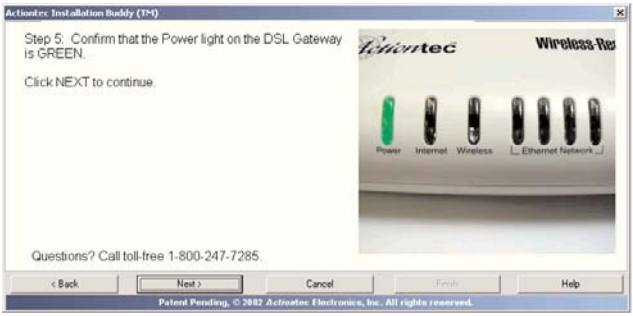
11. The next window appears. Plug the smaller end of the **Power Cord** into the **Black Port** on the back of the Gateway, then click **Next**.



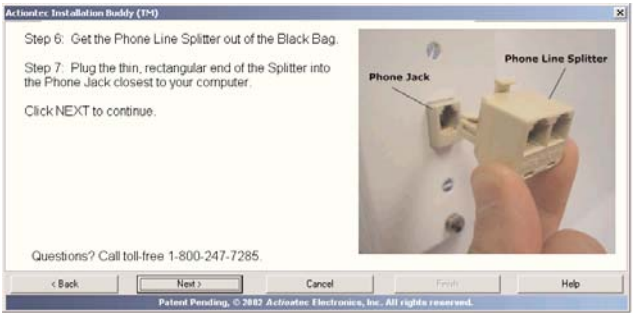
12. When the next window appears, plug the larger end of the **Power Cord** into a **Power Outlet**, then click **Next**.



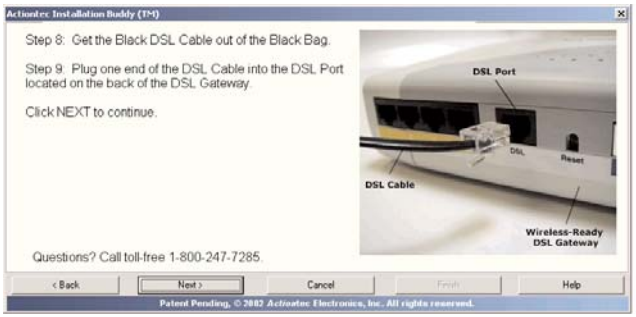
13. When the next window appears, confirm the **Power Light** on the Gateway **glows steadily green**. Click **Next**.



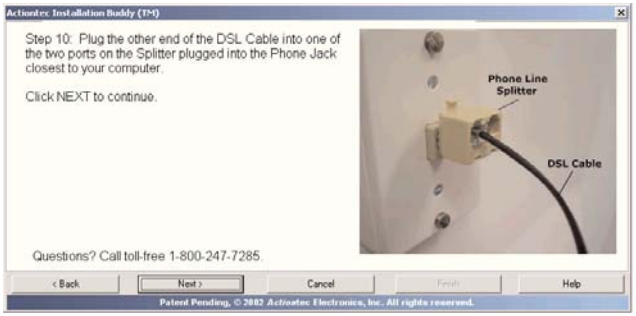
14. The following window appears. Get the **Phone Line Splitter** from the DSL Quick Start Kit and plug it into the **Phone Jack** closest to the computer, then click **Next**.



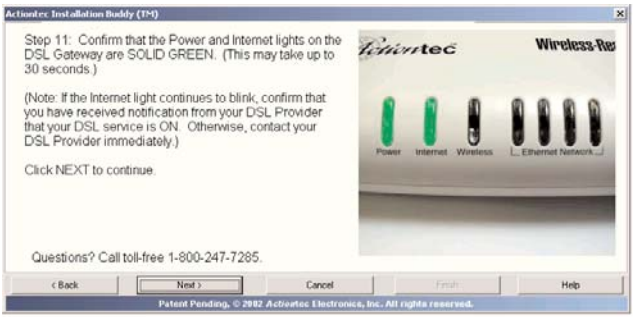
15. When the next window appears, get the **Black DSL Cable** and plug one end of it into the **DSL Port** on the back of the Gateway, then click **Next**.



16. Another window appears. Plug the other end of the **Black DSL Cable** into one of the two ports on the **Splitter**, then click **Next**.



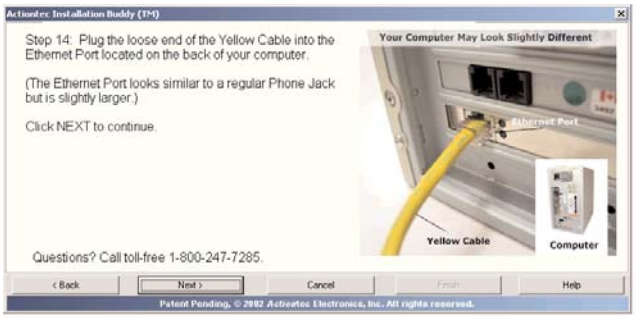
17. When the next window appears, confirm the **Power** and **Internet Lights** on the Gateway **glow steadily green**. Click **Next**.



☞ ***Note***: If the Power and Internet Lights on the Gateway are not solid green, check all connections to the Gateway. If all connections are plugged in properly, call Qwest DSL Technical Support at 1-800-247-7285.

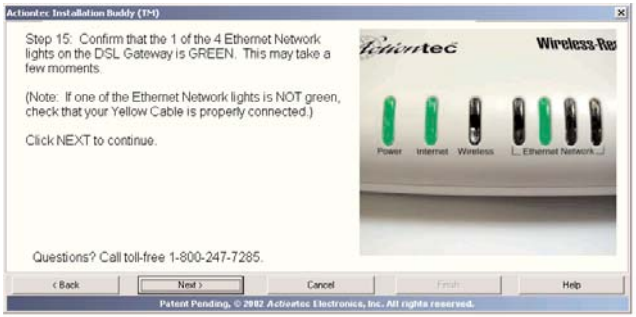
18. In the next window, get the **Yellow Ethernet Cable** from the Quick Start Kit and plug one end of it in one of the **Yellow Ports** on the back of the Gateway. Click **Next**.

19. When the next window appears, plug the other end of the **Yellow Ethernet Cable** into an **Ethernet Port** on the back of the computer. Click **Next**.



☞ ***Note***: An Ethernet port looks similar to a phone jack, but is slightly larger.

20. When the next window appears, make sure one of the four **Ethernet Network** Lights glows solid green.

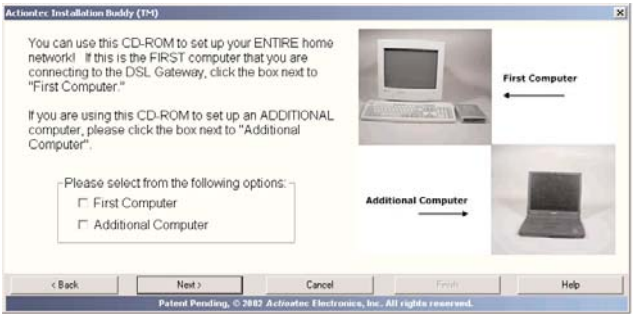


The Gateway is connected to a computer via Ethernet. Click **Next** to install the filters as described in "Installing the Filters" on page 21.

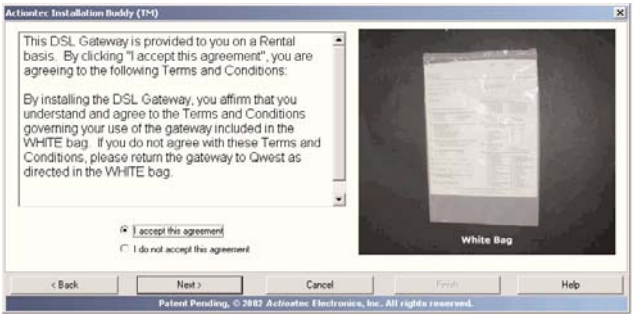
Connecting Via USB

1. Insert *Action*tec Installation Buddy CD-ROM in the CD-ROM drive of the computer. The Installation Buddy will start automatically. Wait until the following screen appears, read the onscreen instructions, then click **Next**.

2. The next window appears. Read the instructions, select **First Computer** by clicking on the check box, then click **Next**.



3. The next window appears. Read the onscreen information, then get the "Terms and Agreement" document from the White Bag and read it as well. Then, select **I accept this agreement** and click **Next**.



4. The next window appears. Select **USB**, then click **Next**.

5. The next window appears. Read the onscreen instructions, then click **Next**.

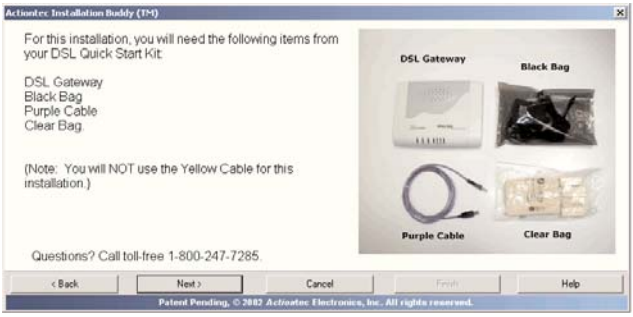
☞ ***Note***: You must have your Welcome Letter (ISP Worksheet) to complete this installation. If you have not received this document, contact your ISP immediately.

6. When the next window appears, read the information concerning home alarm systems, then click **Next**.

7. Another window concerning home alarm systems appears. Read the onscreen information, then click **Next**.

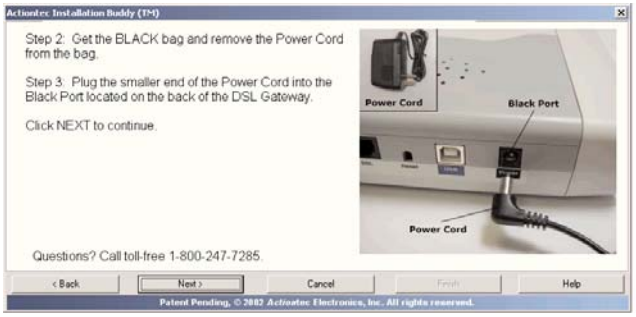
8. When the next window appears, read the information concerning automatic water meters, then click **Next**.

9. In the next window, read the instructions regarding the items needed to set up the Gateway, then click **Next**.

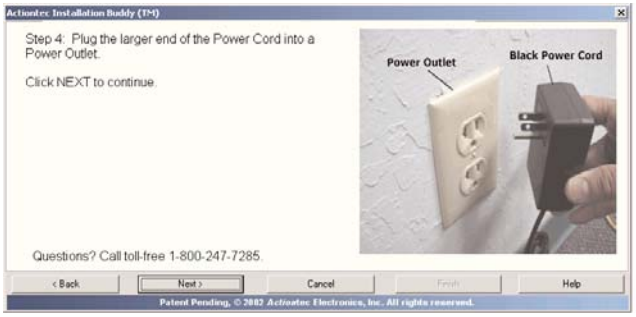


10. As shown in the next window, get the Gateway from the DSL Quick Start Kit, then click **Next**.

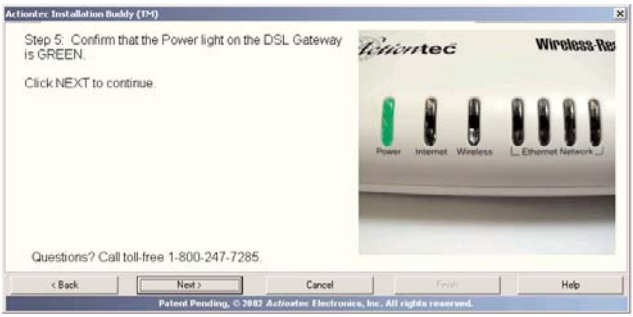
11. The next window appears. Plug the smaller end of the **Power Cord** into the **Black Port** on the back of the Gateway, then click **Next**.



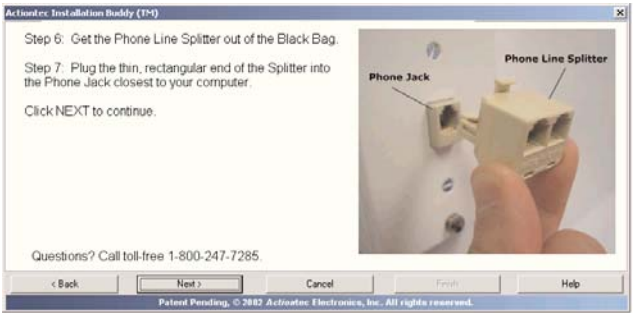
12. When the next window appears, plug the larger end of the **Power Cord** into a **Power Outlet**, then click **Next**.



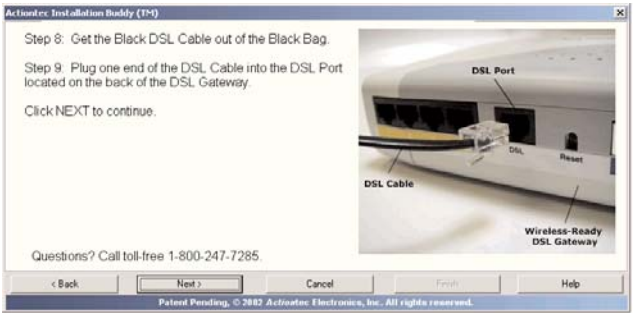
13. When the next window appears, confirm the **Power Light** on the Gateway **glows steadily green**. Click **Next**.



14. The following window appears. Get the **Phone Line Splitter** from the DSL Quick Start Kit and plug it into the **Phone Jack** closest to the computer, then click **Next**.

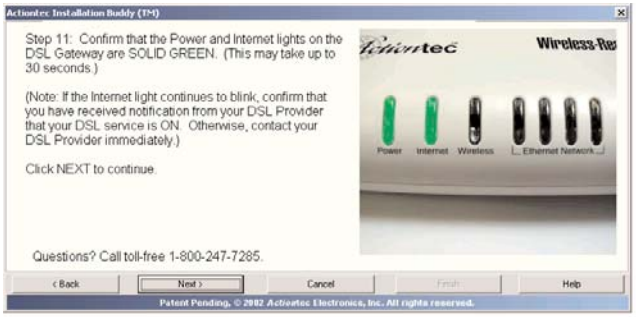


15. When the next window appears, get the **Black DSL Cable** and plug one end of it into the **DSL Port** on the back of the Gateway, then click **Next**.



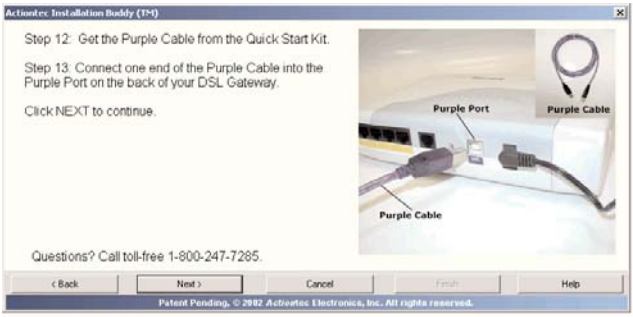
16. Another window appears. Plug the other end of the **Black DSL Cable** into one of the two ports on the **Splitter**, then click **Next**.

17. When the next window appears, confirm the **Power** and **Internet Lights** on the Gateway **glow steadily green**. Click **Next**.

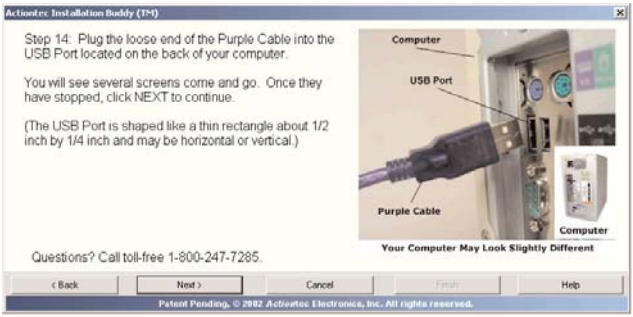


☞ ***Note***: If the Power and Internet Lights on the Gateway are not solid green, check all connections to the Gateway. If all connections are plugged in properly, call Qwest DSL Technical Support at 1-800-247-7285.

18. In the next window, get the **Purple USB Cable** from the Quick Start Kit and plug the square end of it in the **Purple Port** on the back of the Gateway. Click **Next**.



18. When the next window appears, plug the rectangular end of the **Purple USB Cable** into a **USB Port** on the front or back of the computer. Click **Next.**



☞ ***Note***: A USB port is shaped like a thin rectangle about 1/4 inch by 1/2 inch, and may be vertically or horizontally oriented.

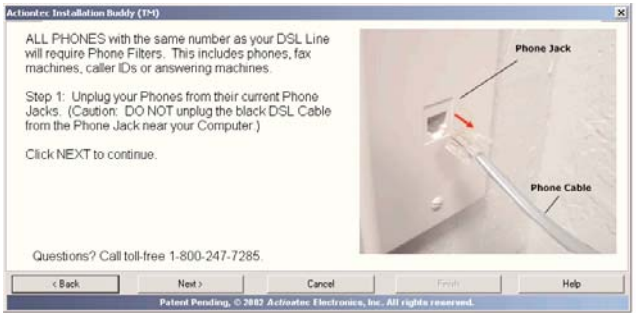
The Gateway is connected to a computer via USB. Click **Next** to install the filters as described in "Installing the Filters" on page 21.

Installing Filters

Filters allow the user to talk on the phone while online. All phones and other devices (answering machines, fax machines, etc.) using the same line (i.e., using the same phone number) as the DSL line must have a filter installed. To install a filter, follow these instructions:

1. When the following window appears, read the onscreen instructions, then click **Next** to continue.

2. When the next window appears, unplug all phone cords from their respective phone jacks, then click **Next**.



Caution: **Do not** unplug the black DSL cable from the phone jack near your computer.

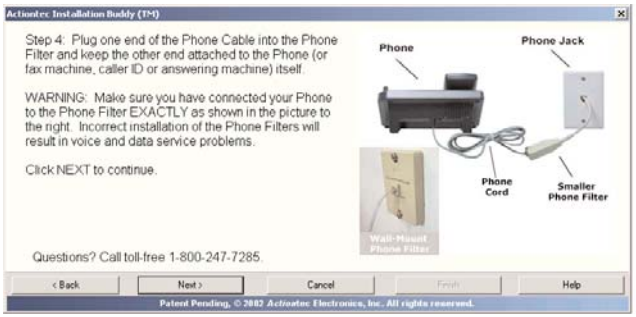
3. When the following window appears, get the Clear Bag, take out the phone filters, then click **Next**.

Caution: **Do not** install a filter in the phone jack used by the black DSL cable.

4. In the next window, read the onscreen instructions concerning wall-mount phones. Click **Next**.

5. After the next window appears, plug a **Phone Filter** into ever Phone Jack that has a device (phone, fax machine, answering machine, etc.), then click **Next**.

6. When the next window appears, read the onscreen instructions on how to connect the phone filters, then click **Next**.



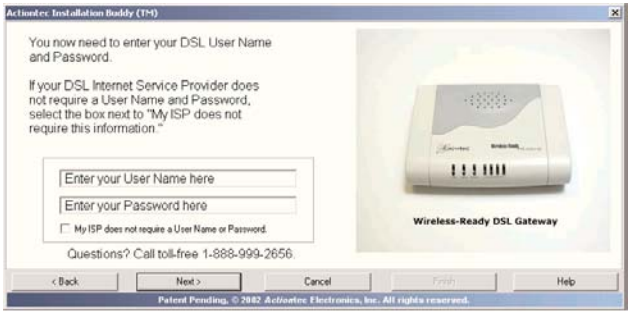
The phone filters are installed. Click **Next**. to go to "Setting Up the DSL Connection," as described below.

Setting Up the DSL Connection

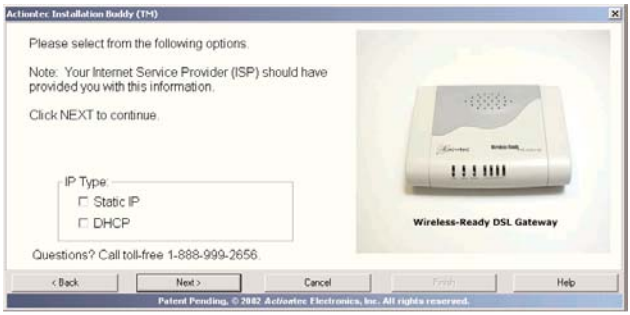
After connecting the Gateway and installing phone filters, the DSL connection must be configured. Use the following procedure:

1. When the window below appears, read the onscreen instructions and, if the information needed is available, select the type of ISP Protocol to be used. Click **Next**.

2. If **PPPoE** or **PPPoA** was selected, the following window appears. Enter the **User Name** and **Password** in the proper text boxes, or, if the ISP does not require them, click the box next to "My ISP does not require a User Name or Password." Click **Next**.
If **RFC 1483** was selected, go directly to step 3.

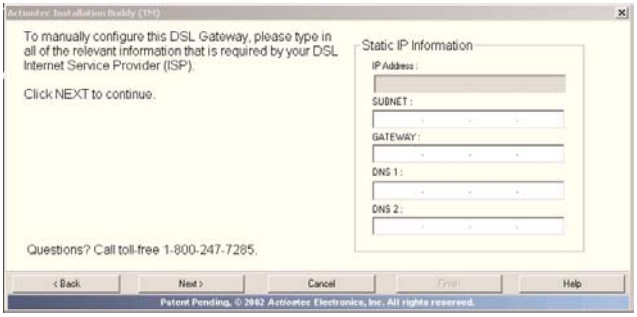


3. The next window appears. Select the IP type used by the ISP. Click **Next**.
If DHCP was selected, go directly to step 6

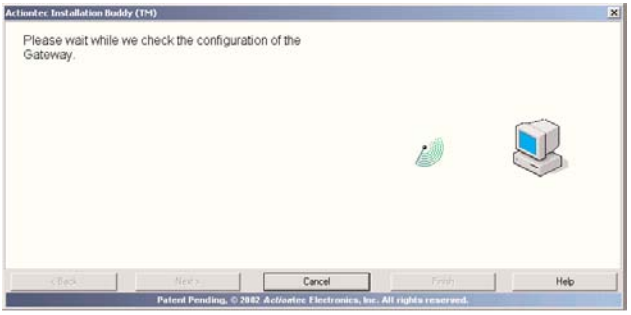


4. The next window appears. Read the onscreen instructions concerning purchased blocks of Static IP addresses, select the proper option, then click **Next**.

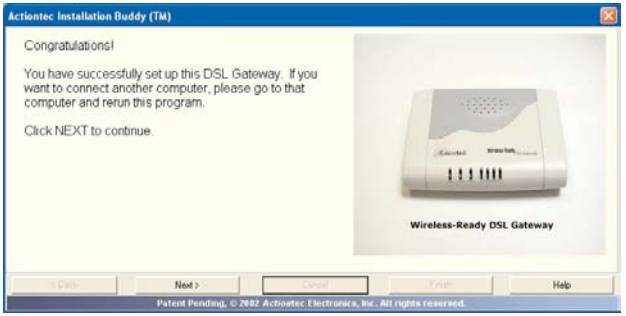
5. When the next window appears, enter the IP Address, Subnet, Gateway, DNS 1, and DNS 2 information in the proper text boxes. This information should be provided by the ISP. When finished, click **Next**.



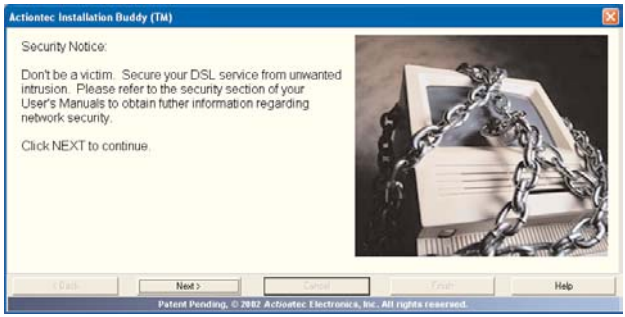
6. In the next window, the Installation Buddy checks the configuration of the Gateway.



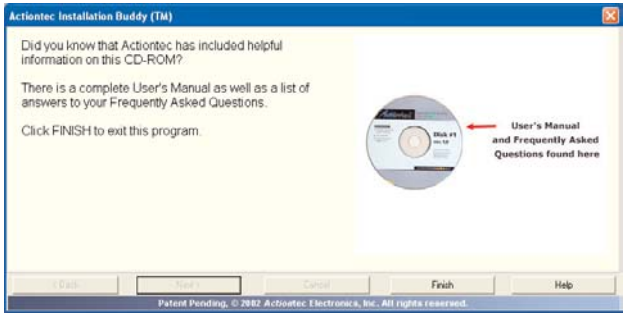
7. A "Congratulations!" window appears. Read the onscreen instructions, then click **Next**.



8. In the next window, read the onscreen information about computer security, then click **Next**.



9. In the last window, read the onscreen information regarding additional reference material on the CD-ROM, then click **Finish**.



The Gateway has been successfully configured.

Using Qwest DSL 3

Qwest DSL operates over home or business phone lines equipped with Qwest DSL service. For this reason, the Qwest DSL connection is not portable; it can't be accessed while away from home or business. To connect while traveling, ask the ISP about a dial-up account. Most Qwest DSL ISPs provide a dial-up account for free, while others charge a minimal fee.

Qwest DSL is a highly reliable service, but it is possible to have a dial-up connection in the unlikely event that problems arise with the DSL service. Most Qwest DSL ISPs provide a dial-up account for free. If not, there are a number of free Internet providers whose products make great backup Internet access in the unlikely event they are ever needed.

Connecting to the Internet

Whether connecting via Point-to-Point Protocol (PPPoE, PPPoA) or Bridging Mode (RFC 1483), after connecting and configuring the Gateway, the Internet connection is always on. Therefore, to connect or reconnect to the Internet, simply turn on your computer, open the Web browser and go to the Web site of your choice. No further set up is needed.

Disconnecting from the Internet

To disconnect from the Internet, close the Web browser. To completly disengage, turn off the computer.

Basic Setup

4

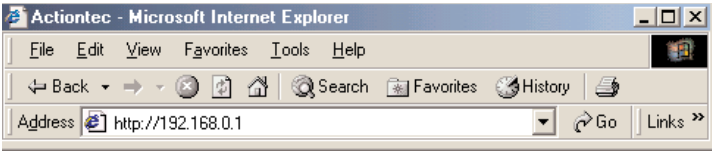
This chapter is a guide through a basic configuration of the Gateway, including how to connect the Gateway to the ISP, as well as an overview of the Gateway's LEDs and switches.

To complete the basic setup, the user will need the Welcome Letter (ISP Worksheet). If the document is not available, contact the ISP immediately.

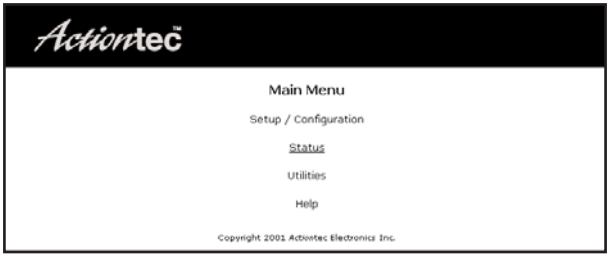
Basic Setup

To configure the gateway for basic operation:

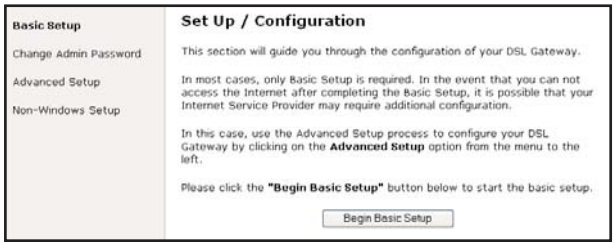
1. Open the Web browser. In the address bar, enter
   `http://192.168.0.1`
   then press **Enter** on the keyboard.



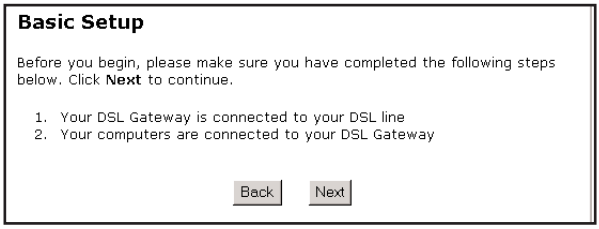
2. The "Main Menu" screen appears. Select **Setup/Configuration**.



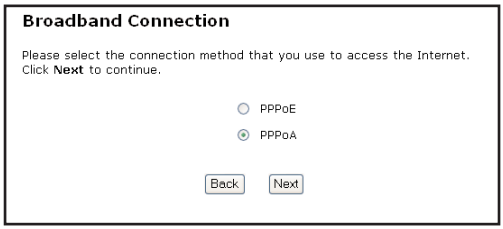
3. Follow the instructions in the "Set Up/Configuration" screen, then click **Begin Basic Setup**.



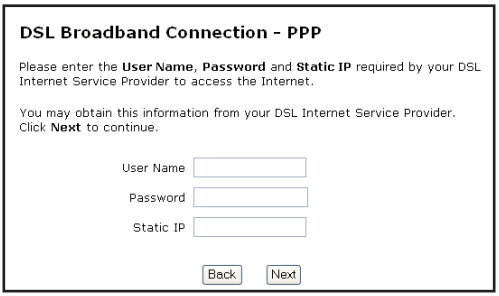
4. In the next window, follow the onscreen instructions, then click **Next**.



5. In the next window, select the type of connection by clicking on the circle next to **PPPoA** or **PPPoE**. If unsure about the selection, contact the ISP.

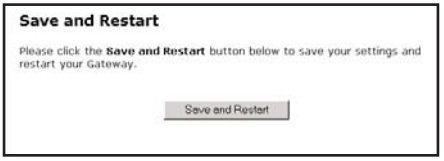


6. Enter the **User Name**, **Password**, and **Static IP** provided by the ISP in the "DSL Broadband Connection - PPP" screen. Click **Next**.

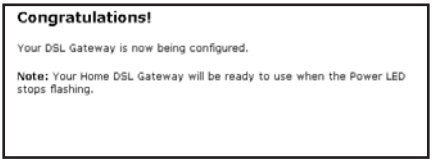


☞ ***Note***: If the ISP uses a connection method other than PPPoE (DHCP or Static IP, for example) see "Advanced Setup" to connect the Gateway.

7. Click **Save and Restart** in the "Save and Restart" screen.



8. The "Congratulations" screen appears. The Gateway is successfully configured.



The Power Light flashes rapidly while the Gateway restarts, then glows steadily green when fully operational. The Internet Light will also glow steadily green. The Gateway is now configured and users can start surfing the Web.
If an error stating the Web browser was unable to connect to the Internet appears, check the configuration settings. Ensure all the information required by the ISP is entered correctly.

Gateway Features

This section contains a quick description of the Gateway's lights and switches.

Power Light - The Power Light displays the Gateway's current status. If the Power Light glows steadily green, the Gateway is receiving power and fully operational. When the Power Light is rapidly flashing, the Gateway is initializing. If the Power Light is not illuminated when the power cord is plugged in, the Gateway has suffered a critical error and technical support should be contacted.

Internet Light - When the Internet Light glows steadily, the Gateway is connected to the DSL provider. When it flashes, data is being send via the WAN port.

Wireless Light - When the Wireless Light glows steadily, the Gateway is ready for wireless networking.

Ethernet Network Light - The Ethernet Network Light s glow when a network link is established with a computer. A flashing Light signifies network traffic across the specific Ethernet connection.

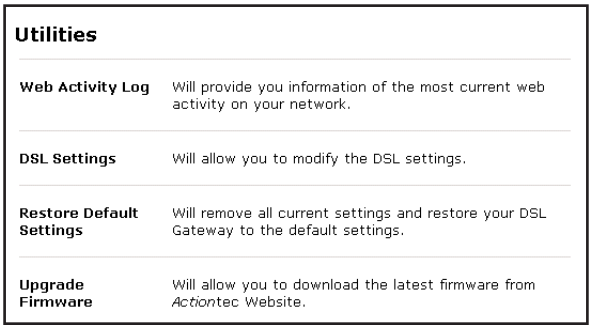
Reset Switch - Depressing the reset switch for one or two seconds will power cycle (similar to unplugging and then plugging in the Gateway's power cord) the Gateway. To restore the Gateway's factory default settings, depress and hold the Reset Switch for approximately 10 seconds. The reset process will start about 10 seconds after releasing the Reset Switch.

Warning: Do not unplug the power cord from the Gateway during the reset process. Doing so may result in permanent damage to the Gateway.

Utilities

6

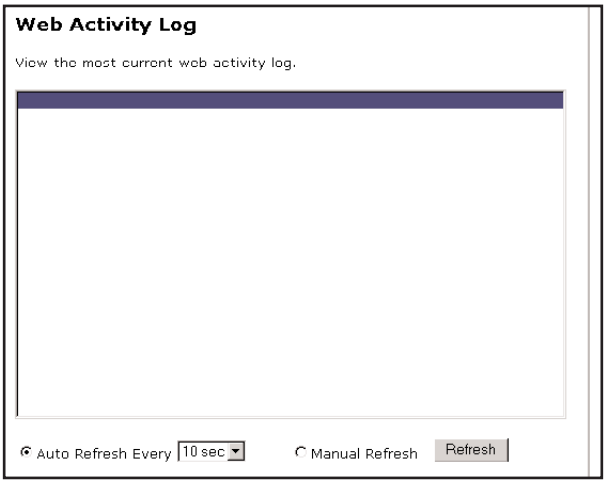
To access the Gateway's utilities select **Utilities** from the "Main Menu" screen. The "Utilities" screen appears.



From here, the Web activity log can be viewed, the DSL settings changed, the Gateway's factory default settings restored, and the Gateway's firmware upgraded.

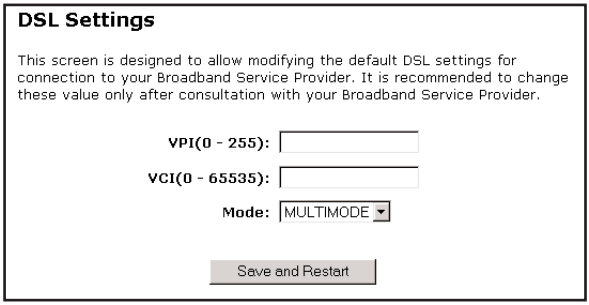
Web Activity Log

The Web Activity Log provides information about the Web sites each computer on the Gateway's network has visited. To access the Web Activity Log, select **Web Activity Log** from the "Utilities" screen.



DSL Settings

To access DSL Settings, select **DSL Settings** from the "Utilities" screen. The Gateway's VPI, VCI, and Mode settings can be changed from here. *Action*tec recommends not changing these values without consulting the Internet Service Provider (ISP).

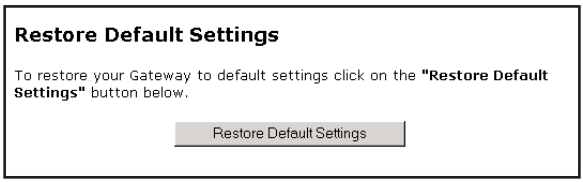


Restore Default Settings

To restore the Gateway to its factory default settings, select **Restore Default Settings** from the "Utilities" screen. When the "Restore Default Settings" screen appears, click **Restore Default Settings**. Any changes made to the Gateway's settings will be lost and the factory default settings will be restored. During this process, the Gateway's power LED flashes and the Gateway is disabled.

Warning: Do not unplug the power cord from the Gateway during the Restore Default Settings process. Doing so may result in permanent damage to the Gateway.

When the power LED stops flashing and glows steadily green, the Gateway is fully operational.



Upgrade Firmware

Selecting **Upgrade Firmware** in the "Utilities" screen generates the "Upgrade Firmware" screen. *Action*tec periodically posts firmware upgrades to enhance the Gateway's capabilities.

To upgrade the Gateway's firmware:

1. Click **Upgrade Here** in the "Upgrade Firmware" window.
2. The QWEST upgrade Web page will appear. Follow the onscreen instructions to download and install the *Action*tec 1520 Gateway firmware.

   Warning: Do not unplug the power cord from the Gateway during the Upgrade Firmware process. Doing so may result in permanent damage to the Gateway.

4. After the upgrade is complete, unplug the power adapter from the Gateway, then plug it back in again.
5. When the power LED stops flashing and glows steadily green, the Gateway is fully operational.
6. Reconfigure the Gateway settings.

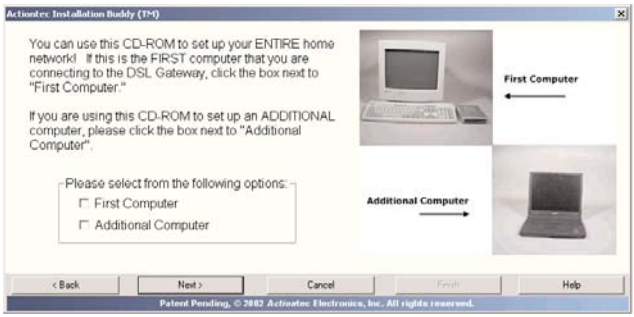
Building a Network 7

Other computers can be connected to the Gateway to form a network. The network computers can be connected to the Gateway in three ways: Ethernet, USB, or wirelessly.

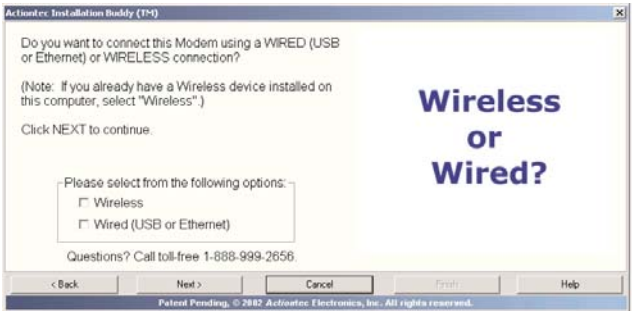
Ethernet

1. Insert the *Action*tec Installation Buddy CD-ROM in the CD-ROM drive of the computer. The Installaton Buddy will start automatically. Wait until the following screen appears, read the onscreen instructions, then click **Next**.

2. The next window appears. Read the instructions, select **Additional Computer** by clicking on the check box, then click **Next**.



3. The next window appears. Select **Wired**, then click **Next**.



4. The next window appears. Select **Ethernet**, then click **Next**.

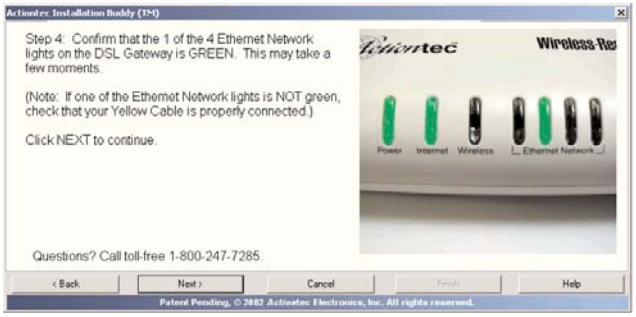
5. When the next window appears, get the **Yellow Ethernet Cable** from the Quick Start Kit, then click **Next**.

6. When the next window appears, plug one end of the **Yellow Ethernet Cable** into one of the **Yellow Ports** on the back of the Gateway, then click **Next**.

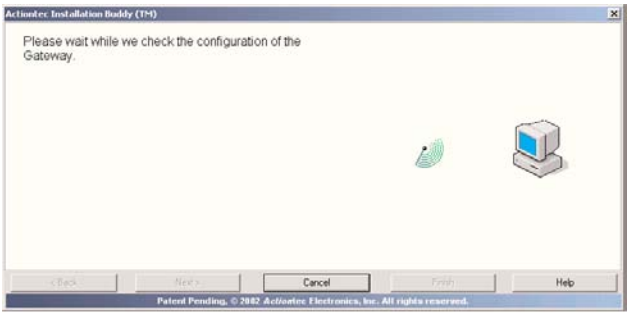
7. Another window appears. Plug the other end of the **Yellow Ethernet Cable** into an **Ethernet port** on the back of the computer, then click **Next**.

☞ ***Note***: An Ethernet port looks similar to a phone port, but is slightly bigger.

8. When the next window appears, make sure one of the **Ethernet Network Lights** glow steadily green, then click **Next**.



9. In the next window, the Installation Buddy checks the configuration of the Gateway.

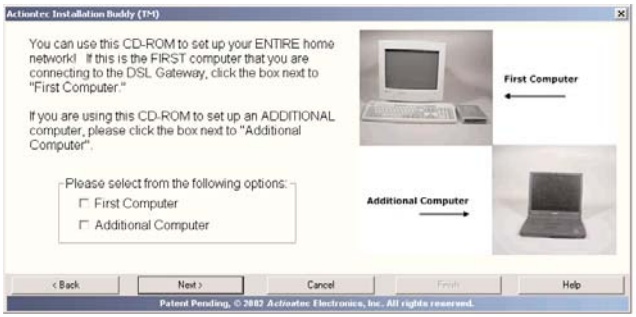


A congratulations window appears. The Gateway is connected to a computer via Ethernet.

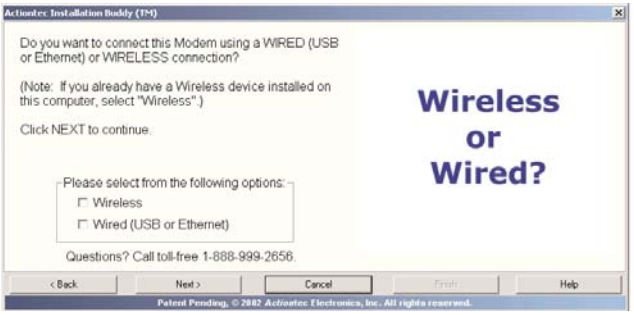
USB

1. Insert **Disk 1** (Installation Buddy CD) in the CD-ROM drive of the computer. The Installaton Buddy will start automatically. Wait until the following screen appears, read the onscreen instructions, then click **Next**.

2. The next window appears. Read the instructions, select **Additional Computer** by clicking on the check box, then click **Next**.

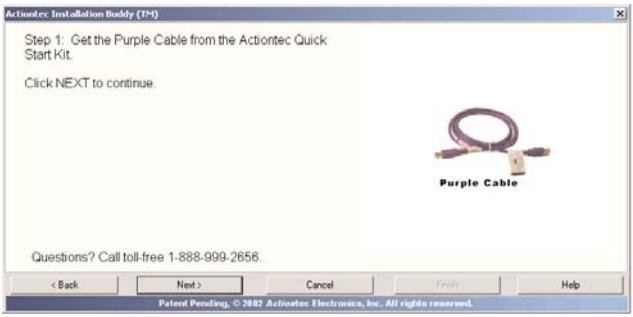


3. The next window appears. Select **Wired**, then click **Next**.

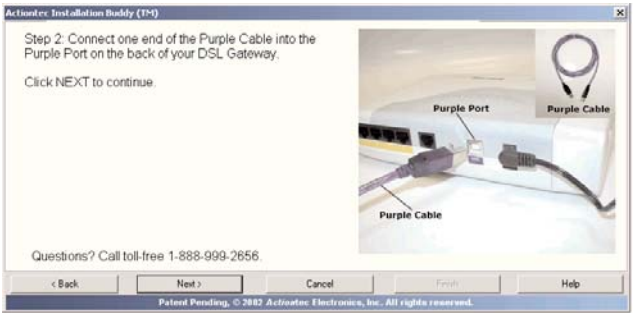


4. The next window appears. Select **USB**, then click **Next**.

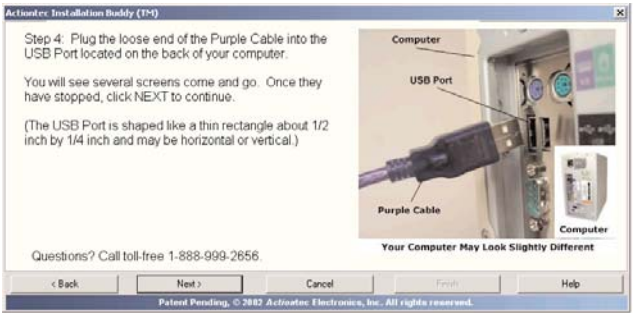
5. When the next window appears, get the **Purple USB Cable** from the Quick Start Kit, then click **Next**.



6. When the next window appears, plug the square end of the **Purple Cable** into the **Purple USB Port** on the back of the Gateway, then click **Next**.

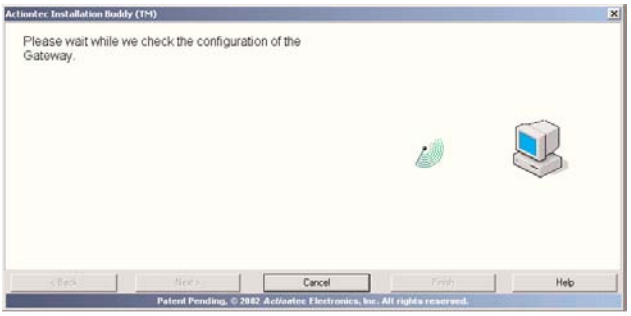


7. Another window appears. Plug the rectangular end of the **Purple USB Cable** into a **USB port** on the front or back of the computer, then click **Next**.



☞ ***Note***: An Ethernet port looks similar to a phone port, but is slightly bigger.

8. In the next window, the Installation Buddy checks the configuration of the Gateway.

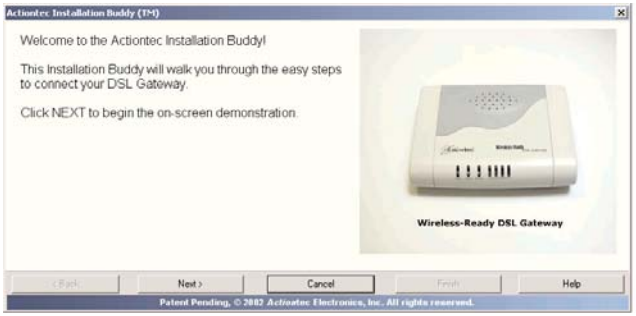


A congratulations window appears. The Gateway is connected to a computer via USB.

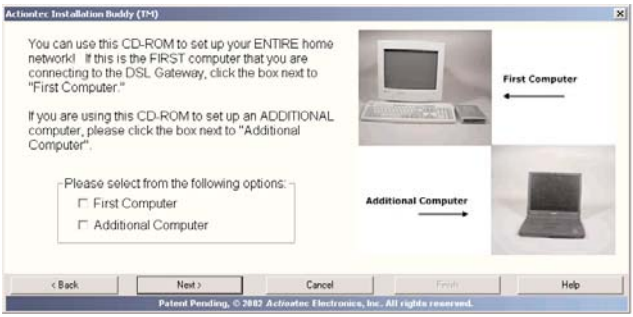
Wireless

☞ ***Note***: Computers to be added to the network wirelessly must have wireless capabilities (PCI wireless adapter, USB wireless adapter, etc.).

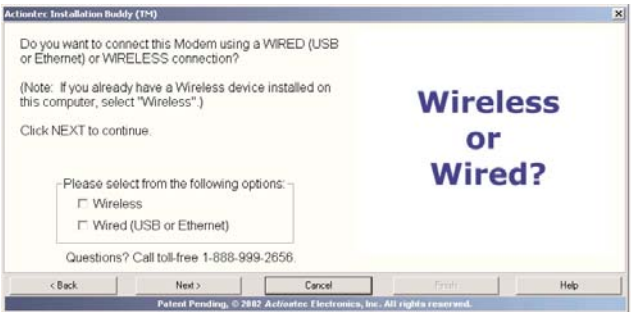
1. Insert **Disk 1** (Installation Buddy CD) in the CD-ROM drive of the computer. The Installaton Buddy will start automatically. Wait until the following screen appears, read the onscreen instructions, then click **Next**.



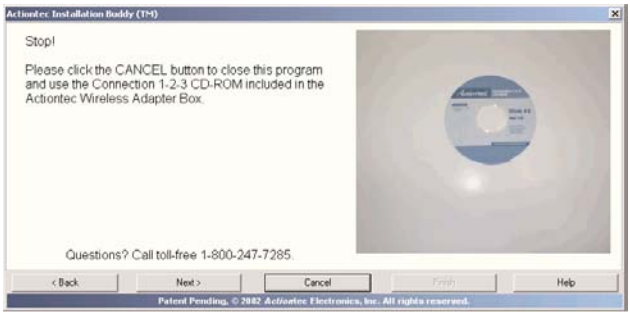
2. The next window appears. Read the instructions, select **Additional Computer** by clicking on the check box, then click **Next**.



3. The next window appears. Select **Wireless**, then click **Next**.



4. The next window appears. Follow the instructions and insert the Connection 1-2-3 CD into the computer's CD-ROM drive to set up the wireless connection.



The computer is now connected to the network wirelessly.

Troubleshooting 8

This chapter contains a list of problems that may be encountered while using the Gateway, and techniques to try and overcome the problem. Note that these techniques may not solve the problem. If you need additional help, contact the ISP or Qwest DSL Technical Support at 1-800-247-7285.

LAN Connection Failure

- Ensure the Gateway is properly installed, the LAN connections are correct, and the power is on.
- Confirm the computer and Gateway are on the same network segment. If unsure, let the computer get the IP address automatically by initiating the DHCP function (see "DHCP Server"), then verify the computer is using an IP address within the default range (192.168.1.2 through 198.168.1.254). If the computer is not using an IP address within the range, it will not connect to the Gateway.
- Ensure the Subnet Mask address is set to 255.255.255.0 by clicking **Status** in the "Main Menu" screen.

Cannot Connect to the Internet

- Ensure both ends of the power cord and all network cables are properly connected.
- Ensure the Subnet Mask address is set to 255.255.255.0 by clicking **Status** in the "Main Menu" screen.
- Verify the Gateway's settings are the same as the computer by clicking **Status** in the "Main Menu" screen.
- If running Windows 95, 98, 98 SE, or Me, check the computer's TCP/IP settings. Select **Start**, **Run**, enter

  `winpcfg`

  in the"Open" text box, then press **OK**. The "IP Configuration" window appears. Ensure the text box at the top of the window contains the name of the Ethernet adapter installed in the computer. If not, click on the down arrow next to the text box. When the list appears, click on the proper Ethernet adapter.
  In the fields below, the Ethernet adapter's various addresses appear. There should be an entry for IP address, Subnet Mask, and Default Gateway.

Additionally, the "IP Address" entry should be on the 192.168.0.X network (with "x" defining a range from 2 though 255).
If the Ethernet adapter is showing an incorrect IP address, click **Release**, which sets all values back to 0 (zero). Then, click **Renew** (this process may take a few seconds). The renewed IP address should be on the 192.168.0.X network.
If an error occurs, or the IP address renews with an address outside the 192.168.0.X network, contact the ISP immediately

- If running Windows 95, 98, 98 SE, or Me, check the computer's TCP/IP settings. Select **Start**, **Run**, enter

  `CMD`

  in the"Open" text box, then press **OK**. A "DOS" window appears, with a blinking cursor (prompt). Enter

  `ipconfig`

  at the prompt, then press **Enter** on the keyboard.
  The IP address of the Ethernet adapter should appear in the DOS window. Ensure the IP address in the 192.168.0.X network (with "x" defining a range from 2 though 255).
  If the Ethernet adapter is showing an incorrect IP address, enter

  `ipconfig/release`

  at the prompt, then press **Enter** on the keyboard, which sets all values back to 0 (zero). Next, enter

  `ipconfig/renew`

  at the prompt, then press **Enter** on the keyboard (this process may take a few seconds). The renewed IP address should be on the 192.168.0.X network.
  If an error occurs, or the IP address renews with an address outside the 192.168.0.X network, contact the ISP immediately

- Ensure the browser is not set to "Never dial a connection" and there are no previous LAN settings.
  To check this, go to **Start**, **Settings**, **Control Panel**. In the Control Panel, double-click **Internet Options**. When the "Internet Properties" window appears, ensure that the "Never dial a connection" option is not activated, then click **LAN Settings**. When the "Local Area Network (LAN) Settings" window appears, ensure that no settings are activated. If there are settings activated, deactivate them.

- Shutdown and restart the computer. After the computer restarts, unplug the power cord from the Gateway and plug it back in. When the lights glow solid green, try accessing the Internet.

Time out error occurs when entering a URL or IP Address

- Verify all the computers are working properly.
- Ensure the IP settings are correct.
- Ensure the Gateway is on and connected properly.
- Verify the Gateway's settings are the same as the computer by clicking **Status** in the "Main Menu" screen.
- Check the cable/DSL modem by attempting to connect to the Internet.

Reference

A

This appendix contains information about various topics, including accessing information about your Windows computer and wiring under special circumstances.

Locating Computer Information

The following procedure is valid for Windows 98, 98 SE, Me, NT 4.0, 2000 and XP.

1. From the desktop, right-click on **My Computer**.
2. Select **Properties** from the menu that appears.
3. When the "System Properties" window appears, select **General**.
   The version of the operating system, processor type, and amount of RAM installed in the computer are listed here.
4. Close the System Properties window.
5. From the desktop, double-click on **My Computer**.
6. Right-click the icon representing your hard disk. For example: Local Disk (C:).
   Some computers have multiple hard disks.
7. From the menu that appears, select **Properties**.
8. When the window appears, select **General**.
9. The Free space value is the available space on the hard disk.
10. Close all windows.

Locating Windows Operating System Files

If the operating system files reside on the hard drive of the computer, follow the instructions below to locate them. If the files are not on the hard drive, they must be loaded from the installation disks.

Windows 98, 98 SE

1. From the desktop, click **Start**.
2. When the menu appears, select **Find,** then **Files or Folders**.
3. When the "Find: All Files" window appears, select **Name & Location**.
4. In the "Named" text box, enter:
   `*.cab`
5. Click the **down arrow** next to the "Look In" text box and select **My Computer** from the list that appears.
6. Click **Find Now**.
7. When the search is complete, note the directory path that appears most often in the "In Folder" column. For example: C:\WINDOWS \SYSTEM.
8. The Windows operating system files are located in this directory. Write down the directory path for future reference.
9. Close the Find: All Files window.

Windows Me, 2000

1. From the desktop, click **Start**.
2. Select **Search**, then **For Files and Folders**.

3a. ***Windows Me***: The "Search Results" window appears. In the "Search for files or folders named" text box, enter:
`*.cab`

3b. ***Windows 2000***: The "Search Results" window appears. In the "Search for files or folders named" text box, enter:
`i386`

4. Click the **down arrow** next to the "Look in" text box and select **My Computer** from the list that appears.

5. Click **Search Now**.

6a. ***Windows Me***: When the search is complete, note the directory path that appears most often in the "In Folder" column. For example: C:\WINDOWS \OPTIONS\INSTALL.

6b. ***Windows 2000***: When the search is complete, note the directory path that appears most often in the "In Folder" column. For example: C:\WINNT \Driver Cache.

7. The Windows operating system files are located in this directory. Write down the directory path for future reference.

8. Close the Search Results window.

Windows NT 4.0

1. From the desktop, click **Start**.

2. When the menu appears, select **Find,** then **Files or Folders**.

3. When the "Find: All Files" window appears, select **Name & Location**.

4. In the "Named" text box, enter:

```
i386
```

5. Click the **down arrow** next to the "Look In" text box and select **My Computer** from the list that appears.

6. Click **Find Now**.

7. When the search is complete, note the directory path that appears most often in the "In Folder" column. For example: C:\.

8. The Windows operating system files are located in this directory. Write down the directory path (followed by "i386") for future reference.

9. Close the Find: All Files window.

Windows Me, 2000

1. From the desktop, click **Start**.
2. Select **Search**, then **For Files and Folders**.
3. The "Search Results" window appears. In the panel at left titled "What do you want to search for?", click **All files and folders**.
4. Another panel, titled "Search by any or all of the criteria below" appears. In the "Look in" text box, click the **down arrow** and select **My Computer** from the menu that appears.
5. In the "All or part of the file name" text box, enter:
   i386
6. Click **Search**.
7. When the search is complete, note the directory path that appears most often in the "In Folder" column. For example: C:\WINDOWS \Driver Cache\.
8. The Windows operating system files are located in this directory. Write down the directory path (followed by "\i386") for future reference.
9. Close the Search Results window.

Wiring Information

This section contains information about how to connect the Gateway to a two-line phone, a security alarm system, an automatic water meter, and a PBX or key phone system sharing a line with Qwest DSL.

Two-Line Phone

If Qwest DSL is connected in a location with two phone lines using two separate phone numbers, the DSL phone filters must be installed on the correct phone line.

In most two-line phone setups, the red and green lines connect Line 1, while the yellow and black lines connect Line 2. If a phone filter is installed between a two-line phone jack and a telephone with two-line capability, only Line 1 will be filtered and operational (because the phone filter connects the red and green wires only), while Line 2 will be completely disconnected.

The solution is twofold: 1) the phone filter must be installed to filter the line with Qwest DSL; and 2) the second line must be wired to bypass the phone filter. The

easiest way to do this is to purchase a pair of two-line modular adapters, a line-cord coupler, and some short lengths of phone cable, available at any telephone supply retailer.

> ***Note***: Do not purchase a 1-line modular adapter or line splitter. Installing either of these items results in two phone jacks on Line 1, and no access to Line 2.

1. Disconnect the telephone from the two-line phone jack.
2. Install one of the two-line modular adapters (modular adapter #1) in the phone jack
3. If Qwest DSL is on Line 1, install the phone filter in the Line 1 jack of modular adapter #1.
4. Install a short length of phone cable between the phone filter and the Line 1 jack of the other two-line modular adapter (modular adapter #2).
5. Install a short length of phone cable between the Line 2 jacks of modular adapters #1 and #2.
6. Connect the line-cord coupler to 2-line modular adapter #2.
7. Install a short length of phone cable between the line-cord coupler and the telephone.

If Qwest DSL is on Line 2, use the same procedure, but install the phone filter on Line 2.

Security Alarm System

If the user plans to connect Qwest DSL at a location that has two phone lines, Qwest DSL must be installed on the phone line that does not service the alarm system.

If the alarm system and Qwest DSL must share the same phone line, contact Qwest Sales to order a technical install. Special wiring needs are required when Qwest DSL and the alarm system share the same phone line. Qwest Sales telephone numbers are listed at the back of this manual.

Automatic Water Meter

If an automatic water meter and Qwest DSL share a phone line, a DSL phone filter must be installed on the water meter. If needed, contact the water company for assistance in connecting the phone filter.

PBX or Key System

To share Qwest DSL with telephone line in an office PBX or key system:

1. In the building's phone closet, splice (into two lines) the telephone line on which Qwest DSL is installed.
2. On one of the spliced lines, connect the Gateway. The Gateway should be connected as close as possible to the telephone network to assure a strong signal.
3. Connect the Gateway to a computer or LAN hub via Ethernet cable.
4. On the other spliced line, install the DSL phone filter, then wire normally through the PBX or key system unit to the telephone.

Computer Security

B

The Internet is a giant network of computers all over the world. When a computer is connected to the Internet, it can exchange information with any other computer on the Internet. This lets the user send e-mail, surf the World Wide Web, download files, and buy products and services online, but it also makes the computer vulnerable to attack from persons intent on doing malicious mischief. Unless access to the computer is controlled, someone on the Internet can access the information on the computer, and they can damage or destroy that information.

Securing the Gateway and Computer

The Qwest DSL web site explains how to secure your computer and modem from attack. Go to

`http://www.qwest.com/dsl/`

then click **Security**.

The topics featured include:

- Modem security
- Computer operating system security
- Physical system security

The following sections briefly discuss some major security concerns and explain the risks involved. Please go to the Qwest DSL web site for full explanations and instructions.

Comparing DSL Service with a Dial-Up Modem

With a dial-up modem, a computer user makes an Internet connection by dialing a telephone number, surfs the Internet for a period of time (maybe a few minutes, maybe all day), and then disconnects the dial-up modem. No one on the Internet can access a computer that is not connected to the Internet.

Unlike a dial-up modem, DSL service is "always on." The connection is always available – there is no need to dial a phone number to access the Internet. The computer can be connected to the Internet all the time.

With both types of Internet connections, access to the computer must be controlled to make sure someone on the Internet doesn't access the information on the computer. The longer the computer is connected to the Internet, the easier it is for someone on the Internet to find the computer and attempt to access it without permission. DSL service also provides fast Internet connections. This not only improves Internet performance, it also improves Internet performance for anyone attempting to access the computer.

Gateway Security

If connecting to the ISP through Point-to-Point Protocol (PPP), be sure to provide the Gateway an administrative password. If a password is not set, someone on the Internet can access the Gateway and change its configuration or steal your PPP login name and password. For instructions on setting the password, see the "Advanced Setup chapter.

If connecting to the ISP through bridging mode, the Gateway is safe from unwarranted and illegal intrusion.

Computer Security

To protect the valuable information on the computer, review the following topics. These topics cover software programs and operating system features affecting the security of the computer's data.

Anti-Virus Programs

The computer should have an anti-virus program, and the virus definitions should be updated on a regular basis – at least once a month.

E-Mail Attachments

Never run a program received as an attachment to an e-mail message unless the program is known to be safe. A program from an unknown source can delete all the files on the computer's hard disk or install a "backdoor" software application that lets people on the Internet gain access to the computer without permission.

Internet Browsers

Always exit the Internet browser (for example, Internet Explorer or Netscape Navigator). Never "minimize" the browser or leave it open in the background. Breaking into a computer is easy when an Internet browser is running.

Network Applications

Network applications (such as software programs) that allow remote access to the computer also make the computer vulnerable to access from other people on the Internet. If using a network application that allows remote access, install a firewall.

Electronic Security

Here are two methods to secure your computer electronically.

Network Address Translation

If a local area network and a PPP connection to the ISP using dynamic IP addresses through a DHCP server are being used, Network Address Translation (NAT) is being used. NAT provides a very basic level of security. See the Qwest DSL LAN book for more information about NAT.

Firewalls

The safest way to prevent attacks on the computer is through a firewall – a hardware device or software program that protects the computer from unauthorized access by controlling who can access your computer and by monitoring the transmissions between the computer and the Internet

Windows XP has a built-in firewall. For more information, select **Help and Support Center** from the Help menu. Search for **Internet Connection Firewall**.

If Windows 98, 98 SE, Me, NT 4.0, or 2000, 98, or NT 4.0 is running on the computer, consider installing a firewall. Hardware and software firewall products are changing rapidly as more homes and businesses establish high-speed digital connections between their local area networks and the Internet.

For more information about firewalls, including vendors who sell firewall products, go to the Qwest DSL web site and click the Security topic. Firewall products are available from computer and networking equipment retailers.

Setting Up Static IP Address

C

To communicate with the Gateway from a computer on the network (to use the Web Configuration Utility, for example), the user may have to switch the IP address settings from DHCP-enabled to static IP, so that the computer and the Gateway are on the same subnet.

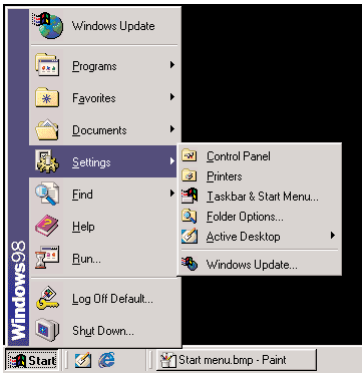
To set up static IP on a computer, select the operating system and follow the instructions.

> ***Note***: The following procedures are based on the Gateway's factory default IP address. If the Gateway's IP address has been changed, enter the new IP address when instructed to enter an IP address.

Windows 98 and 98 SE

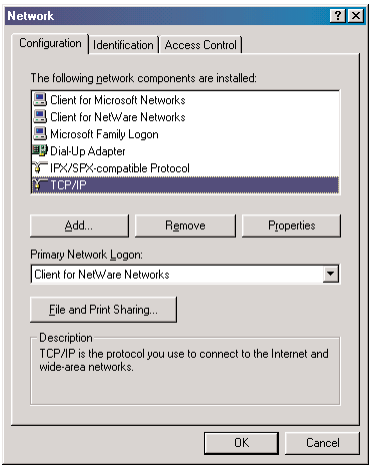
1. From the desktop, click on the **Start** button in the lower left corner.
2. From the menu that appears, select **Settings**.

3. Another menu appears. Select **Control Panel**.

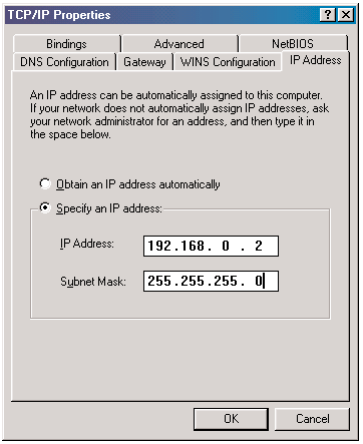


4. When the "Control Panel" window appears, double-click **Network**.

5. The "Network" window appears. In the "The following network components are installed" list box, locate and double-click **TCP/IP**.



6. The "TCP/IP Properties" window appears. Select **IP Address**.



7. In the IP Address tab, make sure the the circle next to "Specify an IP Address" is selected. When active, a black dot appears in the circle. If the circle already contains a black dot, leave it alone.

8. Enter the following numbers in the "IP Address" text box:

`192.168.0.2`

Do not include the periods; they are automatically entered.

9. Enter the following numbers in the "Subnet mask" text box:

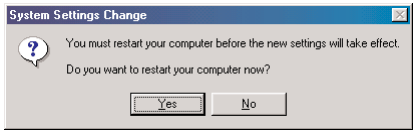
255.255.255.0

Do not include the periods; they are automatically entered.

10. Click **OK**. The TCP/IP Properties window disappears.

11. In the Network window, click **OK**. The Network window disappears.

12. The "System Settings Change" window appears, asking whether the computer should be restarted. Click **Yes**.

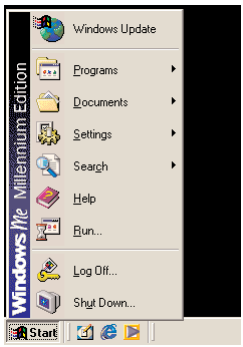


The computer restarts. It is now set up with a static IP address, allowing the user to access the Modem's Advanced Setup utility.

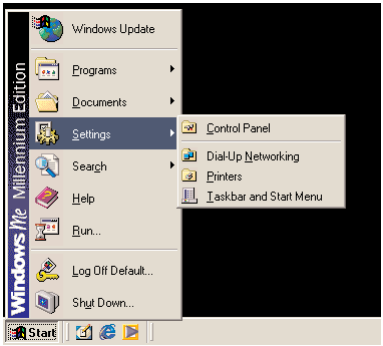
Windows Me

1. From the desktop, click on the **Start** button in the lower left corner.

2. From the menu that appears, select **Settings**.

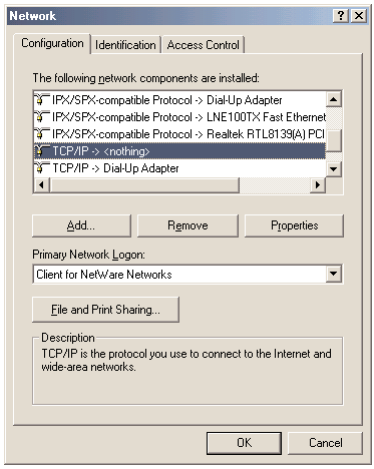


3. Another menu appears. Select **Control Panel**.

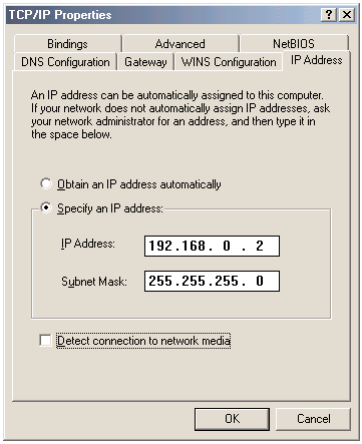


4. When the "Control Panel" window appears, double-click **Network**.

5. The "Network" window appears. In the "The following network components are installed" list box, locate and double-click **TCP/IP**.



6. The "TCP/IP Properties" window appears. Click **IP Address**.



7. In the IP Address tab, make sure the the circle next to "Specify an IP Address" is selected. When active, a black dot appears in the circle. If the circle already contains a black dot, leave it alone.

8. Enter the following numbers in the "IP Address" text box:

192.168.0.2

Do not include the periods; they are automatically entered.

9. Enter the following numbers in the "Subnet mask" text box:

`255.255.255.0`

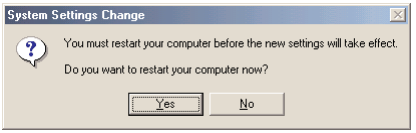
Do not include the periods; they are automatically entered.

10. Click **OK**. The TCP/IP Properties window disappears.

11. If there is a check in the box next to "Detect connection to network media," click on it to uncheck the box.

12. In the Network window, click **OK**. The Network window disappears.

13. The "System Settings Change" window appears, asking whether the computer should be restarted. Click **Yes**.



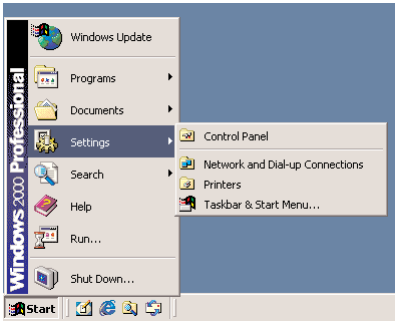
The computer restarts. It is now set up with a static IP address, allowing the user to access the Modem's Advanced Setup utility.

Windows 2000

1. From the desktop, click on the **Start** button in the lower left corner.

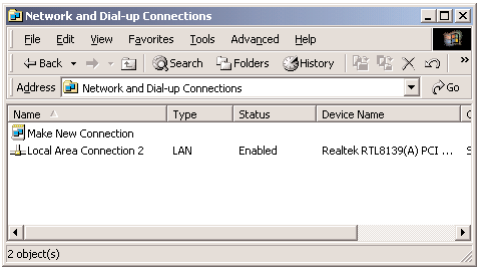
2. From the menu that appears, select **Settings**.

3. Another menu appears. Select **Control Panel**.

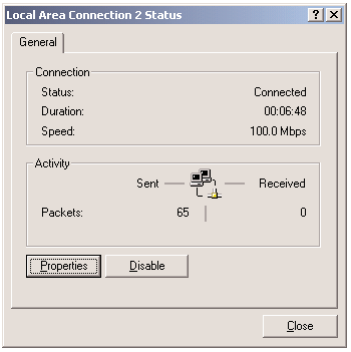


4. When the "Control Panel" window appears, double-click **Network and Dial-up Connections**.

5. In the "Network and Dial-up Connections" window, double-click **Local Area Connection**. A number may be displayed after the Local Area Connection. If there is more than one Local Area Connection listed, locate the one that corresponds to the network card installed in the computer by finding the name of the network card in the **Device Name** column.

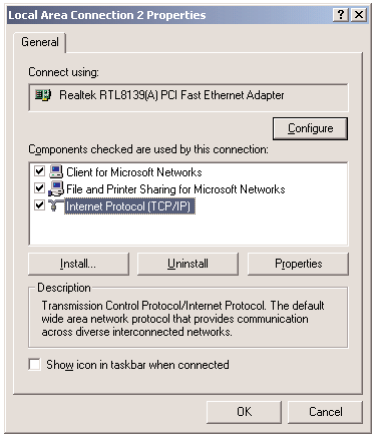


6. The "Local Area Connection Status" window appears. Select **General**, then click **Properties**.

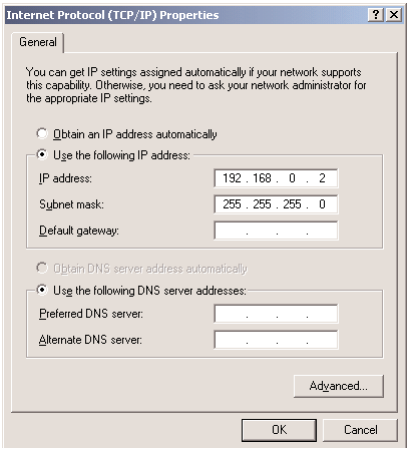


7. The "Local Area Connection Properties" window appears. Click **General**.

8. In the "Components checked are used by this connection" list box, double-click **Internet Protocol (TCP/IP)**.



9. The "Internet Protocol (TCP/IP) Properties" window appears.



10. In the **General** tab, make sure the the circle next to "Obtain an IP Address automatically" is selected. When active, a black dot appears in the circle. If the circle already contains a black dot, leave it alone.

11. Enter the following numbers in the "IP Address" text box:

`192.168.0.2`

Do not include the periods; they are automatically entered.

12. Enter the following numbers in the "Subnet mask" text box:

255.255.255.0

Do not include the periods; they are automatically entered.

13. Click **OK**. The "Internet Protocol (TCP/IP) Properties" window disappears.

14 In the "Local Area Connection Properties" window, click **OK**. The Local Area Connection Properties window disappears.

15. Click **Close** in the Local Area Connection Status window. The window disappears.

16. Close the Network and Dial-up Connections window by clicking on the "**x**" button at the upper right corner of the window.

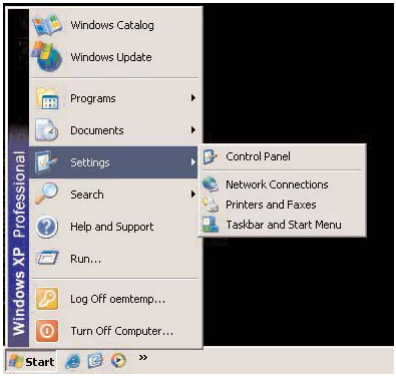
The computer is now set up with a static IP address, allowing the user to access the Modem's Advanced Setup utility.

Windows XP

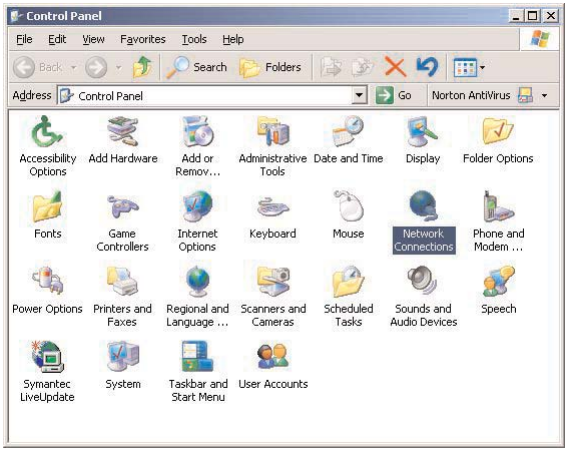
1. From the desktop, click on the **Start** button in the lower left corner.

2. From the menu that appears, select **Settings**.

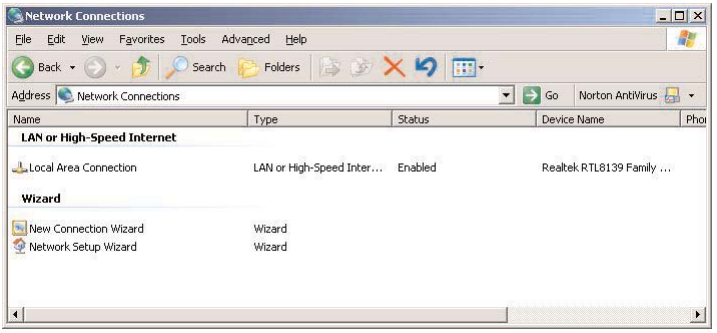
3. Another menu appears. Select **Control Panel**.



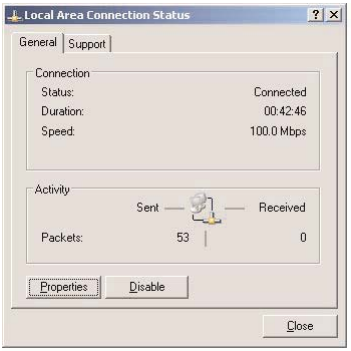
4. When the "Control Panel" window appears, double-click **Network Connections**.



5. In the "Network Connections" window, double-click **Local Area Connection**. A number may be displayed after the Local Area Connection. If there is more than one Local Area Connection listed, locate the one that corresponds to the network card installed in your computer by finding the name of the network card in the **Device Name** column.

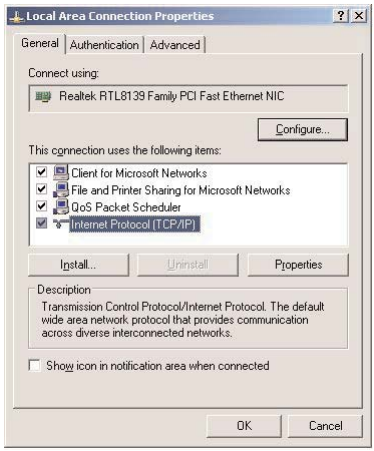


6. The "Local Area Connection Status" window appears. Select **General**, then click **Properties**.

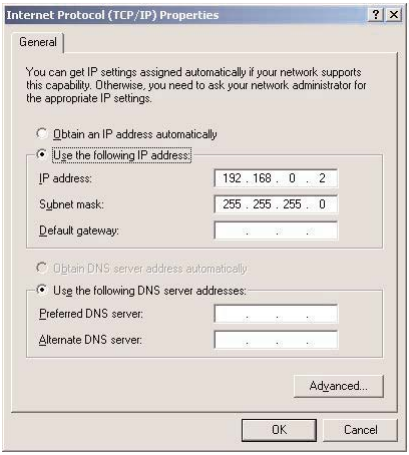


7. The "Local Area Connection Properties" window appears. Select **General**.

8. In the "Components checked are used by this connection" list box, double-click **Internet Protocol (TCP/IP)**.



9. The "Internet Protocol (TCP/IP) Properties" window appears.



10. In the **General** tab, make sure the the circle next to "Obtain an IP Address automatically" is selected. When active, a black dot appears in the circle. If the circle already contains a black dot, leave it alone.

11. Enter the following numbers in the "IP Address" text box:

198.162.0.2

Do not include the periods; they are automatically entered.

12. Enter the following numbers in the "Subnet mask" text box:

255.255.255.0

Do not include the periods; they are automatically entered.

13. Click **OK**. The Internet Protocol (TCP/IP) Properties window disappears.

14 In the Local Area Connection Properties window, click **OK**. The Local Area Connection Properties window disappears.

15. Click **Close** in the Local Area Connection Status window. The window disappears.

16. Close the Network and Dial-up Connections window by clicking on the "**x**" button at the upper right corner of the window.

The computer is now set up with a static IP address, allowing the user to access the Modem's Advanced Setup utility.

Specifications

D

General

Model Number

GS204AD9-01 (Four-Port Wireless-Ready DSL Gateway)

Standards

IEEE 802.3 (10BaseT)
IEEE 802.3u (100BaseTX)
IEEE 802.11b (Wireless)
G.dmt
G.lite
t1.413
RFC 1483, 2364, 2516

Protocol

LAN - CSMA/CD
WAN - PPP, DHCP, Static IP

WAN

Full-rate ADSL Interface

LAN

GS204AD9-01

10/100 RJ-45 switched ports (4)
USB port (1)

Expansion

PCMCIA expansion slot (2)

Speed

LAN Ethernet: 10/100Mbps
Wireless: 802.11b 11Mbps optimal (see "Wireless Operating Range" for details)

Cabling Type

Ethernet 10BaseT: UTP/STP Category 3 or 5
Ethernet100BaseTX: UTP/STP Category 5
USB

Wireless Operating Range

Indoors

Up to 30M (100 ft.) @ 11 Mbps
Up to 50M (165 ft.) @ 5.5 Mbps
Up to 70M (230 ft.) @ 2 Mbps
Up to 91M (300 ft.) @ 1 Mbps

Outdoors

Up to 152M (500 ft.) @ 11 Mbps
Up to 270M (885 ft.) @ 5.5 Mbps
Up to 396 (1300 ft.) @ 2 Mbps
Up to 457M (1500 ft.) @ 1 Mbps

Topology

Star (Ethernet)

LED Indicators

Power, Internet, Wireless, Ethernet Network (4)

Environmental

Power Input

External, 12V DC, 1.2 A

Certifications

FCC Class B
FCC Class C (part 15, 68)
CE Mark Commercial
UL

Operating Temperature

0º C to 40º C (32ºF to 104ºF)

Storage Temperature

-20ºC to 70ºC (-4ºF to 158ºF)

Operating Humidity

10% to 85% non-condensing

Storage Humidity

5% to 90% non-condensing

Glossary

Access Point

A device that allows wireless clients to connect to one another. An access point can also act as a bridge between wireless clients and a "wired" network, such as an Ethernet network. Wireless clients can be moved anywhere within the coverage area of the access point and remain connected to the network. If connected to an Ethernet network, the access point monitors Ethernet traffic and forwards appropriate Ethernet messages to the wireless network, while also monitoring wireless traffic and forwarding wireless client messages to the Ethernet network.

Client

A desktop or mobile computer connected to a network.

DHCP (Dynamic Host Configuration Protocol)

A protocol designed to automatically assign an IP address to every computer on a network.

DNS (Domain Name System) Server Address

Allows Internet host computers to have a domain name and one or more IP addresses. A DNS server keeps a database of host computers and their respective domain names and IP addresses so that when a user enters a domain name into a Web browser, the user is sent to the proper IP address. The DNS server address used by computers on the home network corresponds to the location of the DNS server the ISP has assigned.

DSL (Digital Subscriber Line) Modem

A modem that uses existing phone lines to transmit data at high speeds.

Encryption

Provides security for wireless data transmissions.

ESSID (Extended Service Set Identifier)

A unique identifier for a wireless network.

Ethernet Network

A standard wired network configuration using cables and hubs.

Firewall

Prevents users outside the network from accessing and/or damaging files or computers on the network.

Gateway

A device that manages the data traffic of a network, as well as data traffic to and from the Internet.

IP (Internet Protocol) Address

A series of four numbers separated by periods identifying a unique Internet computer host.

ISP Gateway Address

An IP address for the Internet gateway. This address is only required when using a cable or DSL modem.

ISP (Internet Service Provider)

A business that connects individuals or businesses to the Internet.

LAN (Local Area Network)

A group of computers and devices connected together in a relatively small area (such as a house or an office). A home network is considered a LAN.

MAC (Media Access Control) Address

The hardware address of a device connected to a network.

NAT (Network Address Translation)

Allows all computers on a network to use one IP address, enabling access to the Internet from any computer on the the network without purchasing more IP addresses from an ISP.

PC Card

An Ethernet adapter connected to the PCMCIA slot in a computer, enabling the communication with the Gateway.

PPPoE (Point-to-Point Protocol over Ethernet)

A method of secure data transmission.

Subnet Mask

A set of four numbers configured like an IP address used to create IP address numbers used within a particular network only.

TCP/IP (Transmission Control Protocol/Internet Protocol)

The standard protocol for data transmission over the Internet.

WAN (Wide Area Network)

A network connecting computers located in separate areas, (i.e., different buildings, cities, countries). The Internet is a WAN.

WECA (Wireless Ethernet Compatibility Alliance)

An industry group that certifies cross-vender interoperability and compatibility of IEEE 802.11b wireless networking products and promotes the standard for enterprise, small business, and home environments.

WLAN (Wireless Local Area Network)

A group of computers and other devices connected wirelessly in a small area.

Security Level Services Table

F

The following information is related to the Firewall options (High, Medium, and Low) in the "Advanced Services" chapter of this manual (page 35). The types of services and their respective ports are listed in the two right-hand columns; the "In" column details if a particular service can be accessed by a user outside of the network; and the "Out" column informs whether a computer on the Gateway's network can access a particular incoming service.
For example, in the "High Security Level" section, below, the http service uses port 80. Since "no" is listed in the In column, a user outside the Gateway's network cannot access a computer on the network via the http service; in this case, no computers on the network can be used as a Web server (i.e., hosting a Web site accessible to outside users). However, since "yes" is listed in the Out column, all computers on the Gateway's network can access the Internet via the http port.
If Basic Security is selected in the "Firewall" screen, firewall filtering is based on the basic NAT firewall.

☞ ***Note***: The stateful packet inspection firewall is based on the Globespan-Virata implementation and specification for release 8.2.

High Security Level

Service	Port	In	Out
http	80	no	yes
dns	53	no	yes
ftp	21	no	no
telnet	23	no	yes
smtp	25	no	yes
pop3	110	no	yes
nntp	119	no	no
real audio/video	7070	no	yes
icmp	n/a	no	yes
H.323	1720	no	no
T.120	1503	no	no
SSH	22	no	no

Medium Security Level

Service	Port	In	Out
http	80	no	yes
dns	53	no	yes
ftp	21	no	yes
telnet	23	no	yes
smtp	25	no	yes
pop3	110	no	yes
nntp	119	no	yes
real audio/video	7070	yes	no
icmp	n/a	no	yes
H.323	1720	no	yes
T.120	1503	no	yes
SSH	22	no	yes

Low Security Level

Service	Port	In	Out
http	80	no	yes
dns	53	yes	yes
ftp	21	no	yes
telnet	23	no	yes
smtp	25	no	yes
pop3	110	no	yes
nntp	119	no	yes
real audio/video	7070	yes	no
icmp	n/a	yes	yes
H.323	1720	yes	yes
T.120	1503	yes	yes
SSH	22	yes	yes

Basic Security Level

NAT (Network Address Translation) only.

Non-Windows System Setup

G

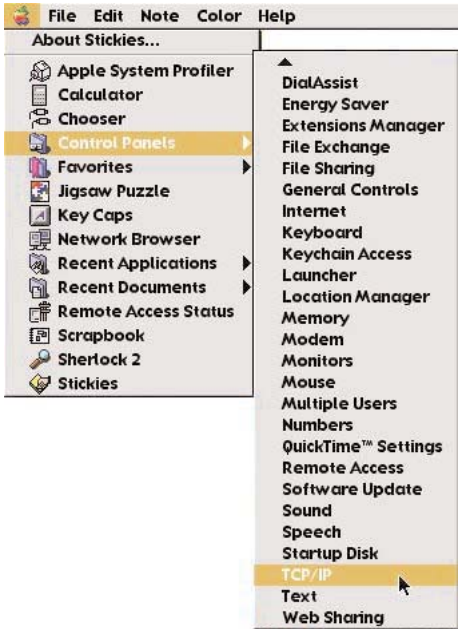
The Gateway supports both the Classic Macintosh operating systems (9.2.1 and below), as well as OS X.

Note: When installing any software, consult the user manual and help files supplied with the software for detailed information. *Action*tec provides the following information as a guideline only.

Classic

To configure the Router, Open Transport 2.5.2 or above must be loaded on the computer.

1. Click **Apple, Control Panels**, then **TCP/IP**.



2. When the "TCP/IP" window appears, select **Edit** from menu bar, then select **User Mode**.

3. When the "User Mode" window appears, select **Advanced**, then click **OK**.

4. In the "TCP/IP" window, select **Ethernet** from the "Connect via" drop-down list.

5. Select **Using DHCP Server** from the "Configure" drop-down list.

6. Ensure the "Use 802.3" option is **not** checked.

7. Disregard any addresses in the IP Address text boxes. They will be reacquired when the first connection is made.

8. Click **Options** and when the "TCP/IP Options" window appears, select **Active**. Ensure the "Load only when needed" option is **not** checked, then click **OK**.

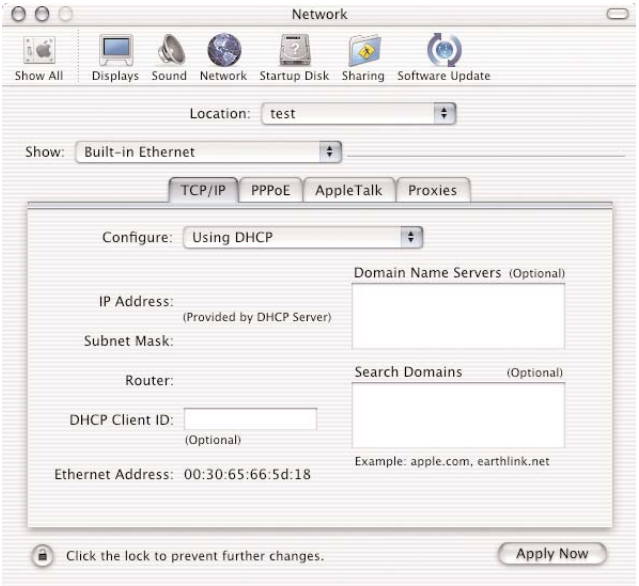
9. Close the "TCP/IP" window and when prompted to save changes, click **Save**.

10. Restart the computer. The TCP/IP settings are configured.

Next, go to "Connecting to the ISP" on page 86.

OS X

1. Open the "System Preferences" application via the Dock or Apple Menu. The "Network" window appears.



2. Select **Built-In Ethernet** from the "Show" drop-down list.

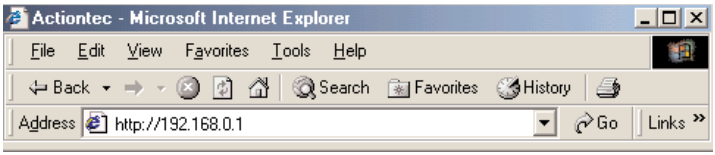
3. Select **TCP/IP** and, from the "Configure" drop-down list, select **Using DHCP**.

4. Click **Apply Now** and close the "System Preferences" application. The TCP/IP settings are configured.

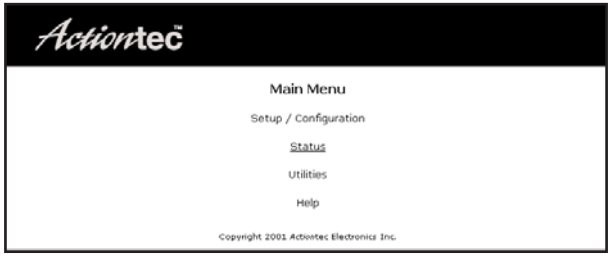
Next, go to "Connecting to the ISP" on page 86.

Connecting to the ISP

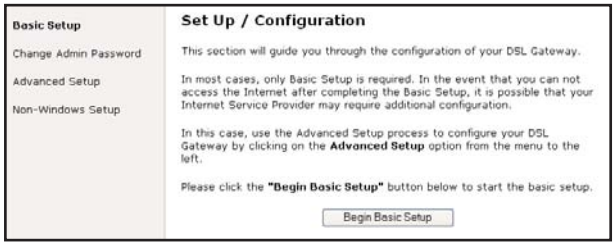
1. Open the Web browser. In the address bar, enter
   `http://192.168.0.1`
   then press **Enter** on the keyboard.



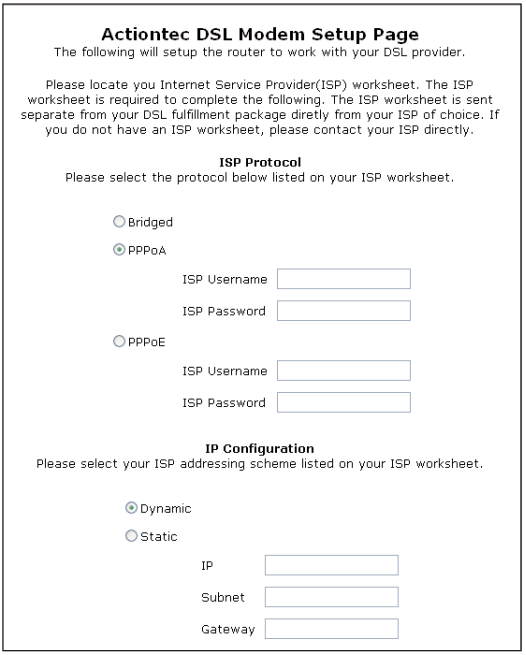
2. The "Main Menu" screen appears. Select **Setup/Configuration**.



3. In the "Set Up/Configuration" screen, select **Non-Windows Setup** from the menu on the left side.



4. The "Actiontec DSL Modem Setup Page" screen appears. In this screen, the user can configure the the ISP Protocol (Bridged, PPPoA, or PPPoE) and the IP configuration (Dynamic or Static). Using the Internet Service Provider (ISP) Worksheet provided by the ISP, enter the information in the appropriate text boxes.
If no worksheet has been provided, contact the ISP.



5. Click **Save and Restart** at the bottom of the Actiontec DSL Modem Setup Page screen.

The Gateway will be ready to use when the Power and Internet LEDs stop blinking.

For other configuration options, see "Using Advanced Setup" on page 33.

Notices

Regulatory Compliance Notices

Class B Equipment

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by implementing one or more of the following measures:

- Reorient or relocate the receiving antenna;
- Increase the separation between the equipment and receiver;
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected;
- Consult the dealer or an experienced radio or television technician for help.

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by A*ction*tec Electronics, Inc., may void the user's authority to operate the equipment.

Declaration of conformity for products marked with the FCC logo – United States only.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference;

2. This device must accept any interference received, including interference that may cause unwanted operation.

☞ ***Note***: To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

For questions regarding your product or the FCC declaration, contact:

*Action*tec Electronics, Inc.
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Sunnyvale, CA 94086
United States
Tel: (408) 752-7700
Fax: (408) 541-9005

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Return the product to:
(In the United States)
*Action*tec Electronics, Inc.
760 North Mary Avenue
Sunnyvale, CA 94085

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Dispute Resolution: The customer may contact the Director of Technical Support in the event the Customer is not satisfied with *Action*tec Electronics' response to the complaint. In the event that the Customer is still not satisfied with the response of the Director of Technical Support, the Customer is instructed to contact the Director of Marketing. In the event that the Customer is still not satisfied with the response of the Director of Marketing, the Customer is instructed to contact the Chief Financial Officer and/or President.

Governing Law: This Limited Warranty shall be governed by the laws of the State of California, U.S.A., excluding its conflicts of laws and principles, and excluding the United Nations Convention on Contracts for the International Sale of Goods.