SpeedStream®

Residential Family User's Guide

6500 Series

Part No. 007-6770-001

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Dallas, TX 75244

U.S.A.

Attn: Customer Service

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Chapter 1

Introduction

This chapter provides an overview of the Gateway's features and capabilities.

Congratulations on the purchase of your new SpeedStream SS6500 Series Residential Gateway Family (Gateway). The Gateway is a multi-function device providing the following services:

- Built-in DSL Modem that provides shared Internet access for multiple users.
- One- or four-port 10/100 Ethernet Switch for 10Base-T or 100Base-T connections.
- Custom Controls that allow you to configure the SpeedStream Residential Gateway to best meet your specific security and Internet-sharing needs.
- Integrated 802.11g/802.11b wireless interface that provides a wireless interface built into the unit.

Features of the Residential Gateway Family

The SpeedStream SS6500 Series Gateway incorporates many advanced features, carefully designed to provide sophisticated functions while being easy to use.

Network (LAN) Features

- **One- or Four-Port 10/100 Ethernet Switch**
  The SpeedStream Gateway incorporates a one- or four-port 10/100 Ethernet switch, making it easy to create or extend your network. Optionally, you can configure the fourth port as a WAN port for connection to another broadband device.
- **DHCP Server Support**
  Dynamic Host Configuration Protocol (DHCP) provides a dynamic, "upon request," IP address to computers and other networked devices. Your SpeedStream Gateway can act as a DHCP Server for devices on your local network.
- **Network Status and Statistics**
  Using these diagnostic tools, you can easily monitor the status of each network connection and evaluate network performance.
- **USB Connection**
  Some Gateways will have a Universal Serial Bus (USB) connection that can be used to connect up to 127 peripheral devices, such as mice, modems, and keyboards. It also supports UPnP installation and hot plugging.

Security Features

- **Password Protected Configuration**
  Password protection is provided to prevent unauthorized users from modifying the Gateway's configuration data and settings.
- **NAT Protection**
  An intrinsic side affect of NAT (Network Address Translation) technology is that by allowing all your network users to share a single IP address, the location and even the existence of each computer is hidden. From the external viewpoint, there is no network, only a single device - the SpeedStream Gateway.

- **Stateful Inspection Firewall**
  All incoming data packets are monitored and all incoming server requests are filtered, thus protecting your network from malicious attacks from external sources.
- **Attack Protection System**
  Attacks can flood your Internet connection with invalid data packets and connection requests, using so much bandwidth and so many resources that Internet access becomes unavailable. The Gateway incorporates protection against these types of attacks as well as other common hacker attacks.

Configuration & Management

- **Easy Setup**
  Use your Web browser for quick and easy configuration.
- **UPnP Support**
  Universal Plug and Play (UPnP) allows automatic discovery and configuration of the SpeedStream Gateway. UPnP is supported by Windows Me, XP or later, operating systems.

Advanced Gateway Functions

- **DMZ**
  One computer on your local network can be configured to allow unrestricted two-way communication with servers or individual users on the Internet. This provides the ability to run programs that are incompatible with firewalls.
- **Firewall "Snooze"**
  Temporarily disable firewall protection to limit interference with games and other applications incompatible with firewalls.
- **Content Filter**
  Use the Content Filter to block individual user access to undesirable Web sites. Content filtering can be defined differently for each user.
- **Time of Day Use Restrictions**
  Limit the time of day during which individual users have access to the Internet. Time limitations can be defined differently for each user.
- **Advanced Wireless Controls**
  The SpeedStream 6500 model has a built-in wireless interface. Custom configuration options include wireless access control, 64-bit, 128-bit, or WAP wireless encryption, disable SSID broadcast, and pass phrase key generation for added security.
- **HPNA**
  Some Gateways will come with Home Phoneline Networking Alliance (HPNA). HPNA technology, building on Ethernets, allows all the components of a home network to interact over the home's existing telephone wiring without disturbing the existing voice or fax services.
- **Powerline**
  Some Gateways will come with Digital Powerline (DPL) capability. DPL technology provides the transmission of data to users over the same lines that bring electric power to homes and businesses using TCP/IP protocol.

Minimum System Requirements

At a minimum, your computer must be equipped with the following to successfully install the Gateway. Your Internet Service Provider may have additional requirements for use of their service.

- **Ethernet connection method**
  - A network interface card (NIC) that supports 10/100 Ethernet
  - Operating system that supports TCP/IP
  - Microsoft Internet Explorer or Netscape Navigator versions 5.0 or later
- **USB connection method**
  - Available built-in USB port
  - Microsoft Internet Explorer or Netscape Navigator versions 5.0 or later

USB Driver-Related Requirements

Additional USB driver-related requirements depend on the operating system and architecture:

- **Windows operating system**
  - Pentium-compatible 166 MHz (or faster) processor
  - 32 MB RAM
  - 10 MB available hard drive space
  - Windows 98 or later operating system
- **Macintosh operating system version 8.6 to 10.2.4**
  - 100MHz PowerPC or better
  - 32 MB RAM
  - 10 MB available hard disk space
- **Macintosh operating system X**
  - 300MHz PowerPC G3 or better
  - 128 MB RAM
  - 110 MB available hard disk space (large space requirement due to the Macintosh OS X needing up to 100 MB of additional disk space for system organization after install)

Package Contents

If any of the items are damaged or missing, please contact your Internet Service Provider for assistance.

- Model SS6500 Series SpeedStream Residential Gateway Family
- Power adapter
- CAT-5 Ethernet cable for LAN connections
- RJ11 cable for DSL connection
- USB cable for optional USB installation (on some models)
- Quick Start Guide
- CD-ROM containing USB driver software and user documentation (on some models)

Physical Details

Familiarize yourself with the Gateway before installing.

Front Panel LEDs

The front panel contains the following LEDs:

Power	**Green**	Power is on.
	Off	Power is off.
	Red	The Power LED briefly shows red during power-up. This indicates that the SpeedStream is conducting the POST (Power-On Self Test) that is run each time the SpeedStream is powered on.
Ethernet	**On**	One or more Ethernet LAN ports are active.
	Off	No active Ethernet LAN port connection.
DSL Port	**On**	DSL connection is active.
	Off	No active DSL connection.
Internet	**Green**	Internet connection has been established.
Activity	**Off**	No data being transmitted or received.
	Flashing	Data is being transmitted or received.
W/H	Customer or product specific.	

Example Front Panel

Rear Panel

DSL Port (RJ11)	Connect the RJ11 DSL cable (looks like a telephone cord) here to use your DSL connection through an existing phone line.
USB Port	If your Gateway has a USB port, connect the USB cable here. The USB driver software must be installed from the provided CD-ROM.
10/100 Ethernet Ports 1 - 4	Connect the RJ45 Ethernet cable here to connect your computers, hubs, or switches to the Gateway. If your model has four ports, you can configure port #4 as either a LAN or WAN port.
Power Adapter Port	Connect the supplied power adapter provided with the Gateway here.
Power Button	Push this button to power the Gateway on and off.

Example Rear Panel

General Safety Guidelines

When using the SpeedStream Gateway, observe the following safety guidelines:

- Never install telephone wiring during a storm.
- Avoid using a telephone during an electrical storm. Lightening increases the risk of electrical shock.
- Do not install telephone jacks in wet locations and never use the product near water.
- Do not exceed the maximum power load ratings for the product; otherwise, you risk dangerous overloading of the power circuit.

Chapter 2

Installation

This chapter covers the physical installation of the SpeedStream Gateway.

Minimum System Requirements

- DSL service and an Internet access account from an Internet Service Provider (ISP).
- Network cables for each device you intend to connect to the Gateway.
- TCP/IP network protocol must be installed on all computers.
- For USB connection to the Gateway, the following operating systems are supported:
  - Windows 98, 98SE
  - Windows 2000
  - Windows ME or XP
  - Mac OS versions 8.6 through 10.2.4

Note: Your configuration may vary slightly from the instructions and illustrations in this chapter. Refer to your service provider's documentation, or contact them with questions regarding your specific configuration.

Hardware Installation

You may position the SpeedStream Gateway at any convenient location in your office or home. No special wiring or cooling requirements are needed; however, you should comply with the safety guidelines specified in the General Safety Guidelines section.

Basic Installation Procedure

1. Install line filters if necessary.
2. Connect the cables.
3. Install USB drivers if necessary.
4. Configure network settings on your computer.
5. Configure the Gateway via the Web-based management interface.
6. Reboot the computer if prompted. Whenever you are required to reboot the Gateway, allow five seconds between turning off the unit and powering it back on.

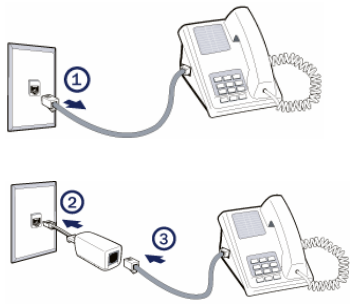
Installing Line Filters

Because DSL shares your telephone line, you may need to separate the two signals so they do not interfere with each other. A line filter (may be included with some models) prevents DSL traffic from disrupting the voice signal on the telephone line, and vice versa. Follow the procedures below to install line filters on any device (telephones, fax machines, caller ID boxes) that shares the same telephone line with your DSL. (Note, this section may not apply to you. Consult your provider if you are unsure.)

There are two types of filters to connect between the telephone and the wall plate:

- *In-line filter:* For use with standard desktop telephones.
- *Wall-mount filter*: For use with wall-mounted telephones.

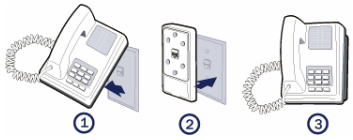
DSL performance may be significantly degraded if the line filters are not installed in the correct direction, as illustrated below.



In-Line Filter

For each device sharing the same telephone line:

1. Unplug the device's cord from the telephone jack.
2. Plug the filter into the telephone jack.
3. Plug the telephone cord (or other device cord) into the filter.



Wall-Mount Filter

For a wall-mounted telephone, install a wall mount filter:

1. Remove the telephone.
2. Connect the wall mount filter to the wall plate.
3. Reconnect the telephone.

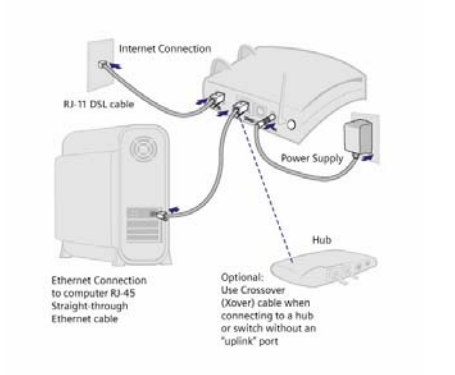
Connecting Cables

The SpeedStream Gateway provides ports for either a USB or an Ethernet connection to your primary computer. Select the interface you will use to connect the Gateway, and follow the step-by-step instructions below for your chosen installation method.

Ethernet Installation Method

To connect the SpeedStream Gateway via the Ethernet interface, your computer must have an Ethernet adapter (also called a network interface card, or "NIC") installed.

If your computer does not have this adapter, install it before proceeding further. Refer to your Ethernet adapter documentation for complete installation instructions.



1. **Connect the Ethernet cable(s)**
   1) With your computer powered off, connect the Ethernet cable to an Ethernet port (1-4) on the Gateway.
   2) Connect the other end of the Ethernet cable to the Ethernet port on your computer.
   3) If desired, use standard 10/100 CAT5 Ethernet cables to connect additional computers to the remaining Ethernet ports on the Gateway.

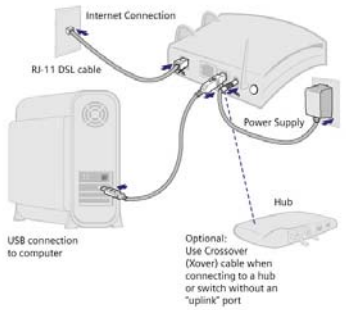
2. **Connect the DSL cable**
   1) Connect the DSL cable (resembles a telephone cord) to the DSL port on the Gateway.
   2) Plug the other end of the DSL cable into the phone jack.

3. **Connect the power**
   1) Connect the power adapter to the rear of the Gateway.
   2) Plug the power adapter into the electrical wall outlet.
   3) Flip the power switch to power on the SpeedStream Gateway.
   4) Power on all connected computers.

4. **Check the LEDs**
   1) For each active Ethernet connection, the LAN Link LED for the corresponding port number should be lit.
   2) The DSL and Power LEDs should be lit. (For more information, refer to the LEDs section in Chapter 1.)

When using the Ethernet installation method, you do not have to install any software. Refer to your Internet Service Provider's instructions for installing their software and/or connecting to the Internet. You can now configure the TCP/IP settings as detailed in Chapter 4, SpeedStream Gateway Setup.

USB Installation Method (Microsoft Windows)



1. Connect the USB Cable

1) With your computer off, connect the provided USB cable to the USB port on the Gateway.
2) Connect the other end of the USB cable to an open USB port on your computer.
3) If desired, use standard 10/100 CAT5 Ethernet cables to connect additional computers to the Ethernet ports on the Gateway.

2. Connect the DSL Cable

1) Connect the DSL cable (resembles a telephone cord) to the DSL port on the Gateway.
2) Plug the other end of the DSL cable into the phone jack.

3. Connect the Power

1) Connect the power adapter to the rear of the Gateway.
2) Plug the power adapter into the electrical wall outlet.
3) Flip the power switch to power on the Gateway.
4) Power on all connected computers.

4. Install USB Driver Software

1) Insert the USB driver CD-ROM into the CD-ROM drive of your computer.
2) When prompted, follow the on-screen instructions to complete the driver installation.

5. Check the LEDs

1) The DSL, USB, and Power LEDs should be lit. (For more information, refer to the LEDs section in Chapter 1.)

You can now configure the TCP/IP settings as detailed in Chapter 4, SpeedStream Gateway Setup.

USB Driver Installation (Macintosh Systems)

When using the USB installation method on a Macintosh, follow these steps to install the USB drivers:

1. Insert the SpeedStream Installation CD into your CD-Rom drive.
2. Open the SpeedStream icon from the desktop.
3. Click Readme.txt to open it.
4. Follow the directions in the Readme.txt file.

You can now configure the TCP/IP settings as detailed in Chapter 4, SpeedStream Gateway Setup.

Chapter 3

Operating System Configuration

This chapter explains how to configure each computer on your network to work with the Gateway.

To access the Internet through the SpeedStream Gateway, the TCP/IP protocol must be installed on your computer. If TCP/IP is not already installed on your computer, install it. Refer to your system documentation or online help for instructions.

- Once TCP/IP is installed on your computer, you should check the TCP/IP protocol settings to make sure they are correct for use with the Gateway.
- Once TCP/IP configuration is verified, the next step is to configure your computer to use the Gateway for internet access so your PC will use the Gateway when connecting to the Internet and not Dial-Up Networking.

The operating system on each computer in your network must have the TCP/IP network settings and Internet access settings configured.

Check TCP/IP Protocol Settings

Because the Gateway uses the TCP/IP network protocol for all functions, it is essential that the TCP/IP protocol be installed and configured properly.

The default network settings for the SpeedStream Gateway are:

IP Address:	192.168.254.254
Subnet Mask:	255.255.255.0

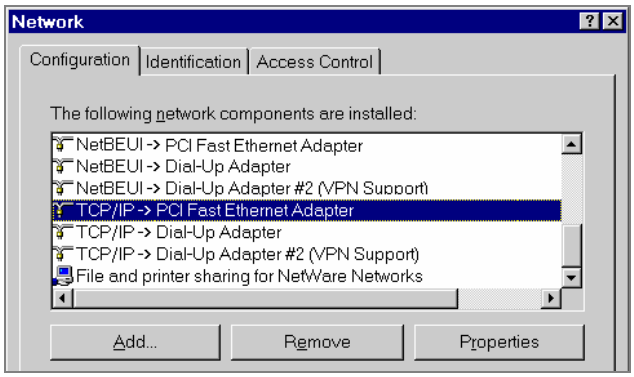
By default, the Gateway will act as a DHCP server, automatically providing a suitable IP address and related information to each computer when the computer boots up. For all non-server versions of Windows, the TCP/IP setting defaults to act as a DHCP client. If using the default Gateway settings and the default Windows TCP/IP settings, you do not need to make any changes.

The instructions to check TCP/IP protocol settings differ between operating system. Check the settings using the instructions for your operating system:

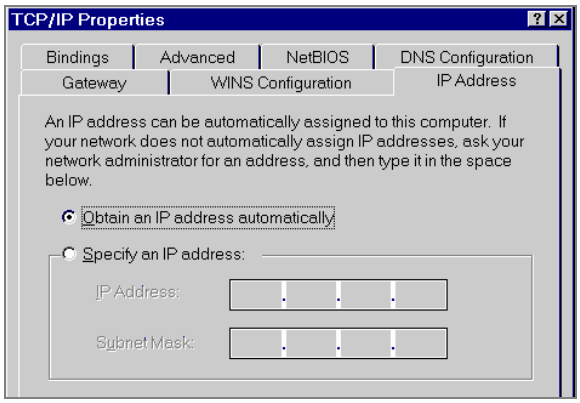
- Windows 9x/ME
- Windows 2000
- Windows XP
- MAC OS 8.6 through 9.x
- MAC OSX

Checking TCP/IP Settings (Windows 9x/ME)

1. Select **Start>Control Panel >Network**. This displays the **Configuration** tab on the "Network" window.



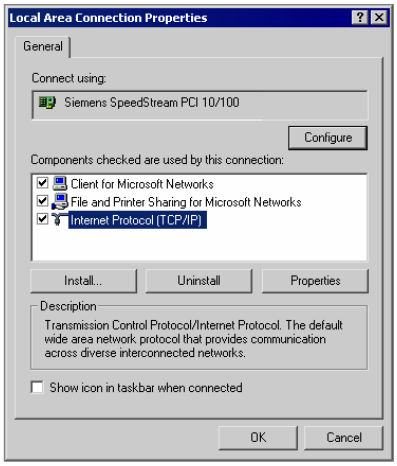
2. Select the TCP/IP protocol for your network card.
3. Click **Properties**. This displays the "TCP/IP Properties" window.



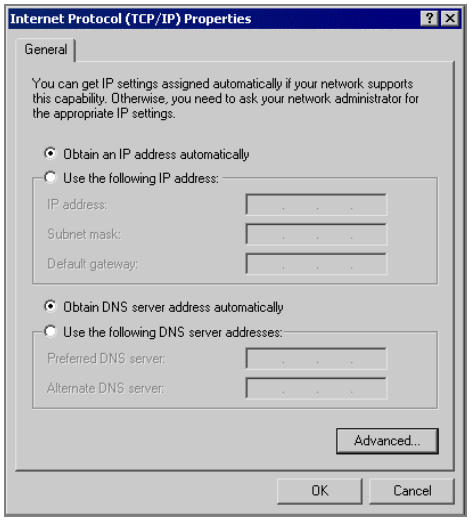
4. Click the **IP Address** tab.
5. Ensure that the **Obtain an IP address automatically** option is selected. This is the default Windows settings.
6. Close this window.
7. Restart your computer to ensure it obtains an IP address from the Gateway.
8. Configure internet access using the procedure described in Internet Access Configuration.

Checking TCP/IP Settings (Windows 2000)

1. On the Windows taskbar click **Start>Settings>Control Panel**. This displays the "Control Panel" window.
2. Double-click **Network and Dial-up Connections**. This displays the "Network and Dial-up Connections" window.
3. Right-click **Local Area Connection** and select Properties. This displays the "Local Area Connections Properties" window.



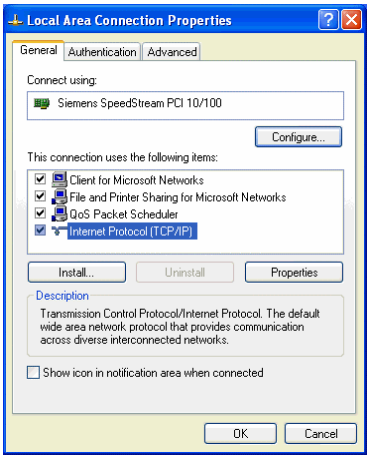
4. Select the TCP/IP protocol for your network card.
5. Click **Properties**. This displays the "Internet Protocol (TCP/IP) Properties" window.

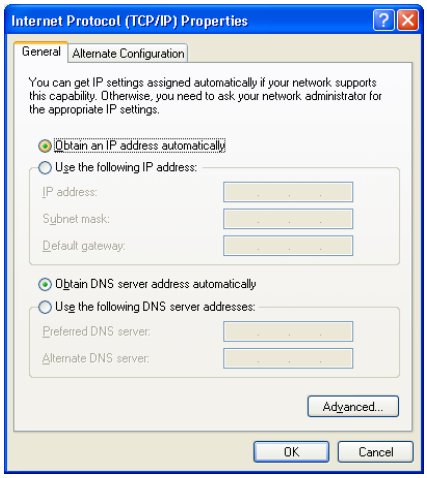


6. Select the **Obtain an IP address automatically** and **Obtain DNS server address automatically** options. Exit back to the Control Panel.
7. Restart your computer to ensure it obtains an IP address from the Gateway.
8. Configure internet access using the procedure described in Internet Access Configuration.

Checking TCP/IP Settings (Windows XP)

1. On the Windows taskbar click **Start>Control Panel**. This displays the "Control Panel" window.
2. Double-click the **Network Connection** icon. This displays the "Network Connections" window.
3. Right-click **Local Area Connection**, then click **Properties**. This displays the "Local Area Connection Properties" window.
4. Select the TCP/IP protocol for your network card.
5. Click **Properties**. This displays the "Internet Protocol (TCP/IP) Properties" window.

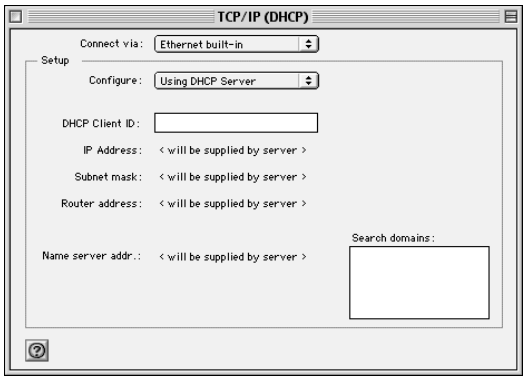




6. Ensure that **Obtain an IP address automatically** and **Obtain DNS server address automatically** are selected.
7. Exit back to the Control Panel.
8. Restart the computer to ensure it obtains an IP address from the Gateway.
9. Configure internet access using the procedure described in Internet Access Configuration.

Checking TCP/IP Settings (MAC OS 8.6 through 9.x)

1. Select **Apple >Control Panel >TCP/IP**. This displays the "TCP/IP" window.

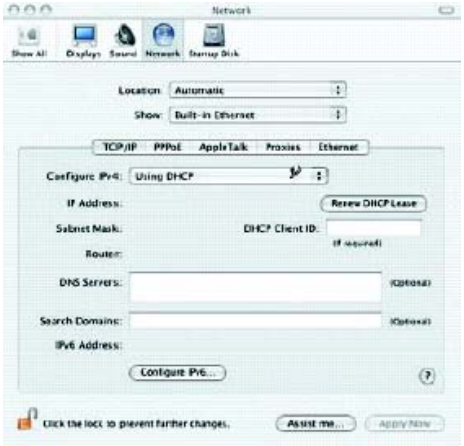


2. Select one of the following from the **Connect via** drop-down menu.
   - **Ethernet** or **Ethernet built-in** if connecting via Ethernet.
   - **Ethernet Adaptor [en0,en1,…]** if connecting via USB.
3. Select **Using DHCP Server** from the **Configure** drop-down menu.
4. Close the "TCP/IP window" and click **Save**.
5. Reboot when configuration is saved. Once rebooted, the computer will pull an IP address from the DHCP server on the Gateway.
6. Configure the Gateway using the procedure described in the next chapter.

Checking TCP/IP Settings (MAC OSX)

1. Click **Apple -> System Preferences**. This displays the "System Preferences" window.

2. Double-click the **Network** icon under the **Internet & Network** section. This displays the "Network" window.



3. Select one of the following from the **Show** drop-down menu:
   - **Built-in Ethernet** if connecting via Ethernet.
   - **Ethernet Adaptor [en0,en1,…]** if connecting via USB.
4. Select **Using DHCP Server** from the **Configure IPv4** drop-down menu.
5. Click **Apply Now** and quit window.
6. Configure the Gateway using the procedure described in the next chapter.

Internet Access Configuration

Windows users must configure their computers to use the Gateway for Internet access. Ensure that the Gateway is installed correctly and the DSL line is functional. Then follow the appropriate procedure below to configure your Web browser to access the Internet via the LAN, rather than by a dial-up connection.

For Windows 9x/2000

1. Select **Start>Settings>Control Panel** to display the Control Panel.
2. Double-click the **Internet Options** icon. This displays the "Internet Properties" window.
3. Click the **Connections** tab.
4. Click **Setup**.
5. Click **I want to set up my Internet connection manually**, or **I want to connect through a local area network (LAN)**, then click **Next**. This displays the "Internet Connection Wizard" window.
6. Click **I connect through a local area network (LAN)**, then click **Next**. This displays the "Local Area Network Internet Configuration" window.
7. Ensure all the boxes are deselected, then click **Next**. This displays the "Set Up your Internet Mail Account" window.
8. Click **No**, then click **Next**. This displays the "Completing the Internet Connection Wizard" window.
9. Click **Finish** to close the Internet Connection Wizard. Setup is now complete.
10. Configure the Gateway using the procedure described in the next chapter.

For Windows XP

1. Select **Start>Control Panel**.
2. Double-click the **Internet Options** icon. This displays the "Internet Options" window.
3. Click the **Connections** tab.
4. Click **Setup**. This starts the **New Connection Wizard**.
5. Click **Next**.
6. Select **Connect to the Internet**, then click **Next**.
7. Select **Setup my connection manually**, then click **Next**.
8. Select **Connect using a broadband connection that is always on**, then click **Next**.
9. Click **Finish**.
10. Configure the Gateway using the procedure described in the next chapter.

Chapter 4

SpeedStream Gateway Setup

4

This chapter describes how to connect to and setup your Gateway configuration.

This chapter describes the steps to set up the SpeedStream Gateway configuration using the Gateway Setup Wizard. Other configuration may also be required on the Gateway, depending on which features and functions of the Gateway you wish to use. Use the table below to locate detailed instructions for the required functions.

To do this	Refer to
Configure users and devices on the Gateway.	Chapter 5, Configuring Users and Devices
Configure Gateway advance options such as ISP connections, networking options, and security.	Chapter 6, Configuring Advanced Features
Monitor the health of the Gateway.	Chapter 7, Monitoring Gateway Health

Before Configuring the Gateway

Before attempting to configure the Gateway, please ensure that:

- Your computer can establish a physical connection to the Gateway. The computer and the Gateway must be directly connected using either the USB or Ethernet ports on the Gateway.
- The SpeedStream Gateway is installed correctly and powered on.
- The TCP/IP protocol is installed on all computers on your network. (If you need to install TCP/IP, refer to your system documentation or Windows Help.)
- The network settings on each computer are correctly configured.

From this point on, you will perform all configuration of the Gateway from your computer using the Web browser-based setup program.

Connecting to the Gateway

You can connect to the Gateway using UPnP (if it is enabled on your computer) or through the Web browser.

Using UPnP (Windows XP and Me)

If your Windows operating system supports UPnP (Universal Plug and Play) and UPnP is enabled, an icon for the Gateway appears in the system tray near the time display, notifying you that a new network device has been found and offering to create a new desktop shortcut to the newly discovered device.

Note: You must be logged in as administrator or be a user with administrative rights for Windows 2000 and XP to be able to install the drivers for the Gateway.

1. Unless you intend to change the IP address of the Gateway, you can accept the desktop shortcut. Whether you accept the desktop shortcut or not, you can find UPnP devices in **My Network Places** (previously called Network Neighborhood).
2. Double-click the icon for the Gateway (either on the desktop or in **My Network Places**) to access the Gateway's configuration program.
3. Refer to the Setup Wizard section for details of the initial configuration process.

Using your Web Browser

The SpeedStream Gateway contains an HTTP server that allows you to connect to the Gateway and configure it from your Web browser (Microsoft Internet Explorer or Netscape Navigator, versions 5.0 or later).

To establish a connection from your computer to the Gateway:

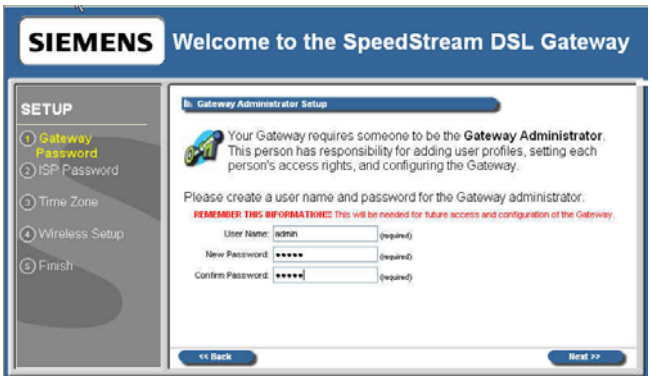
1. After installing the Gateway, start your computer. If your computer is already running, reboot it.
2. Open your Internet Explorer or Netscape Navigator Web browser.
3. In the **Address** bar, type **http://speedstream** and press the **Enter** key. This displays the "Setup" window.
4. Refer to the Setup Wizard section for details of the initial configuration process.

Gateway Setup Wizard

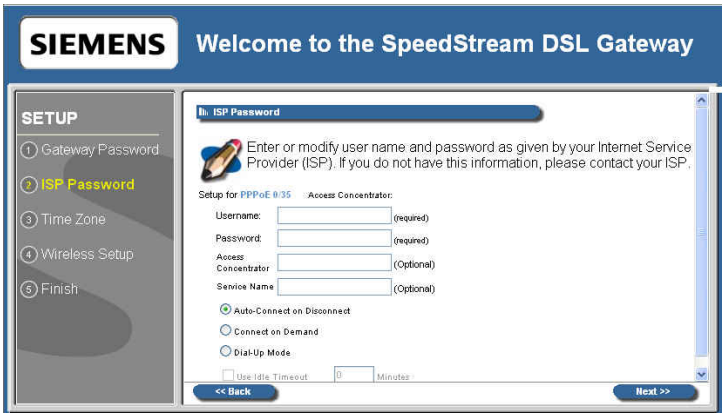
The first time you connect to the Gateway, the Setup Wizard runs automatically. (The Setup Wizard also runs if the Gateway's default settings are restored.) Proceed through the entire Setup Wizard to ensure accuracy of the installation.

You will need to know the username and password for Internet service provided by your ISP. Check the information supplied by your ISP for details.

1. The first window of the Setup Wizard is the "**Welcome"** window. Click **Next** on the "Welcome" window to begin setup. This displays the "Gateway Administrator Setup" window.

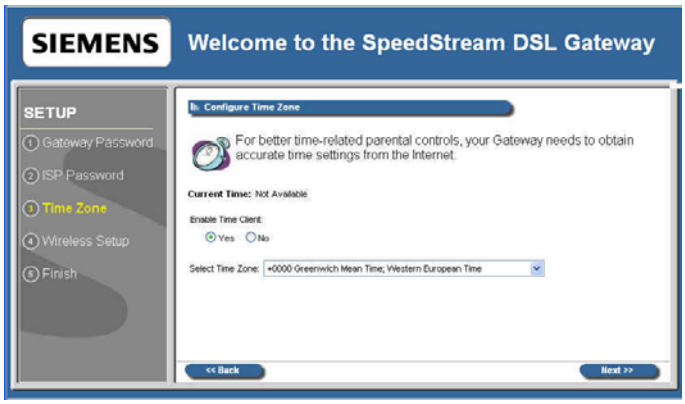


2. An administrator account has access rights to the Gateway configuration windows. Optionally, change the "admin" user name to a different administrative name by typing the new administrative name in **User Name**. If you wish, simply leave the "admin" user name in **User Name**.
3. Type a password in **New Password** and re-type it in **Confirm Password**.
4. Click **Next**. This displays the "ISP Password" window.



5. Enter information as specified by your ISP.

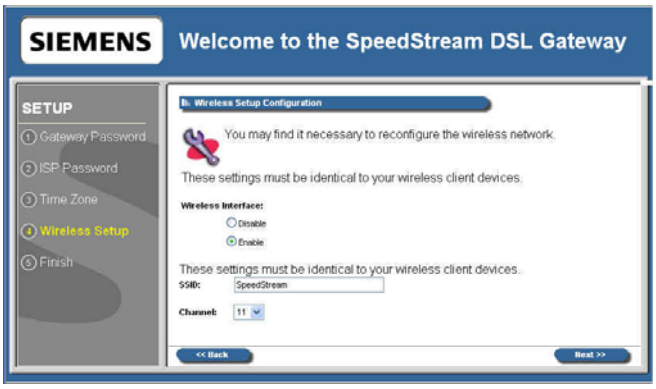
6. Click **Next**. This displays the "Configure Time Zone" window.



Optionally set the time zone of the area of the world in which you live on the "Configure Time Zone" window. This option must be enabled to define time of day restrictions for users.

7. To set the time zone, select the **Yes** option for **Enable Time Client**.

8. Select your time zone from the **Select Time Zone** drop-down menu, then click **Next**. This displays the "Wireless Setup Configuration" window.



Optionally set up wireless clients on your Gateway from the "Wireless Setup Configuration" window.

9. To setup wireless clients, select one of the following **Wireless Interface** options:

   - Select **Enable** to enable a wireless connection for your computer.
   - Select **Disable** if you do not wish to configure the Gateway for wireless, then click **Next**. This displays the "Finish" window.

10. If you selected **Enable**, enter your wireless network ID in **SSID** (Service Set Identifier). This value is the name of your network and must be identical to that defined for all the wireless client devices connected to your network.

11. Optionally select a channel from the **Channel** drop-down menu. The channel is a path of communication to use across your network. The selected channel must be identical to that defined for all the wireless client devices connected to your network. Depending on your area and Gateway configuration, the channel may default to only one value.

12. Click **Next**. This displays the "Wireless Security Configuration" window.

Set the wireless security level from the "Wireless Security Configuration" window. **ALL** wireless devices attached to the Gateway **MUST** have the same wireless security settings for your network to have proper communications and security.

13. From the **Security Mode** drop-down menu, select one of the following options:

- **Disable Security**
  Disables encryption, providing no wireless security for the Gateway.
- **WEP 64-bits**
  Wireless Equivalency Privacy. This option offers 64-bit encryption, which is the least secure WEP option. Please see the section in this document titled Wireless Setup WEP 64-Bit Option for more information.
- **WEP 128-bits**
  Wireless Equivalency Privacy. This option offers 128-bit encryption, which is a most secure WEP option. Please see the section in this document titled Wireless Setup WEP 128-Bit Option for more information.
- **WPA PSK**
  Wi-Fi Protected Access. WPA security changes encryption keys after a specified amount of time. This is the most secure option for wireless networks. Please see the section in this document titled Wireless Setup WPA PSK Option for more information.

14. Once you click **Next** on the final wireless setup window, one of the following happens:

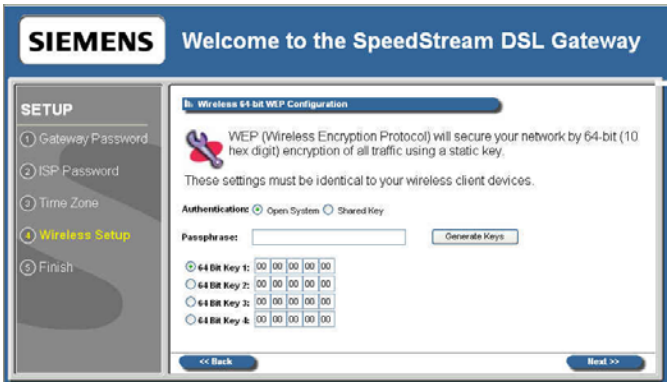
- If you have a Powerline enabled Gateway, the "Powerline Filter Configuration" window is displayed.
- If you do not have a Powerline enabled Gateway, the "Finish" window is displayed.

15. If the Powerline window appears, select one of the following **Powerline Interface** options:
    - **Disable**
      Powerline connection is disabled. Click **Next**. This displays the "Finish" window.
    - **Enable**
      Powerline connection is enabled.
16. If you selected **Enable**, enter a password to secure your powerline connection. This password must be identical on all powerline client devices.
17. Select one the following from the **Security Level** drop-down menu.
    - **Off**
      Powerline encryption is turned off.
    - **On**
      Powerline encryption is turned on.
18. Click **Next**. This displays the "Finish" window.
19. On the "Finish" window, click **Finish**. This displays the "What do I do now?" window. From this window you may click one of the following:
    - **Surf Now**
      Your Web browser re-directs you to default home page of the Web browser you are using. You may return to the Gateway's configuration interface at anytime should you choose to further configure the Gateway.
    - **Continue**
      Displays the "Home" window where you can create usage profiles/rules for different users, change the level or type of security used on the Gateway, or define/configure your network to be managed by the Gateway.

Wireless Setup WEP 64-Bit Option

WEP security offers the same security offered by a wired LAN with encrypted packets. This option offers 64-bit encryption, which is the least secure WEP option. This section assumes you currently have the "Wireless Security Configuration" window displayed on your computer. To use the WEP 64-bit option:

1. Select the WEP 64-bits option from the **Security Mode** drop-down menu.
2. Click **Next**. This displays the "Wireless 64-bit WEP Configuration" window.

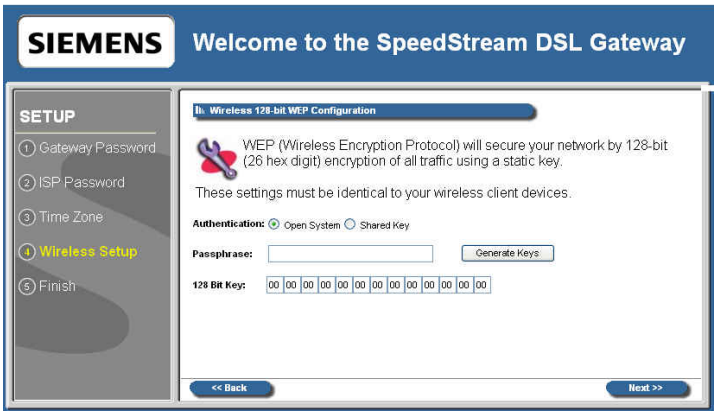


3. Select one of the following **Authentication** options:
   - **Open System**
     Open system keys are always authenticated at the device level. After authentication, data is encrypted between the Gateway and the connected device. This is the weakest form of security and should not be used for sensitive data.
   - **Shared Key**
     Shared keys accepts a string of unencrypted data from a device. The Gateway encrypts with a WEP key and sends back the encrypted data to the attached device.
4. Type a phrase in **Passphrase**. The passphrase is used to generate the 64-bit keys. The passphrase can be between 1 and 32 characters.
5. Click **Generate Keys**. The system responds by generating keys that display in the boxes under **Passphrase**. Four different keys are generated.
6. Select one of the four keys to use for encryption.
7. Click **Next**. One of the following happens:
   - If you have a Powerline enabled Gateway, the "Powerline Filter Configuration" window is displayed.
   - If you do not have a Powerline enabled Gateway, the "Finish" window is displayed.

Wireless Setup WEP 128-Bit Option

WEP security offers the same security offered by a wired LAN with encrypted packets. This option offers 128-bit encryption, which is the most secure WEP option. This section assumes you currently have the "Wireless Security Configuration" window displayed on your computer. To use the WEP 128-bit option:

1. Select the WEP 128-bits option from the **Security Mode** drop-down menu.
2. Click **Next**. This displays the "Wireless 128-bit WEP Configuration" window.

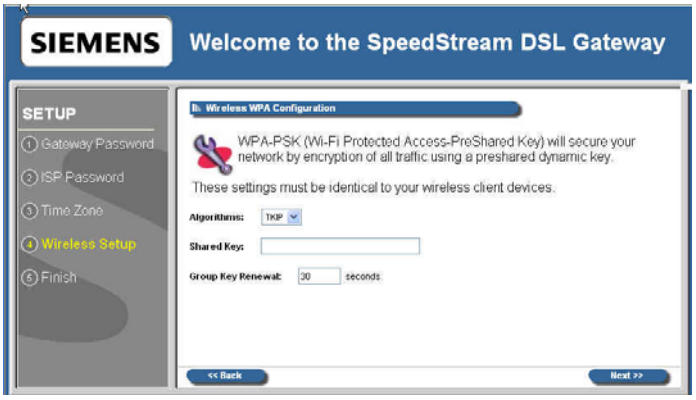


3. Select one of the following **Authentication** options:
   - **Open System**
     Open system keys are always authenticated at the device level. After authentication, data is encrypted between the Gateway and the connected device. This is the weakest form of security and should not be used for sensitive data.
   - **Shared Key**
     Shared keys accept a string of unencrypted data from a device. The Gateway encrypts with a WEP key and sends back the encrypted data to the attached device.
4. Type a phrase in **Passphrase**. The passphrase is used to generate the 124-bit key. The passphrase can be between 1 and 32 characters.
5. Click **Generate Keys**. The system responds by generating keys that display in the boxes under **Passphrase**.
6. Select one of the keys to use for encryption.
7. Click **Next**. One of the following happens:
   - If you have a Powerline enabled Gateway, the "Powerline Filter Configuration" window is displayed.
   - If you do not have a Powerline enabled Gateway, the "Finish" window is displayed.

Wireless Setup WPA PSK Option

WPA security changes encryption keys after a specified amount of time. This is the most secure option for wireless networks. This section assumes you currently have the "Wireless Security Configuration" window displayed on your computer. To use the WPA option:

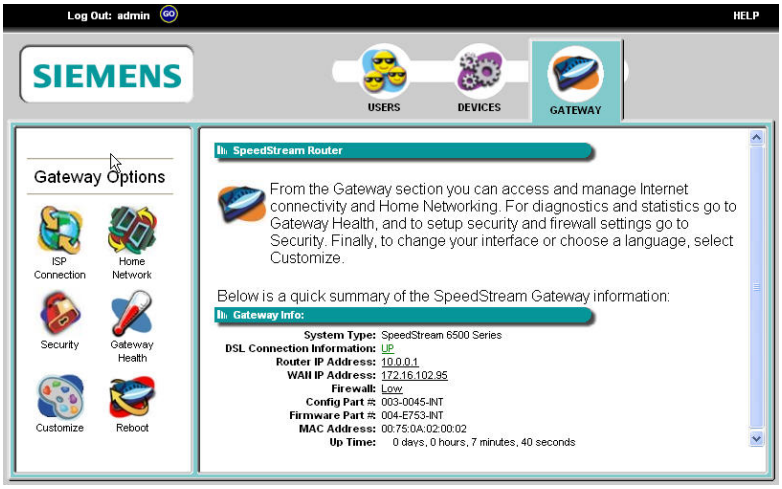
1. Select the WPA-PSK option from the **Security Mode** drop-down menu.
2. Click **Next**. This displays the "Wireless WPA Configuration" window.



3. The "Wireless WPA Configuration" window is used to configure the algorithm, shared key, and key renewal options. Select one of the following options from the **Algorithms** drop-down menu:
   - **TKIP**
     Temporal Key Integrity Protocol is a more powerful security protocol than WEP. This option verifies the security configuration after encryption keys are determined, synchronizes changing of the unicast encryption key for each frame, and determines a unique starting unicast encryption key for each pre-shared key authentication.
   - **AES**
     Advanced Encryption Standard supports a private key algorithm that ranges from 128 to 256 bits.
4. Type a key in **Shared Key**. The shared key is used to generate a dynamic encryption key for Gateway security.
5. Type a numeric value (in seconds) in **Group Key Renewal** to specify time to lapse between changing the key. The minimum time value is 30.
6. Click **Next**. One of the following happens:
   - If you have a Powerline enabled Gateway, the "Powerline Filter Configuration" window is displayed.
   - If you do not have a Powerline enabled Gateway, the "Finish" window is displayed.

Home Window

After finishing the Setup Wizard and clicking **Configure**, the Home window appears. This window also appears from now on when connecting to the Gateway.



After finishing the Setup Wizard and clicking Configure, the "Home" window is displayed. This window is also displayed from now on when connecting to the Gateway. At the top of this window is the MenuBar that contains the login/logout drop-down menu and Help menu.

Below the Menu Bar is a Toolbar that contains a set of buttons to access various configuration and information windows on the Gateway: Users, Devices, Gateway. In the left navigation pane there are configuration options for the selected Toolbar button. These options differ depending on how a user is logged into the system. An administrator has full configuration rights (shown above), while a user has limited configuration rights. To Home window displays basic networking attributes of the modem including IP address and default gateway specifications.

Pay special attention to **Login** in the top left-hand corner of the window to ensure that you are logged in to access all available features.

Menu Bar

The only two items on the menu bar are the **Log in** drop-down menu and the **Help** menu option. The **Log In** drop-down menu is used to log in a user or administrator. The **Help** option is used to display a help system for the Gateway.

Toolbar

The Gateway has three primary toolbar buttons: Users, Devices, and Gateway. The options for all the toolbar buttons differ depending on the user login. The administrator has the most authority with all options enabled, while the user has limited options based on the user profile for the login. Please see the table below for more information.

	Users Button: This button provides access to user profiles and the User Profile Wizard. This wizard guides you through the steps required to set up and configure individual user profiles. Once configured, you can use this option to view a user's profile.
	Devices Button: This button provides Access to network devices connected to the Gateway. You can use this option to view shared files and resources on other computers if they are shared via Windows File Sharing.
	Gateway Button: This button provides access to all Gateway configuration options, security settings, Gateway health monitoring, and Internet connection and network details. The settings available may differ depending upon your service provider.

Logging into the Gateway

There are two types of primary users that log into the Gateway: administrators and users. Administrators have rights to all of the configuration options available on the Gateway. Users have limited access based on what is set by the administrator for each user.

To log on to the Gateway:

1. Select a user from the **Log In** drop-down menu in the upper-left corner of the "Home" window.
2. Select a user from the **Username** drop-down menu.
3. Type the user password in **Password**.
4. Click **Go**. This displays the "Home" window.

Logging out of the Gateway

To log out of the Gateway:

1. Click **GO** next to **Log Out**. The system responds by displaying the "Home" window.

Chapter 5

Configuring Users and Devices

This chapter explains how to configure users and devices on the Gateway.

This chapter contains details for configuring users and devices on the Gateway. This chapter is organized into two parts corresponding to the buttons in the toolbar: Users and Devices. Refer to Chapter 6, Configuring Gateway Options for details on configuring the features on the Gateway.

Configuring Users

Users are added and maintained from the "User Profiles" window accessed by clicking **Users** button on the toolbar. The "User Profiles" window provides details about all active user profiles if **Enable User Profiling** is selected.

The **Enable User Profiling** option must be selected on the "User Profiles" window for the content filtering option to be operational.

Adding a User

This section describes how to add users to the Gateway to restrict their access to Gateway functions and to the Internet. You **MUST** be logged in as the administrator to add a user.

To add a user:

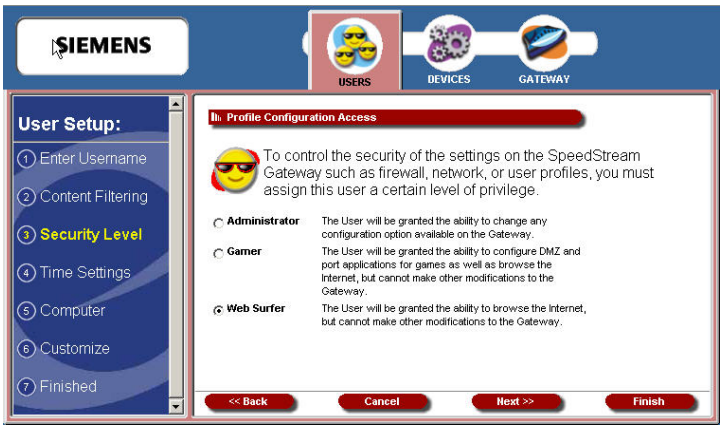
1. From the "Users Profile" window, click the **Add New User** button in the left navigation pane. This displays the "Profile User Information" window.

2. Type a user name in **Username**.
3. Type a password in **Password**.
4. Re-type the password in **Confirm**.
5. Click **Next**. This displays the "Profile Content Filtering" window. (At any time during user configuration, you can click **Finish** to complete the user profile and accept the defaults for this user.)

Content filtering restricts access to undesirable Web sites and Web content. The **Enable User Profiling** option must be selected on the "User Profiles" window for the content filtering option to be operational.

6. Select one of the following content filtering options:
   - **Disable all Content Filtering**
     User has access to all Internet content without restrictions.
   - **Allow access only to website addresses containing the following words**
     User has access only to the specified Web addresses or to addresses containing specified word entries defined in the Website word/name table.
   - **Deny all access to website addresses containing the following words**
     User is denied access to all Web addresses specified as well as addresses that contain any words specified in the Website word/name table.
7. If the **Allow access only…** or **Deny all access…** option is selected, type a word or Web address in the box under the Website word/name table, then click **Add Entry**. The system responds by adding the word or Web address to the Website word/name table.

   Note: The entries in the Website word/name table may be either modified or deleted at any time by clicking either **Edit** or **Delete** next to the corresponding word or Web address.
8. Click **Next**. This displays the "Profile Configuration Access" window.

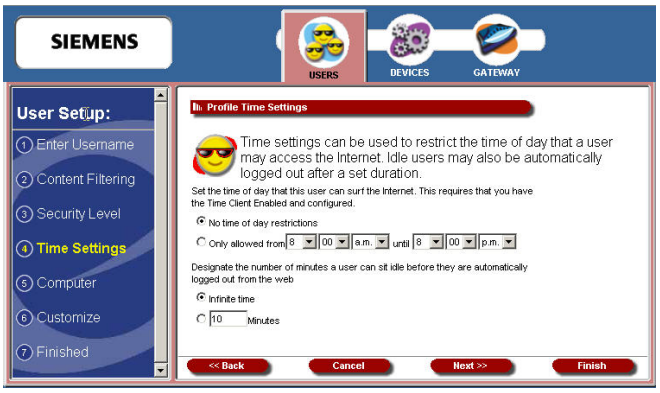


Profile configuration access defines the access permission for a user controlling what functions and features are available to that user.

9. Select one of the following profiles and click.

   - **Administrator**
     User has access to the Internet and all of the configuration tools on the Gateway.
   - **Gamer**
     User has access to the Internet as well as the Gateway's commonly used tools for gamers, including Port Configuration and DMZ.
   - **Web Surfer**
     Use has access only to the Internet, not to the Gateway's configuration.

10. Click **Next**. This displays the "Profile Time Setting" window.



Profile time settings are used to limit a user's ability to use the Internet during certain times of the day or night. You can also define the amount of time a user stays logged on to the Internet without Web surfing activity (Idle Time). To use the time of day restrictions, you must have the Time Client enabled. Please see the Setup Wizard section for more information.

11. Select one of the following time of day options to control the time of day a user can access the internet:

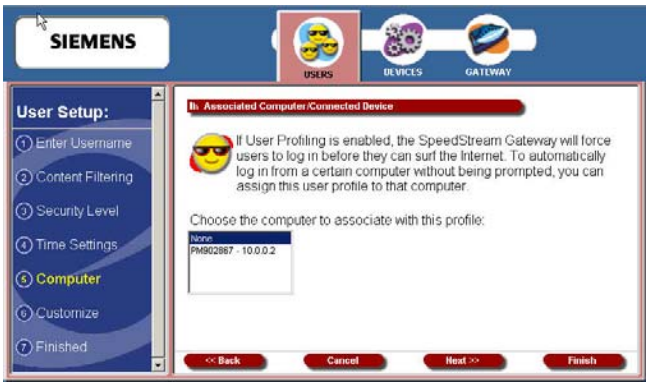
   - **No time of day restrictions**
     The user can access the Internet at any time.

- **Only allowed from**
  The user can only access the Internet at the time range set in the time drop-down menus. Be sure to specify the **from** and **until** times the user can access the Internet.

12. Select one of the following options to designate the number of minutes a user can sit idle before they are automatically logged out from the web:

    - **Infinite Time**
      The user is never automatically logged out of the Internet.
    - **Minutes**
      Type a time interval in minutes in **Minutes**. This time represents how long a user may be idle before automatically being logged out of the Internet.

13. Click **Next**. This displays the "Associated Computer/Connected Device" window.



Some users consistently use a particular computer to surf the Internet. To simplify logging in for these users, you can use the Associated Computer option to automatically log a particular user into the Gateway with their username and password when they access the Internet from the specified computer.

14. Select one of the following:

    - A specific device to associate with the profile. All computers and devices currently on the network, powered on, and detected by the Gateway are displayed in the computer list.
    - **None.** The user can log in from any device.

15. Click **Next**. This displays the "Customized Profile Icon" window.

All user profiles have an icon that displays in the left navigation pane of the "User Profiles" window. You may customize the color of this icon using the "Customized Profile Icon" window.

16. To select a color, do one of the following:

- Select a color from the drop-down menu.
- Type a numeric color value in the box next to the color drop-down menu. The number is based on RGB (Red Green Blue) values. For example, the color red is represented by a value of ff0000, green is represented by a value of 00ff00, and blue is represented by a value of 0000ff. **Note**: If you are entering a numeric value for the color, ensure that the "#" is in front of your numeric value.

17. Click **Finish**. This displays the "User Profile" window. The icon of the user you just created is displayed in the left navigation pane.

Editing A User Profile

This section describes how to edit a user profile. You must be logged in as the administrator to edit a user profile.

To edit a user profile:

1. From the "Users Profile" window, click the button in the left navigation pane corresponding to the user you want to edit. This displays the "Profile Monitor" window.

2. Click **Edit Profile**. This displays the "Profile Content Filtering" window with the **User Setup** pane in the left navigation pane.

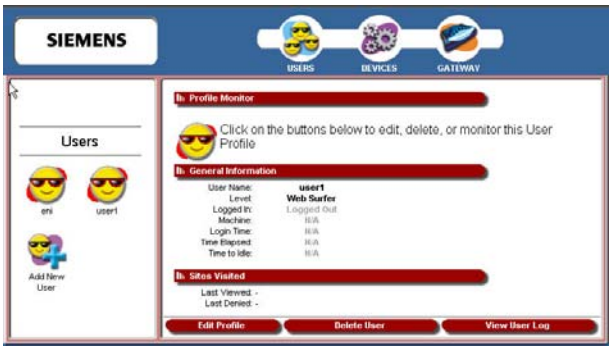
3. Click on any item in the **User Setup** list to display the appropriate window.
4. Make any changes.
5. Once you have made all the changes you want, click **Finish**.

Deleting a User

This section describes how to delete a user. You must be logged in as the administrator to delete a user.

To delete a user:

1. From the "Users Profile" window, click the button in the left navigation pane corresponding to the user you want to delete. This displays the "Profile Monitor" window.



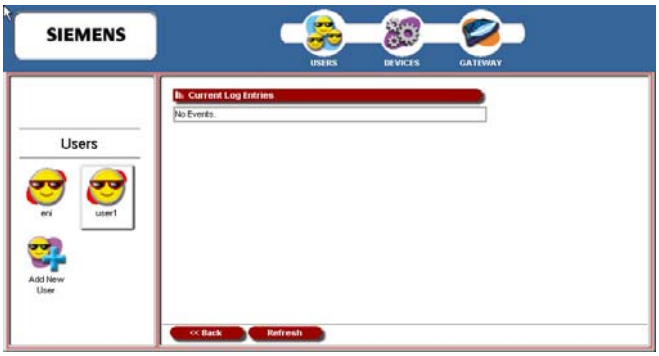
2. Click **Delete User**.

Viewing User Logs

User logs provide time stamped information about the activity of the user over the network.

To view user logs:

1. From the "Users Profile" window, click the button in the left navigation pane corresponding to the user you want to delete. This displays the "Profile Monitor" window.
2. Click **View User Log**. This displays the "Current Log Entries" window displaying all the log information about the user.

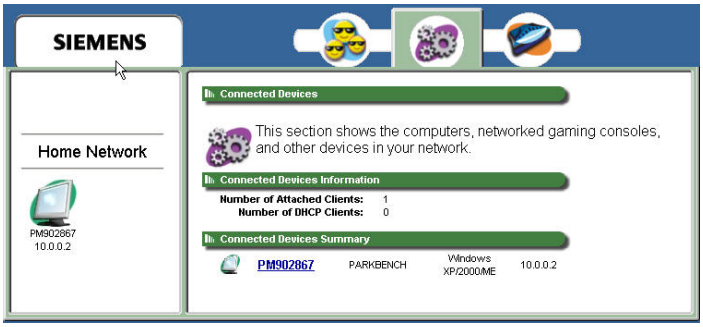


Configuring Devices

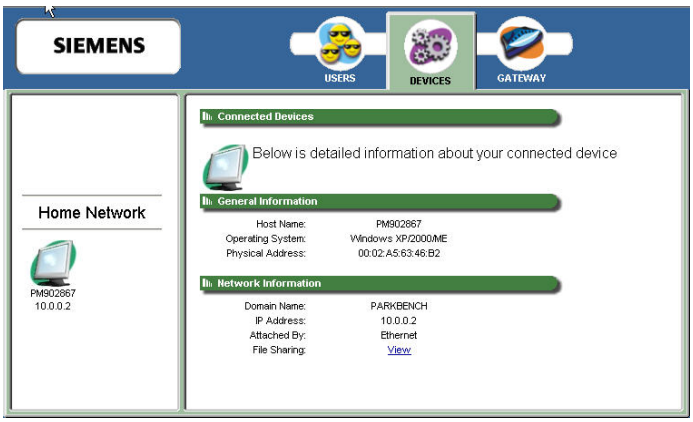
The Devices option allows you to view devices connected to your Gateway. If you are logged in as the administrator, you can view all the connected devices to the Gateway. If you are logged in as a specific user, you can only view devices associated with that user logon.

To use the Devices option:

1. Click **Devices** in the toolbar. This displays the "Connected Devices" window displaying general information about devices on your network.



2. Click the icon of a connected device in the left navigation pane, or click the device hyperlink under **Connected Devices Summary**. This displays the "Connected Devices" window, which displays both general and network information about the selected device.



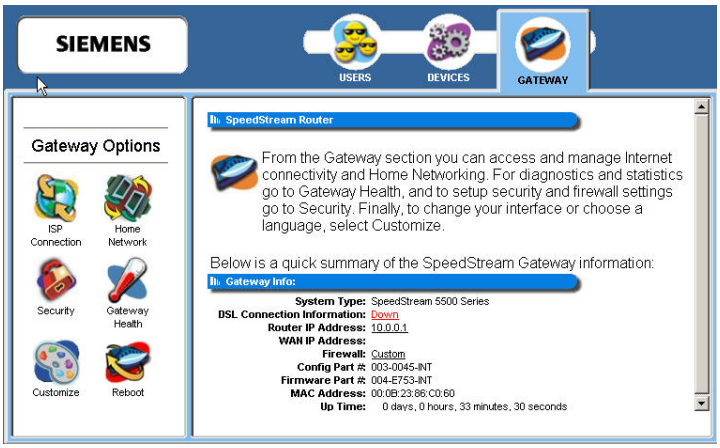
Chapter 6

Configuring Advanced Features

This chapter explains how to configure advanced features on the Gateway.

This chapter contains details for configuring the many advanced features available with your Gateway. Some of the features described below require at least a mid-level understanding of networking principles. These features are provided to allow configuration flexibility for advanced users.

These advanced features are accessed through the **Gateway** button available on the toolbar on the "Main" window. The options that display under the **Gateway Options** pane in the left navigation pane are based on how you logged into the system. If you logged in as the administrator, all options are turned on and enabled. If you logged in as a user, only the Gateway Health, Customize, and Reboot options are enabled.



Gateway Options discussed in this chapter

This chapter is organized into parts that correspond to the following buttons shown in the **Gateway Options** pane.

Get information about ISP connections. You can also use this option to set ISP configuration parameters. This should only be done when instructed by your ISP.

View network-related information

Configure security for the Gateway.

Reboot the Gateway.

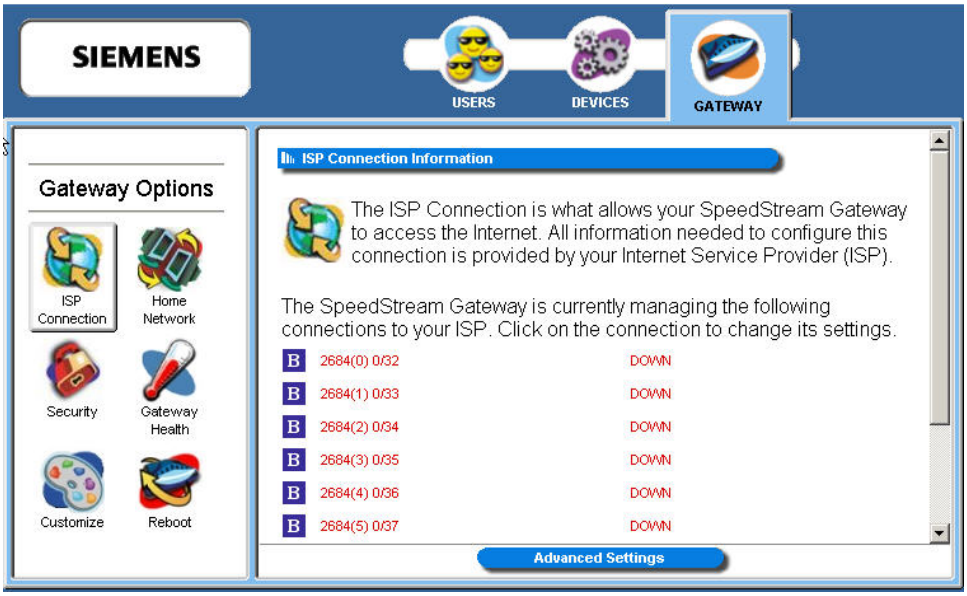
ISP Connection

The **ISP Connection** option displays all active and available Internet connections. Many of the settings for this option are intended for use only by advanced users. This option may not be available depending on your ISP. You must be logged in as an administrator to use this option.

WARNING: If this feature is not properly configured your Internet connection may terminate.

To use the ISP connection function:

1. Click the **ISP Connection** button in the left navigation pane. This displays the "ISP Connection Information" window listing all the ISP connections being managed by the Gateway.

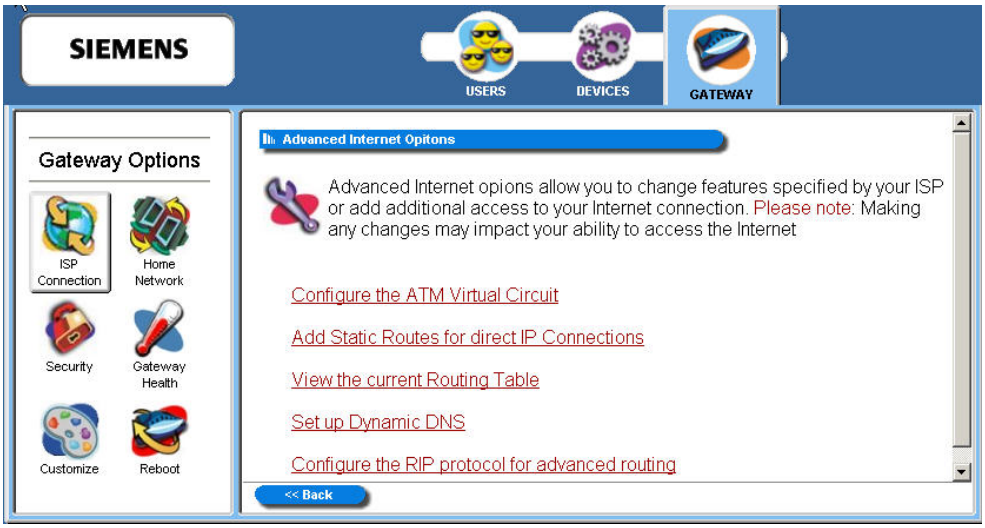


2. Click one of the ISP connections (in red) to reconfigure that connection. Please check with your ISP for the information required to reconfigure a connection.
3. Optionally refer to the section titled Advanced Settings for details on configuring advanced ISP connection settings.

Advanced ISP Settings

The Gateway provides access to additional, advanced ISP configuration settings. All the options in this section should only be configured with the help and guidance of your ISP. Incorrect changes to any of these options could result in the failure of your Internet connection.

To access the advanced settings, click **Advanced Settings** from the "ISP Connection Information" window. This displays the "Advanced Internet Options" window.



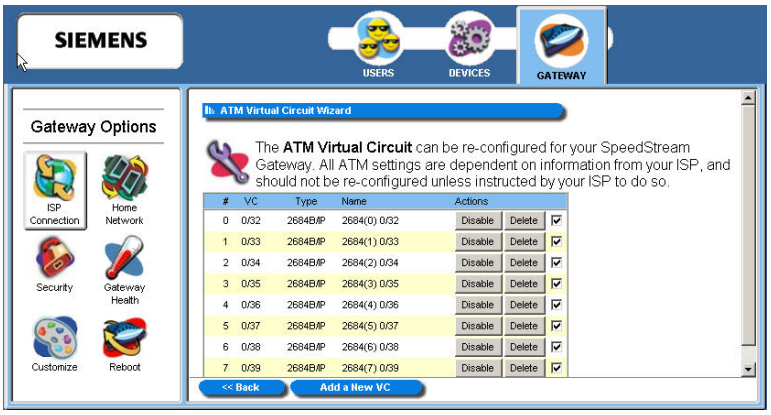
The advanced options are listed below. To access one of these options, click its link on the "Advanced Internet Options" window.

Configure the ATM Virtual Circuit	Create and configure a PVC (Permanent Virtual Circuit) across a network. A PVC is used to maintain a permanent connection between two points on a network.
Add Static Routes for direct ISP Connections	Configure static routes to remote equipment. Static routing allows a pre-defined route to be set for the transmission of data.
View the Current Routing Table	View a table of routing information of all static and dynamic routes for network devices.
Set up Dynamic DNS	Set up dynamic DNS. Dynamic DNS translates IP addresses into alphanumeric names.
Configure the RIP protocol for advanced routing	Configure the protocol that allows the Gateway to determine the shortest path between two points on the network.

ATM Virtual Circuits

Use the ATM virtual circuit advanced option to create and configure a Permanent Virtual Circuit (PVC). A PVC is used to maintain a permanent connection between two points on a network. Changes to ATM settings should not be made unless you are advised to do so by your Internet Service Provider.

To access the ATM virtual circuit option, click the **Configure ATM Virtual Circuit** hyperlink on the "Advanced Internet Options" window. This displays the "ATM Virtual Circuit Wizard" window.



Make any modifications advised by your ISP.

Static Routes

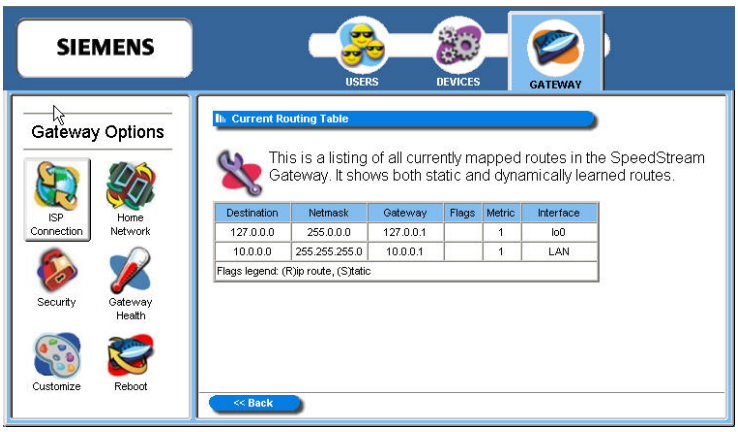
Use the static routes advanced option to configure static routes to remote equipment. Static routing allows a pre-defined route to be set for the transmission of data. Static routes take precedence over all dynamic routing options and also provide enhanced security over dynamic routing.

To configure the static routes:

1. Click the **Add Static Routes for Direct IP Connections** hyperlink from the "Advanced Internet Options" window. This displays the "Static Routes" window.

2. Type the IP address of the destination device in **Destination**.
3. Type the net mask of the destination device in **Net Mask**.
4. Optionally, type the IP address of a destination Gateway in **Next Hop**.
5. Select a connection type from the **Interface** drop-down menu.
6. Click **Apply**. The system responds by adding your new route to the routing table.

To view the current routing table, click the **View the current routing table** hyperlink. This displays a table of routing information including destination IP address, subnet mask, flags, Gateway, metric and interface of all static and dynamic routes for network devices.



Dynamic DNS

Use the dynamic DNS advanced option to set up dynamic DNS. Dynamic DNS translates IP addresses into alphanumeric names. For example, an IP address of 333.136.249.80 could be translated into siemens.com. To use the DDNS service, you must register for the service. You can register from the following web page: www.dydns.org/services/dydns.

Once registered, you must set up your DNS data on the Gateway. Once this is done users can connect to your servers (or DMZ computer) from the Internet using your Domain name. Refer to the section in this document titled DMZ for more information on DMZs.

To set up Dynamic DNS on the Gateway:

1. Click the **Set up Dynamic DNS** hyperlink from the "Advanced Internet Options" window. This displays the "Set Up Dynamic DNS" window.

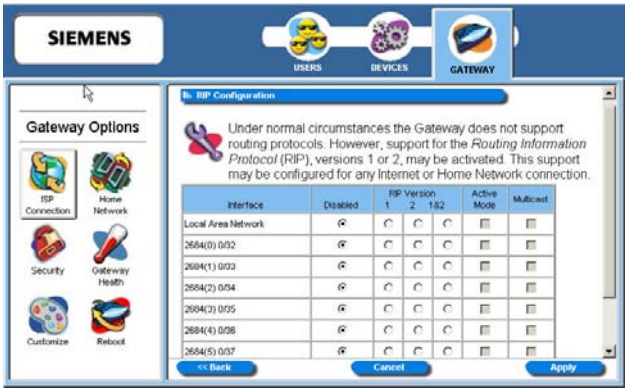
2. Select the **Enable** option.
3. Type the name provided to you by www.dydns.org in **Service Username**.
4. Type your www.dydns.org password in **Password**.
5. Type the domain or host name provided by www.dydns.org in **Host Name 1**.
6. Optionally, if you have more than one domain or host name, type it in **Host Name 2**.
7. Click **Apply**. The system responds by registering your domain or host name to www.dydns.org.

RIP (Routing Information Protocol)

Using RIP, the Gateway is able to determine the shortest distance between two points on the network based on the addresses of the originating devices. RIP (Routing Information Protocol) is based on distance algorithms to calculate the shortest path. The shortest path is based on the number of hops between two points.

To use the RIP option:

1. Click the **Configure the RIP protocol for advanced routing** hyperlink from the "Advanced Internet Options" window. This displays the "RIP Configuration" window.

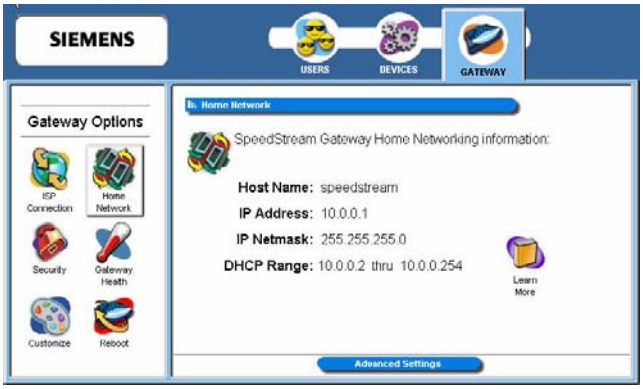


2. Select one of the following options from under the **RIP Version** heading next to the connection of your choice:
   - **1:** Provides essential RIP packet formatting for routing information packets.
   - **2:** Provides enhanced packet formatting for routing information packets by providing the following: IP address, subnet mask, next hop, and metric (shows how many routers the routing packet crossed to its destination.
   - **1&2:** A combination of both types of RIP packets.
3. Select an **Active Mode** checkbox next to a corresponding connection to enable it.
4. Click **Apply**. This displays the "Your Settings Have Been Saved" window.
5. Optionally, click **Reboot** if you wish for the settings to immediately be implemented. The system responds by restarting your Gateway.

Home Network

The Home Network option displays all network-related information. You must be logged in as the administrator to access this option. To use the Home Network option:

1. Click the **Home Network** button on the **Gateway Options** pane. This displays the "Home Network" window containing information about the home network.



2. Optionally, click **Advanced Settings** to display a list of advanced features that allow you to manage the computers on your network. This displays the "Advanced Home Networking" window.

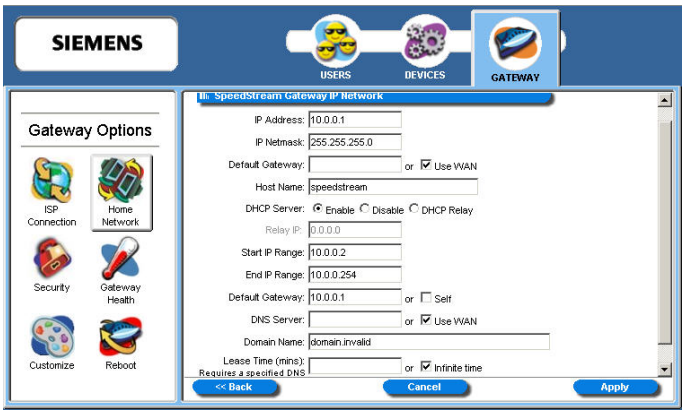
The advanced options are listed below. To access one of these options, click its link on the "Advanced Home Networking" window.

IP Network	Define the range for assigning IP addresses.
Server Ports	Specify the ports used by common applications such as HTTP, FTP, and Telnet.
LAN/WAN Port	Configure Ethernet port #4 as either a LAN (network) port or as a WAN (Internet connection) port.
Wireless Network	Configure the wireless equipment in your Gateway.
Powerline Network	Configure security for the powerline network. This option is available only if your Gateway is configured for Powerline.
UPnP	Configure UPnP. UPnP allows the Gateway to communicate directly with certain Windows operating systems.

IP Network

The Gateway provides the flexibility to use different ranges of IP addresses to be assigned by the DHCP Server housed in the Gateway. DHCP (Dynamic Host Configuration Protocol) allows computers to obtain either permanent or temporary IP addresses from a central server.

To configure the IP network option:

1. Click the **Configure the local SpeedStream Gateway IP Network** hyperlink. This displays the "SpeedStream Gateway IP Network" window.

2. Select a range from the displayed options and click **Save Settings**. Be sure to select an IP address range that is not in conflict with any existing devices.
3. Optionally, click the **Custom Settings** hyperlink for advanced configuration. Please contact your ISP for more information on configuring the options for custom settings.