D-Link®

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User Manual

Wireless N PowerLine Gigabit Router

DHP-1565

Preface

D-Link reserves the right to revise this publication and to make changes in the content hereof without obligation to notify any person or organization of such revisions or changes.

Manual Revisions

Revision	Date	Description
1.0	September 12, 2011	DHP-1565 Revision A1

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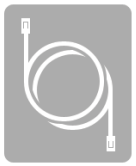
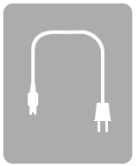
Package Contents

DHP-1565 Wireless N PowerLine Gigabit Router



Ethernet Cable



Power cord

CD-ROM with Manual and Setup Wizard

QIG

Note: *Using a power supply with a different voltage rating than the one included with the DHP-1565 will cause damage and void the warranty for this product.*

System Requirements

Network Requirements	• An Ethernet-based Cable or DSL modem • IEEE 802.11n or 802.11g wireless clients • 10/100/1000 Ethernet
Web-based Configuration Utility Requirements	**Computer with the following:** • Windows®, Macintosh, or Linux-based operating system • An installed Ethernet adapter **Browser Requirements:** • Internet Explorer 7 or higher • Firefox 3.0 or higher • Safari 3.0 or higher • Chrome 2.0 or higher **Windows® Users:** Make sure you have the latest version of Java installed. Visit www.java.com to download the latest version.
CD Installation Wizard Requirements	**Computer with the following:** • Windows® 7/ Vista® / XP with Service Pack 3 • An installed Ethernet adapter • CD-ROM drive

Introduction

TOTAL PERFORMANCE
Combines PowerLine features and IEEE 802.11n/g wireless technology to provide the best wire and wireless performance.

TOTAL SECURITY
The most complete set of security features including Active Firewall and WPA/WPA2 to protect your network against outside intruders.

TOTAL COVERAGE
Provides greater wireless signal rates and powerline in areas where a wired connection would be beneficial like had-to-reach areas in your home for best-in-class Whole Home Coverage.

ULTIMATE PERFORMANCE
The D-Link Wireless N PowerLine Gigabit Router (DHP-1565) is a 802.11n compliant device that delivers real world performance of up to 14x faster than an 802.11g wireless connection (also faster than a 1000Mbps wired Ethernet connection). Create a secure wireless network to share photos, files, music, video, printers, and network storage throughout your home. Connect the DHP-1565 router to a cable or DSL modem and share your high-speed Internet access with everyone on the network. In addition, this Router includes a Quality of Service (QoS) engine that keeps digital phone calls (VoIP) and online gaming smooth and responsive, providing a better Internet experience. PowerLine uses a building's existing electrical wiring to turn any power outlet into a fully functioning Ethernet port and transform your entire home into a wall-to-wall network, instantly. Now you can take that same revolutionary PowerLine technology and give up to 4 of your favorite connected devices their own Gigabit Ethernet port with 500Mbps speed, and QoS prioritization experience seamless digital entertainment and performance anywhere in your home.

TOTAL NETWORK SECURITY
The Wireless N PowerLine Gigabit Router supports all of the latest wireless security features to prevent unauthorized access, be it from over the wireless network or from the Internet. Support for WPA/WPA2 standards ensure that you'll be able to use the best possible encryption method, regardless of your client devices. In addition, this router utilizes dual active firewalls (SPI and NAT) to prevent potential attacks from across the Internet.

* Maximum wireless signal rate derived from IEEE Standard 802.11g and 802.11n specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate. Environmental conditions will adversely affect wire and wireless signal range.

Features

- **Faster Wireless Networking** - The DHP-1565 provides up to 300Mbps* wireless connection with other 802.11n wireless clients. This capability allows users to participate in real-time activities online, such as video streaming, online gaming, and real-time audio. The performance of this 802.11n wireless router gives you the freedom of wireless networking at speeds 650% faster than 802.11g.

- **Compatible with 802.11g Devices** - The DHP-1565 is still fully compatible with the IEEE 802.11g standards, so it can connect with existing 802.11g PCI, USB, and Cardbus adapters.

- **Advanced Firewall Features** - The Web-based user interface displays a number of advanced network management features including:

    - **Content Filtering** - Easily applied content filtering based on MAC Address, URL, and/or Domain Name.

    - **Filter Scheduling** - These filters can be scheduled to be active on certain days or for a duration of hours or minutes.

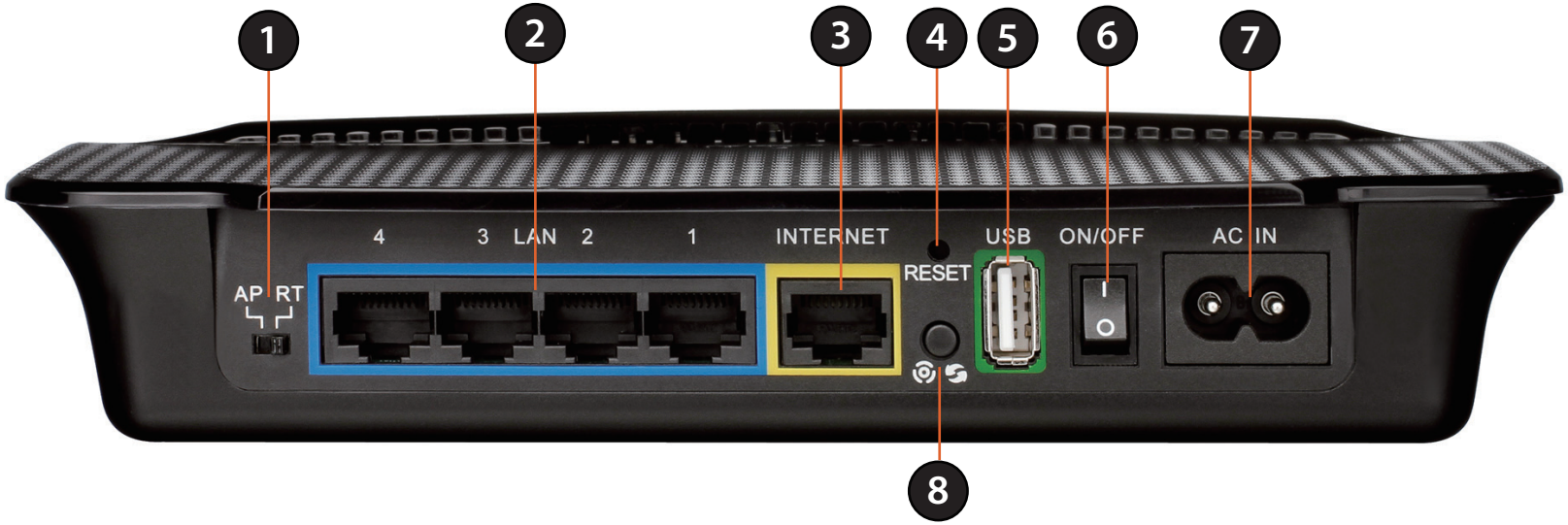
    - **Secure Multiple/Concurrent Sessions** - The DHP-1565 can pass through VPN sessions. It supports multiple and concurrent IPSec and PPTP sessions, so users behind the DHP-1565 can securely access corporate networks.

- **User-friendly Setup Wizard** - Through its easy-to-use Web-based user interface, the DHP-1565 lets you control what information is accessible to those on the wireless network, whether from the Internet or from your company's server. Configure your router to your specific settings within minutes.

- **Faster Powerline Networking -** Built-in PowerLine Router capabilities work seamlessly with D-Link's PowerLine AV adapters (must be purchased separately) that extend your network to the farthest corners of your home using the electrical wiring already installed in your walls. Simply connect your router (DHP-1565) and plug it into a power outlet to turn every other power outlet in your home into a possible network connection with speeds up to 500Mbps - fast enough to stream HD video and share large files. Since it is compliant with the HomePlug AV standard, you can use it to extend an existing PowerLine network[2], or simply create a new one. It turns every power outlet into a possible network connection so you can access digital media devices, game consoles, print servers, computers and network storage devices from any room in your home.

* Maximum wireless signal rate derived from IEEE Standard 802.11g, and 802.11n specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate. Environmental conditions will adversely affect wireless signal range.

Hardware Overview
Connections



1	**AP-Router Switch**	Two-way switch used to Select AP or Router Mode.
2	**LAN Ports (1-4)**	Connect 10/100/1000 Ethernet devices such as computers, switches, and hubs.
3	**Internet Port**	The auto MDI/MDIX Internet port is the connection for the Ethernet cable to the cable or DSL modem.
4	**Reset Button**	Pressing the Reset button restores the router to its original factory default settings.
5	**USB**	USB 1.1/2.0 port for SharePortTM Network and WCN support.
6	**Power Button**	Use this switch to power on/power off the device.
7	**Power Receptor**	Receptor for the supplied power cord.
8	**Common connect Button**	Push this button to establish a secure PowerLine network with other PowerLine AV devices and initiate the WPS process to create secure wireless networks

Hardware Overview

LEDs

1	**Power LED**	A solid green light indicates a proper connection to the power supply. Blinking green light indicates that device common Connect Button was pressed or power saving mode enable. This LED will light orange during a factory reset or reboot.
2	**Internet LED**	A solid green light indicates that the internet connection has successfully completed. A solid orange light indicates that the physical link is up, but the ISP service is down.
3	**PowerLine LED**	A solid light indicates that a PowerLine connection is established.

Installation

This section will walk you through the installation process. Placement of the router is very important. Do not place the router in an enclosed area such as a closet, cabinet, or in the attic or garage.

Before you Begin

- Please configure the router with the computer that was last connected directly to your modem.
- You can only use the Ethernet port on your modem. If you were using the USB connection before using the router, then you must turn off your modem, disconnect the USB cable and connect an Ethernet cable to the Internet port on the router, and then turn the modem back on. In some cases, you may need to call your ISP to change connection types (USB to Ethernet).
- If you have DSL and are connecting via PPPoE, make sure you disable or uninstall any PPPoE software such as WinPoet, Broadjump, or Enternet 300 from your computer or you will not be able to connect to the Internet.
- When running the Setup Wizard from the D-Link CD, make sure the computer you are running the CD from is connected to the Internet and online or the wizard will not work. If you have disconnected any hardware, re-connect your computer back to the modem and make sure you are online.

Wireless Installation Considerations

The D-Link wireless router lets you access your network using a wireless connection from virtually anywhere within the operating range of your wireless network. Keep in mind, however, that the number, thickness and location of walls, ceilings, or other objects that the wireless signals must pass through, may limit the range. Typical ranges vary depending on the types of materials and background RF (radio frequency) noise in your home or business. The key to maximizing wireless range is to follow these basic guidelines:

1. Keep the number of walls and ceilings between the D-Link router and other network devices to a minimum - each wall or ceiling can reduce your adapter's range from 3-90 feet (1-30 meters.) Position your devices so that the number of walls or ceilings is minimized.

2. Be aware of the direct line between network devices. A wall that is 1.5 feet thick (.5 meters), at a 45-degree angle appears to be almost 3 feet (1 meter) thick. At a 2-degree angle it looks over 42 feet (14 meters) thick! Position devices so that the signal will travel straight through a wall or ceiling (instead of at an angle) for better reception.

3. Building Materials make a difference. A solid metal door or aluminum studs may have a negative effect on range. Try to position access points, wireless routers, and computers so that the signal passes through drywall or open doorways. Materials and objects such as glass, steel, metal, walls with insulation, water (fish tanks), mirrors, file cabinets, brick, and concrete will degrade your wireless signal.

4. Keep your product away (at least 3-6 feet or 1-2 meters) from electrical devices or appliances that generate RF noise.

5. If you are using 2.4GHz cordless phones or X-10 (wireless products such as ceiling fans, lights, and home security systems), your wireless connection may degrade dramatically or drop completely. Make sure your 2.4GHz phone base is as far away from your wireless devices as possible. The base transmits a signal even if the phone in not in use. Please refer to page 20 for detail information.

Hardware Installation - For Router Mode

Start Here

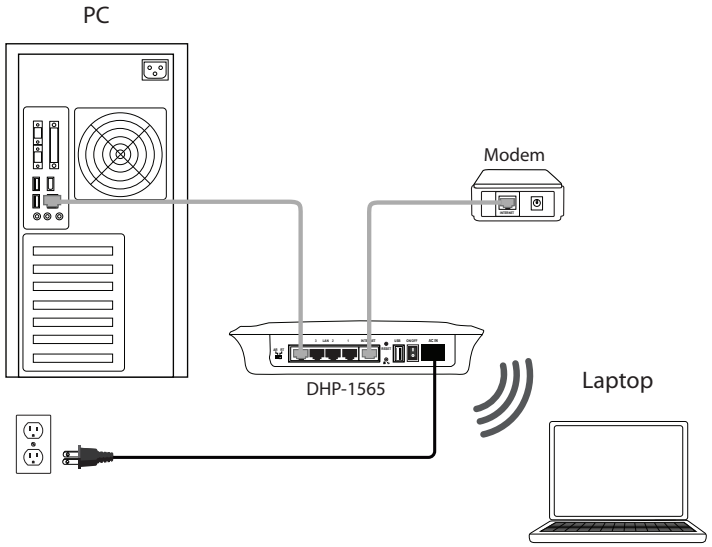
Windows users can use the **Setup Wizard** (from the CD) to configure their router. If you do not want to use the wizard, lost your CD, or are running Mac or Linux, you will need to use the manual setup procedure below.

Setup Wizard

For the Wizard to work, the computer must be connected to the Internet and be online. If you have disconnected any hardware, please re-connect your computer back into the modem and make sure you are online.

Insert the CD into your drive on a computer that is online and click **Install Router** to start the Setup Wizard. Follow the onscreen instructions to install and configure your router.

Network Diagram



Connect to Cable/DSL/Satellite Modem

If you are connecting the router to a cable/DSL/satellite modem, please follow the steps below:

1. Place the router in an open and central location. Do not plug the power cord into the router.

2. Unplug the Ethernet cable from the computer (or existing router if upgrading) that is connected to your modem. Then, plug it into the yellow port labeled INTERNET on the back of the D-Link Wireless N PowerLine Gigabit Router. The Modem is now connected to your Wireless N PowerLine Gigabit Router (DHP-1565).

3. Plug one end of the included blue Ethernet cable that came with your router into the blue port labeled LAN on the back of the D-Link Wireless N PowerLine Gigabit Router. Plug the other end of this cable into the Ethernet port on your computer. Turn on the computer. Reconnect the power cord to your cable or DSL modem and wait for 2 minutes. Let it complete its connection to your ISP before proceeding to the next step.

4. Connect the supplied power cord into the power receptor located on the back of the Wireless N PowerLine Gigabit Router (DHP-1565) and then plug into a wall outlet (Please do not use a power strip or a surge protector). Turn on the DHP-1565 Router by pushing the power button located on the back of this unit.

   Note: Power source is confirmed when the green LED Power Indicator on the Wireless N PowerLine Gigabit Router is illuminated.

5. Open a web browser, enter http://192.168.0.1 (or http://dlinkrouter) and then press Enter. When the login window appears, set the user name to Admin and leave the password box blank. Click Log In to continue the Internet Connection setup wizard. This wizard will walk you through a step-by-step process to configure Wireless N PowerLine Gigabit Router (DHP-1565) and connect to the Internet. Please refer to page 19 for detailed information.

   Note: To run the Wireless Connection Setup Wizard, click the **Wireless Connection Setup Wizard** button in the **Setup Wireless Settings** window. This wizard will walk you through a step-by-step process to configure your wireless settings. Please refer to page 35 for detailed information.

Connect to Another Router

If you are connecting the D-Link router to another router to use as a wireless access point and/or switch, you will have to do the following before connecting the router to your network:

- Disable UPnP™
- Disable DHCP
- Change the LAN IP address to an available address on your network. The LAN ports on the router cannot accept a DHCP address from your other router.

To connect to another router, please follow the steps below:

1. Plug the power into the router and use the power switch to power up the router. Connect one of your computers to the router (LAN port) using an Ethernet cable. Make sure your IP address on the computer is 192.168.0.xxx (where xxx is between 2 and 254). Please see the **Networking Basics** section for more information. If you need to change the settings, write down your existing settings before making any changes. In most cases, your computer should be set to receive an IP address automatically in which case you will not have to do anything to your computer.

2. Open a web browser and enter **http://192.168.0.1** and press **Enter**. When the login window appears, set the user name to **Admin** and leave the password box empty. Click **Log In** to continue.

3. Click on **Advanced** and then click **Advanced Network**. Uncheck the **Enable UPnP** checkbox. Click **Save Settings** to continue.

4. Click **Setup** and then click **Network Settings**. Uncheck the **Enable DHCP Server** checkbox. Click **Save Settings** to continue.

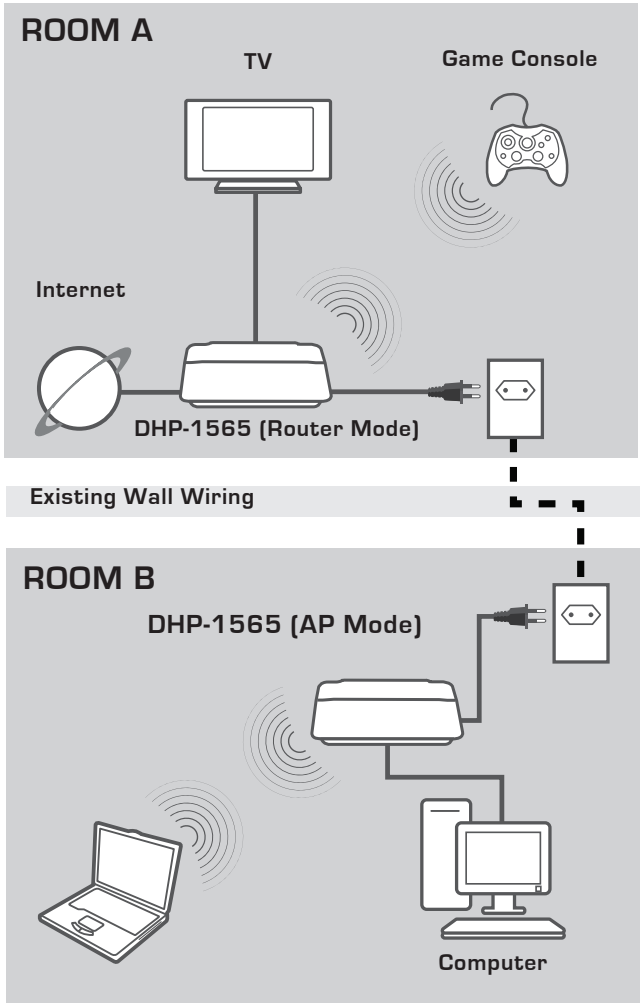
5. Under Router Settings, enter an available IP address and the subnet mask of your network. Click **Save Settings** to save your settings. Use this new IP address to access the configuration utility of the router in the future. Close the browser and change your computer's IP settings back to the original values as in Step 1.

6. Disconnect the Ethernet cable from the router and reconnect your computer to your network.

7. Connect an Ethernet cable in one of the **LAN** ports of the router and connect it to your other router. Do not plug anything into the Internet (WAN) port of the D-Link router.

8. You may now use the other 2 LAN ports to connect other Ethernet devices and computers. To configure your wireless network, open a web browser and enter the IP address you assigned to the router. Refer to the **Configuration** and **Wireless Security** sections for more information on setting up your wireless network.

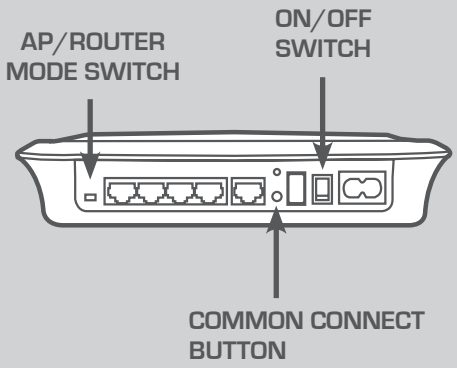
Hardware Installation - For Access Point Mode



Install your device

Plug the power cord of the DHP-1565 into an AC wall outlet close to your Computer as seen in Room B. Confirm the DHP-1565 is in AP mode and turn it on by pushing the on/off switch located on the back of the unit. Wait about 30 seconds for the DHP-1565 to boot.

Connect one end of the supplied CAT5 Ethernet cable to the Ethernet port on the DHP-1565 and the other end to the Ethernet port on your computer.

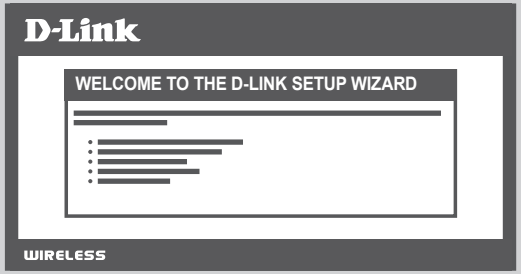


PLC Network Security

Press the Common Connect button for one to three seconds. The PowerLine LED should start to blink.

Plug the second PowerLine device (for example the DHP-1565 in Room A as seen on page 13) into a power outlet. Press the Common Connect button on this PowerLine device for one to three seconds.

Wait for both devices to reboot (all LEDs will turn off and on). When the PowerLine LEDs on both devices are steadily lit, the two devices will be networked together securely.



Wireless Security

Open a web browser, enter http://dlinkrouterWXYZ (WXYZ: four-digit suffix of the PLC MAC address located on the bottom of device) and then press Enter.

Follow the Setup Wizard to assist you in establishing secure wireless network.

(Please refer to "Setup Wizard" in the user manual for detailed installation information.)

PowerLine Installation Considerations

Plan the location of your PowerLine devices:

1. Connect the PowerLine devices to electrical outlets that are not controlled by a wall switch in order to avoid accidentally turning off the power to the device.

2. Do not connect the Wireless N PowerLine Gigabit Router to an extension cord, surge protector, or power strip. This might prevent the device from working correctly or it may reduce the network performance.

3. Avoid using the Wireless N PowerLine Gigabit Router in an electrical outlet that is located near an appliance that uses a lot of power, such as a washer, dryer or refrigerator. This may prevent the adapter from working correctly, or may negatively impact the network performance.

4. Verify that your PowerLine devices are electrically rated to operate with the power available in your location.

5. To help prevent against electrical shock, be sure to plug the power cables into properly grounded electrical outlets.

PowerLine Security

It is strongly recommended to encrypt your PowerLine network. By encrypting the data that is sent via your PowerLine adapters, you will prevent nearby hackers with a Powerline adapter to connect to your network and steal your information.

To encrypt your PowerLine network, follow the steps below:

PowerLine Network-Quick Setup

Encryption Button Usage

The Common Connect Button is used to add a PowerLine AV device to a PowerLine network. You can allow the DHP-1565 to join a network by pressing the Common Connect Button to toggle it to the Broadcast state or Join state.

The Common Connect Button has 3 different trigger states:

Broadcast state- Enables the DHP-1565 to provide information for another PowerLine AV device to join its PowerLine network (works even if it is the only device existing within the network group). The first PowerLine device will use this state when the Common Connect Button is pressed.

Join State - This allows an ungrouped PowerLine AV device to join an existing PowerLine network. PowerLine devices added after the first device will be in the Join State when the Common Connect Button is pressed.

Ungroup State - Hold down the Common Connect Button for more than 10 seconds to detach the device from its network group.

PowerLine Network Device Setup

Note: A minimum of two PowerLine AV devices are required to create a network in order for your product to work properly.

Step 1
Plug the other PowerLine AV devices in the same room to verify if your home's electrical wiring is suitable for the PowerLine Network. Once configured you may place your PowerLine AV devices in the location of your choice. Plug one end of the Ethernet cable into the Ethernet port on the PowerLine AV device.

Step 2
Press the **Common Connect Button** located on the back panel of the DHP-1565 for 1 to 3 seconds. The Power LED will start blinking after you release the button. Within 2 minutes of pushing the **Common Connect Button** on the DHP-1565, press the **Common Connect Button** on the second PowerLine AV device(s) in your existing PowerLine network for 1 to 3 seconds. The Power LED will start blinking after you release the button. Network Connectivity is confirmed when the PowerLine LEDs indicators on the DHP-1565 and PowerLine AV device are illuminated.

Step 3
After the network security setup steps, your PowerLine network will be securely configured with the same network encryption key. Place any additional PowerLine AV devices in a different area of your home. The PowerLine AV devices will save the security settings even if they are unplugged.

Step 4
If your network has more than two PowerLine AV devices, press the **Common Connect Button** on the DHP-1565 for 1 to 3 seconds. Within 2 minutes of pushing the **Common Connect Button** on the DHP-1565, press the **Common Connect Button** on any additional PowerLine AV devices in your existing PowerLine network for 1 to 3 seconds.

Network Connectivity is confirmed when the PowerLine LEDs indicators on the DHP-1565 and PowerLine AV device are illuminated. After the network security setup steps, you can place any additional PowerLine AV devices in a different area of your home. The PowerLine AV devices will save the security settings even if they are unplugged.

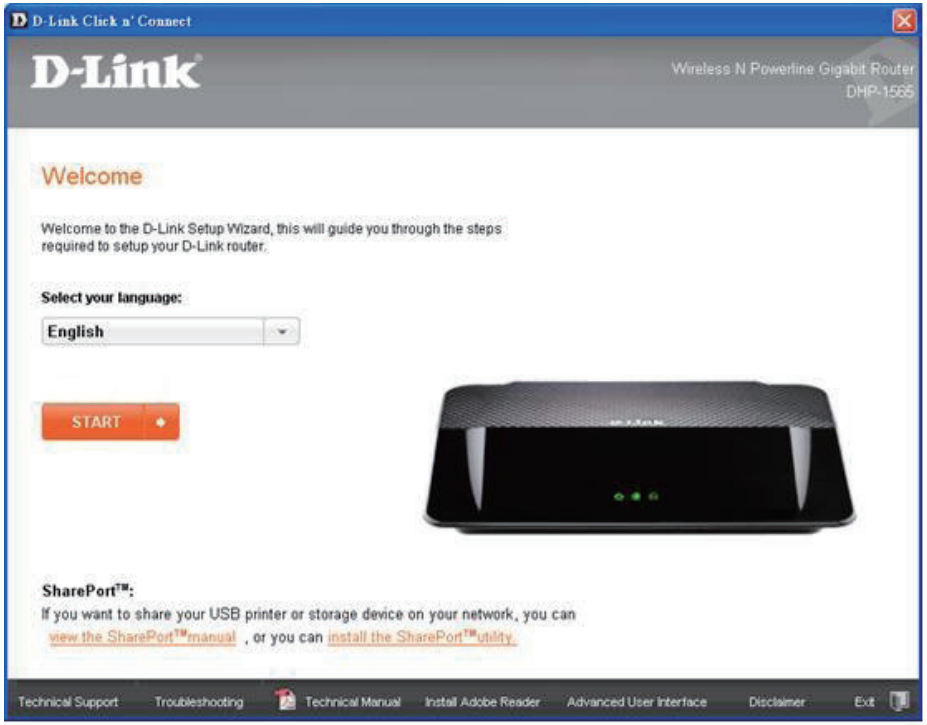
Getting Started

The DHP-1565 includes Setup Wizard CD. Follow the simple steps below to run the Setup Wizard to guide you quickly through the installation process.

Insert the **Setup Wizard CD** in the CD-ROM drive. The step-by-step instructions that follow are shown in Windows® XP. The steps and screens are similar for the other Windows operating systems.

If the CD Autorun function does not automatically start on your computer, go to **Start** > **Run**. In the run box type"**D:\autorun.exe**" (where ***D:*** represents the drive letter of your CD-ROM drive).

When the autorun screen appears, click **Start.**

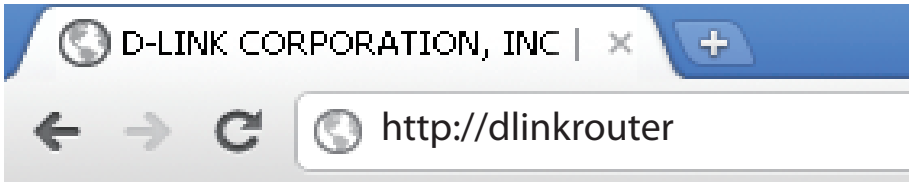


Configuration (Router Mode)

This section will show you how to configure your new D-Link wireless router using the web-based configuration utility.

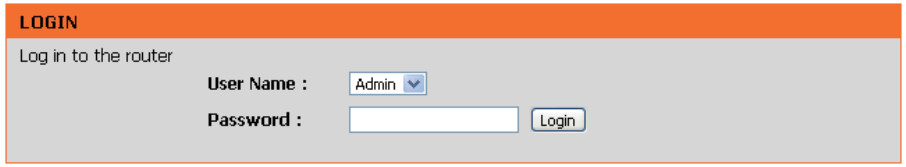
Web-based Configuration Utility

To access the configuration utility, open a web-browser such as Internet Explorer and enter http://dlinkrouter or the IP address of the router (192.168.0.1).



Select **Admin** in the User Name field. Leave the password blank by default.

If you get a **Page Cannot be Displayed** error, please refer to the **Troubleshooting** section for assistance.



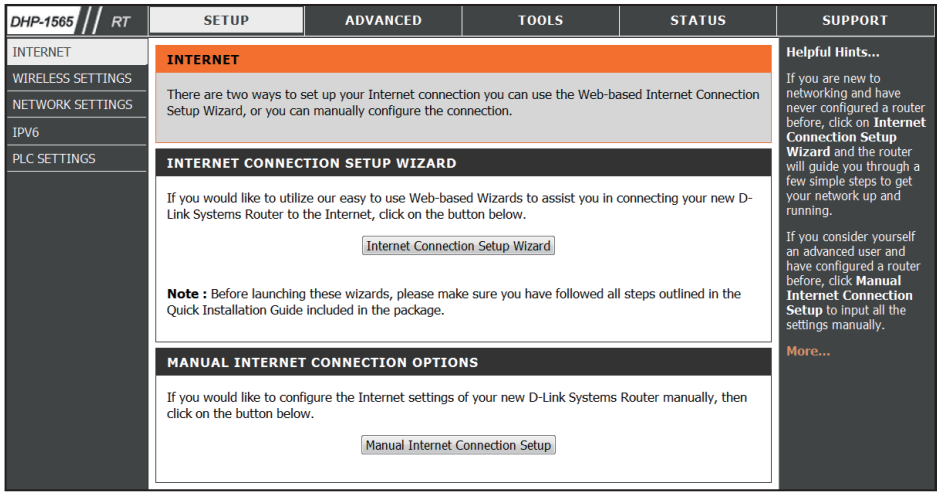
Setup

Internet

This section allows you to configure your Router's Internet settings.

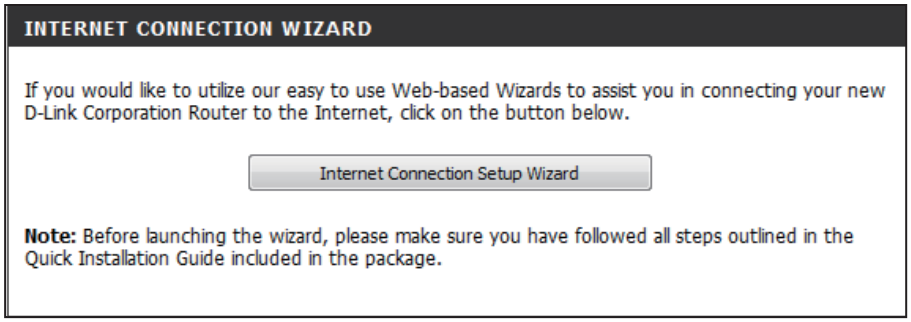
Internet Connection Setup Wizard: The Internet Connection Setup Wizard provides a quick method for configuring your Internet settings. To start the Internet Connection Setup Wizard, click the **Internet Connection Setup Wizard** button. Refer to "Internet Connection Setup Wizard" on page 21 for more information on how to use the Internet Connection Setup Wizard.

Manual Internet Connection Option: Click the **Manual Internet Connection Setup** button if you want to enter your Internet settings without running the Internet Connection Setup Wizard. Refer to "Manual Internet Connection Setup" on page 27 for more information on how to configure your Internet settings manually.



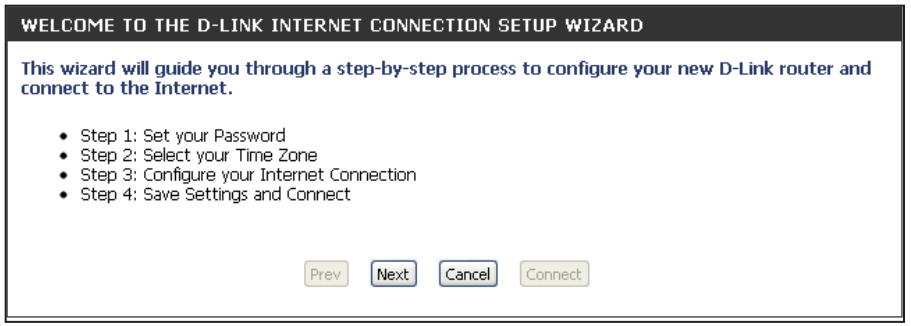
Internet Connection Setup Wizard

Click the **Internet Connection Setup Wizard** button to start the Internet Connection Setup Wizard.

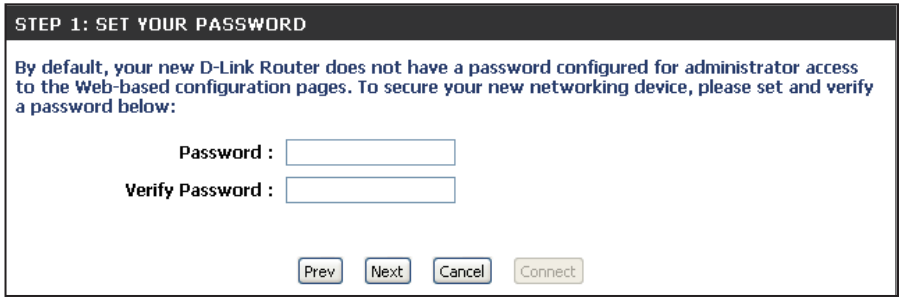


The following window appears, summarizing the steps required to complete the *Internet Connection Setup Wizard*:

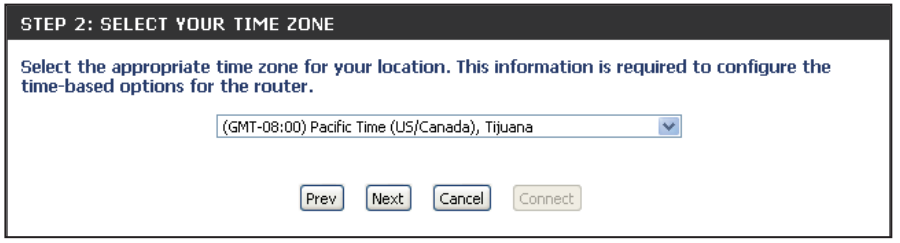
Click **Next** to continue.



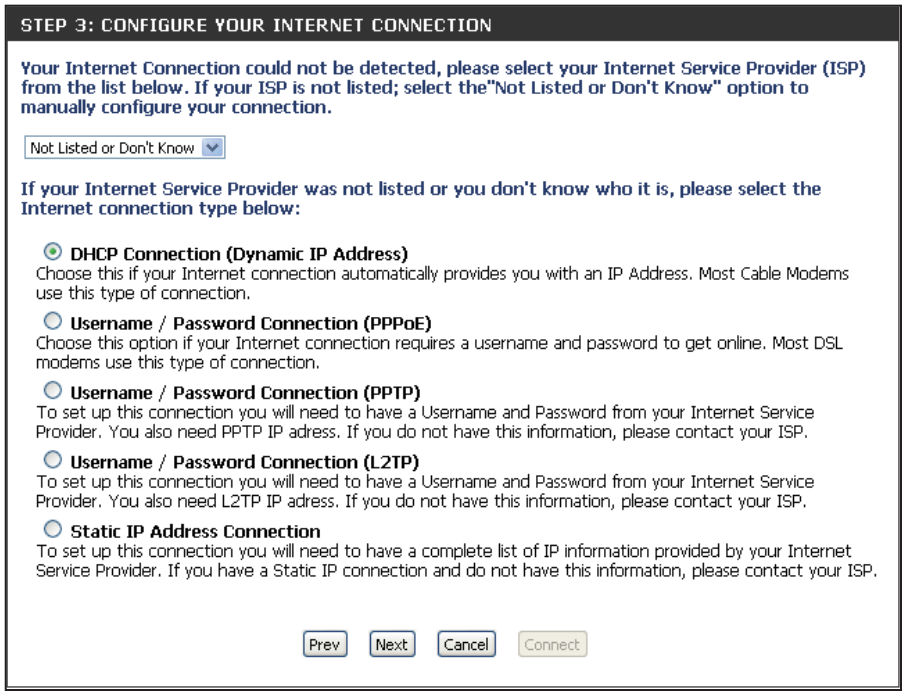
Create a new password and then click **Next** to continue.



Select your time zone from the drop-down menu and then click **Next** to continue.

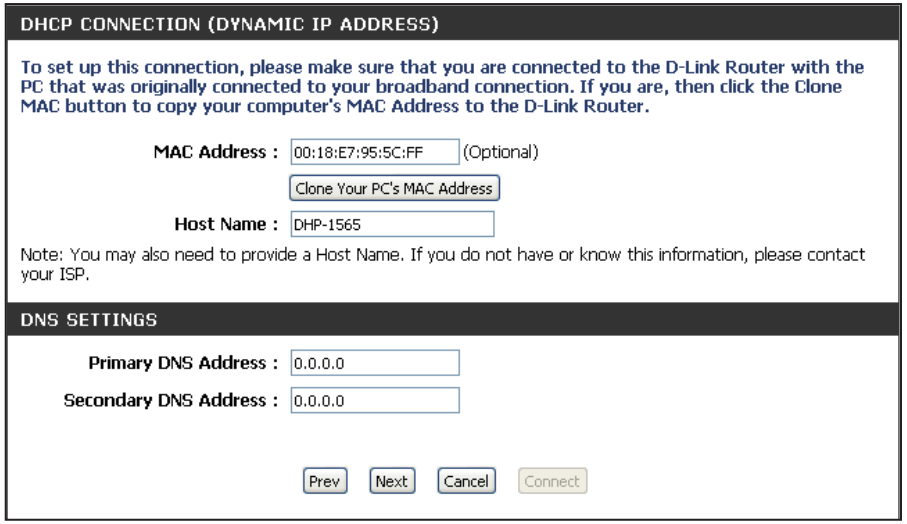


Select the type of Internet connection you use and then click **Next** to continue.



If you selected **DHCP Connection (Dynamic IP Address)**, you may need to enter the MAC address of the computer that was last connected directly to your modem. If you are currently using that computer, click **Clone Your PC's MAC Address** and then click **Next** to continue.

The Host Name is optional but may be required by some ISPs. The default host name is the device name of the router and may be changed.



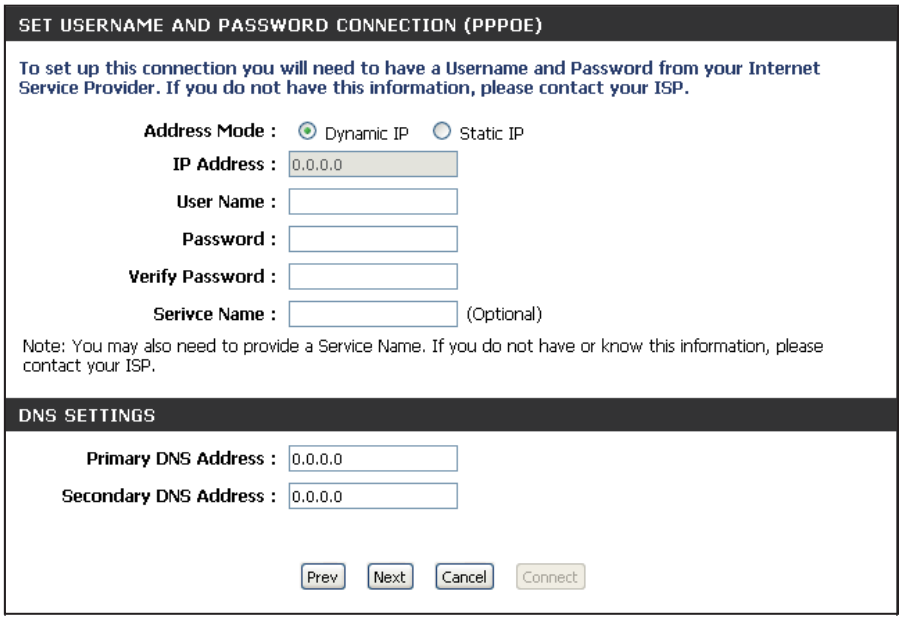
If you selected **PPPoE**, enter your PPPoE username and password.

If your ISP requires you to enter a PPPoE service name, enter the service name in the **Service Name** field.

Select **Static** if your ISP assigned you the IP address, subnet mask, gateway, and DNS server addresses.

Click **Next** to continue.

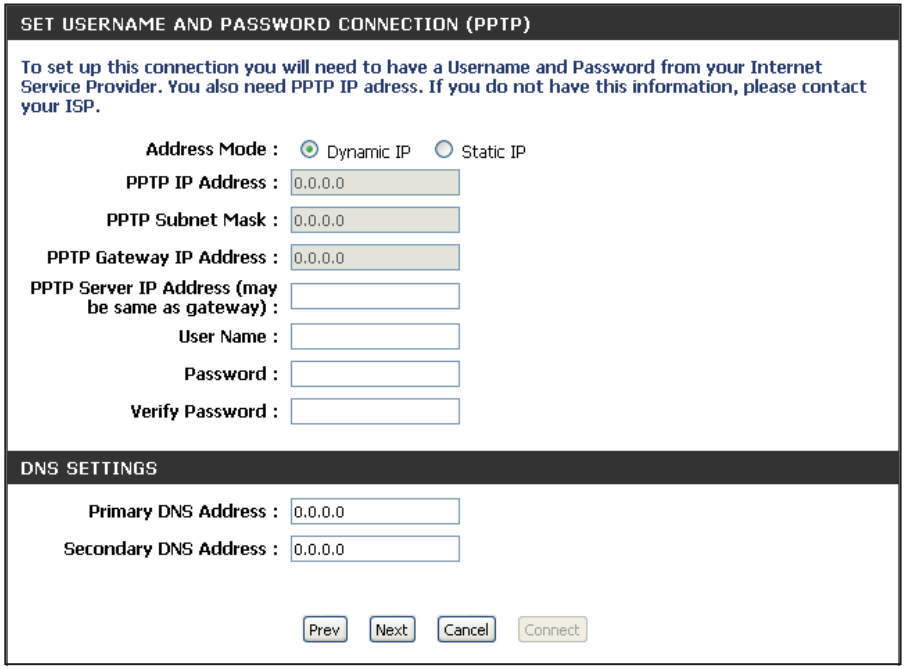
Note: *Make sure to remove your PPPoE software from your computer. The software is no longer needed and will not work through a router.*



If you selected **PPTP**, enter your PPTP username and password.

Select **Static** if your ISP assigned you the IP address, subnet mask, gateway, and PPTP server addresses.

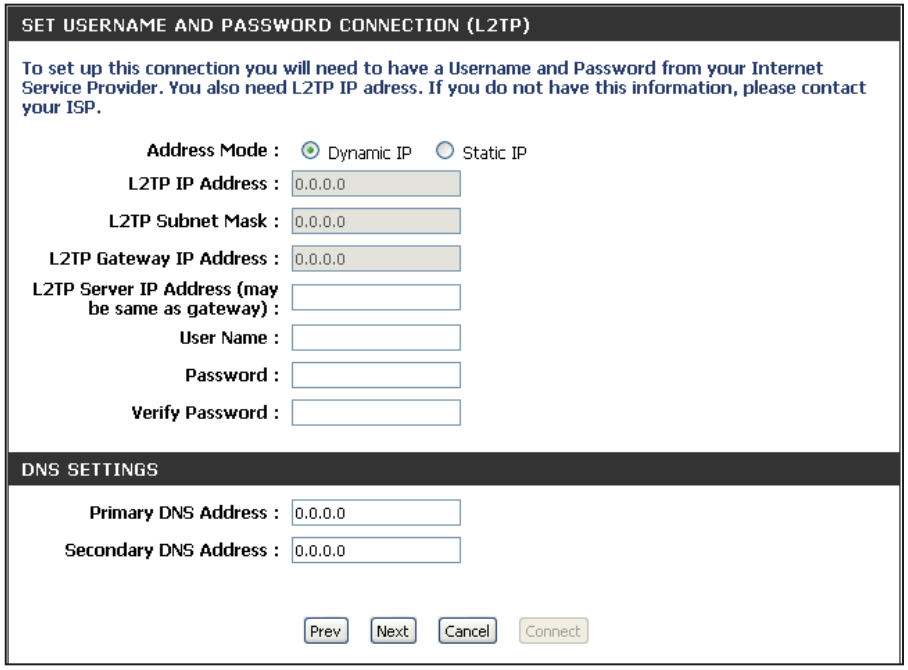
Click **Next** to continue.



If you selected **L2TP**, enter your L2TP username and password.

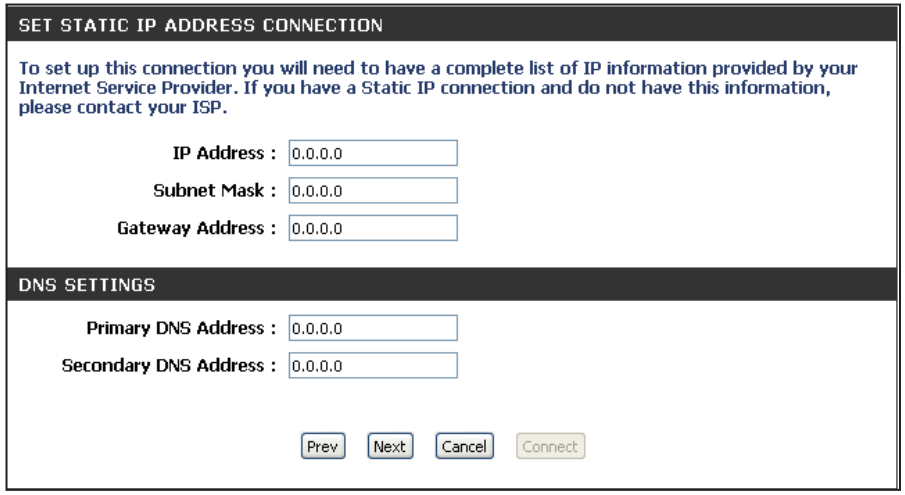
Select **Static** if your ISP assigned you the IP address, subnet mask, gateway, and L2TP server addresses.

Click **Next** to continue.

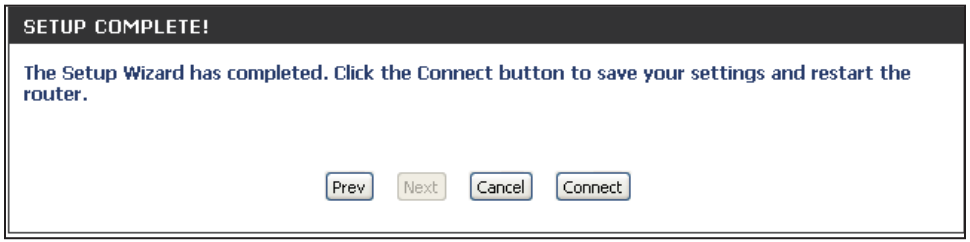


If you selected **Static**, enter your network settings supplied by your Internet provider.

Click **Next** to continue.



Click **Connect** to save your settings.

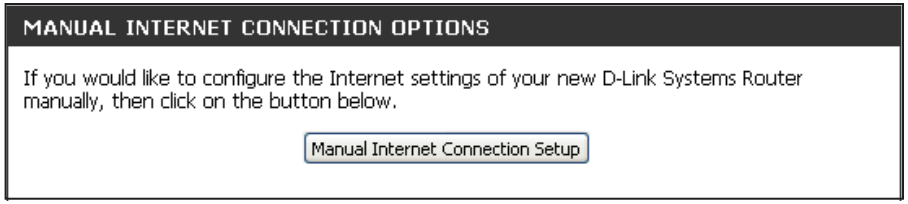


The following window appears to indicate that the settings are being saved. When the Router has finished saving all the changes, the **Setup> Internet** window will open.

Close your browser window and reopen it to test your Internet connection. It may take a few tries to initially connect to the Internet.

Manual Internet Connection Setup

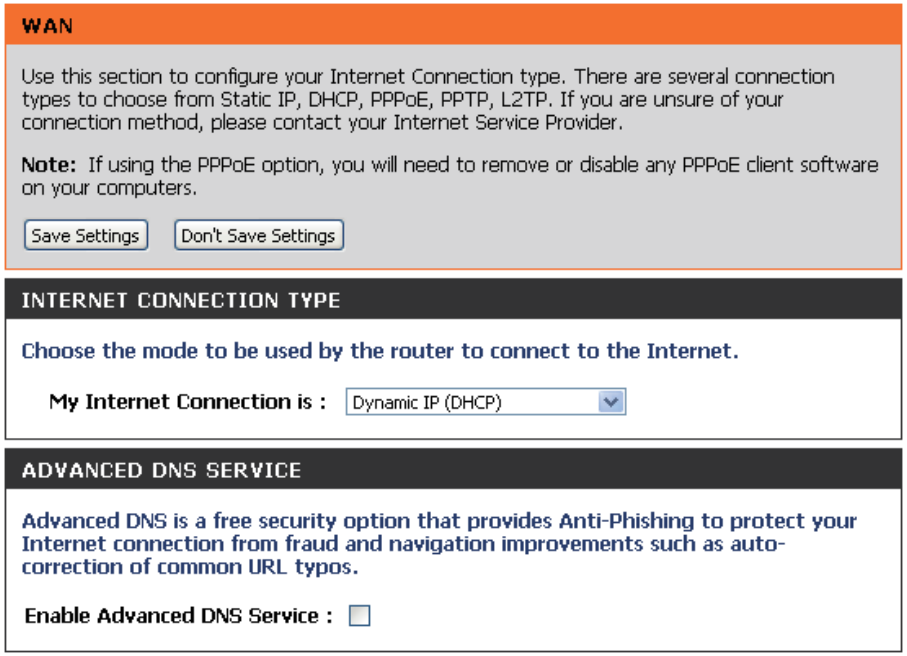
Select **Manual Internet Connection Setup** to continue.



Internet Connection Type: Use the My Internet Connection is drop-down menu to select the mode that the router should use to connect to the Internet.

Advanced DNS Service: Advanced Domain Name System (DNS) Services enhances your Internet performance by getting you the information and web pages you are looking for faster and more reliably. In addition, it improves your overall Internet experience by correcting many common typo mistakes automatically, taking you where you intended to go and saving you valuable time.

Disclaimer: D-Link makes no warranty as to the availability, reliability, functionality and operation of the Advanced DNS service or its features.



Manual Internet Connection Setup

Static IP

Select **Static IP** from the drop-down menu if all the Internet port's IP information is provided to you by your ISP. You will need to enter in the IP address, subnet mask, gateway address, and DNS address(es) provided to you by your ISP. Each IP address entered in the fields must be in the appropriate IP form, which are four octets separated by a dot (x.x.x.x). The Router will not accept the IP address if it is not in this format.

IP Address: Enter the IP address assigned by your ISP.

Subnet Mask: Enter the Subnet Mask assigned by your ISP.

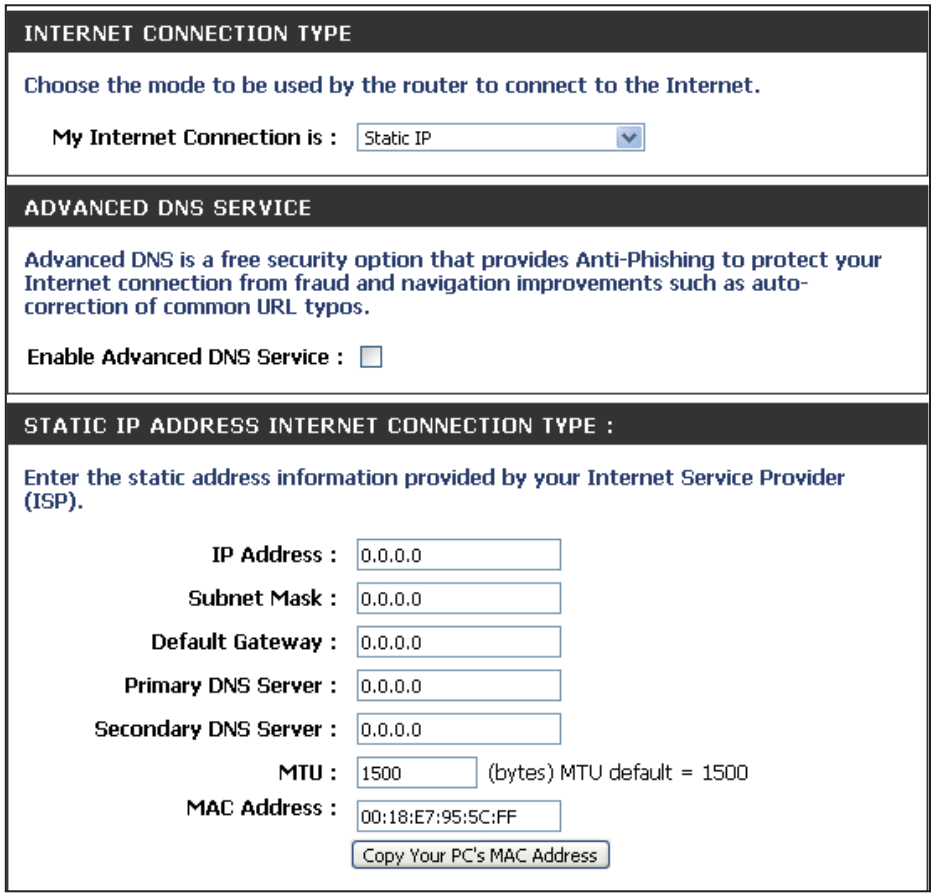
Default Gateway: Enter the Gateway assigned by your ISP.

DNS Servers: The DNS server information will be supplied by your ISP (Internet Service Provider).

MTU: Maximum Transmission Unit - you may need to change the MTU for optimal performance with your specific ISP. 1500 is the default MTU.

MAC Address: The default MAC Address is set to the Internet port's physical interface MAC address on the Broadband Router. It is not recommended that you change the default MAC address unless required by your ISP. You can use the **Clone Your PC's MAC Address** button to replace the Internet port's MAC address with the MAC address of your Ethernet card.

Click the **Save Settings** button to save any changes made.



Manual Internet Connection Setup

Dynamic IP (DHCP)

Select **Dynamic IP (DHCP)** from the drop-down menu to obtain IP Address information automatically from your ISP. Select this option if your ISP does not give you any IP numbers to use. This option is commonly used for cable modem services such as Comcast and Cox.

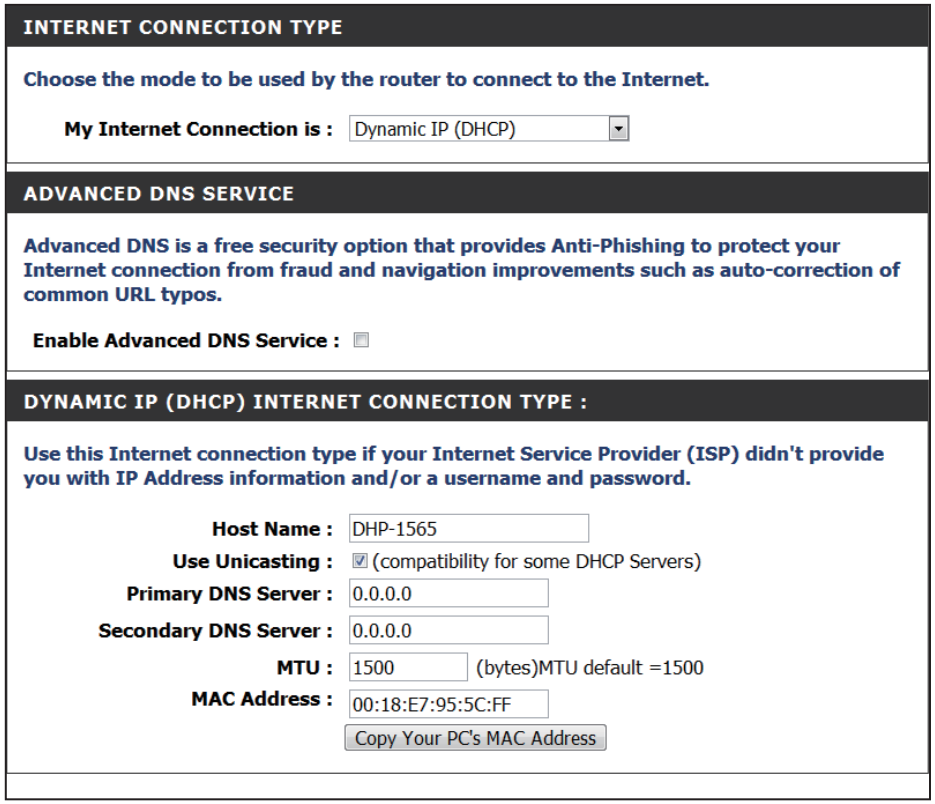
Host Name: The Host Name is optional but may be required by some ISPs. Leave blank if you are not sure.

Primary/ Secondary DNS Server: Enter the Primary and Secondary DNS server IP addresses assigned by your ISP. These addresses are usually obtained automatically from your ISP. Enter the value 0.0.0.0 if you did not specifically receive these from your ISP.

MTU: Maximum Transmission Unit - you may need to change the MTU for optimal performance with your specific ISP. 1500 is the default MTU.

MAC Address: The default MAC Address is set to the Internet port's physical interface MAC address on the Broadband Router. It is not recommended that you change the default MAC address unless required by your ISP. You can use the **Clone Your PC's MAC Address** button to replace the Internet port's MAC address with the MAC address of your Ethernet card.

Click the **Save Settings** button to save any changes made.



Manual Internet Connection Setup

PPPoE (Username/Password)

Select **PPPoE (Username/Password)** from the drop-down menu if your ISP uses a PPPoE connection. Your ISP will provide you with a username and password. This option is typically used for DSL services. Make sure to remove your PPPoE software from your computer. The software is no longer needed and will not work through a router.

Address Mode: Select Static IP if your ISP assigned you the IP address, subnet mask, gateway, and DNS server addresses. In most cases, select Dynamic.

IP Address: Enter the IP address (Static PPPoE only).

User Name: Enter your PPPoE user name.

Password: Enter your PPPoE password and then retype the password in the next box.

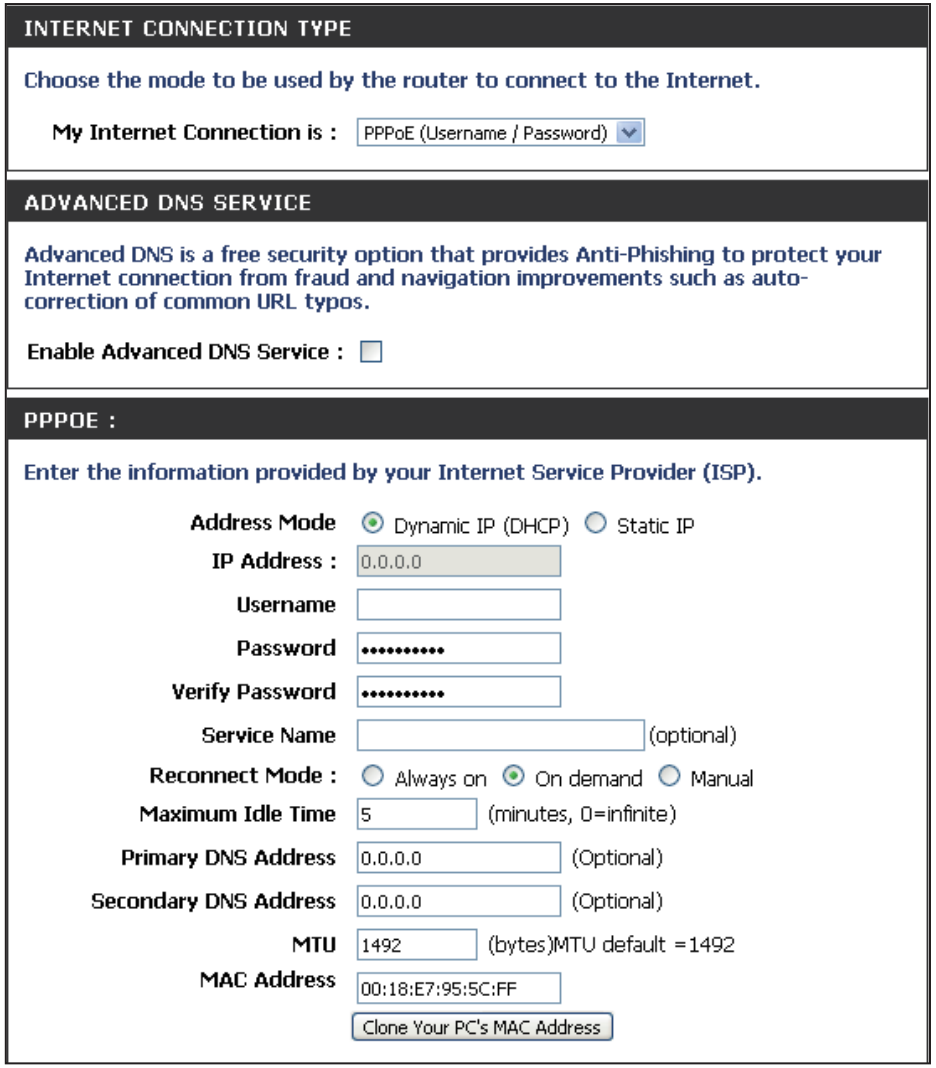
Service Name: Enter the ISP Service Name (optional).

Reconnect Mode: Use the radio buttons to specify the reconnect mode. The user can specify a custom schedule or specify the **On Demand**, or **Manual** option.

Maximum Idle Time: Enter a maximum idle time during which the Internet connection is maintained during inactivity. To disable this feature, enable Auto-reconnect.

DNS Servers: Enter the Primary and Secondary DNS Server Addresses (Static PPPoE only).

MTU: Maximum Transmission Unit - you may need to change the MTU for optimal performance with your specific ISP. 1492 is the default MTU.



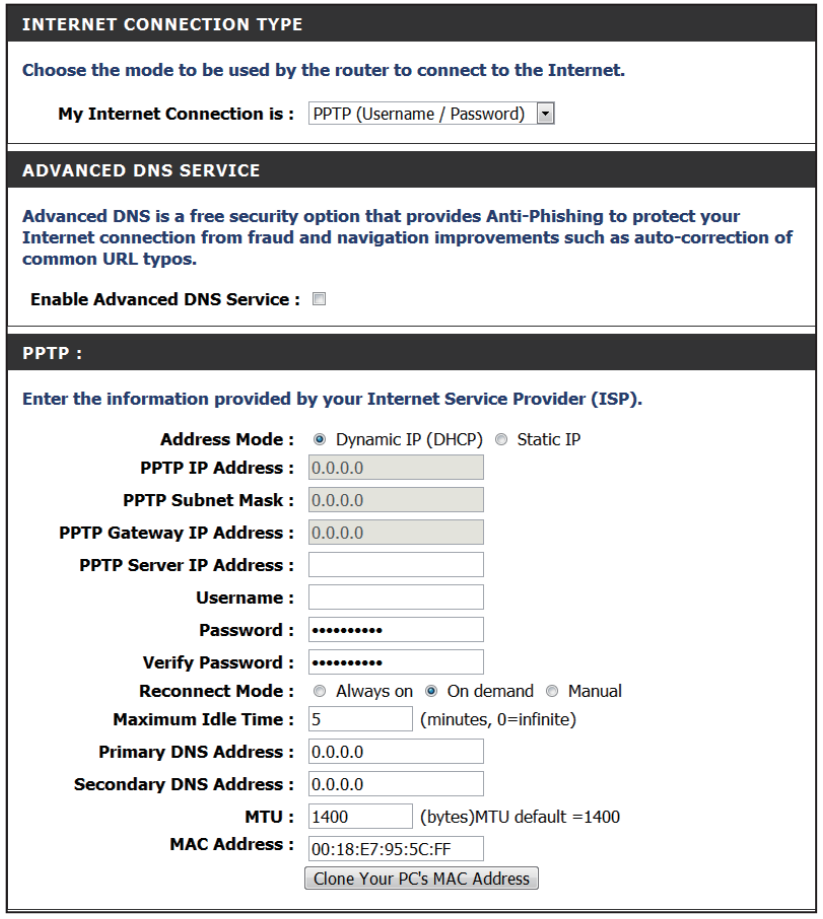
MAC Address: The default MAC Address is set to the Internet port's physical interface MAC address on the Broadband Router. It is not recommended that you change the default MAC address unless required by your ISP. You can use the Clone Your PC's MAC Address button to replace the Internet port's MAC address with the MAC address of your Ethernet card.

Click the **Save Settings** button to save any changes made.

Manual Internet Connection Setup

PPTP

Select **PPTP (Point-to-Point Tunneling Protocol)** from the drop-down menu if your ISP uses a PPTP connection. Your ISP will provide you with a username and password. This option is typically used for DSL services.



Address Mode: Select **Static IP** if your ISP assigned you the IP address, subnet mask, gateway, and DNS server addresses. In most cases, select **Dynamic IP**.

PPTP IP Address: Enter the IP address (Static PPTP only).

PPTP Subnet Mask: Enter the Primary and Secondary DNS Server Addresses (Static PPTP only).

PPTP Gateway IP Address: Enter the Gateway IP Address provided by your ISP.

PPTP Server IP Address: Enter the Server IP provided by your ISP (optional).

Username: Enter your PPTP username.

Password: Enter your PPTP password and then retype the password in the next box.

Reconnect Mode: Use the radio buttons to specify the reconnect mode. The user can specify a custom schedule or specify the **On Demand**, or **Manual** option.

Maximum Idle Time: Enter a maximum idle time during which the Internet connection is maintained during inactivity. To disable this feature, enable Auto-reconnect.

DNS Servers: The DNS server information will be supplied by your ISP (Internet Service Provider).

MTU: Maximum Transmission Unit - you may need to change the MTU for optimal performance with your specific ISP. 1454 is the default MTU.

MAC Address: The default MAC Address is set to the Internet port's physical interface MAC address on the Broadband Router. It is not recommended that you change the default MAC address unless required by your ISP. You can use the **Clone Your PC's MAC Address** button to replace the Internet port's MAC address with the MAC address of your Ethernet card.

Click the **Save Settings** button to save any changes made.

Manual Internet Connection Setup

L2TP

Choose **L2TP** (Layer 2 Tunneling Protocol) if your ISP uses a L2TP connection. Your ISP will provide you with a username and password. This option is typically used for DSL services.

Address Mode: Select Static if your ISP assigned you the IP address, subnet mask, gateway, and DNS server addresses. In most cases, select Dynamic.

L2TP IP Address: Enter the L2TP IP address supplied by your ISP (Static only).

L2TP Subnet Mask: Enter the Subnet Mask supplied by your ISP (Static only).

L2TP Gateway IP Address: Enter the Gateway IP Address provided by your ISP.

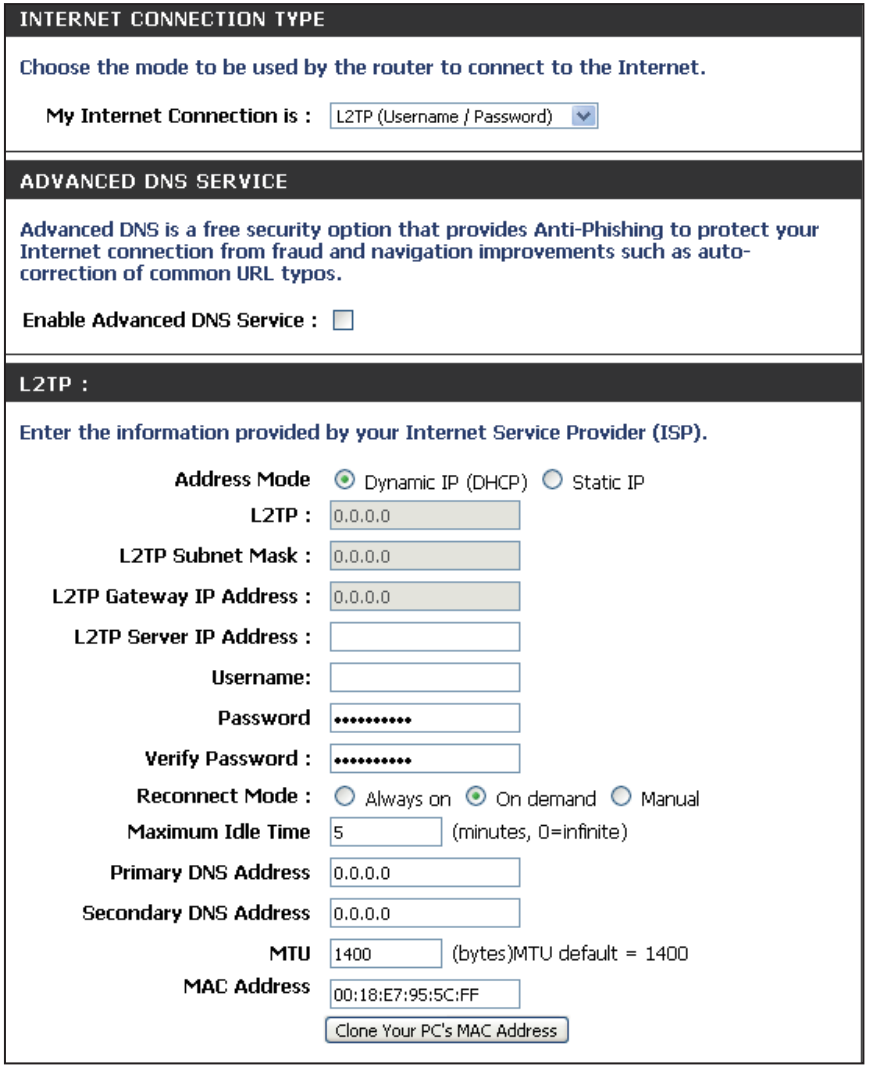
L2TP Server IP Address: Enter the Server IP provided by your ISP (optional).

Username: Enter your L2TP username.

Password: Enter your L2TP password and then retype the password in the next box.

Reconnect Mode: Use the radio buttons to specify the reconnect mode. The user can specify a custom schedule or specify the **On Demand**, or **Manual** option.

Maximum Idle Time: Enter a maximum idle time during which the Internet connection is maintained during inactivity. To disable this feature, enable Auto-reconnect.



Primary DNS Server: Enter the Primary DNS server IP address assigned by your ISP. These address is usually obtained automatically from your ISP. Enter the value 0.0.0.0 if you did not specifically receive these from your ISP.

MTU: Maximum Transmission Unit - you may need to change the MTU for optimal performance with your specific ISP. 1454 is the default MTU.

MAC Address: The default MAC Address is set to the Internet port's physical interface MAC address on the Broadband Router. It is not recommended that you change the default MAC address unless required by your ISP. You can use the **Clone Your PC's MAC Address** button to replace the Internet port's MAC address with the MAC address of your Ethernet card.

Manual Internet Connection Setup
DS-Lite

My Internet Connection: Select DS-Lite to activate this feature.

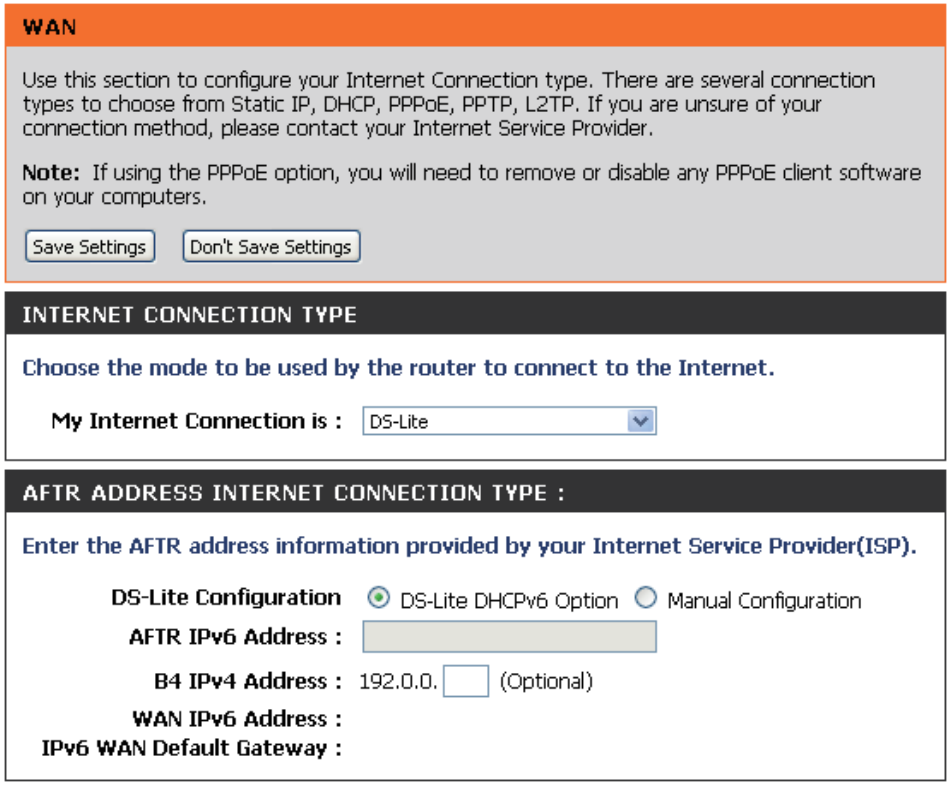
DS-Lite Configuration: Select the DS-Lite DHCPv6 option to let the router allocate the AFTR IPv6 address automatically. Select the Manual Configuration to enter the AFTR IPv6 address in manually.

AFTR IPV6 Address: After selecting the Manual Configuration option above, enter the AFTR IPv6 address used here.

B4 IPv6 Address: Enter the B4 IPv4 address value used here.

WAN IPv6 Address: Once connected, the WAN IPv6 address will be displayed here.

IPv6 WAN Default Gateway: Once connected, the IPv6 WAN Default Gateway address will be displayed here.

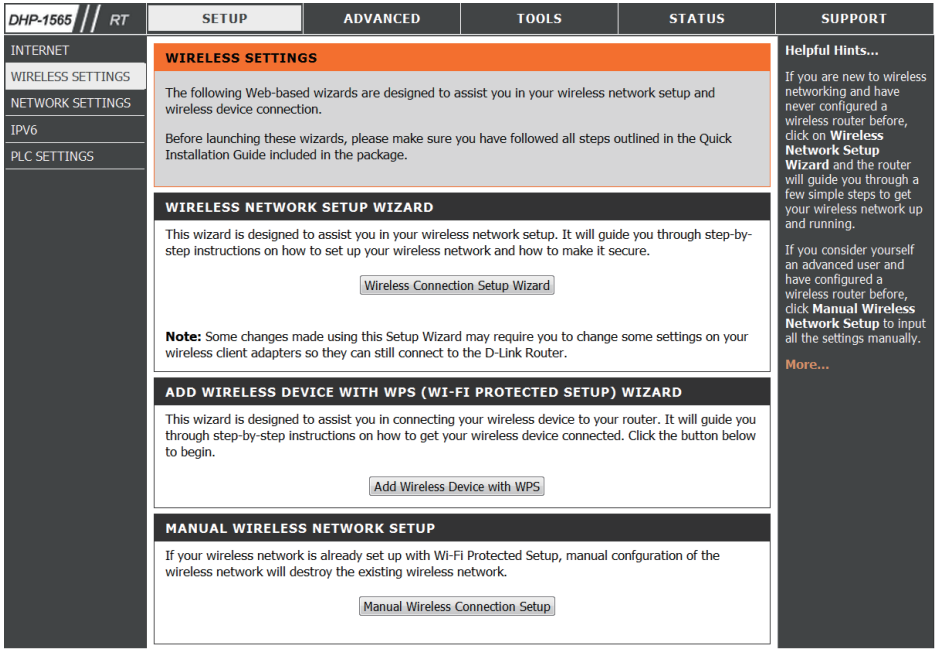


Wireless Settings

If you want to configure the wireless settings on your router using the wizard, click **Wireless Connection Setup Wizard** and refer to "Wireless Connection Setup Wizard" on page 102.

Click **Add Wireless Device with WPS** if you want to add a wireless device using Wi-Fi Protected Setup (WPS) and refer to "Add Wireless Device with WPS Wizard" on page 105.

If you want to manually configure the wireless settings on your router click **Manual Wireless Connection Setup** and refer to the next page.



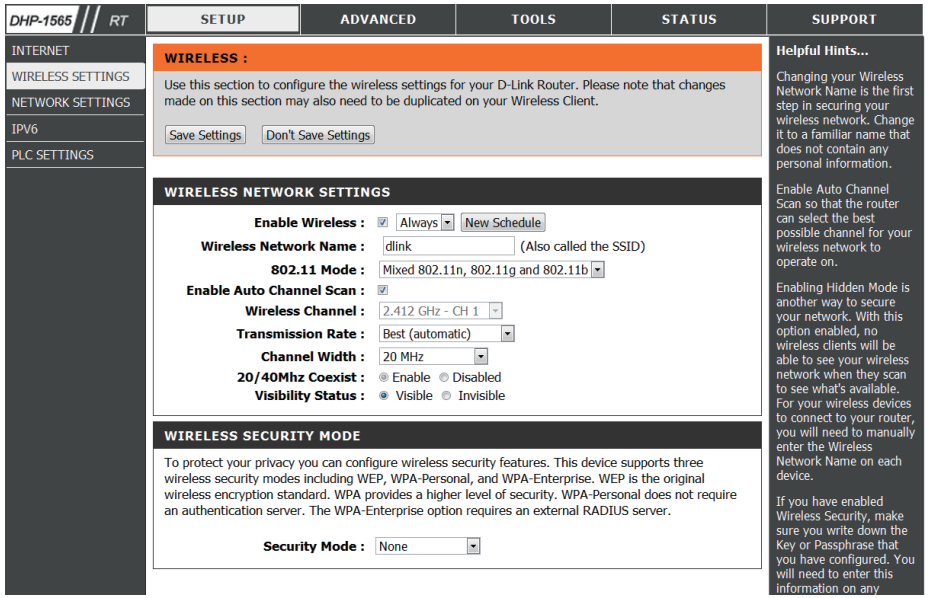
Manual Wireless Settings

802.11n/b/g (2.4GHz)

Enable Wireless: Check the box to enable the wireless function. If you do not want to use wireless, uncheck the box to disable all the wireless functions.

Schedule: Select the time frame that you would like your wireless network enabled. The schedule may be set to Always. Any schedule you create will be available in the drop-down menu. Click **New Schedule** to create a new schedule.

Wireless Network Name: The Service Set Identifier (SSID) is the name of your wireless network. Create a name using up to 32 characters. The SSID is case-sensitive.



802.11 Mode: Select one of the following:

802.11g Only - Select if all of your wireless clients are 802.11g.

802.11n Only - Select only if all of your wireless clients are 802.11n.

802.11b Only - Select if all of your wireless clients are 802.11b.

Mixed 802.11n and 802.11g - Select if you are using a mix of 802.11n and 802.11g wireless clients.

Mixed 802.11g and 802.11b - Select if you are using a mix of 802.11g and 802.11b wireless clients.

Mixed 802.11n, 802.11g and 802.11b - Select 802.11n, 802.11g and 802.11b

Enable Auto Channel Selection: The **Auto Channel Selection** setting can be selected to allow the DHP-1565 to choose the channel with the least amount of interference.

Wireless Channel: Indicates the channel setting for the DHP-1565. By default the channel is set to 1. The Channel can be changed to fit the channel setting for an existing wireless network or to customize the wireless network. If you enable **Auto Channel Selection**, this option will be greyed out.

Channel Width: Select the Channel Width:
Auto 20/40 - Select if you are using both 802.11n and non-802.11n wireless devices.
20MHz - Select if you are not using any 802.11n wireless clients. This is the default setting.

Wireless Security Mode: Refer to "Wireless Security" on page 137 for more information regarding wireless security.

Click the **Save Settings** button to save any changes made.

Network Settings

This section will allow you to change the local network settings of the router and to configure the DHCP settings.

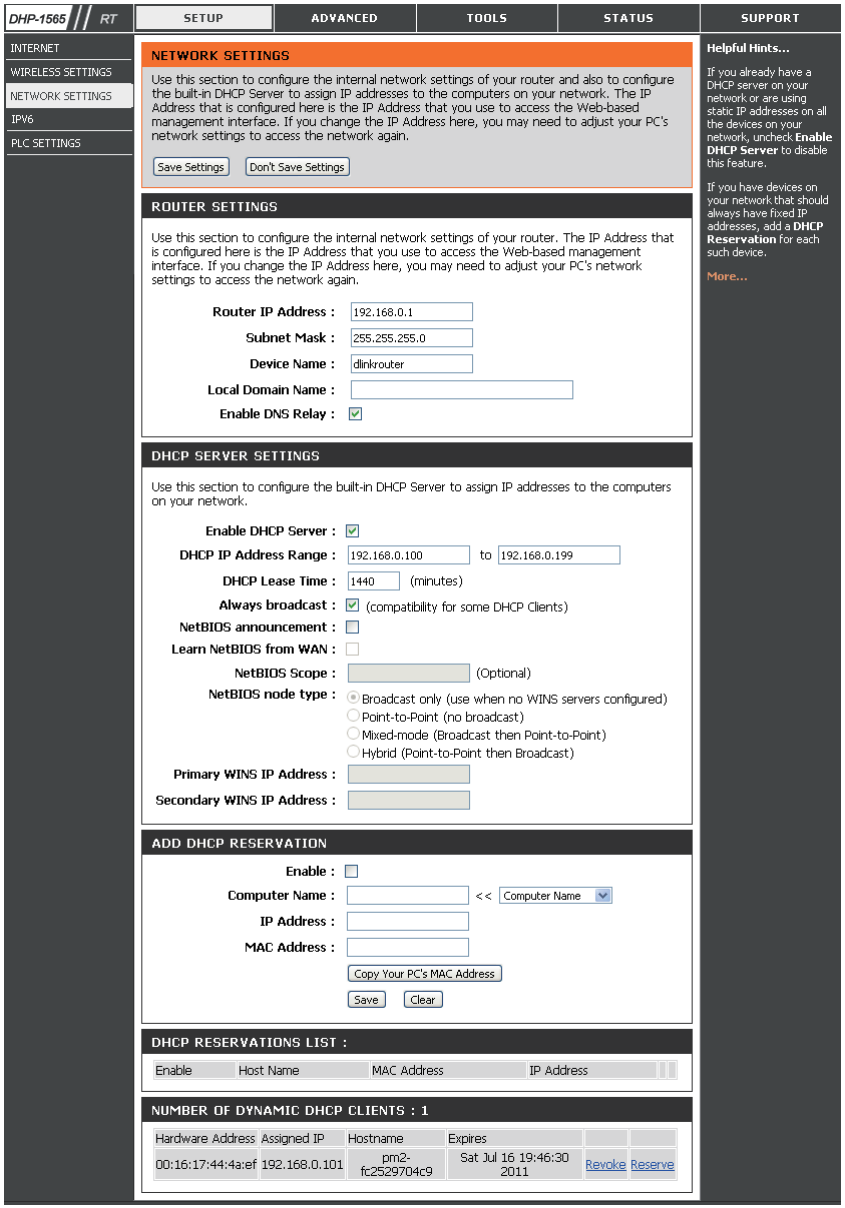
Router Settings: Use this section to configure the Router's local network settings.

DHCP Server Settings: Use this section to configure the DHP-1565's built-in DHCP server settings.

Add DHCP Reservation: Use this section to create a new DHCP reservation or manage existing DHCP reservations.

DHCP Reservations List: Displays information about the devices that have a DHCP reservation from the DHP-1565. The information includes the *Host Name, IP Address, MAC Address*, and *Expiration Time*.

Number of Dynamic DHCP Clients: Displays information about the devices that have a dynamic DHCP lease from the DHP-1565. The information includes the *Host Name, IP Address, MAC Address*, and *Lease Expiration Time*.



Network Settings
Router Settings

Router IP Address: Enter the IP address of the router. The default IP address is 192.168.0.1.

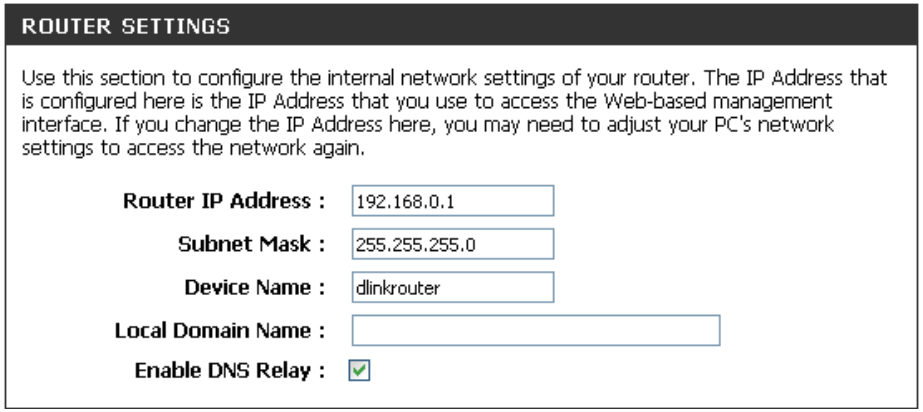
If you change the IP address, once you click **Apply**, you will need to enter the new IP address in your browser to get back into the configuration utility.

Default Subnet Mask: Enter the Subnet Mask. The default subnet mask is 255.255.255.0.

Device Name: Enter a Host Name to identify the DHP-1565.

Local Domain: Enter the Domain name (Optional).

Enable DNS Relay: Uncheck the box to transfer the DNS server information from your ISP to your computers. If checked, your computers will use the router for a DNS server.



Click the **Save Settings** button to save any changes made.

Network Settings
DHCP Server Settings

DHCP stands for Dynamic Host Control Protocol. The DHP-1565 has a built-in DHCP server. The DHCP Server will automatically assign an IP address to the computers on the LAN/private network. Be sure to set your computers to be DHCP clients by setting their TCP/IP settings to "Obtain an IP Address Automatically." When you turn your computers on, they will automatically load the proper TCP/IP settings provided by the DHP-1565. The DHCP Server will automatically allocate an unused IP address from the IP address pool to the requesting computer. You must specify the starting and ending address of the IP address pool.

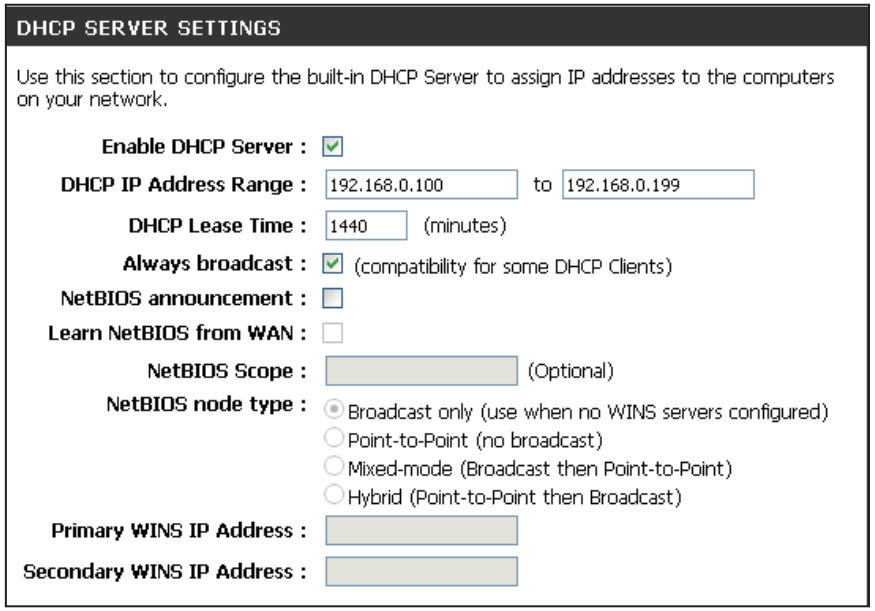
Enable DHCP Server: Check this box to enable the DHCP server on your router. Uncheck to disable this function.

DHCP IP Address Range: Enter the starting and ending IP addresses for the DHCP server's IP assignment.

Note: *If you statically (manually) assign IP addresses to your computers or devices, make sure the IP addresses are outside of this range or you may have an IP conflict.*

DHCP Lease Time: The length of time for the IP address lease. Enter the Lease time in minutes.

Learn NetBIOS WAN: If NetBIOS advertisement is switched on, switching this setting on causes WINS information to be learned from the WAN side, if available. Turn this setting off to configure manually.



NetBIOS scope: This is an advance setting and is normally left blank. This allows the configuration of NetBIOS domain name under which network hosts operate. This setting has no effect if the " Learn NetBIOS information form WAN is activated.

When you have finished configuring the new DHCP Server Settings, click the **Save Settings** button at the top or bottom of the window.

Network Settings
DHCP Reservation

If you want a computer or device to always have the same IP address assigned, you can create a DHCP reservation. The router will assign the IP address only to that computer or device.

Note: *This IP address must be within the DHCP IP Address Range.*

Enable: Check this box to enable the reservation.

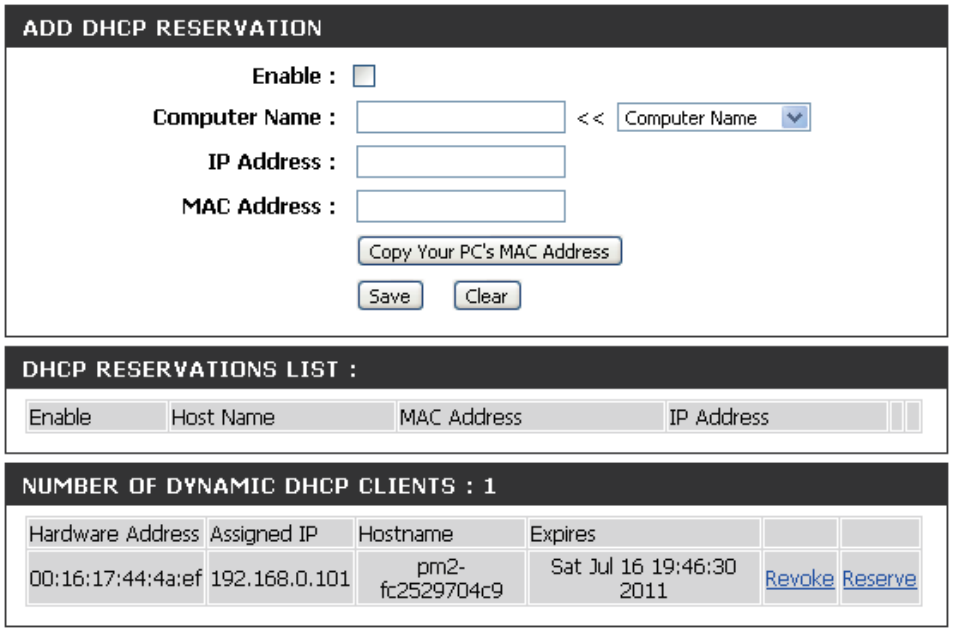
Computer Name: Enter the computer name. Alternatively, select a computer that currently has a DHCP lease from the drop down menu and click << to automatically populate the C**omputer Name**, **IP Address**, and **MAC Address** fields.

IP Address: Enter the IP address you want to assign to the computer or device. This IP Address must be within the DHCP IP Address Range.

MAC Address: Enter the MAC address of the computer or device.

Copy Your PC's MAC Address: If you want to assign an IP address to the computer you are currently on, click this button to populate the fields.

Save: Click **Save** to save your entry. You must click **Save Settings** at the top to activate your reservations.



Dynamic DHCP Clients: In this section you can see what LAN devices are currently leasing IP addresses.

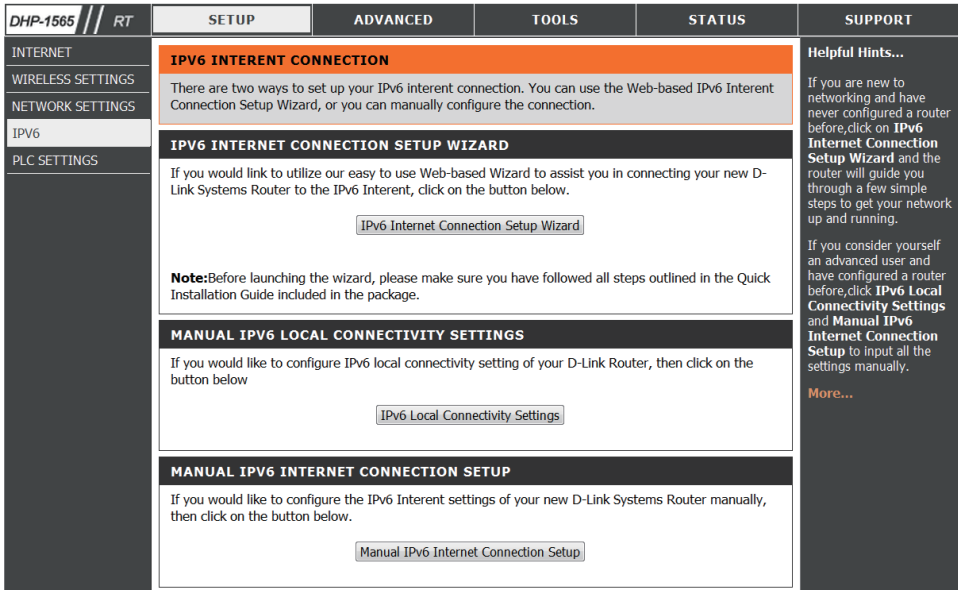
When you have finished configuring the new DHCP Reservation, click the **Save Settings** button at the top or bottom of the window to activate your reservations.

IPv6

On this page, the user can configure the IPv6 Connection type. There are two ways to set up the IPv6 Internet connection. You can use the Webbased IPv6 Internet Connection Setup Wizard, or you can manually configure the connection.

IPv6 Internet Connection Setup Wizard
For the beginner user that has not configured a router before, click on the **IPv6 Internet Connection Setup Wizard** button and the router will guide you through a few simple steps to get your network up and running.

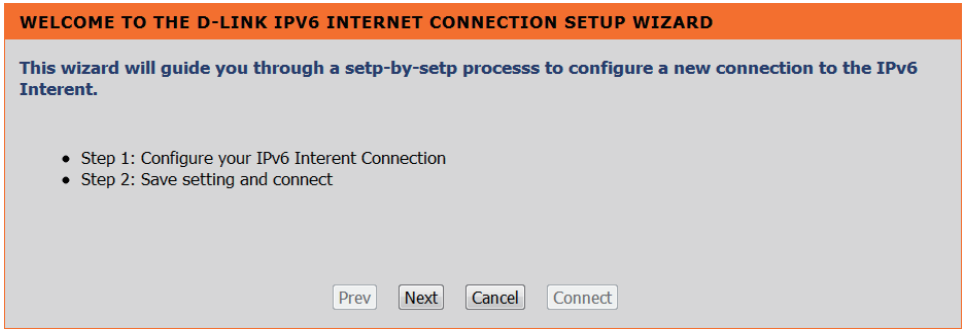
Manual IPv6 Internet Connection Option
For the advanced user that has configured a router before, click on the **Manual IPv6 Internet Connection Setup** button to input all the settings manually.



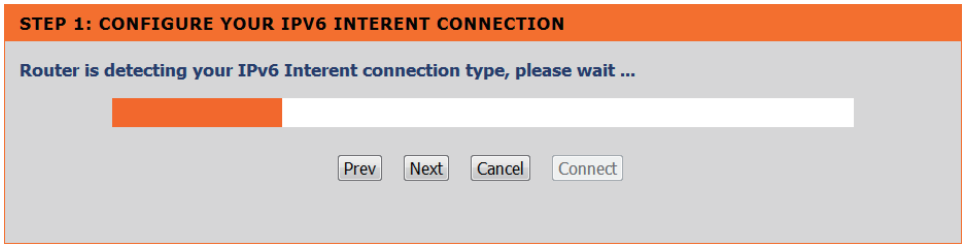
Click the **IPv6 Internet Connection Setup Wizard** button and the router will guide you through a few simple steps to get your network up and running.

Welcome to the D-Link IPv6 Internet Connection Setup Wizard
This wizard will guide you through a step-by-step process to configure your newD-Link router and connect to the IPv6 Internet.

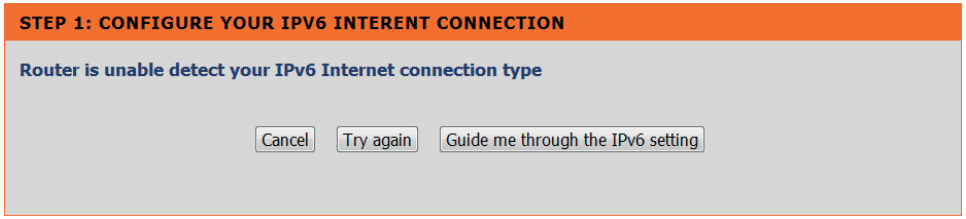
Click **Next** to continue to the next page. Click **Cancel** to discard the changes made and return to the main page.



The router will try to detect whether its possible to obtain the IPv6 Internet connection type automatically. If this succeeds then the user will be guided through the input of the appropriate parameters for the connection type found.



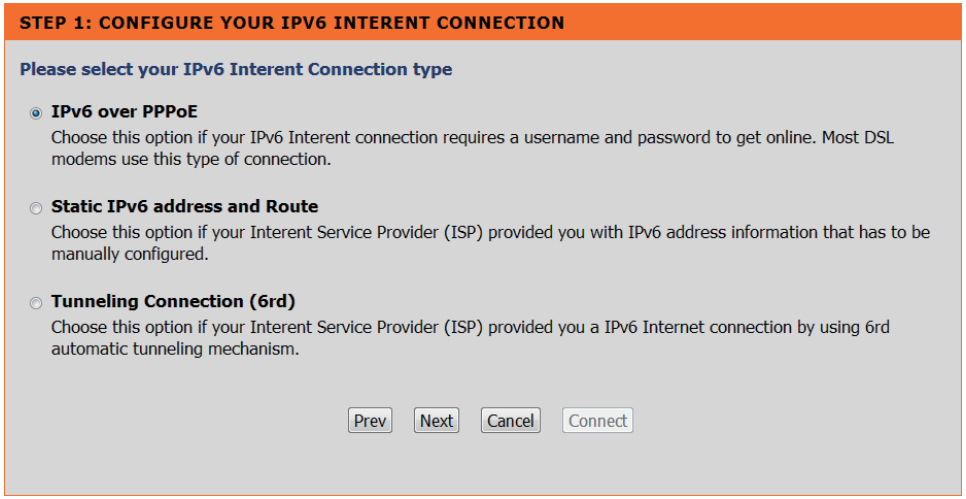
However, if the automatic detection fails, the user will be prompt to either Try again or to click on the **Guide me through the IPv6 settings** button to initiate the manual continual of the wizard.



There are several connection types to choose from. If you are unsure of your connection method, please contact your IPv6 Internet Service Provider.

Note: If using the PPPoE option, you will need to ensure that any PPPoE client software on your computers has been removed or disabled. The 3 options available on this page are **IPv6 over PPPoE, Static IPv6 address and Route, and Tunneling Connection.**

Choose the required IPv6 Internet Connection type and click on the **Next** button to continue. Click on the Prev button to return to the previous page. Click on the **Cancel** button to discard all the changes made and return to the main page.



IPv6
IPv6 over PPPoE

After selecting the IPv6 over PPPoE option, the user will be able to configure the IPv6 Internet connection that requires a username and password to get online. Most DSL modems use this type of connection. The following parameters will be available for configuration:

PPPoE Session: Select the PPPoE Session value used here. This option will state that this connection shares it's information with the already configured IPv6 PPPoE connection, or the user can create a new PPPoE connection here.

Username: Enter the PPPoE username used here. If you do not know your user name, please contact your ISP.

Password: Enter the PPPoE password used here. If you do not know your password, please contact your ISP.

Verify Password: Re-enter the PPPoE password used here.

Service Name: Enter the service name for this connection here. This option is optional.

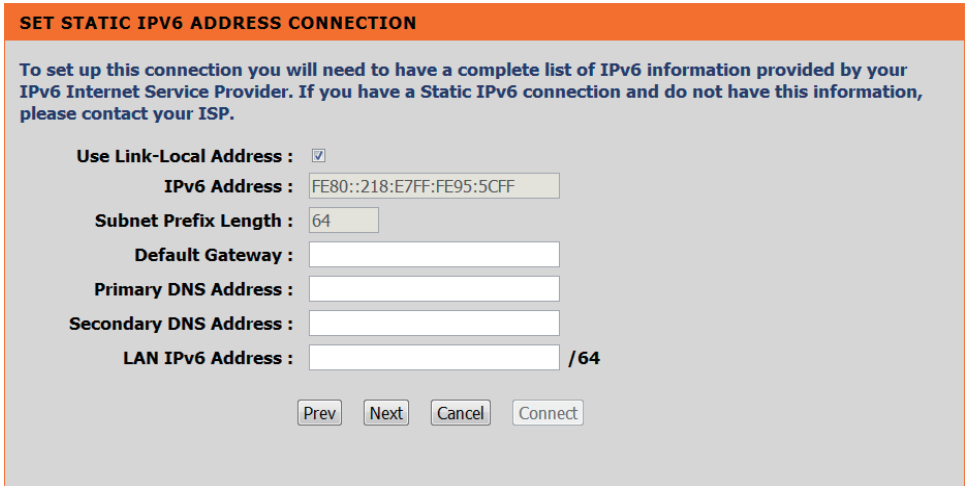
Click on the **Next** button to continue. Click on the **Prev** button to return to the previous page.

Click on the **Cancel** button to discard all the changes made and return to the main page.

IPv6

Static IPv6

This mode is used when your ISP provides you with a set IPv6 addresses that does not change. The IPv6 information is manually entered in your IPv6 configuration settings. You must enter the IPv6 address, Subnet Prefix Length, Default Gateway, Primary DNS Server, and Secondary DNS Server. Your ISP provides you with all this information.



Use Link-Local Address: The Link-local address is used by nodes and routers when communicating with neighboring nodes on the same link. This mode enables IPv6- capable devices to communicate with each other on the LAN side.

IPv6 Address: Enter the WAN IPv6 address for the router here.

Subnet Prefix Length: Enter the WAN subnet prefix length value used here.

Default Gateway: Enter the WAN default gateway IPv6 address used here.

Primary IPv6 DNS Address: Enter the WAN primary DNS Server address used here.

Secondary IPv6 DNS Address: Enter the WAN secondary DNS Server address used here.

LAN IPv6 Address: These are the settings of the LAN (Local Area Network) IPv6 interface for the router. The router's LAN IPv6 Address configuration is based on the IPv6 Address and Subnet assigned by your ISP. (A subnet with prefix /64 is supported in LAN.)

Click on the **Next** button to continue. Click on the **Prev** button to return to the previous page.

Click on the **Cancel** button to discard all the changes made and return to the main page.

IPv6
Tunneling Connection (6rd)

After selecting the Tunneling Connection (6rd) option, the user can configure the IPv6 6rd connection settings.

The following parameters will be available for configuration:

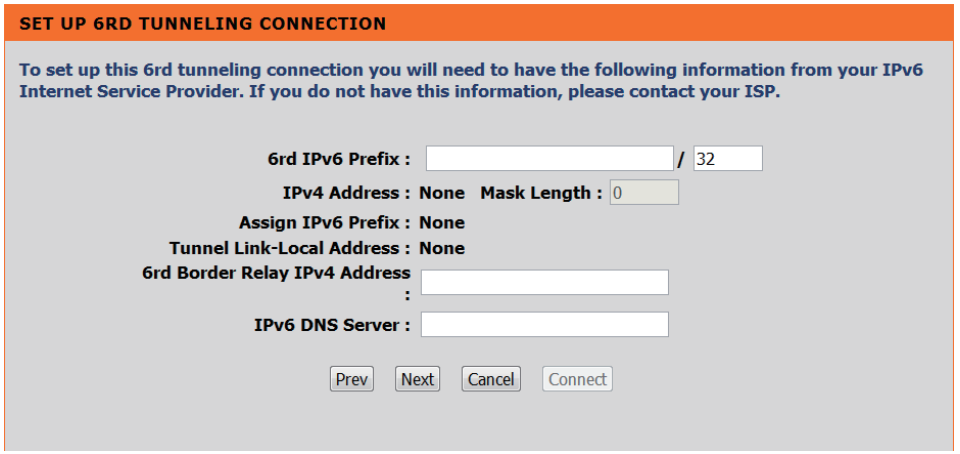
6rd IPv6 Prefix: Enter the 6rd IPv6 address and prefix value used here.

IPv4 Address: Enter the IPv4 address used here.

Assigned IPv6 Prefix: Displays the IPv6 assigned prefix value here.

6rd Border Relay IPv4 Address: Enter the 6rd border relay IPv4 address used here.

IPv6 DNS Server: Enter the primary DNS Server address used here.

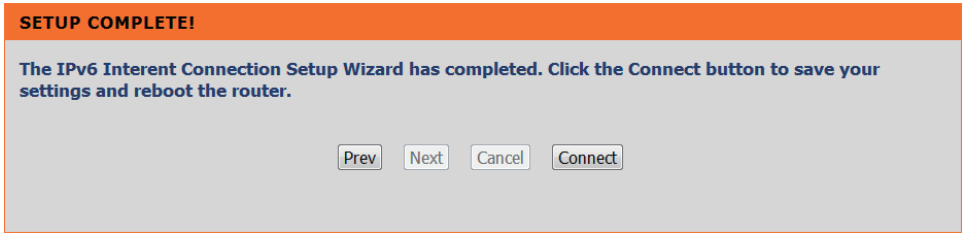


Click on the **Next** button to continue. Click on the **Prev** button to return to the previous page.

Click on the **Cancel** button to discard all the changes made and return to the main page.

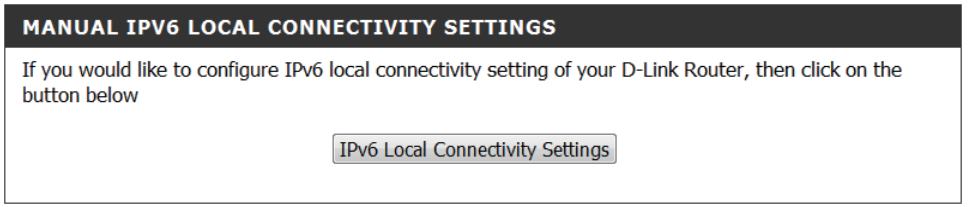
The IPv6 Internet Connection Setup Wizard was completed.
Click on the Connect button to continue. Click on the **Prev** button to return to the previous page.

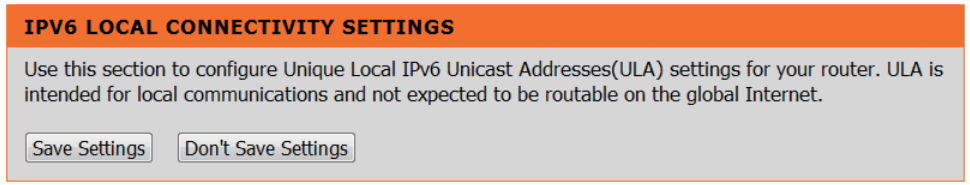
Click on the **Cancel** button to discard all the changes made and return to the main page.

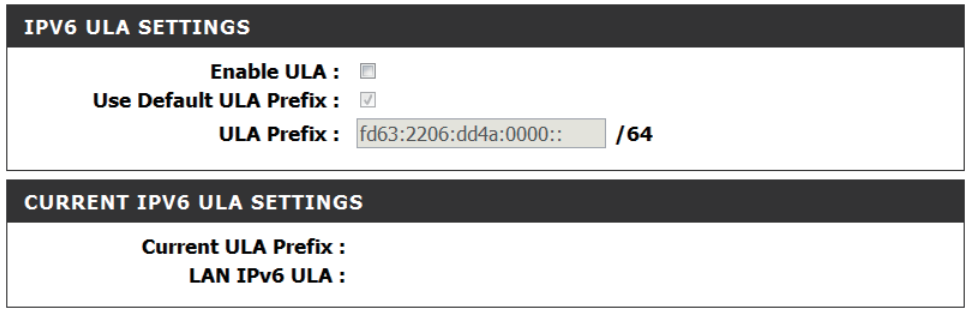


IPv6
Link-local Only

Select **Link-local Only** from the **My IPv6 Connection is** drop-down menu if your Router will use the IPv6 link local method to connect to the Internet.







LAN IPv6 Address Settings: Displays the LAN IPv6 Link-Local address of the router.

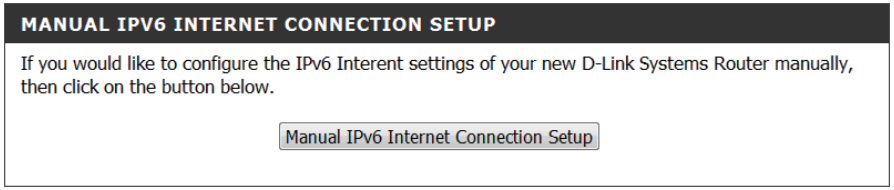
Click the **Save Settings** button to save any changes made.

IPv6 Manual Setup

There are several connection types to choose from: Auto Detection, Static IPv6, Autoconfiguration (SLAAC/DHCPv6), PPPoE, IPv6 in IPv4 Tunnel, 6to4, 6rd, and Link-local. If you are unsure of your connection method, please contact your IPv6 Internet Service Provider.

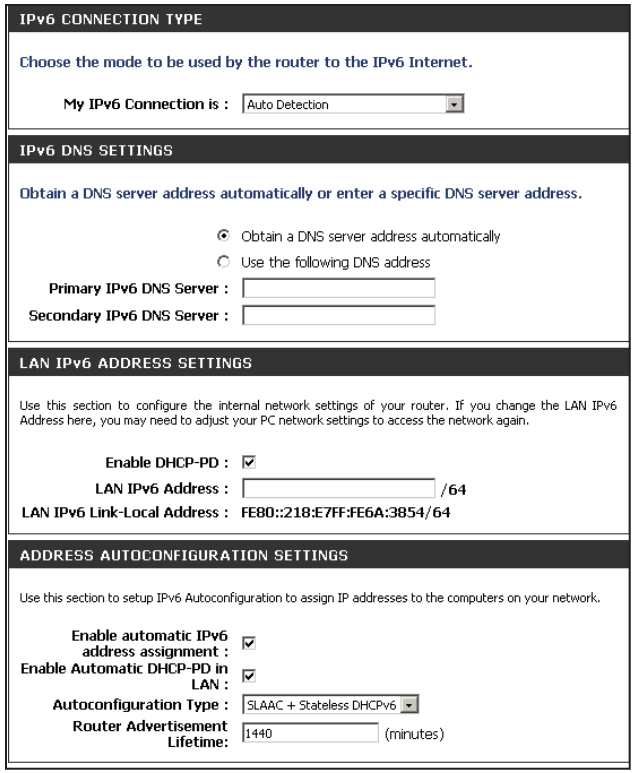
Note: If using the PPPoE option, you will need to ensure that any PPPoE client software on your computers has been removed or disabled.

Click **Manual IPv6 Internet Connection** Setup to begin.



Auto Detection

Select **Auto Detection** to have the router detect and automatically configure your IPv6 setting from your ISP.



Static IPv6

My IPv6 Connection: Select **Static IPv6** from the drop-down menu.

WAN IPv6 Address Settings: Enter the address settings supplied by your Internet provider (ISP).

LAN IPv6 Address: Enter the LAN (local) IPv6 address for the router.

LAN Link-Local Address: Displays the Router's LAN Link-Local Address.

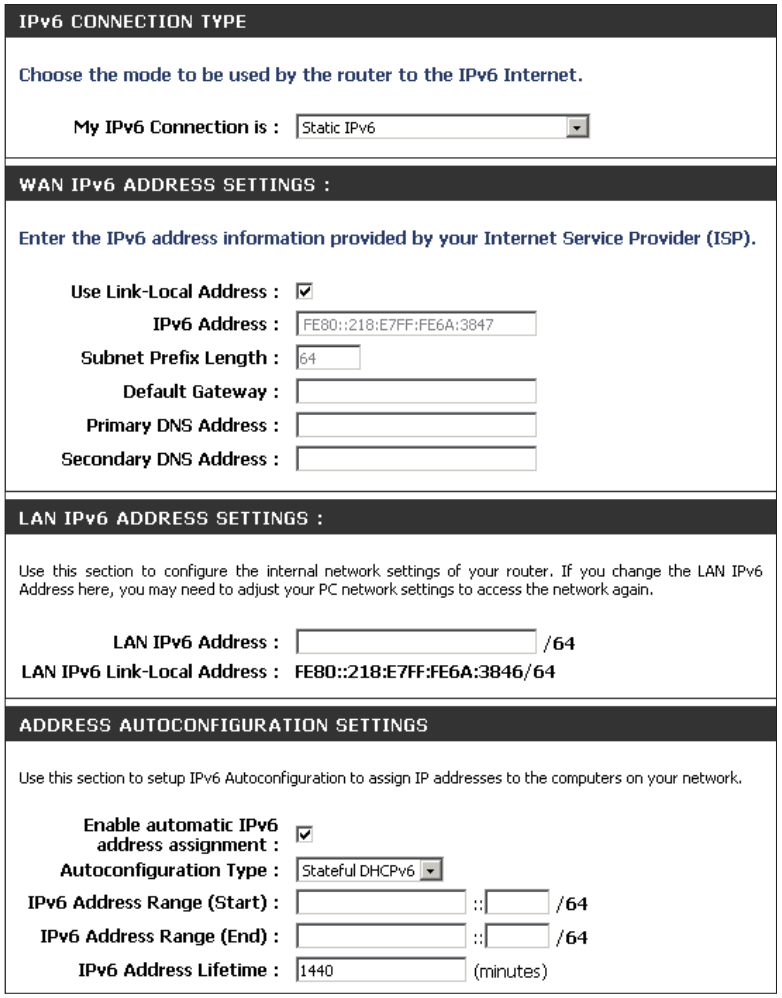
Enable Autoconfiguration: Check to enable the Autoconfiguration feature.

Autoconfiguration Type: Select **Stateful (DHCPv6)**, **SLAAC + RDNSS** or **SLAAC + Stateless DHCPv6**.

IPv6 Address Range Start: Enter the start IPv6 Address for the DHCPv6 range for your local computers.

IPv6 Address Range End: Enter the end IPv6 Address for the DHCPv6 range for your local computers.

IPv6 Address Lifetime: Enter the IPv6 Address Lifetime (in minutes).



Autoconfiguration

My IPv6 Connection: Select **Autoconfiguration (Stateless/DHCPv6)** from the drop-down menu.

IPv6 DNS Settings: Select either **Obtain DNS server address automatically** or **Use the following DNS Address**.

Primary/Secondary DNS Address: Enter the primary and secondary DNS server addresses.

LAN IPv6 Address: Enter the LAN (local) IPv6 address for the router.

LAN Link-Local Address: Displays the Router's LAN Link-Local Address.

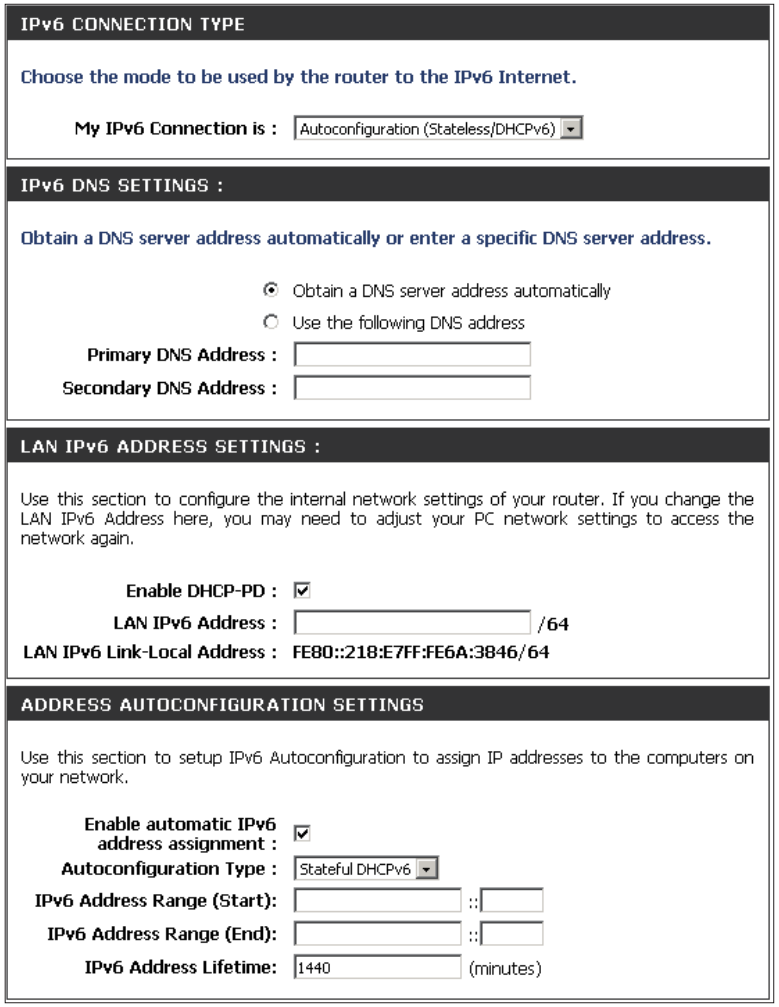
Enable Autoconfiguration: Check to enable the Autoconfiguration feature.

Autoconfiguration Type: Select **Stateful (DHCPv6)**, **SLAAC + RDNSS** or **SLAAC + Stateless DHCPv6**.

IPv6 Address Range Start: Enter the start IPv6 Address for the DHCPv6 range for your local computers.

IPv6 Address Range End: Enter the end IPv6 Address for the DHCPv6 range for your local computers.

IPv6 Address Lifetime: Enter the IPv6 Address Lifetime (in minutes).



PPPoE

My IPv6 Connection: Select **PPPoE** from the drop-down menu.

PPPoE: Enter the PPPoE account settings supplied by your Internet provider (ISP).

Address Mode: Select **Static** if your ISP assigned you the IP address, subnet mask, gateway, and DNS server addresses. In most cases, select **Dynamic**.

IP Address: Enter the IP address (Static PPPoE only).

User Name: Enter your PPPoE user name.

Password: Enter your PPPoE password and then retype the password in the next box.

Service Name: Enter the ISP Service Name (optional).

Reconnection Mode: Select either **Always-on**, **On-Demand**, or **Manual**.

Maximum Idle Time: Enter a maximum idle time during which the Internet connection is maintained during inactivity. To disable this feature, enable Auto-reconnect.

MTU: Maximum Transmission Unit - you may need to change the MTU for optimal performance with your specific ISP. 1492 is the default MTU.

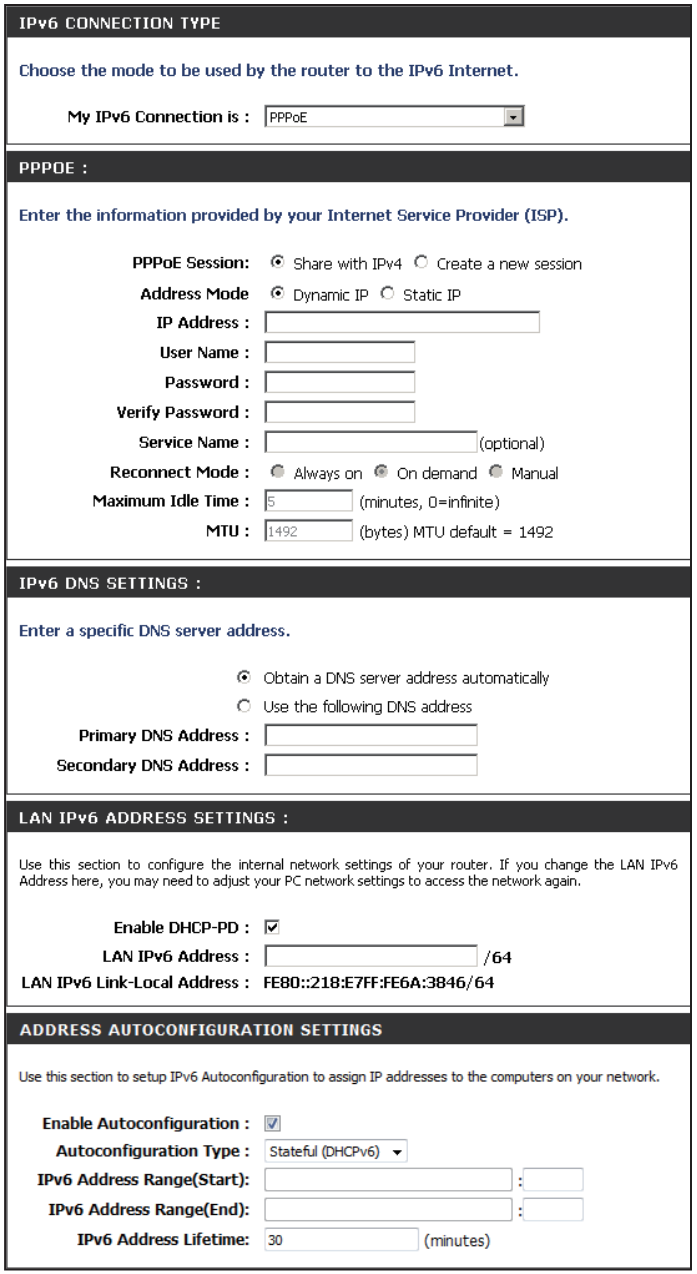
IPv6 DNS Settings: Select either **Obtain DNS server address automatically** or **Use the following DNS Address**.

Primary/Secondary DNS Address: Enter the primary and secondary DNS server addresses.

LAN IPv6 Address: Enter the LAN (local) IPv6 address for the router.

LAN Link-Local Address: Displays the Router's LAN Link-Local Address.

Enable Autoconfiguration: Check to enable the Autoconfiguration feature.



Autoconfiguration Type: Select **Stateful (DHCPv6)**, **SLAAC + RDNSS** or **SLAAC + Stateless DHCPv6**.

IPv6 Address Range Start: Enter the start IPv6 Address for the DHCPv6 range for your local computers.

IPv6 Address Range End: Enter the end IPv6 Address for the DHCPv6 range for your local computers.

IPv6 Address Lifetime: Enter the IPv6 Address Lifetime (in minutes).

IPv6 in IPv4 Tunneling

My IPv6 Connection: Select **IPv6 in IPv4 Tunnel** from the drop-down menu.

IPv6 in IPv4 Tunnel Settings: Enter the settings supplied by your Internet provider (ISP).

LAN IPv6 Address: Enter the LAN (local) IPv6 address for the router.

LAN Link-Local Address: Displays the Router's LAN Link-Local Address.

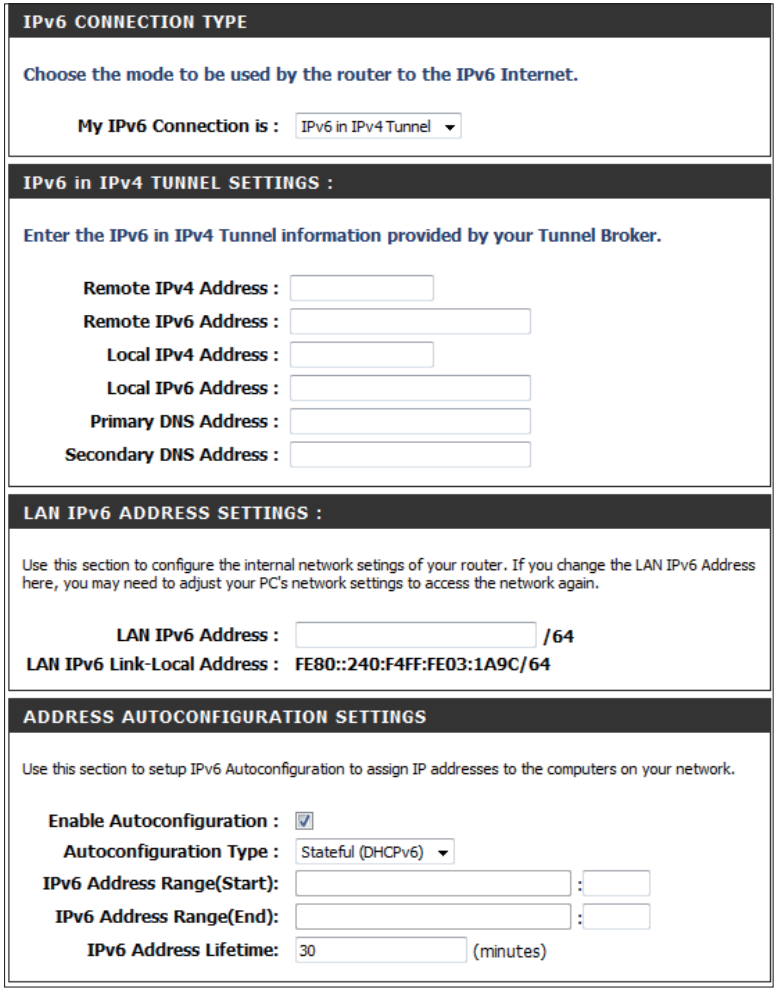
Enable Autoconfiguration: Check to enable the Autoconfiguration feature.

Autoconfiguration Type: Select **Stateful (DHCPv6)**, **SLAAC + RDNSS** or **SLAAC + Stateless DHCPv6**.

IPv6 Address Range Start: Enter the start IPv6 Address for the DHCPv6 range for your local computers.

IPv6 Address Range End: Enter the end IPv6 Address for the DHCPv6 range for your local computers.

Pv6 Address Lifetime: Enter the Router Advertisement Lifetime (in minutes).



6 to 4 Tunneling

My IPv6 Connection: Select **6 to 4** from the drop-down menu.

6 to 4 Settings: Enter the IPv6 settings supplied by your Internet provider (ISP).

Primary/Secondary DNS Address: Enter the primary and secondary DNS server addresses.

LAN IPv6 Address: Enter the LAN (local) IPv6 address for the router.

LAN Link-Local Address: Displays the Router's LAN Link-Local Address.

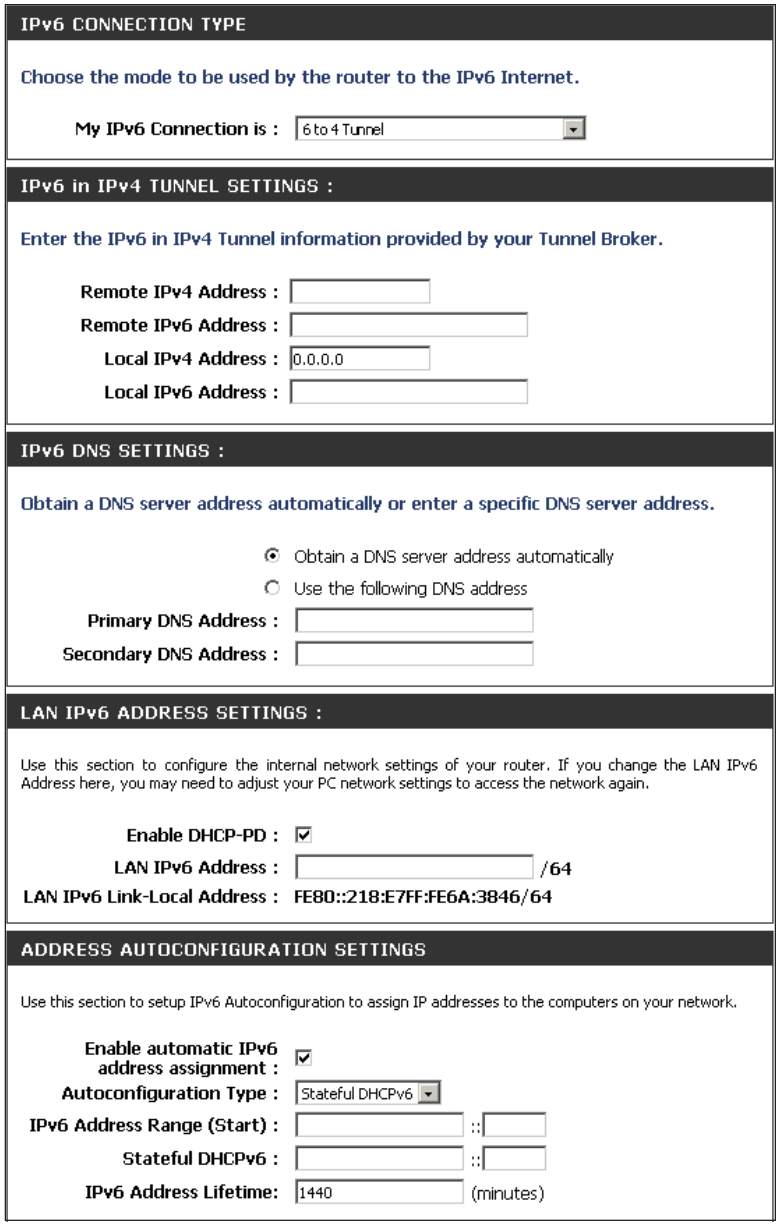
Enable Autoconfiguration: Check to enable the Autoconfiguration feature.

Autoconfiguration Type: Select **Stateful (DHCPv6)**, **SLAAC + RDNSS** or **SLAAC + Stateless DHCPv6**.

IPv6 Address Range Start: Enter the start IPv6 Address for the DHCPv6 range for your local computers.

IPv6 Address Range End: Enter the end IPv6 Address for the DHCPv6 range for your local computers.

IPv6 Address Lifetime: Enter the IPv6 Address Lifetime (in minutes).



6rd

My IPv6 Connection: Select **6rd** from the drop-down menu.

6RD Settings: Enter the address settings supplied by your Internet provider (ISP).

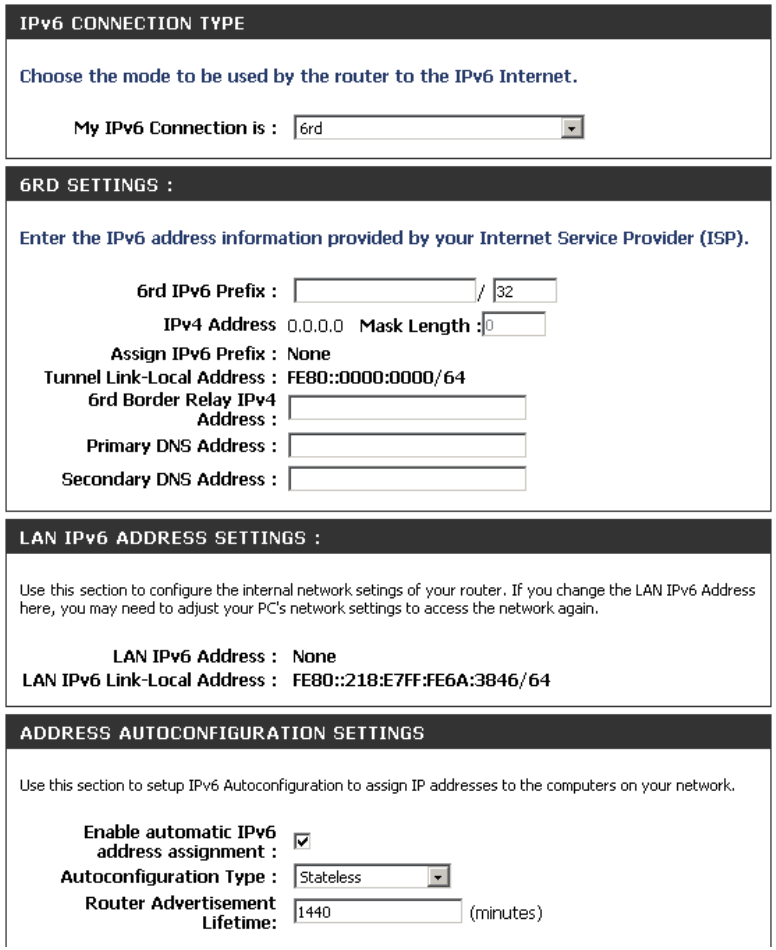
LAN IPv6 Address: Enter the LAN (local) IPv6 address for the router.

LAN Link-Local Address: Displays the Router's LAN Link-Local Address.

Enable Autoconfiguration: Check to enable the Autoconfiguration feature.

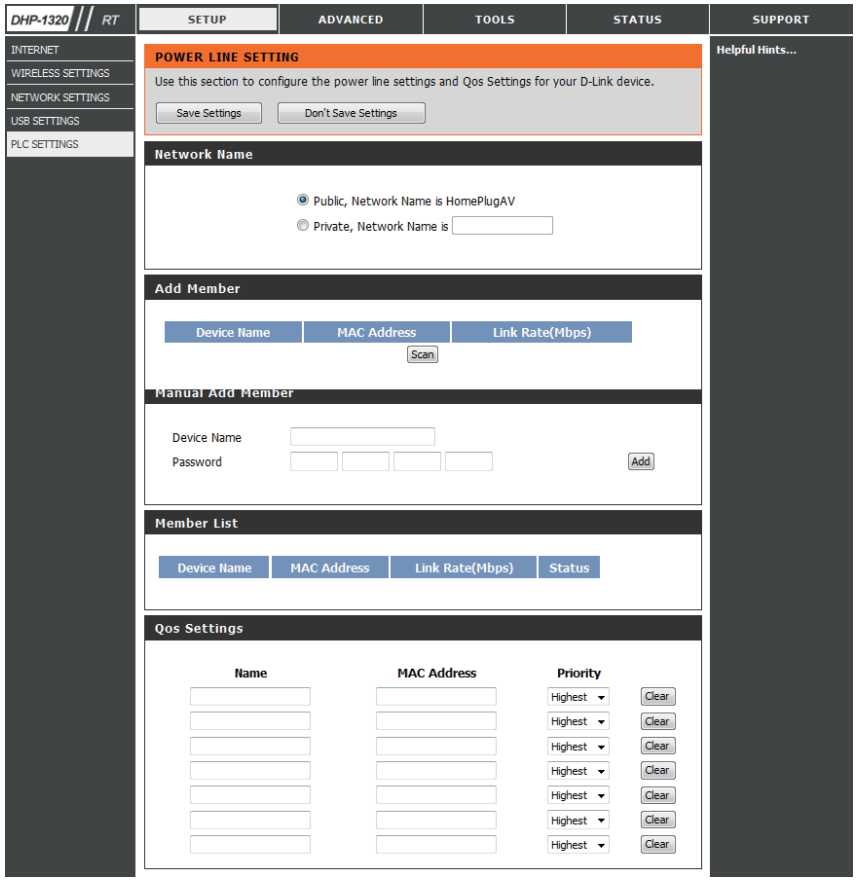
Autoconfiguration Type: Select **Stateful (DHCPv6), SLAAC+RDNSS or SLAAC + Stateless DHCPv6.**

Router Advertisement Lifetime: Enter the Router Advertisement Lifetime (in minutes).



PLC Settings (Router Mode)

This section will show you how to configure your new D-Link PowerLine AV using the web-based configuration utility.



Network Name: You can set the name of your network and to make it either public or private. Make sure the Network Name of all of the devices within your PowerLine network is the same.

Public Network Name: Select this option if you would like to make your powerline network public with the default Network Name of "HomePlugAV". Since this is a commonly used Network Name, it is less secure than a private Network Name.

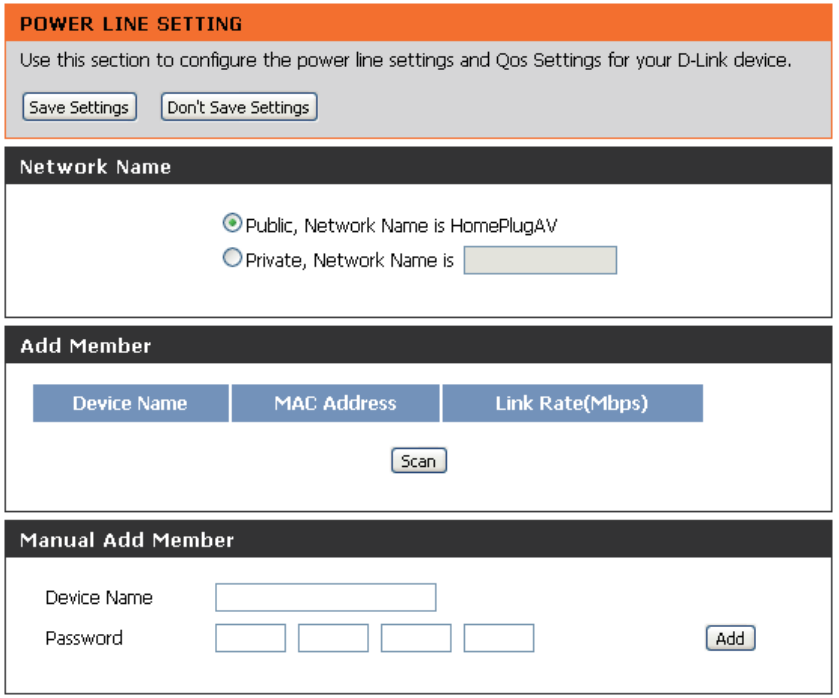
Private Network Name: Select this option if you wish to make your powerline network more secure by using a private Network Name. Type the name of your private PowerLine network in the field.

Scan: Scan for new PowerLine devices.

Add Member: This section lets you add new PowerLine AV devices to your PowerLine network. To add a new device, give it a Device Name and enter its Password, then click Add. When you add a device it is given the current Network Name.

Device Name: Type a name you wish to use to identify a specific PowerLine AV device. For example, "Jack's room".

Password: The Password is used to verify that you are authorized to perform changes on a device. You can find the Password printed on the back of your device.



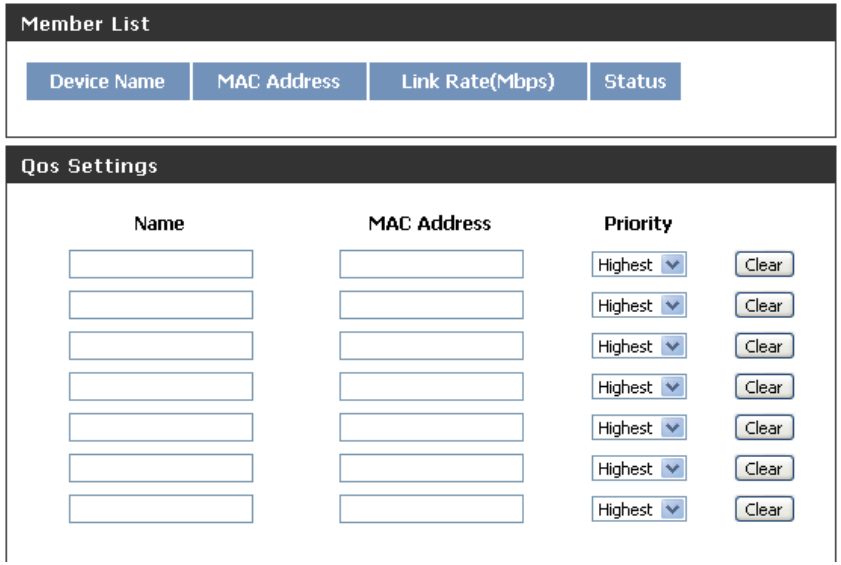
Member List: This section provides information on the PowerLine AV devices in your PowerLine network, or any devices that were previously connected but it are currently disconnected.

Link Rate: Displays the device's current data rate in Mbps.

Status: This field shows the status of the device. If the field displays the word Connect, then the device is connected to your PowerLine network. If the field displays the word Disconnect, then the device has been added to the network but it is not ready. Please check its password and make sure the device is powered on.

Qos Settings: You can configure your PowerLine AV devices to give priority to powerline network traffic accordingly. Enter the name, MAC Address, and priority level.

Mac Address: You can find the MAC address printed on the back of your device.



Advanced

Virtual Server

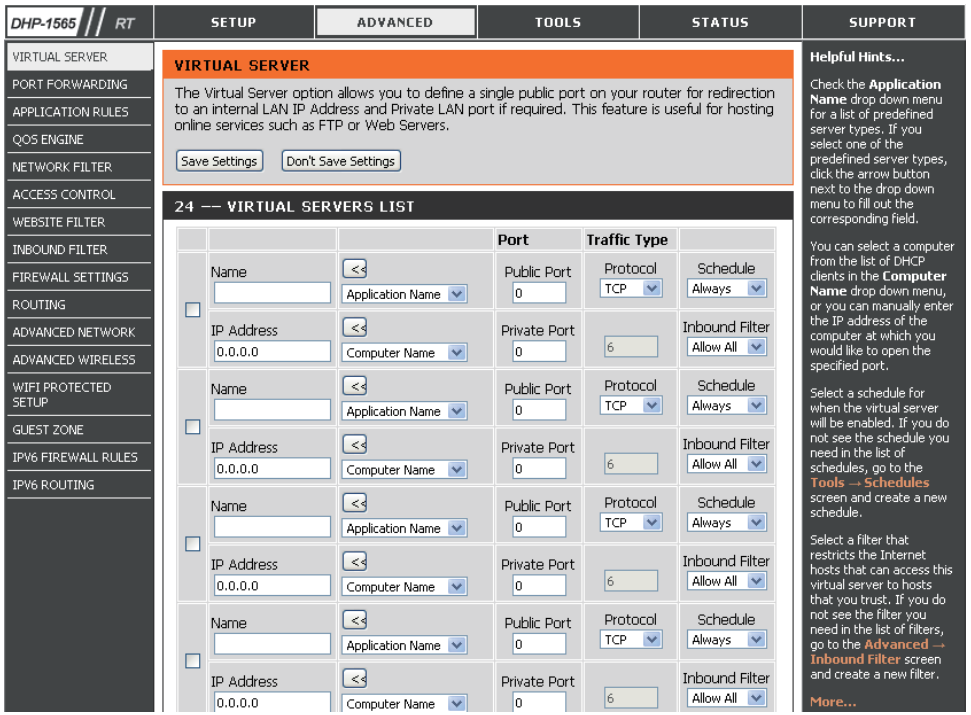
The DHP-1565 can be configured as a virtual server so that remote users accessing Web or FTP services via the public IP address can be automatically redirected to local servers in the LAN (Local Area Network).

The DHP-1565 firewall feature filters out unrecognized packets to protect your LAN network so all computers networked with the DHP-1565 are invisible to the outside world. If you wish, you can make some of the LAN computers accessible from the Internet by enabling Virtual Server. Depending on the requested service, the DHP-1565 redirects the external service request to the appropriate server within the LAN network.

The DHP-1565 is also capable of port-redirection, meaning that incoming traffic to a particular port may be redirected to a different port on the server computer.

For a list of ports for common applications, please visit **http://support.dlink.com/faq**.

The Virtual Server window allows you to open a single port. If you would like to open a range of ports, refer to the next page.



Enable Checkbox: Check the box on the left side to enable the Virtual Server rule.

Name: Enter a name for the rule or select an application from the drop-down menu. Select an application and click << to populate the fields.

IP Address: Enter the IP address of the computer on your local network that you want to allow the incoming service to. If your computer is receiving an IP address automatically from the router (DHCP), you computer will be listed in the **Computer Name** drop-down menu. Select your computer and click <<.

Public Port/ Private Port: Enter the port that you want to open next to Public Port and Private Port. The public and private ports are usually the same. The public port is the port seen from the Internet side, and the private port is the port being used by the application on the computer within your local network.

Traffic Type: Select **TCP**, **UDP**, **Both or other** from the **Protocol** drop-down menu.

Schedule Drop-Down Menu: Use the drop-down menu to schedule the time that the Virtual Server Rule will be enabled. The schedule may be set to Always, which will allow the particular service to always be enabled. You can create your own times in the **Tools** > **Schedules** section.

Inbound Filter: Select **Allow All** (most common) or a created Inbound filter. You may create your own inbound filters in the **Advanced > Inbound Filter** page.

Click the **Save Settings** button to save any changes made.

Port Forwarding

This will allow you to open a single port or a range of ports.

Enable Checkbox: Tick the checkbox on the left side to enable the Port Forwarding rule.

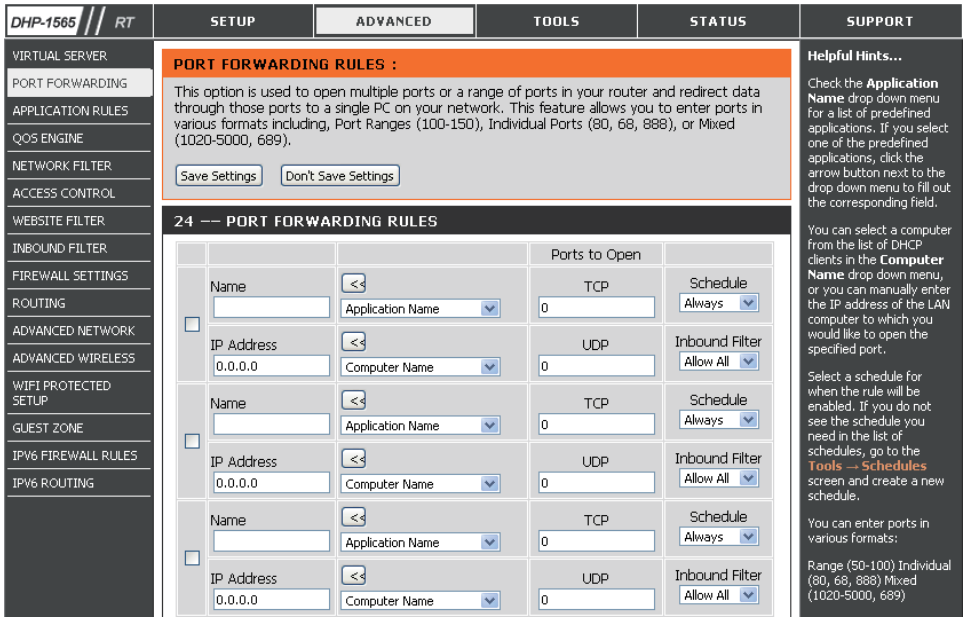
Name: Enter a name for the rule or select an application from the drop-down menu. Select an application and click << to populate the fields.

IP Address: Enter the IP address of the computer on your local network that you want to allow the incoming service to. If your computer is receiving an IP address automatically from the router (DHCP), you computer will be listed in the **Computer Name** drop-down menu. Select your computer and click <<.

TCP Port/ UDP Port: Enter the port that you want to open next to TCP Port and UDP Port.

Schedule: Use the drop-down menu to schedule the time that the Port Forwarding rule will be enabled. The schedule may be set to Always, which will allow the particular service to always be enabled. You can create your own times in the **Tools** > **Schedules** section.

Inbound Filter: Select **Allow All** (most common) or a created Inbound filter. You may create your own inbound filters in the **Advanced > Inbound Filter** page.



Click the **Save Settings** button to save any changes made.

Application Rules

Some applications require multiple connections, such as Internet gaming, video conferencing, Internet telephony and others. These applications have difficulties working through NAT (Network Address Translation). Special Applications makes some of these applications work with the DHP-1565. If you need to run applications that require multiple connections, specify the port normally associated with an application in the "Trigger Port" field, select the protocol type as TCP or UDP, then enter the firewall (public) ports associated with the trigger port to open them for inbound traffic.

Enable Checkbox: Check the box on the left side to enable the Application Rule.

Name: Enter a name for the rule. You may select a pre-defined application from the **Application** drop-down menu and click <<.

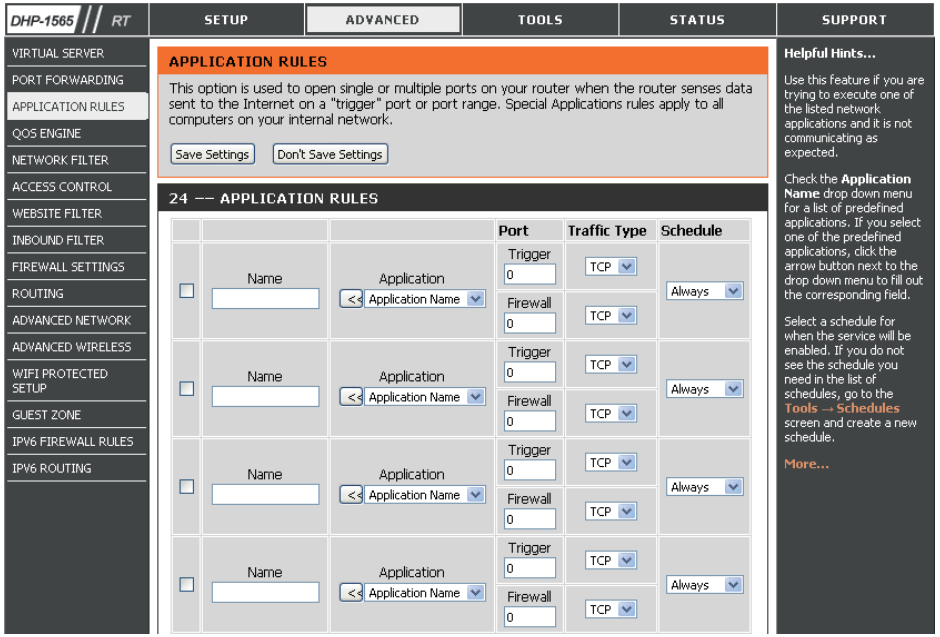
Trigger: This is the port used to trigger the application. It can be either a single port or a range of ports.

Traffic Type: Select the protocol of the trigger port (TCP, UDP, or Any).

Firewall: This is the port number on the Internet side that will be used to access the application. You may define a single port or a range of ports. You can use a comma to add multiple ports or port ranges.

Traffic Type: Select the protocol of the firewall port (TCP or UDP).

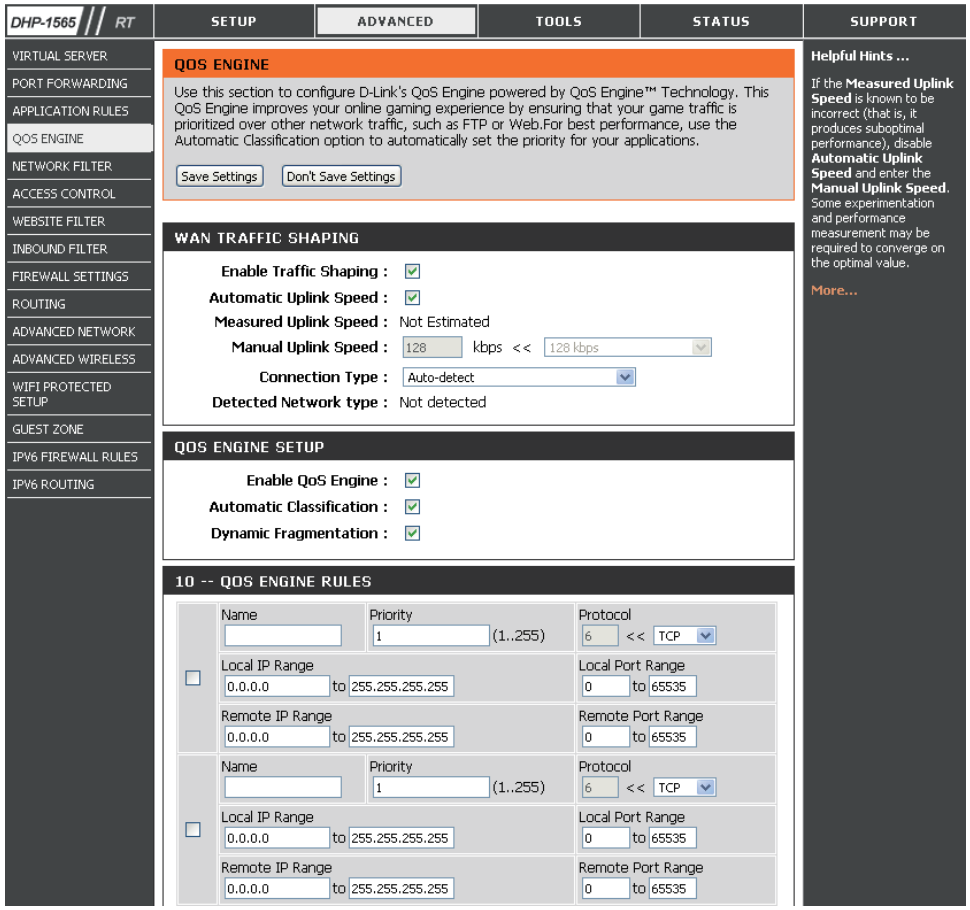
Schedule: The schedule of time when the Application Rule will be enabled. The schedule may be set to Always, which will allow the particular service to always be enabled. You can create your own times in the **Tools** > **Schedules** section.



Click the **Save Settings** button to save any changes made.

QoS Engine

The QoS Engine option helps improve your network gaming performance by prioritizing applications. By default the QoS Engine settings are disabled and application priority is not classified automatically.



Enable Traffic Shaping: This option is disabled by default. Enable this option for better performance and experience with online games and other interactive applications, such as VoIP.

Automatic Uplink Speed: This option is enabled by default when the QoS Engine option is enabled. This option will allow your router to automatically determine the uplink speed of your Internet connection.

Measured Uplink Speed: This displays the detected uplink speed.

Manual Uplink Speed: The speed at which data can be transferred from the router to your ISP. This is determined by your ISP. ISP's often define speed as a download/upload pair. For example, 1.5Mbits/284Kbits. Using this example, you would enter 284. Alternatively you can test your uplink speed with a service such as www.dslreports.com.

Enabled QoS Engine: This option is enabled by default. This will allow your router to automatically determine the network priority of running programs.

Automatic Classification: This option is enabled by default so that your router will automatically determine which programs should have network priority. For best performance, use the Automatic Classification option to automatically set the priority for your applications.

Dynamic Fragmentation: This option should be enabled when you have a slow Internet uplink. It helps to reduce the impact that large low priority network packets can have on more urgent ones.

QoS Engine Rules: A QoS Engine Rule identifies a specific message flow and assigns a priority to that flow. For most applications, automatic classification will be adequate, and specific QoS Engine Rules will not be required.

The QoS Engine supports overlaps between rules, where more than one rule can match for a specific message flow. If more than one rule is found to match the rule with the highest priority will be used.

Name: Create a name for the rule that is meaningful to you.

Priority: The priority of the message flow is entered here -- 1 receives the highest priority (most urgent) and 255 receives the lowest priority (least urgent).

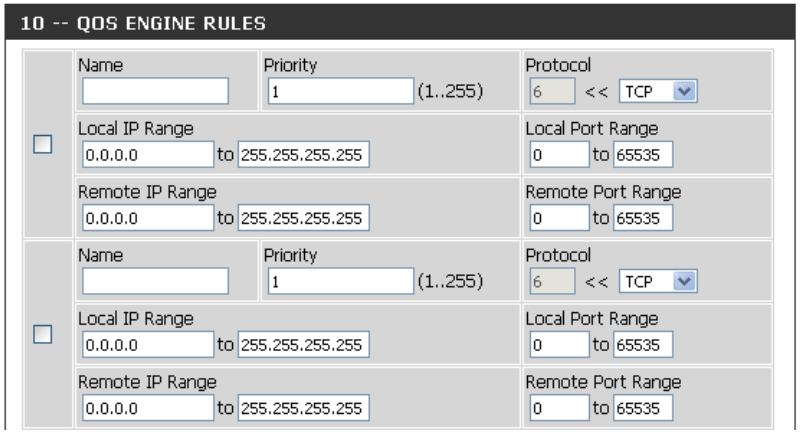
Protocol: The protocol used by the messages.

Local IP Range: The rule applies to a flow of messages whose LAN-side IP address falls within the range set here.

Local Port Range: The rule applies to a flow of messages whose LAN-side port number is within the range set here.

Remote IP Range: The rule applies to a flow of messages whose WAN-side IP address falls within the range set here.

Remote Port Range: The rule applies to a flow of messages whose WAN-side port number is within the range set here.



Network Filter

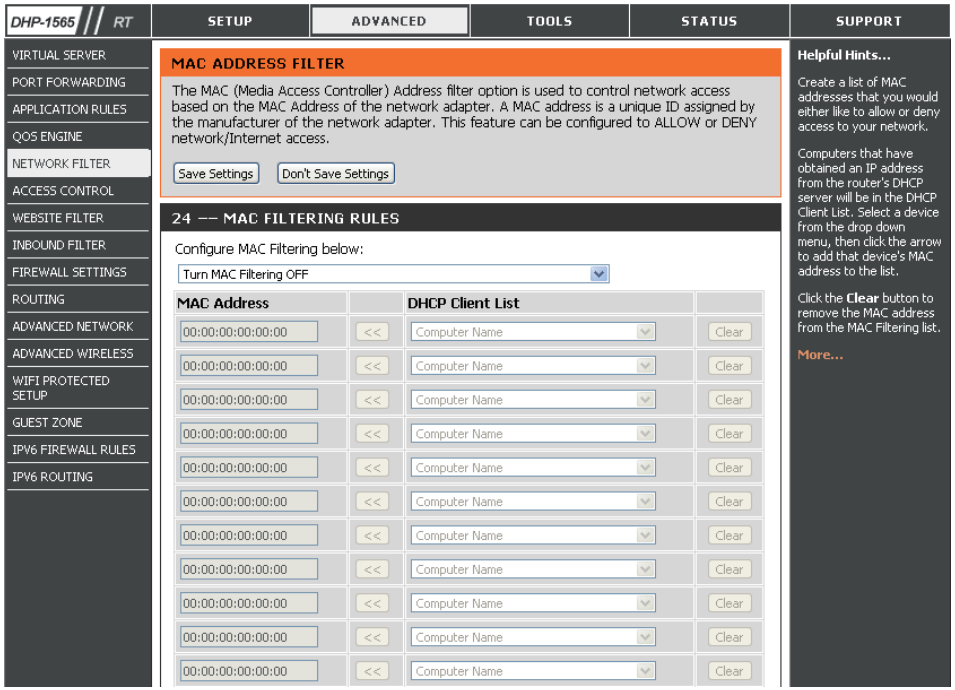
Use MAC (Media Access Control) Filters to allow or deny LAN (Local Area Network) computers by their MAC addresses from accessing the network. You can either manually add a MAC address or select the MAC address from the list of clients that are currently connected to the Broadband Router.

Configure MAC Filtering: Select **Turn MAC Filtering OFF**, **Turn MAC Filtering ON and ALLOW computers listed to access the network**, or **Turn MAC Filtering ON and DENY computers listed to access the network** from the drop-down menu.

MAC Address: Enter the MAC address you would like to filter.

To find the MAC address on a computer, please refer to the *Networking Basics* section in this manual.

DHCP Client List: Select a DHCP client from the **Computer Name** drop down menu and click << to copy that MAC Address.

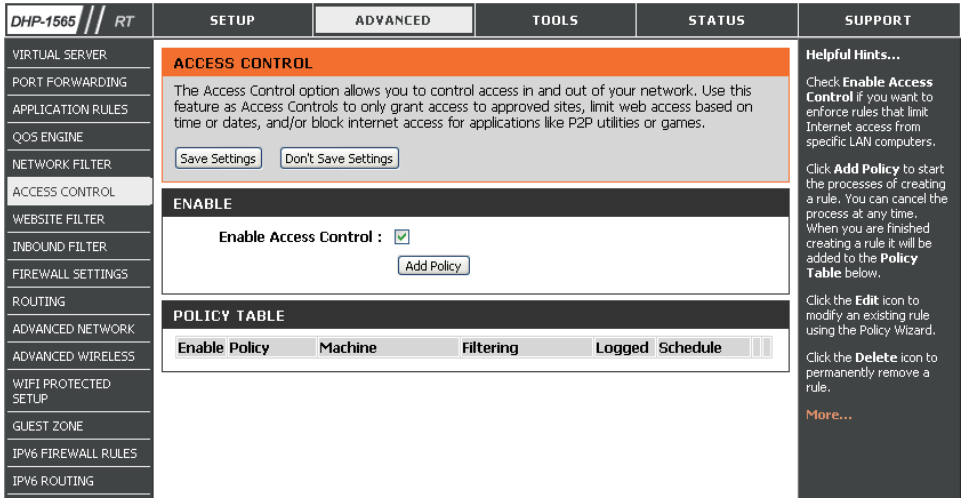


Click the **Save Settings** button to save any changes made.

Access Control

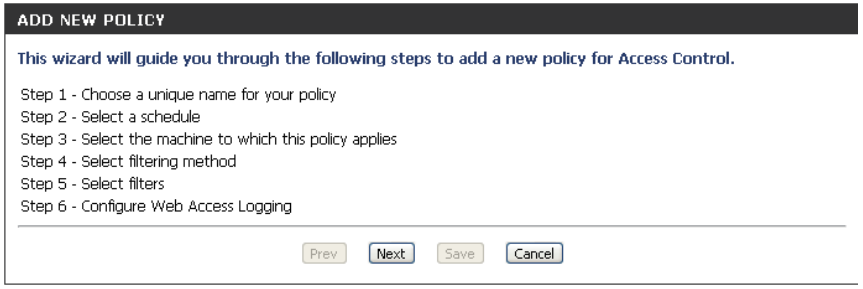
The Access Control section allows you to control access in and out of your network. Use this feature as Parental Controls to only grant access to approved sites, limit web access based on time or dates, and/or block access from applications like P2P utilities or games.

Add Policy: Check the **Enable Access Control** check box and click the **Add Policy** button to start the **Access Control Wizard**.

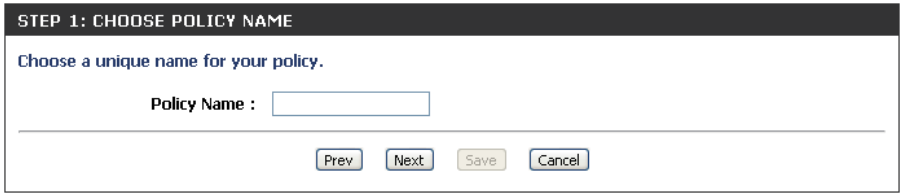


Access Control Wizard

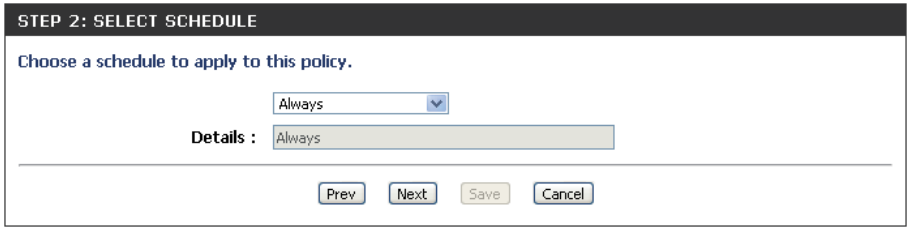
Click **Next** to continue with the wizard.



Enter a name for the policy and then click **Next** to continue.

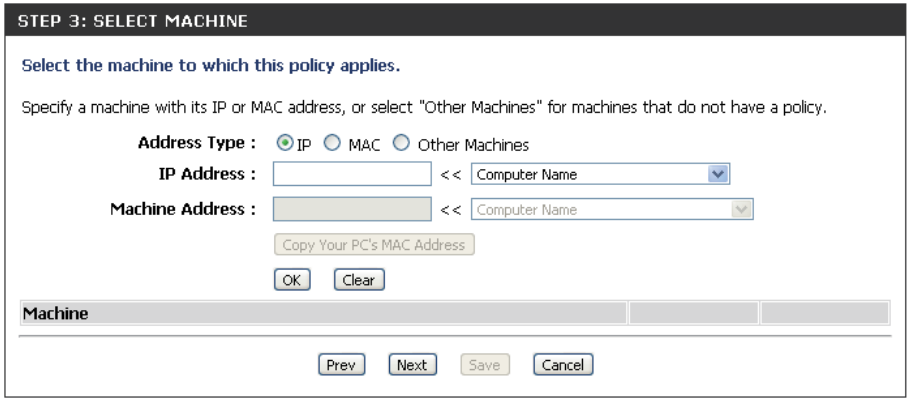


Select a schedule (I.E. Always) from the drop-down menu and then click **Next** to continue.

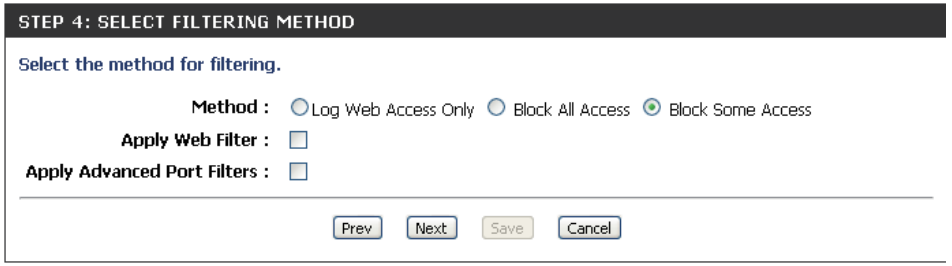


Enter the following information and then click **Next** to continue.

- **Address Type** - Select IP address, MAC address, or Other Machines.
- **IP Address** - Enter the IP address of the computer you want to apply the rule to.

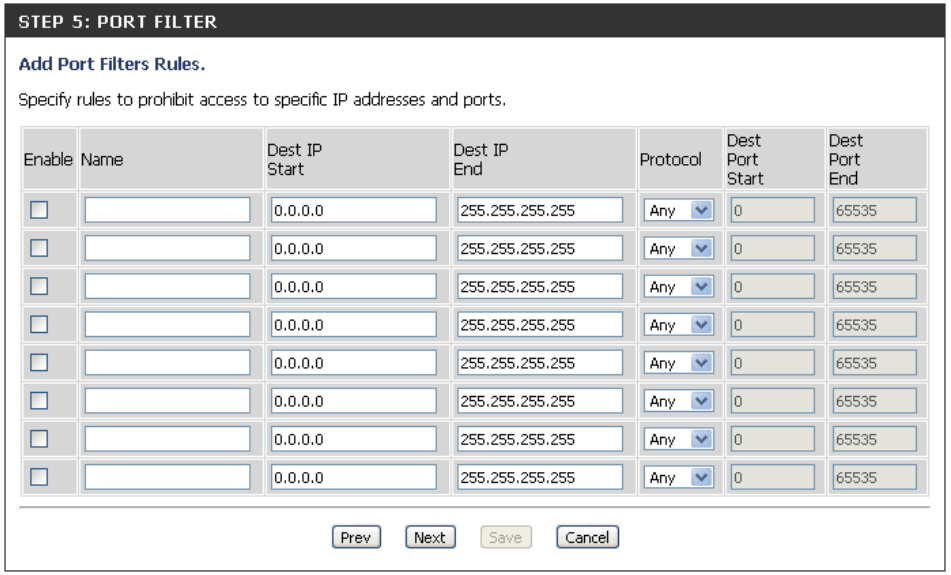


Select the filtering method and then click **Next** to continue.



Enter the rule:

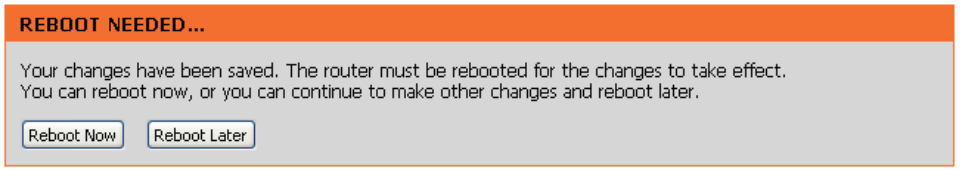
Enable - Check to enable the rule.
Name - Enter a name for your rule.
Dest IP Start - Enter the starting IP address.
Dest IP End - Enter the ending IP address.
Protocol - Select the protocol.
Dest Port Start - Enter the starting port number.
Dest Port End - Enter the ending port number.



To enable web logging, click **Enable**.

Click **Save** to save the access control rule.

Once your changes have been saved, you can select **Reboot Now** or **Reboot Later**.



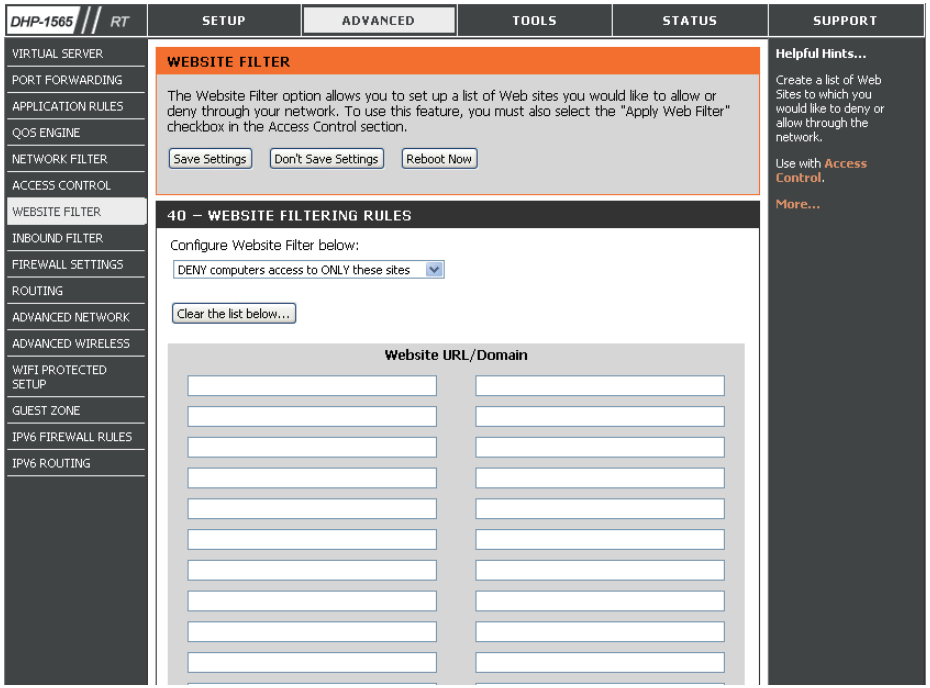
Website Filter

Website Filters are used to allow you to set up a list of Web sites that can be viewed by multiple users through the network. To use this feature select the appropriate Web Filtering option, enter the domain or website, and click **Save Settings**.

Configure Web Filtering: Select **ALLOW computers access to ONLY these sites**, or **DENY computers access to ONLY these sites** from the drop-down menu.

Website URL: Enter the keywords or URLs that you want to allow or block.

Click the **Save Settings** button to save any changes made.



Inbound Filter

The Inbound Filter option is an advanced method of controlling data received from the Internet. With this feature you can configure inbound data filtering rules that control data based on an IP address range. Inbound Filters can be used with Virtual Server, Port Forwarding, or Remote Administration features.

Name: Enter a name for the inbound filter rule.

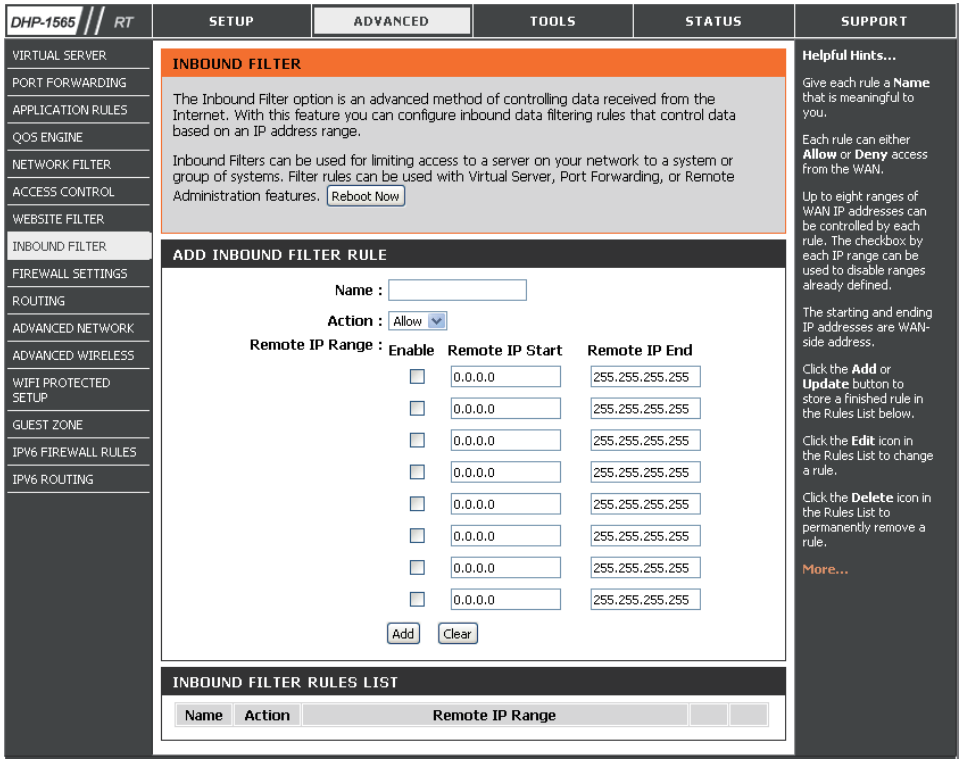
Action: Select **Allow** or **Deny**.

Enable: Check to enable rule.

Remote IP Start: Enter the starting IP address. Enter 0.0.0.0 if you do not want to specify an IP range.

Remote IP End: Enter the ending IP address. Enter 255.255.255.255 if you do not want to specify and IP range.

Add: Click the **Add** button to apply your settings.



Firewall Settings

A firewall protects your network from the outside world. The DHP-1565 offers a firewall type functionality. The SPI feature helps prevent cyber attacks. Sometimes you may want a computer exposed to the outside world for certain types of applications. If you choose to expose a computer, you can enable DMZ. DMZ is short for Demilitarized Zone. This option will expose the chosen computer completely to the outside world.

Firewall Settings: Check the **Enable SPI** box to enable the SPI (Stateful Packet Inspection, also known as dynamic packet filtering) feature. Enabling SPI helps to prevent cyber attacks by tracking more state per session. It validates that the traffic passing through the session conforms to the protocol.

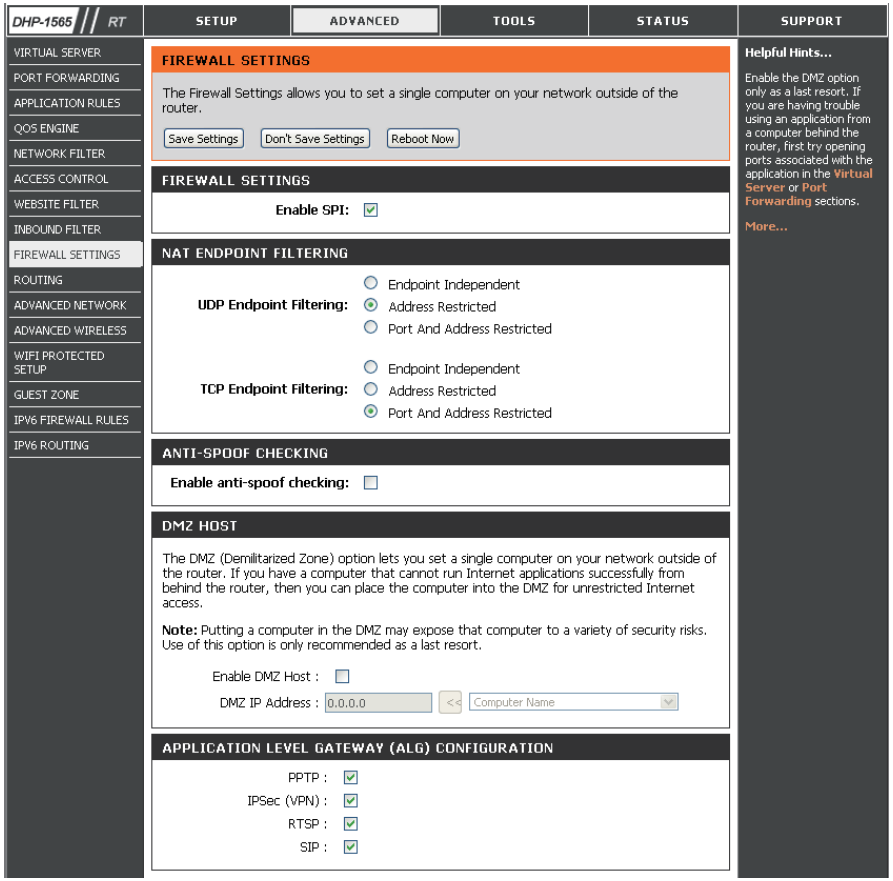
NAT Endpoint Filtering: Select one of the following for TCP and UDP ports:

Endpoint Independent - Any incoming traffic sent to an open port will be forwarded to the application that opened the port. The port will close if idle for 5 minutes.

Address Restricted - Incoming traffic must match the IP address of the outgoing connection.

Address + Port Restriction - Incoming traffic must match the IP address and port of the outgoing connection.

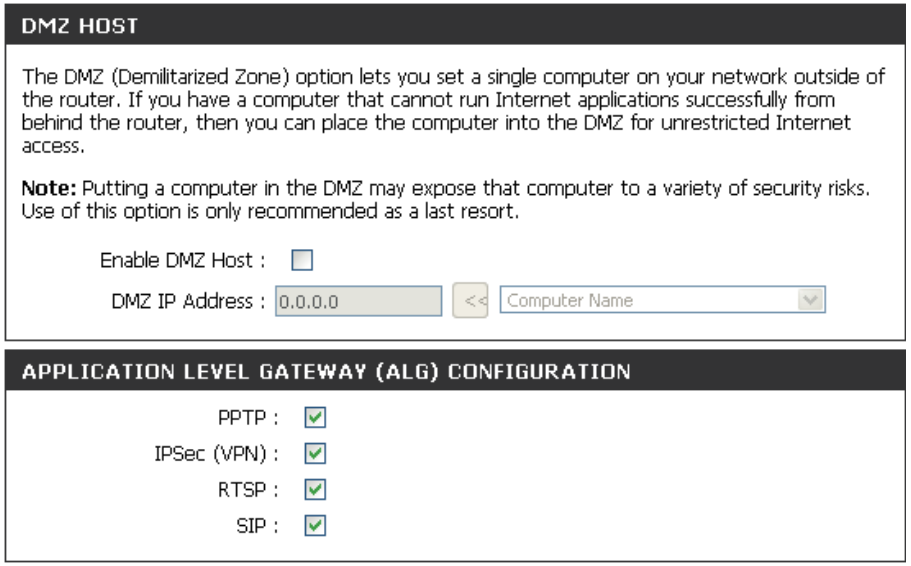
Enable Anti-Spoof Checking: Enable this option to provide protection from certain kinds of "spoofing" attacks.



DMZ Host: If an application has trouble working from behind the router, you can expose one computer to the Internet and run the application on that computer.

Carry out the following to create a DMZ host:

1. Check the **Enable DMZ** box.
2. Specify the IP address of the computer on the LAN that you want to have unrestricted Internet communication in the DMZ IP address field. To specify an existing DHCP client, use the **Computer Name** drop-down to select the computer that you want to make a DMZ host. If selecting a computer that is a DHCP client, be sure to make a static reservation in the **Setup > Network Settings** page so that the IP address of the DMZ machine does not change.
3. Click the **Save Settings** button to add the new DMZ host.



IP Address: Specify the IP address of the computer on the LAN that you want to have unrestricted Internet communication. If this computer obtains its IP address automatically using DHCP, be sure to make a static reservation on the **System > Network Settings** page so that the IP address of the DMZ machine does not change.

Note: *Placing a computer in the DMZ may expose that computer to a variety of security risks. Use of this option is only recommended as a last resort.*

Routing

The Routing option is an advanced method of customizing specific routes of data through your network.

Routing List: Each Route has a checkbox next to it, check the box of the route you wish to enable.

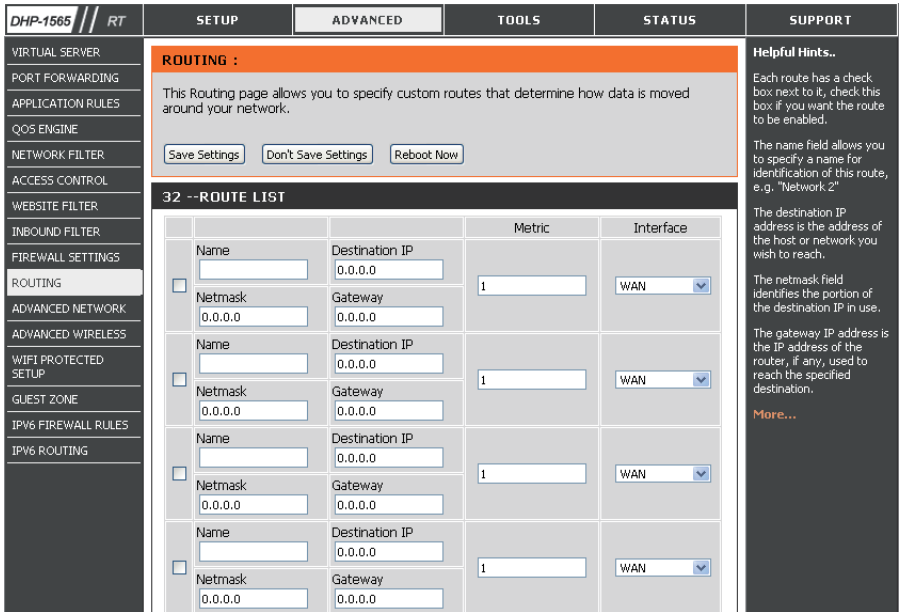
Name: Specify a name for identification of this route.

Interface: Select the interface which the IP packet must use to transit out of the router when this route is used.

Destination IP: Enter the address of the host or network you wish to access.

Netmask: This field identifies the portion of the destination IP in use.

Gateway: The IP address of the router will be displayed here.



Click the **Save Settings** button to save any changes made.

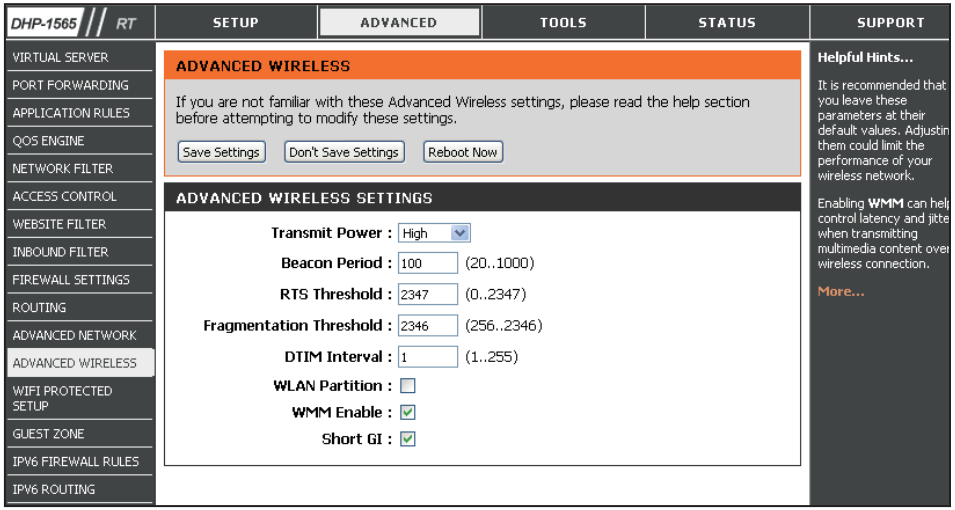
Advanced Wireless Settings
802.11n/b/g (2.4GHz)

Transmit Power: Set the transmit power of the antennas.

Beacon Period: Beacons are packets sent by an Access Point to synchronize a wireless network. Specify a value. 100 is the default setting and is recommended.

RTS Threshold: This value should remain at its default setting of 2346. If inconsistent data flow is a problem, only a minor modification should be made.

DTIM Interval: (Delivery Traffic Indication Message) 1 is the default setting. A DTIM is a countdown informing clients of the next window for listening to broadcast and multicast messages.



WLAN Partition: This enables 802.11d operation. 802.11d is a wireless specification developed to allow implementation of wireless networks in countries that cannot use the 802.11 standard. This feature should only be enabled if you are in a country that requires it.

WMM Enable: WMM is QoS for your wireless network. This will improve the quality of video and voice applications for your wireless clients.

Short Guard Interval: Check this box to reduce the guard interval time therefore increasing the data capacity. However, it's less reliable and may create higher data loss.

Click the **Save Settings** button to save any changes made.

Wi-Fi Protected Setup (WPS)

Wi-Fi Protected Setup (WPS) System is a simplified method for securing your wireless network during the "Initial setup" as well as the "Add New Device" processes. The Wi-Fi Alliance (WFA) has certified it across different products as well as manufactures. The process is just as easy, as depressing a button for the Push-Button Method or correctly entering the 8-digit code for the Pin-Code Method. The time reduction in setup and ease of use are quite beneficial, while the highest wireless Security setting of WPA2 is automatically used.

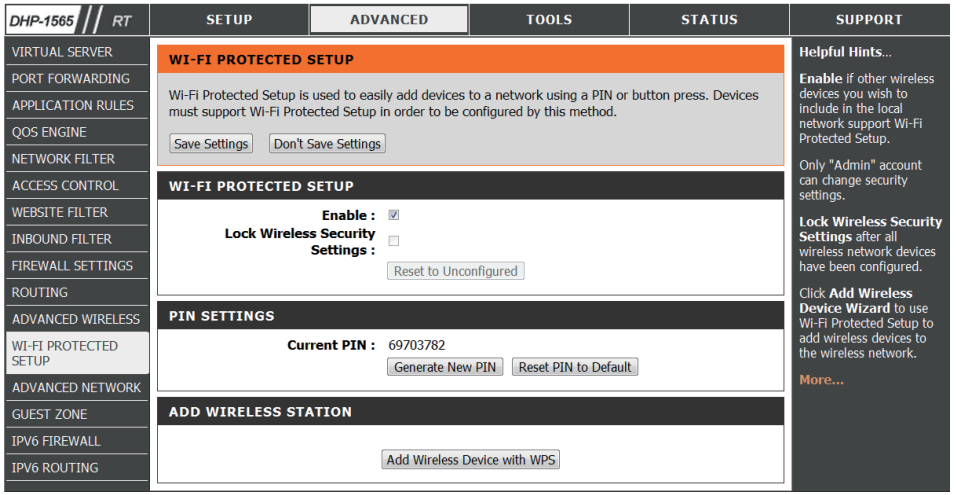
Enable: Enable the Wi-Fi Protected Setup feature.

PIN Settings: A PIN is a unique number that can be used to add the router to an existing network or to create a new network. The default PIN may be printed on the bottom of the router. For extra security, a new PIN can be generated. You can restore the default PIN at any time. Only the Administrator ("admin" account) can change or reset the PIN.

PIN: Shows the current value of the router's PIN.

Reset PIN to Default: Click this button to restore the default PIN of the router.

Generate New PIN: Click this button to create a random number that is a valid PIN. This becomes the router's PIN. You can then copy this PIN to the user interface of the registrar.



Add Wireless Station: Click the **Add Wireless Device with WPS** button to start Wireless Connection Setup Wizard. This wizard helps you add wireless devices to the wireless network.

The wizard will either display the wireless network settings to guide you through manual configuration, prompt you to enter the PIN for the device, or ask you to press the configuration button on the device. If the device supports Wi-Fi Protected Setup and has a configuration button, you can add it to the network by pressing the configuration button on the device and then the on the router within 60 seconds. The status LED on the router will flash three times if the device has been successfully added to the network.

There are several ways to add a wireless device to your network. A "registrar" controls access to the wireless network. A registrar only allows devices onto the wireless network if you have entered the PIN, or pressed a special Wi-Fi Protected Setup button on the device. The router acts as a registrar for the network, although other devices may act as a registrar as well.

Click the **Save Settings** button to save any changes made.

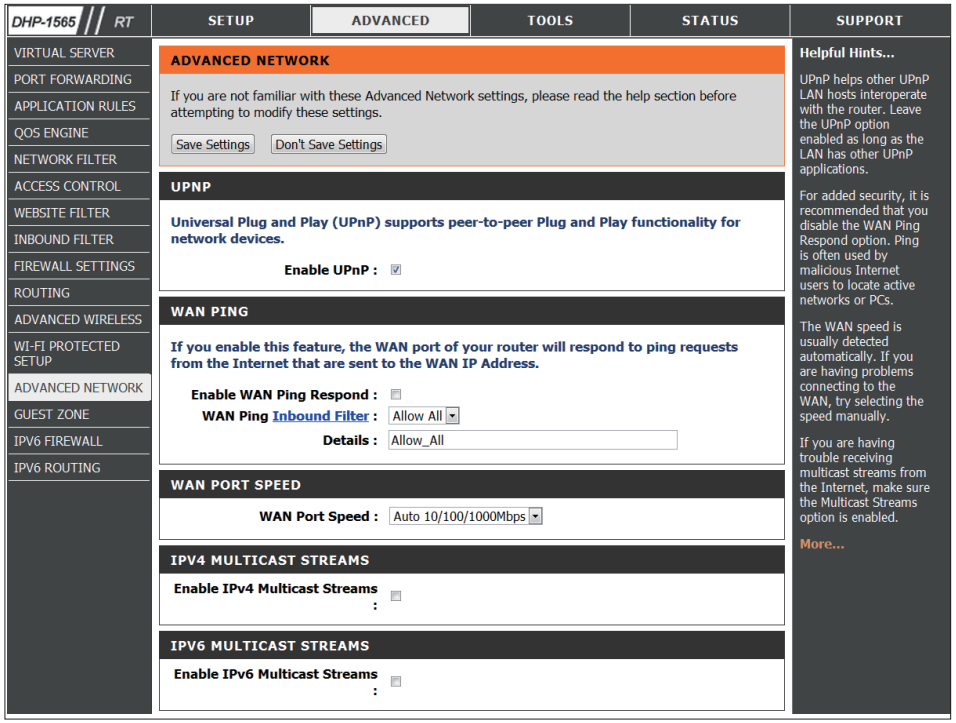
Advanced Network

Enable UPnP: To use the Universal Plug and Play (UPnP™) feature click on **Enabled**. UPNP provides compatibility with networking equipment, software and peripherals.

Enable WAN Ping Response: Unchecking the box will not allow the DHP-1565 to respond to pings. Blocking the Ping may provide some extra security from hackers. Check the box to allow the Internet port to be "pinged".

WAN Port Speed: You may set the port speed of the Internet port to 10Mbps, 100Mbps, or auto. Some older cable or DSL modems may require you to set the port speed to 10Mbps.

Enable Multicast Streams: Check the **Enable Multicast Streams** box to allow multicast traffic to pass through the router from the Internet.



Click the **Save Settings** button to save any changes made.

Guest Zone

The Guest Zone feature will allow you to create temporary zones that can be used by guests to access the Internet. These zones will be separate from your main wireless network.

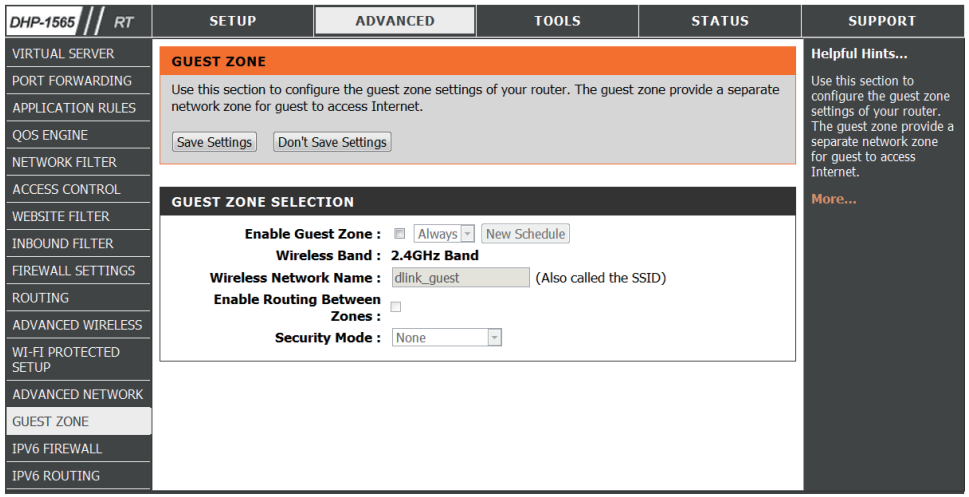
Enable Guest Zone: Check to enable the Guest Zone feature.

New Schedule: The schedule of time when the Guest Zone will be active. The schedule may be set to Always, which will allow the particular service to always be enabled. You can create your own times in the **Tools** > **Schedules** section.

Wireless Network Name: Enter a wireless network name (SSID) that is different from your main wireless network.

Enable Routing Between Zones: Check to allow network connectivity between the different zones created.

Security Mode: Select the type of security or encryption you would like toenable for the guest zone.



IPv6 Firewall

On this page the user can configure the IPv6 firewall settings. The firewall settings section is an advance feature that is used to allow or deny traffic from passing through the device. It works in the same way as IP Filters with additional settings. You can create more detailed rules for the device.

Name: Enter a custom firewall rule name here. This name is used for identification.

Source Interface: Select the appropriate source interface used here.

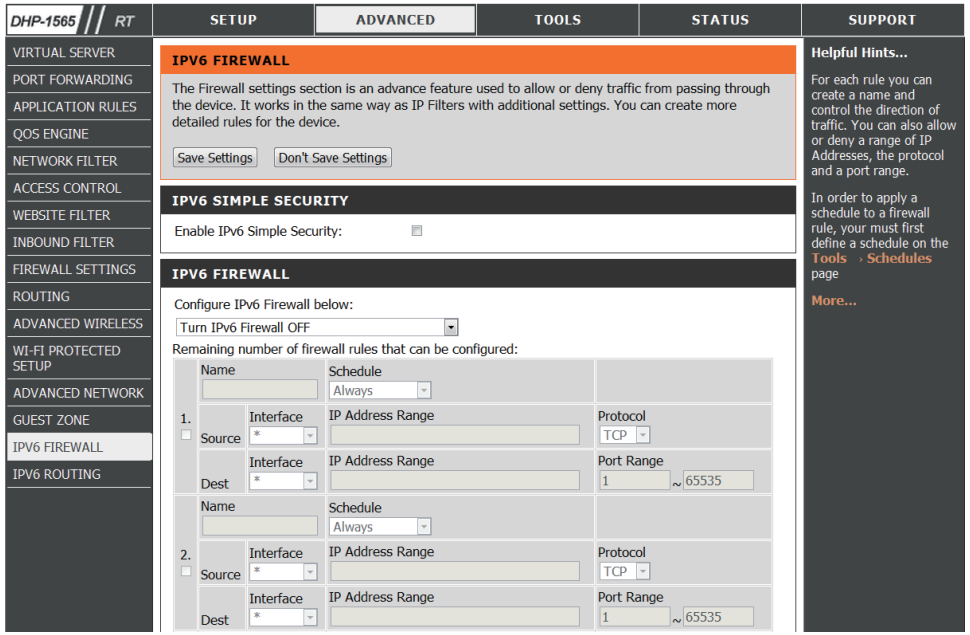
Destination Interface: Select the appropriate destination interface used here.

Schedule: Select a time schedule that will be applied to this rules here.

IP Address Range: Enter the IPv6 address range used here.

Protocol: Select the protocol used for this rule here. Options to choose from are ALL, TCP, UDP, and ICMP.

Port Range: Enter the port range used for this rule here.



IPv6 Routing

This page allows you to specify custom routes that determine how data is moved around your network.

Routing List: Each Route has a checkbox next to it, check the box of the route you wish to enable.

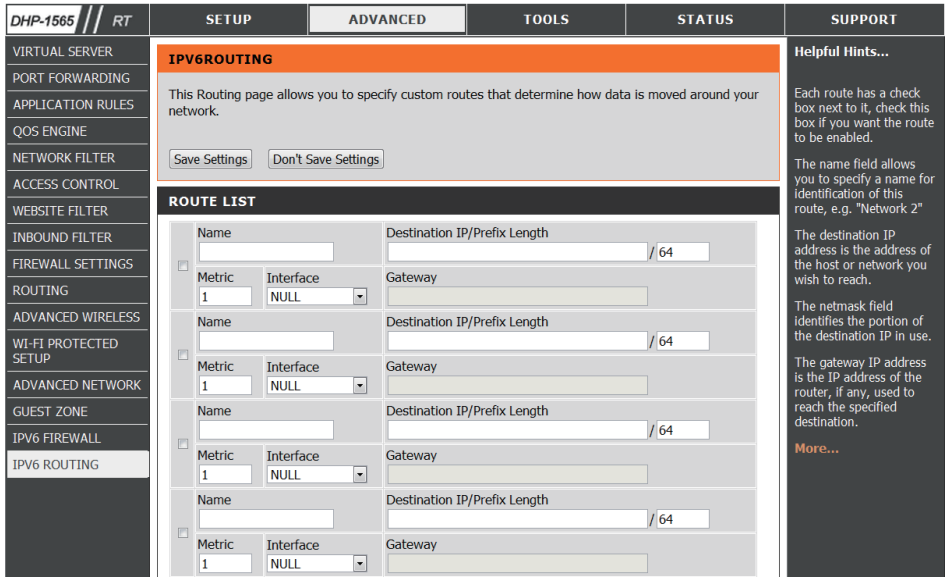
Name: Specify a name for identification of this route.

Destination IP: This field identifies the portion of the destination IP in use.

Metric: The route metric is a value from 1 to 16 that indicates the cost of using this route. A value 1 is the lowest cost and 15 is the highest cost.

Interface: Select the interface which the IP packet must use to transit out of the router when this route is used.

Gateway: The IP address of the router will be displayed here.



Tools

Admin

This page will allow you to change the Administrator password and configure the authentication settings. This window also allows you to enable Remote Management, via the Internet.

Admin Password: Enter a new password for the Administrator Login Name. The administrator can make changes to the settings.

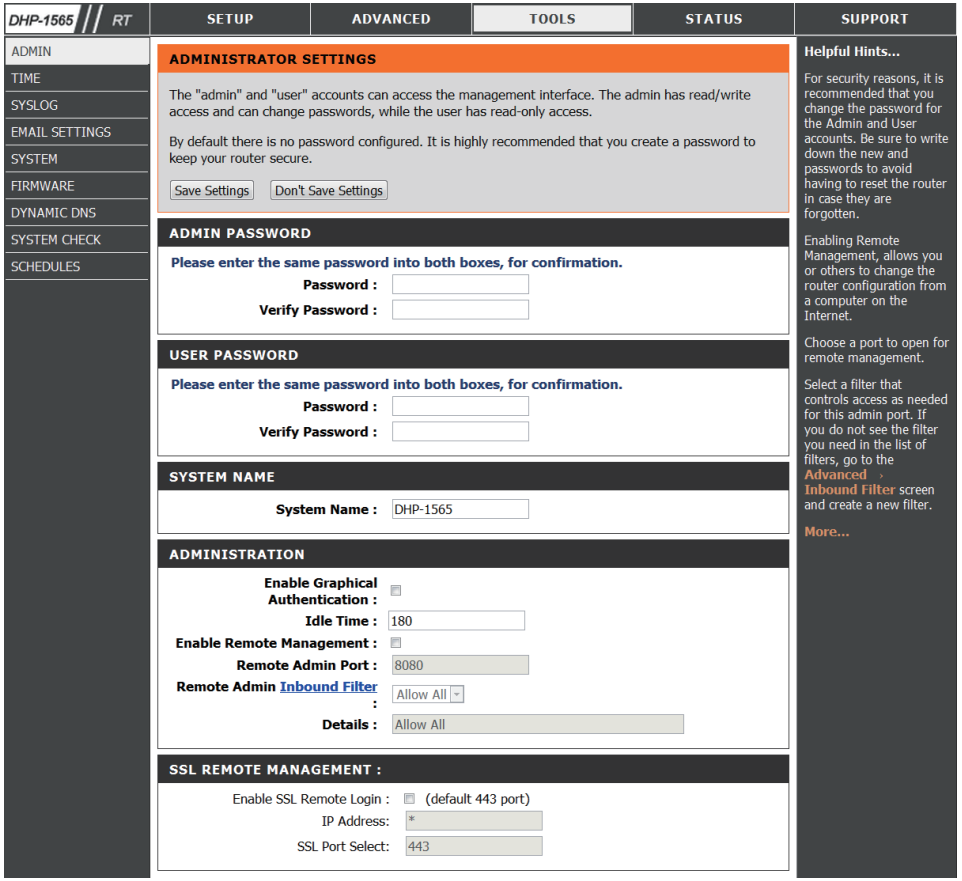
User Password: Enter the new password for the User login. If you login as the User, you can only see the settings, but cannot change them.

Gateway Name: Enter a name for your DHP-1565 Router.

Enable Graphical Authentication: Enables a challenge-response test to require users to type letters or numbers from a distorted image displayed on the screen to prevent online hackers and unauthorized users from gaining access to your router's network settings.

Enable Remote Management: Remote management allows the DHP-1565 to be configured from the Internet by a web browser. A username and password is still required to access the Web-Management interface. In general, only a member of your network can browse the built-in web pages to perform Administrator tasks. This feature enables you to perform Administrator tasks from the remote (Internet) host.

Remote Admin Port: Enter the port number that will be used to access the DHP-1565.



Click the **Save Settings** button to save any changes made.

Time

The Time window allows you to configure, update, and maintain the correct time on the internal system clock. From this section you can set the time zone that you are in and set the Time Server. Daylight Saving can also be configured to automatically adjust the time when needed.

Time Zone: Select the Time Zone from the drop-down menu.

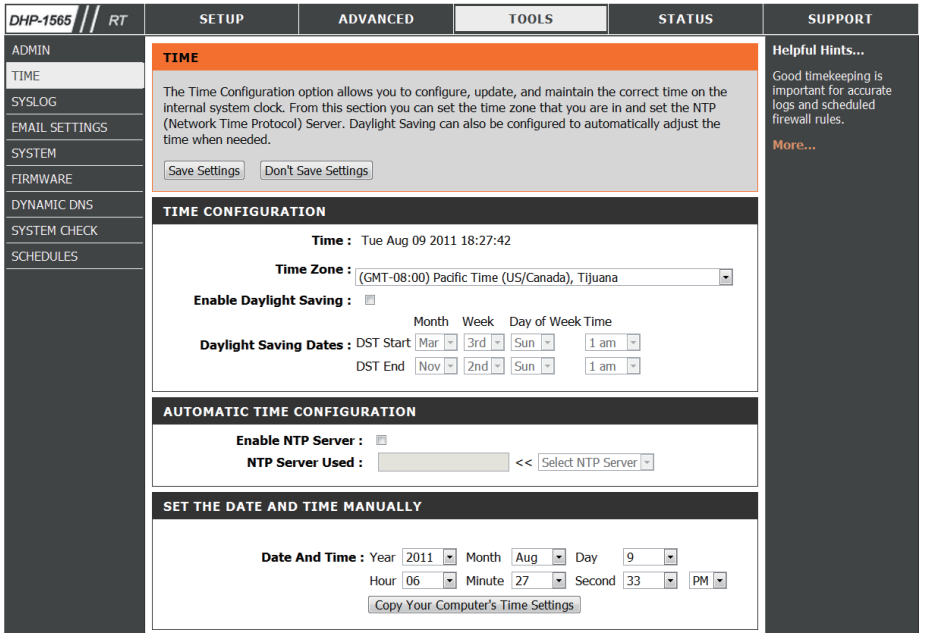
Enable Daylight Saving: Check this box if the country your are located in uses Daylight Saving time. Enter a start date and an end date for daylight saving time.

Enable NTP Server: Check this box to enable the NTP Server.

NTP Server Used: NTP is short for Network Time Protocol. NTP synchronizes computer clock times in a network of computers. To enable NTP carry out the following:

1. Check the **Automatically synchronize with D-Link's Internet Time Server** box.
2. Choose the D-Link NTP server that you would like to synchronize with from the **NTP Server Used** drop-down menu.

Set the Time and Date Manually: Use this section to configure the time manually. To configure the time manually, use the drop-down menus to select the appropriate *Year, Month, Day, Hour, Minute,* and *Second*.



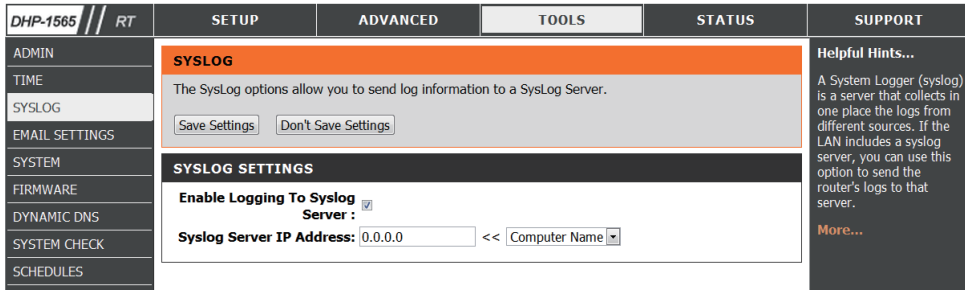
Click the **Save Settings** button to save any changes made.

SysLog

The Broadband Router keeps a running log of events and activities occurring on the Router. You may send these logs to a SysLog server on your network.

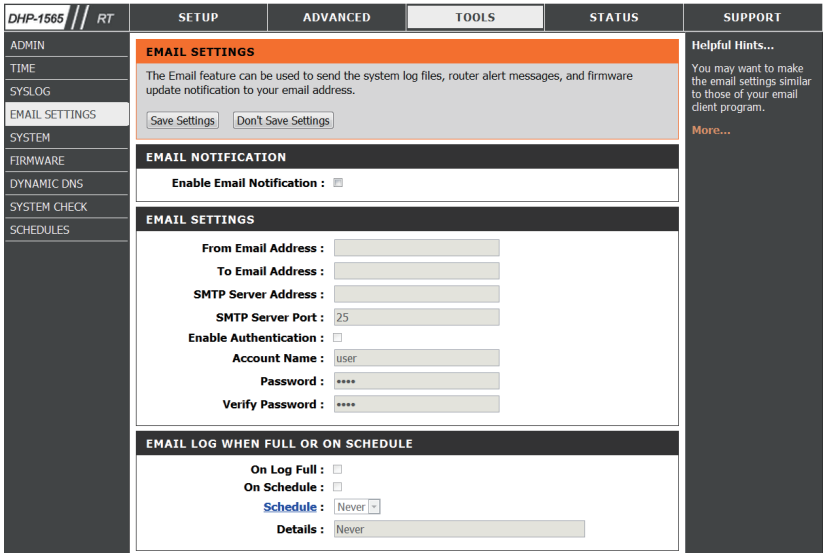
Enable Logging to SysLog Server: Check this box to send the router logs to a SysLog Server.

SysLog Server IP Address: The address of the SysLog server that will be used to send the logs. You may also select your computer from the drop-down menu (only if receiving an IP address from the router via DHCP).



Email Settings

The Email feature can be used to send the system log files and router alert messages to your email address.



Enable Email Notifications: When this option is enabled, router activity logs are e-mailed to a designated e-mail address.

From Email Address: This e-mail address will appear as the sender when you receive a log file or firmware upgrade notification via e-mail.

To Email Address: Enter the e-mail address where you want the e-mail sent.

SMTP Server Address: Enter the SMTP server address for sending e-mail. If your SMTP server requires authentication, select this option.

Enable Authentication: Check this box if your SMTP server requires authentication.

Account Name: Enter your account for sending e-mail.

Password: Enter the password associated with the account. Re-type the password associated with the account.

Send Mail Now: Click this button to send a test e-mail from the Router to verify that the e-mail settings have been configured correctly.

On Log Full: When this option is selected, logs will be sent via e-mail when the log is full.

On Schedule: Selecting this option will send the logs via e-mail according to schedule.

Schedule: This option is enabled when On Schedule is selected. You can select a schedule from the list of defined schedules. To create a schedule, go to **Tools > Schedules**.

Click the **Save Settings** button to save any changes made.

System

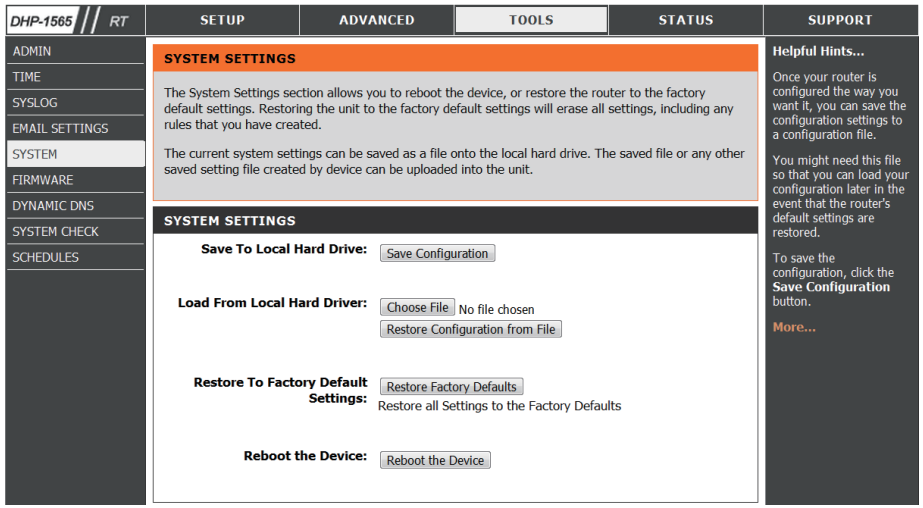
This section allows you to manage the router's configuration settings, reboot the router, and restore the router to the factory default settings. Restoring the unit to the factory default settings will erase all settings, including any rules that you've created.

Save Settings to Local Hard Drive: Use this option to save the current router configuration settings to a file on the hard disk of the computer you are using. First, click the **Save** button. A file dialog will appear, allowing you to select a location and file name for the settings.

Load Settings from Local Hard Drive: Use this option to load previously saved router configuration settings. First, use the **Browse** option to find a previously saved file of configuration settings. Then, click the **Upload Settings** button below to transfer those settings to the router.

Restore to Factory Default Settings: This option will restore all configuration settings back to the settings that were in effect at the time the router was shipped from the factory. Any settings that have not been saved will be lost, including any rules that you have created. If you want to save the current router configuration settings, use the **Save** button above.

Reboot Device: Click to reboot the router.

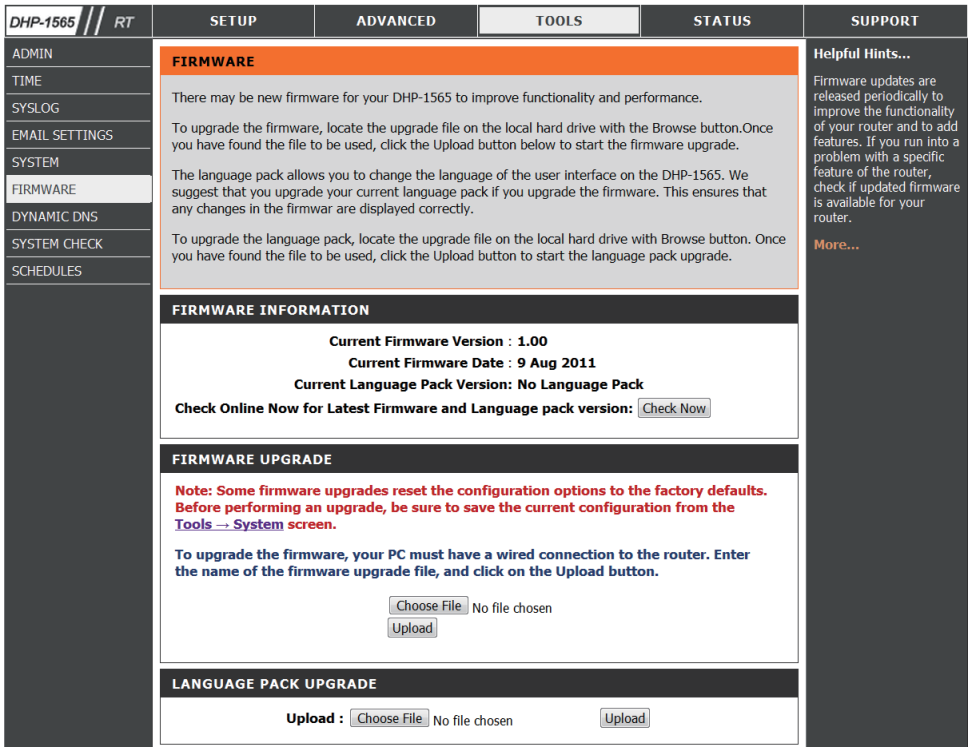


Firmware

Use the Firmware window to upgrade the firmware of the Router and install language packs. If you plan to install new firmware, make sure the firmware you want to use is on the local hard drive of the computer. If you want to install a new language pack, make sure that you have the language pack available. Please check the D-Link support site for firmware updates at http://support.dlink.com. You can download firmware upgrades to your hard drive from the D-Link support site.

Firmware Information: This section displays information about the firmware that is loaded on the Router. Click the **Check Now** button to find out if there is an updated firmware; if so, download the new firmware to your hard drive.

Firmware Upgrade: After you have downloaded the new firmware, click **Browse** to locate the firmware update on your hard drive. Click **Upload** to complete the firmware upgrade.



Dynamic DNS

The DDNS feature allows you to host a server (Web, FTP, Game Server, etc…) using a domain name that you have purchased (www.whateveryournameis.com) with your dynamically assigned IP address. Most broadband Internet Service Providers assign dynamic (changing) IP addresses. Using a DDNS service provider, your friends can enter in your domain name to connect to your server no matter what your IP address is.

Enable DDNS: Dynamic Domain Name System is a method of keeping a domain name linked to a changing IP Address. Check the box to enable DDNS.

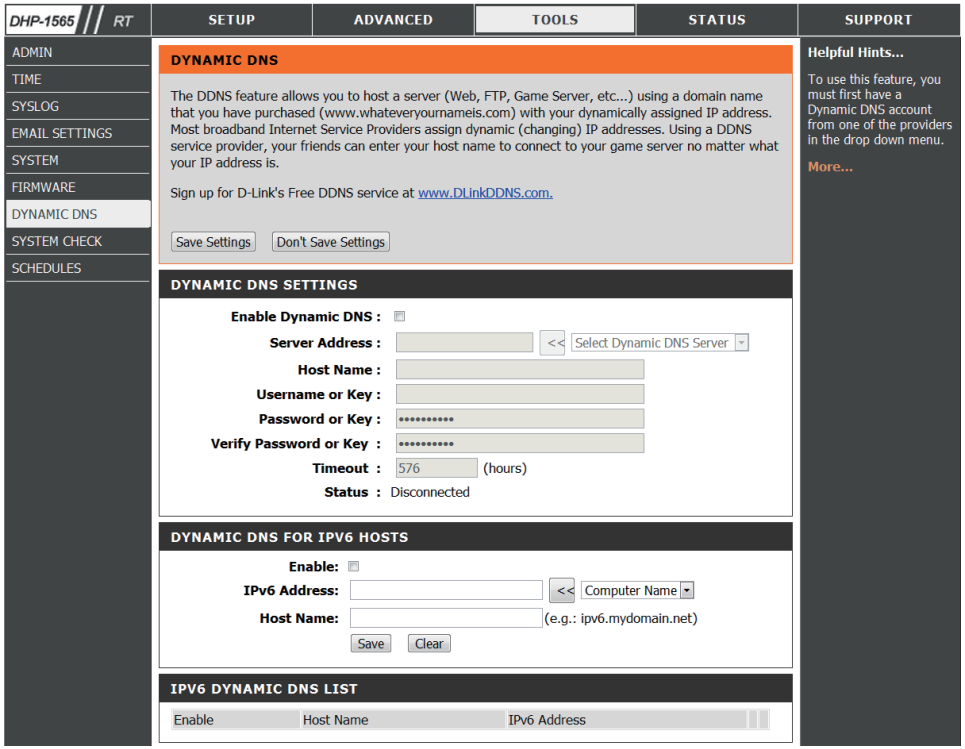
Server Address: Choose your DDNS provider from the drop down menu.

Host Name: Enter the Host Name that you registered with your DDNS service provider.

Username or Key: Enter the Username for your DDNS account.

Timeout: Enter a time in (hours).

Status: Displays the current connection status to your DDNS server.



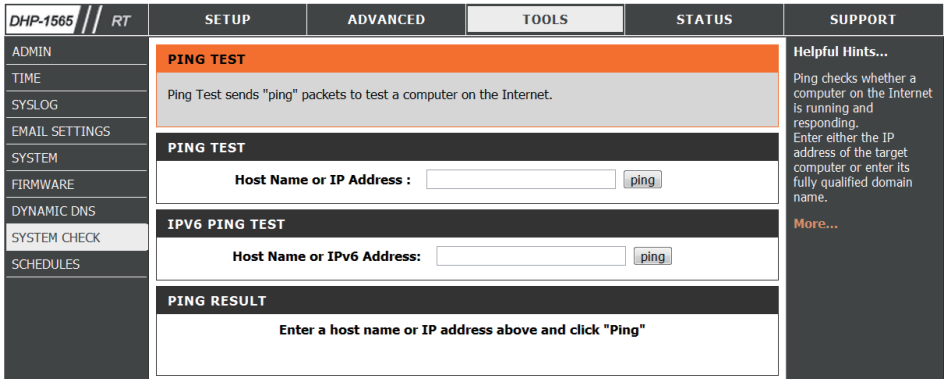
Click the **Save Settings** button to save any changes made.

System Check

Ping Test: The Ping Test is used to send Ping packets to test if a computer is on the Internet. Enter the IP Address that you wish to Ping, and click **Ping**. Click **Stop** to stop sending Ping packets

IPv6 Ping Test: The IPv6 Ping Test is used to send IPv6 Ping packets to test if a computer is on the Internet. Enter the IPv6 Address that you wish to Ping, and click **Ping**. Click **Stop** to stop sending IPv6 Ping packets

Ping Results: The results of your Ping/IPv6 Ping attempts will be displayed here.



Schedules

Schedules can be created for use with enforcing rules. For example, if you want to restrict web access to Mon-Fri from 3pm to 8pm, you could create a schedule selecting Mon, Tue, Wed, Thu, and Fri and enter a Start Time of 3pm and End Time of 8pm.

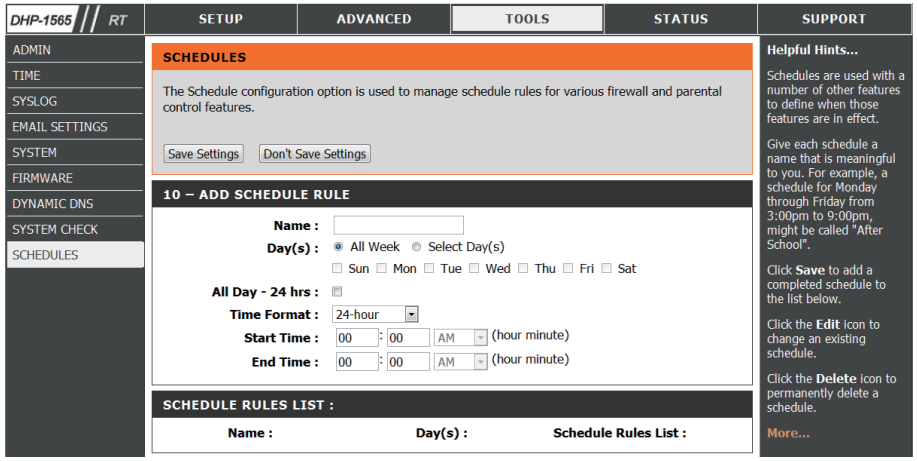
Name: Enter a name for your new schedule.

Days: Select a day, a range of days, or All Week to include every day.

Time: Check **All Day - 24hrs** or enter a *Start Time* and *End Time* for your schedule.

Save: Click **Save** to save your schedule. You must click the **Save** button for your schedules to go into effect.

Schedule Rules List: The list of schedules will be listed here. Click the **Edit** icon to make changes or click the **Delete** icon to remove the schedule.



Status

Device Info

This page displays the current information for the DHP-1565. It will display the LAN, WAN (Internet), and Wireless information. If your Internet connection is set up for a Dynamic IP address then a **Release** button and a **Renew** button will be displayed. Use **Release** to disconnect from your ISP and use **Renew** to connect to your ISP.

If your Internet connection is set up for PPPoE, a **Connect** button and a **Disconnect** button will be displayed. Use **Disconnect** to drop the PPPoE connection and use **Connect** to establish the PPPoE connection.

General: Displays the router's time and firmware version.

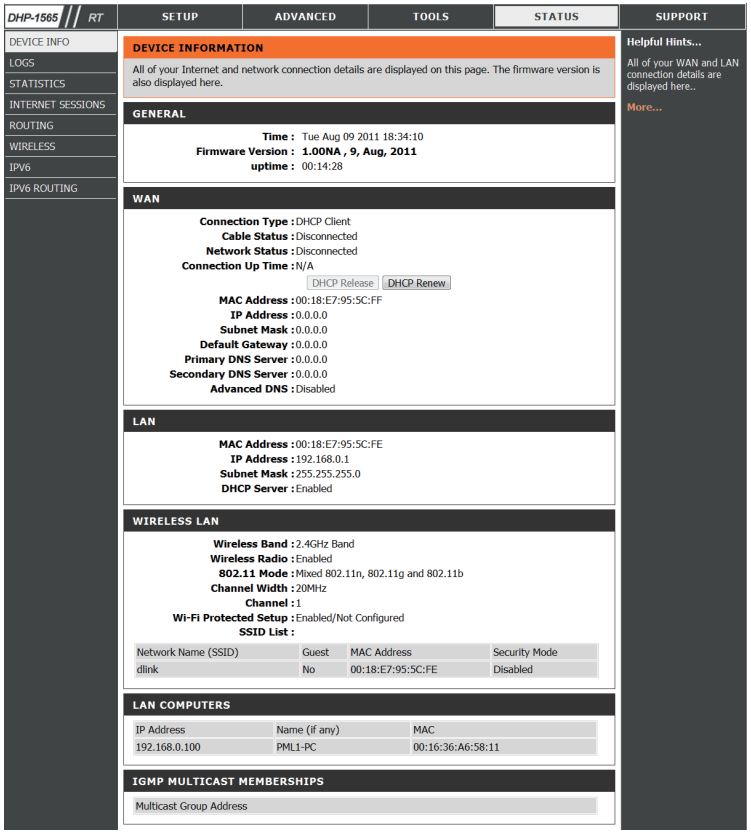
WAN: Displays the MAC address and the public IP settings for the router.

LAN: Displays the MAC address and the private (local) IP settings for the router.

Wireless LAN: Displays the wireless MAC address and your wireless settings such as SSID and Channel.

LAN Computer: Displays computers and other devices which are connected to the router via Ethernet, and that are receiving an IP address assigned by the router CDHCP).

IGMP Multicast Memberships: Displays the Multicast Group IP address.



Logs

The router automatically logs (records) events of possible interest in it's internal memory. If there isn't enough internal memory for all events, logs of older events are deleted but logs of the latest events are retained. The Logs option allows you to view the router logs. You can define what types of events you want to view and the level of the events to view. This router also has external Syslog Server support so you can send the log files to a computer on your network that is running a Syslog utility.

Save Log File: Click the **Apply Log Settings Now** button save the Router's log entries to a log file on your computer.

Log Type: Use the radio buttons to select the types of messages that you want to display from the log. **System**, **Firewall & Security**, and **Router Status** messages can be selected.

First Page: Click this button to view the first page of the Router logs.

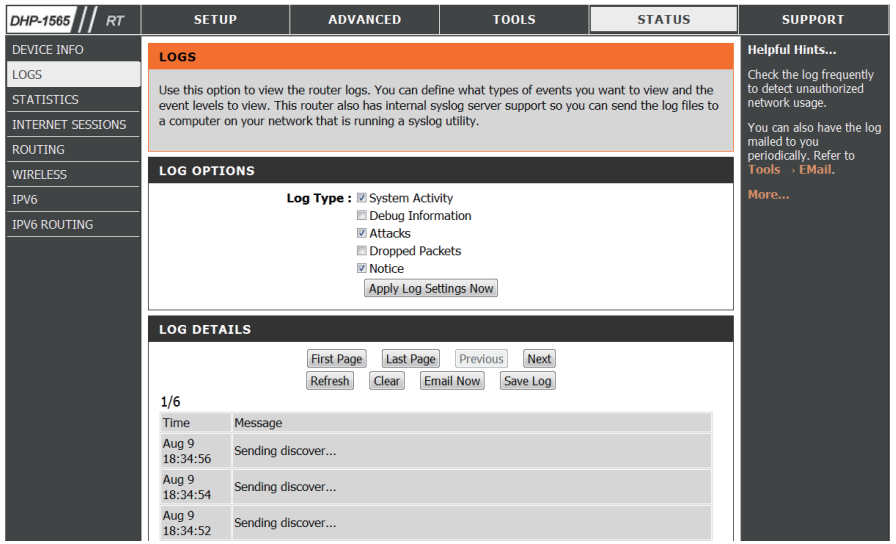
Last Page: Click this button to view the last page of the Router logs.

Previous: Click this button to view the previous page of the Router logs.

Next: Click this button to view the next page of the Router logs.

Clear: Clears all of the log contents.

Email Now: Click this button to open the **Tools** > **Email Settings** screen so that you can change the Email configuration for sending logs.

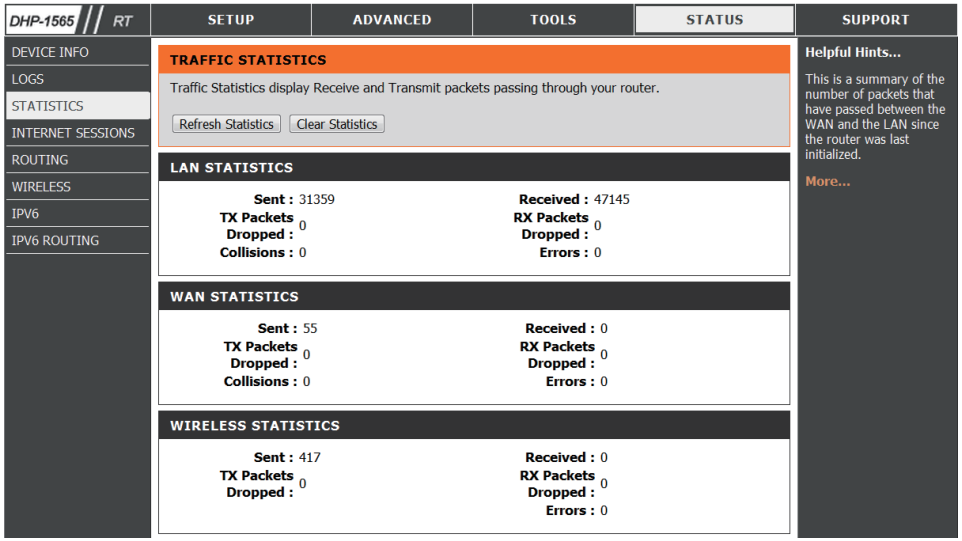


Statistics

The screen below displays the **Traffic Statistics**. Here you can view the amount of packets that pass through the DHP-1565 on both the WAN, LAN ports and the 802.11n/g (2.4GHz) wireless band. The traffic counter will reset if the device is rebooted.

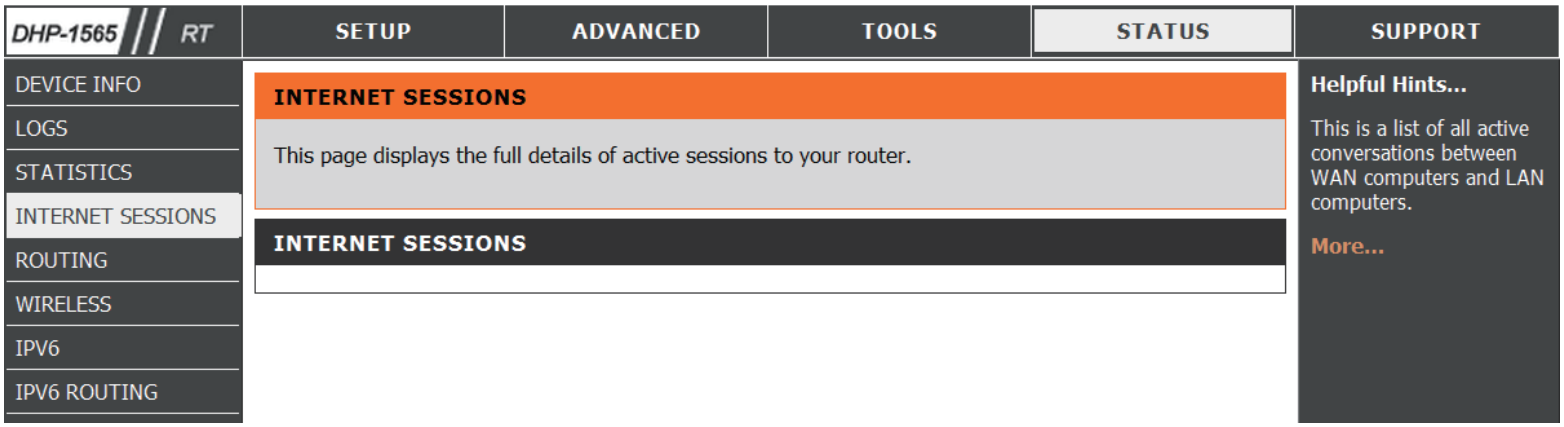
Refresh: Click the **Refresh** button to refresh the Router's traffic statistics.

Reset: Click the **Reset** button to reset the Router's traffic statistics.



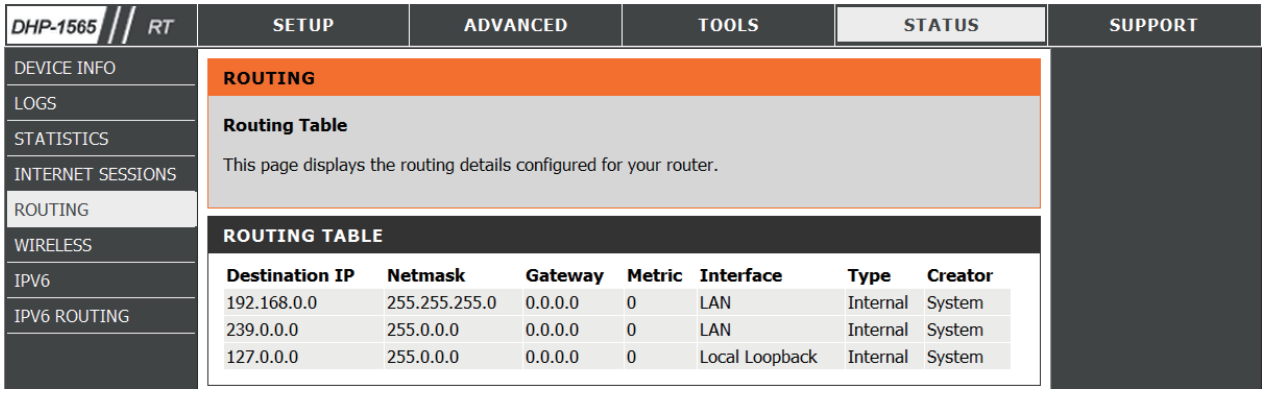
Internet Sessions

The Internet Sessions page displays full details of active Internet sessions through your router. An Internet session is a conversation between a program or application on a LAN-side computer and a program or application on a WAN-side computer.



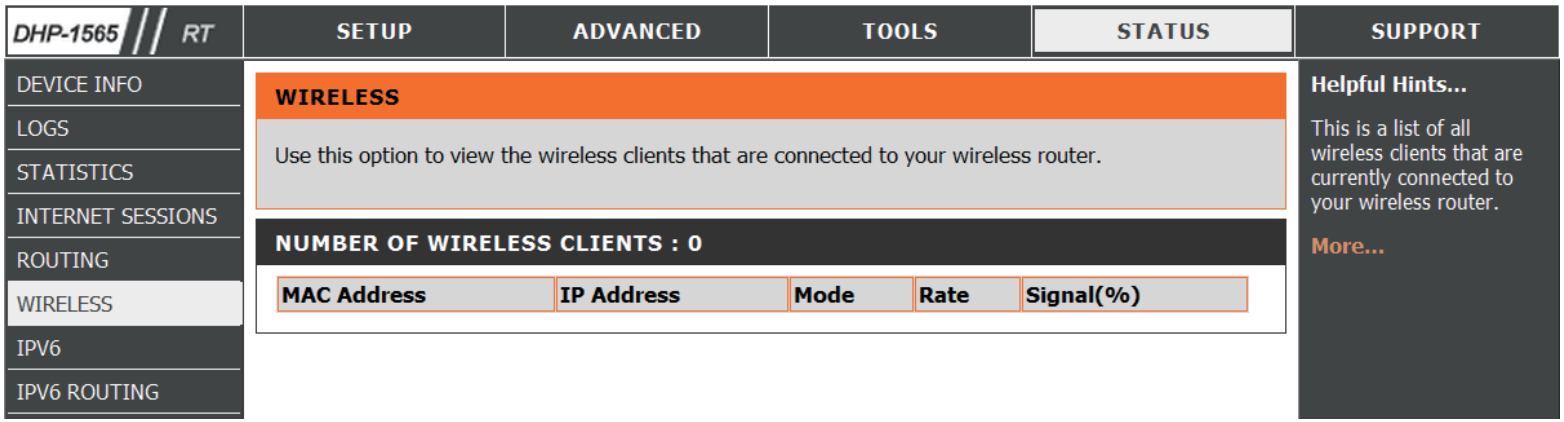
Routing Table

This page displays the routing details configured for your router.



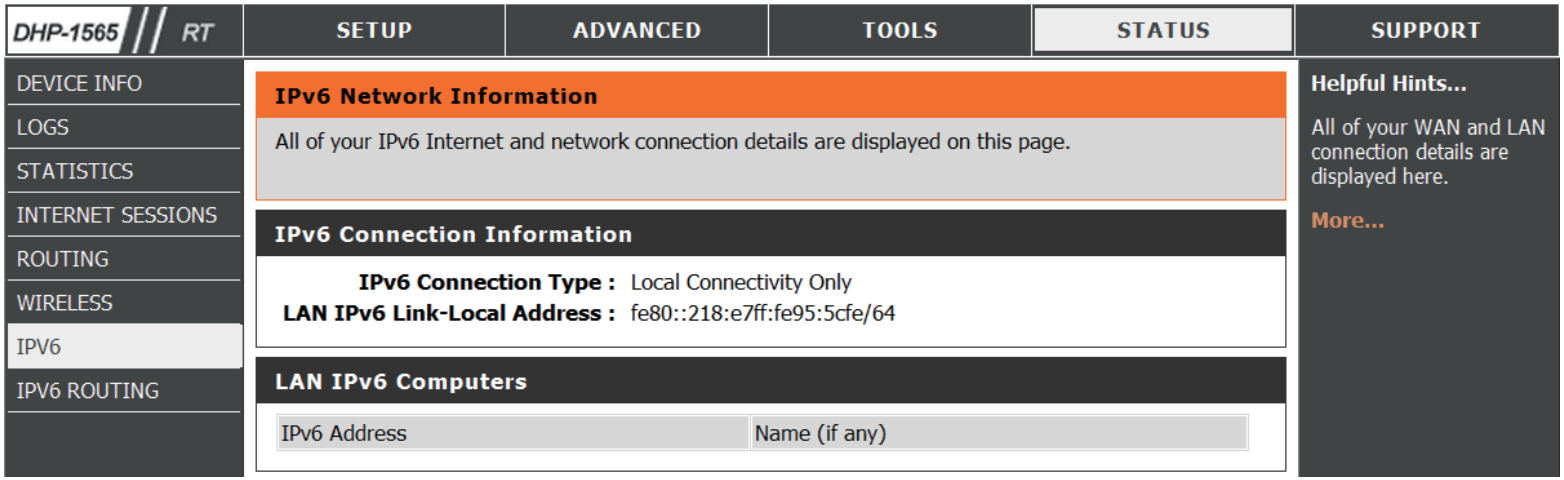
Wireless

The wireless client table displays a list of current connected wireless clients. This table also displays the connection time and MAC address of the connected wireless clients.



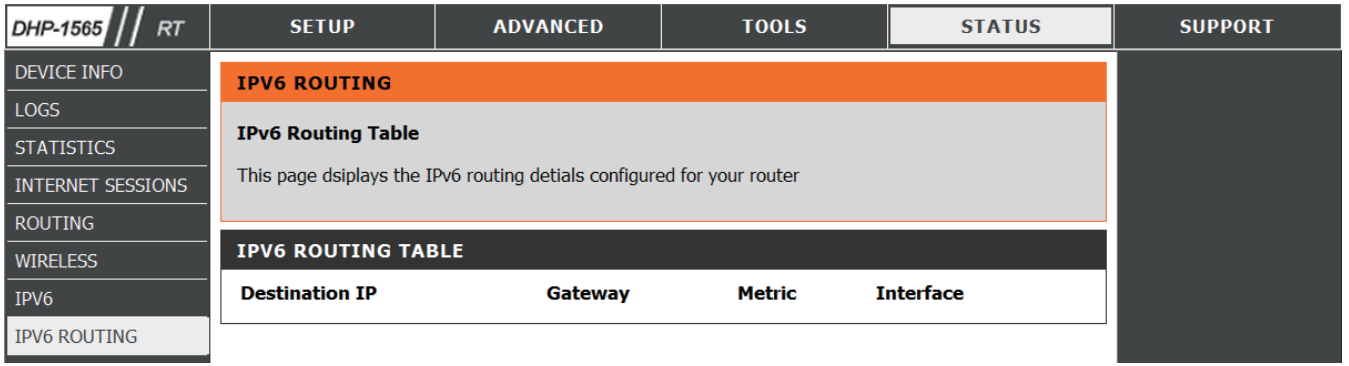
IPv6

The IPv6 page displays a summary of the Router's IPv6 settings and lists the IPv6 address and host name of any IPv6 clients.

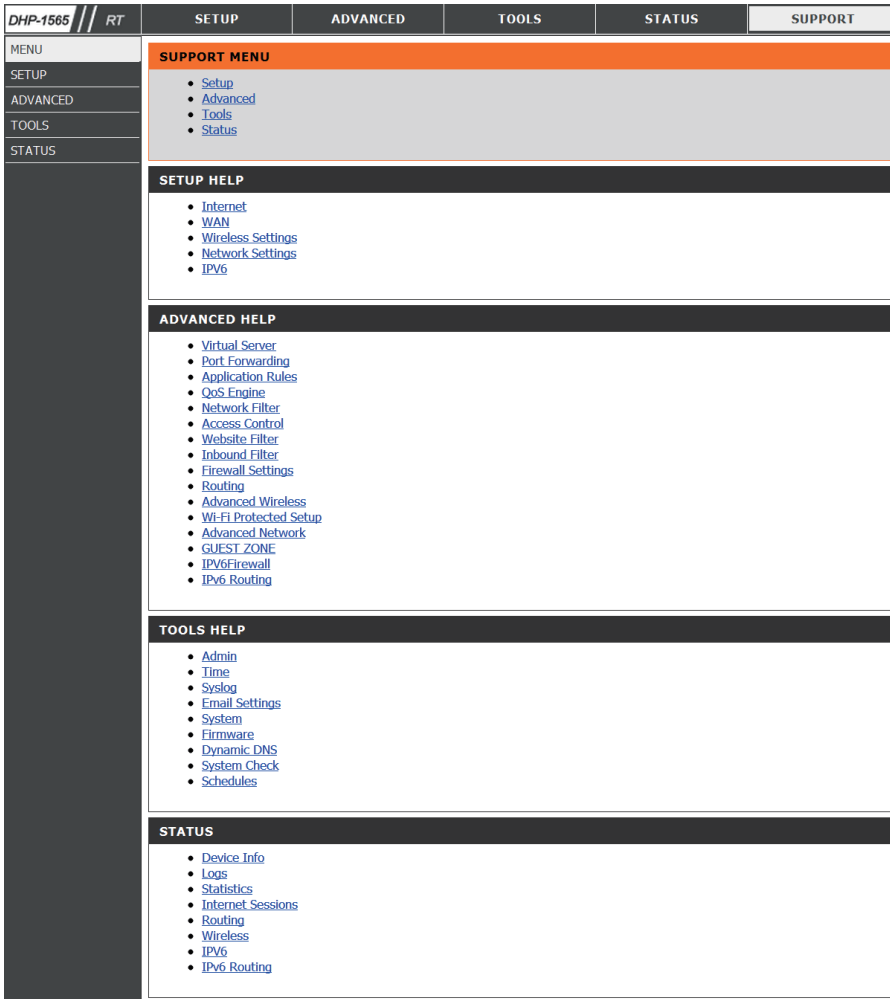


IPv6 Routing

This page displays the IPv6 routing details configured for your router.

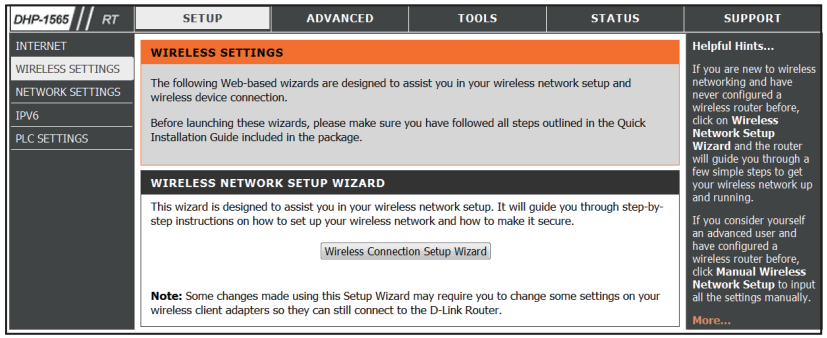


Support


DHP-1565 // RT
SETUP
ADVANCED
TOOLS
STATUS
SUPPORT
MENU
SETUP
ADVANCED
TOOLS
STATUS
SUPPORT MENU
Setup
Advanced
Tools
Status
SETUP HELP
Internet
WAN
Wireless Settings
Network Settings
IPV6
ADVANCED HELP
Virtual Server
Port Forwarding
Application Rules
QoS Engine
Network Filter
Access Control
Website Filter
Inbound Filter
Firewall Settings
Routing
Advanced Wireless
Wi-Fi Protected Setup
Advanced Network
GUEST ZONE
IPV6Firewall
IPv6 Routing
TOOLS HELP
Admin
Time
Syslog
Email Settings
System
Firmware
Dynamic DNS
System Check
Schedules
STATUS
Device Info
Logs
Statistics
Internet Sessions
Routing
Wireless
IPV6
IPv6 Routing

Wireless Connection Setup Wizard

To run the Wireless Connection Setup Wizard, click the **Wireless Connection Setup Wizard** button in the **Setup**>**Wireless Settings** window.

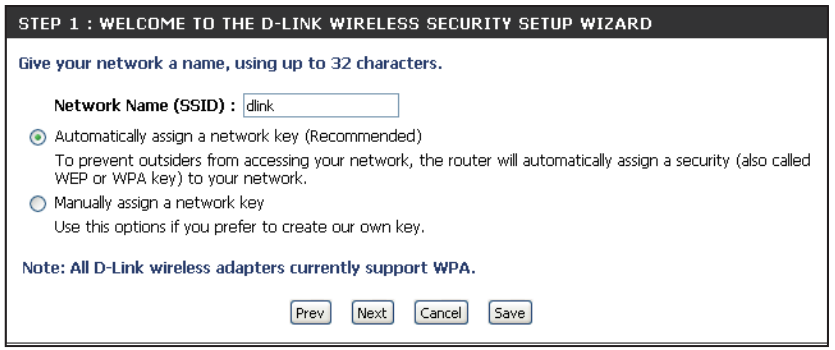


Wireless Security Setup Wizard

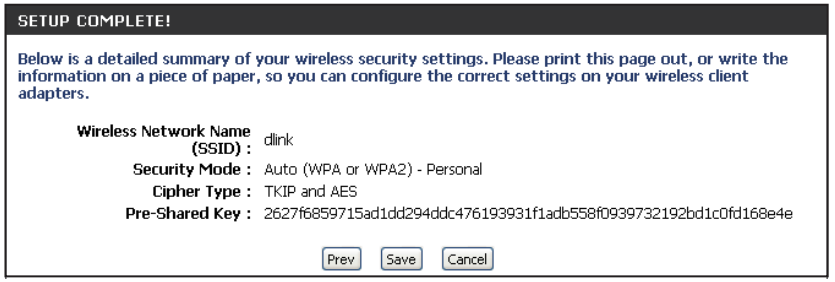
Type your desired wireless network name (SSID).

Automatically: Select this option to automatically generate the router's network key and click **Next**.

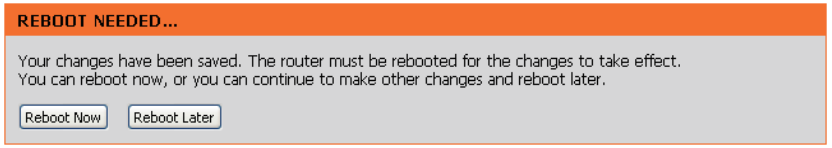
Manually: Select this option to manually enter your network key and click **Next**.



If you selected **Automatically**, the summary window will display your settings. Write down the security key and enter this on your wireless clients. Click **Save** to save your settings.

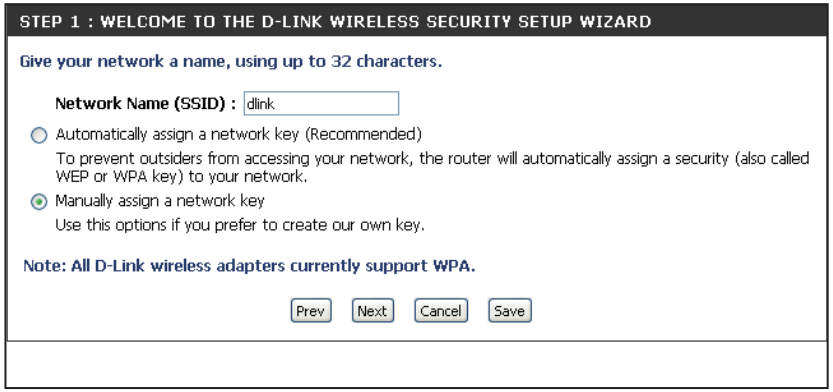


The Changes have been saved. Click **Reboot Now** or **Reboot Later** to continue.

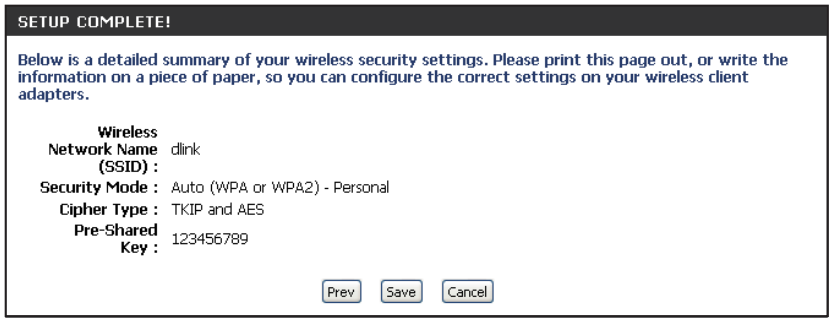


If you selected **Manually**, the following screen will appear.

Enter the *Wireless Security Password* you would like to use for your wireless network and click **Next** to proceed to the next window.

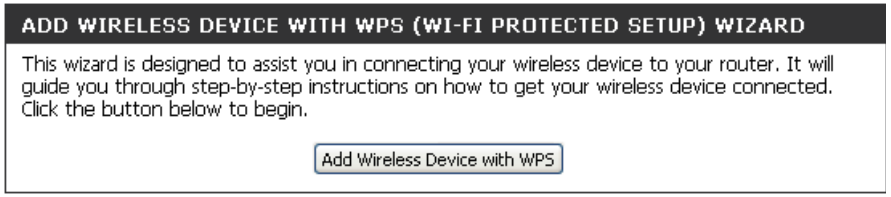


The summary window will display your settings. Write down the security key and enter this on your wireless clients. Click **Save** to save your settings.



Add Wireless Device with WPS Wizard

From the **Setup** > **Wireless Settings** screen, click **Add Wireless Device with WPS**.

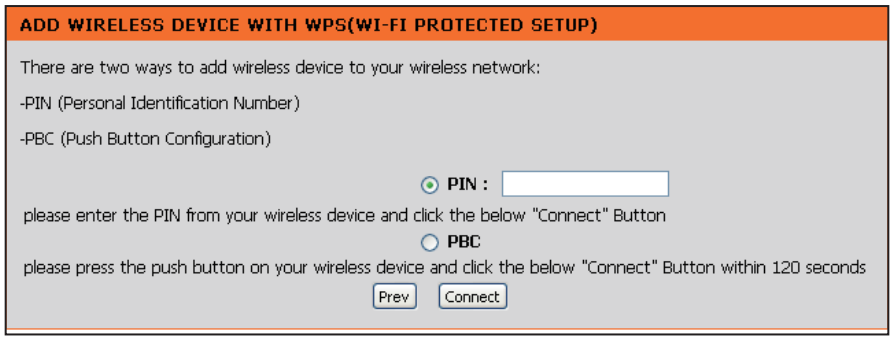


Select **Auto** to add a wireless client using WPS (Wi-Fi Protected Setup). Once you select **Auto** and click **Connect**, you will have a 120 second time limit to apply the settings to your wireless client(s) and successfully establish a connection.

If you select **Manual**, a settings summary screen will appear. Write down the security key and enter this on your wireless clients.

PIN: Select this option to use PIN method. In order to use this method you must know the wireless client's 8 digit PIN and click **Connect**.

PBC: Select this option to use PBC (Push Button) method to add a wireless client. Click **Connect**.

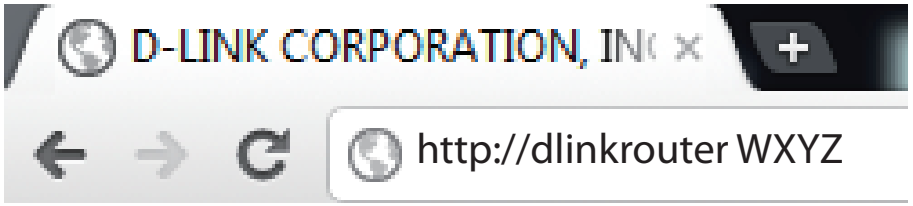


Configuration (AP Mode)

This section will show you how to configure your new D-Link wireless router using the web-based configuration utility.

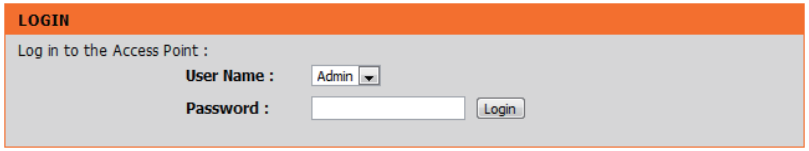
Web-based Configuration Utility

To access the configuration utility, open a web-browser such as Internet Explorer and enter http://dlinkrouter WXYZ (WXYZ: four-digit suffix of the PLC MAC address located on the botton of device) or the IP address of the router (192.168.0.50).



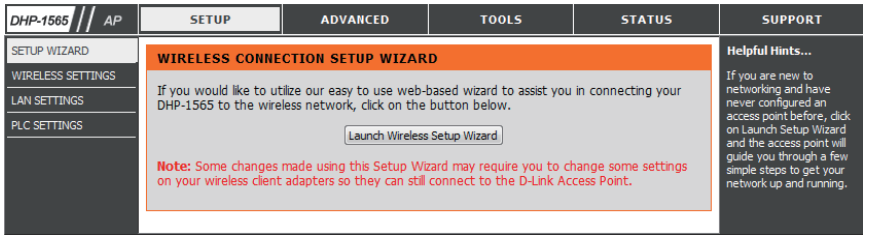
Select **Admin** in the User Name field. Leave the password blank by default.

If you get a **Page Cannot be Displayed** error, please refer to the **Troubleshooting** section for assistance.



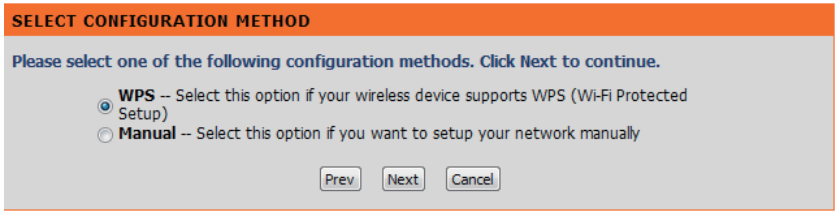
Wireless Setup Wizard

To use our web-based wizard to assist you in connecting your DHP-1565, click **Launch Wireless Setup Wizard** to begin.

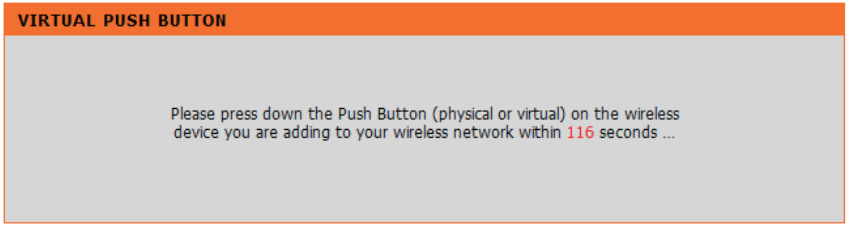


Click **Next** to continue your wireless network setup.

Select one of the two configuration methods. Select **WPS** if your wireless device support WPS and click **Next** to continue to the next step.

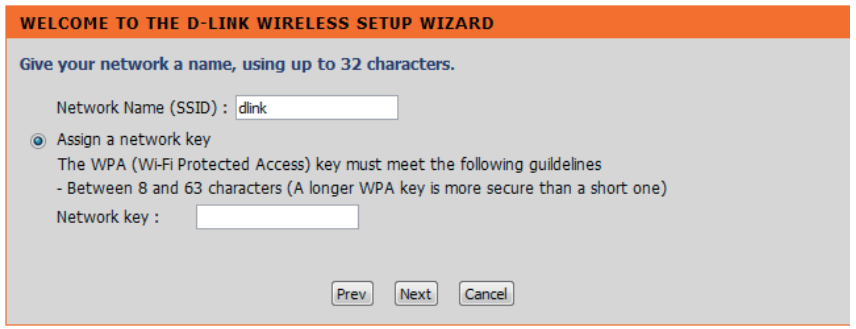


Press down the Push Button on the wireless device within 116 seconds.

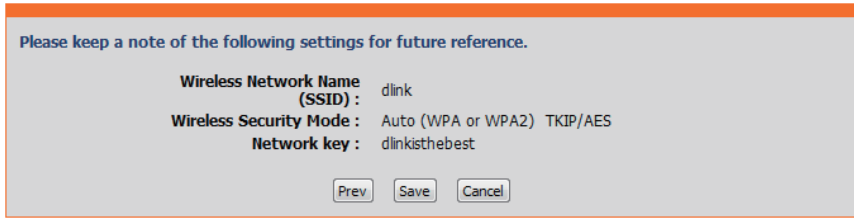


If you would like to setup your network manually, select **Manual** and click **Next** to continue.

Enter the SSID (Service Set Identifier). The SSID is the name of your wireless network. Create a name using up to 32 characters. The SSID is case-sensitive. Select Assign a network key and click **Next**.



Once this screen appears, the setup is complete. You will be given a detailed summary of your wireless security settings.
Click **Save** to continue.



Wireless Setup

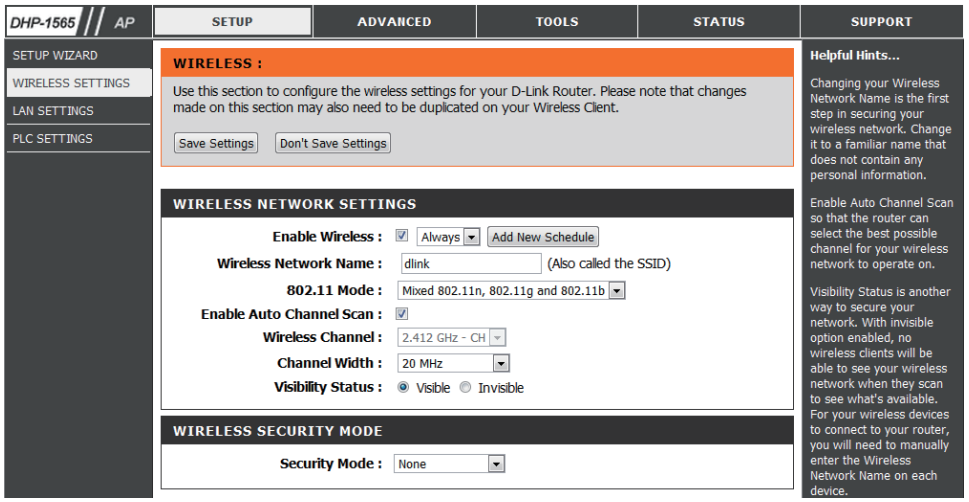
Enable Wireless: Check this box to enable the wireless function. If you would prefer not to use wireless, uncheck the box to disable all the wireless functions. You may also set up a specific time range (schedule). Select a schedule from the drop-down menu or click Add New Schedule to create a new schedule.

Wireless Network Name: When you are browsing for available wireless networks, this is the name that will appear in the list (unless Visibility Status is set to Invisible, see below). This name is also referred to as the SSID. For security purposes, changing the default network name is highly recommended.

802.11 Mode: Select one of the following:
802.11n Only - Select if you are only using 802.11n wireless clients.
Mixed 802.11n, 802.11g and 802.11b - Select if you are using a mix of 802.11n, 11g, and 11b wireless clients.
Mixed 802.11n, 802.11g - Select if you are only using 802.11n, 11g wireless clients.

Enable Auto Channel Scan : The Auto Channel Scan setting can be selected to allow the DHP-1565 to select the channel with the least amount of interference (during boot-up). Indicates the channel setting for the DHP-1565.

Wireless Channel The channel can be changed to fit the channel setting for an existing wireless network or to customize the wireless network. If you enable Auto Channel Scan, this option will be grayed out.



Channel Width: Select the Channel Width:
Auto 20/40 - Select if you are using both 802.11n and non-802.11n wireless devices.
20MHz - Select if you are not using any 802.11n wireless clients.

Wireless Security Settings: Locking the wireless security settings prevents the settings from being changed by any new external user using its PIN. Devices can still be added to the wireless network using Wi-Fi Protected Setup. It is still possible to change wireless network settings with Manual Wireless Network Setup, Wireless Network Setup Wizard, or an existing external WLAN Manager user. Please refer to page **121**.

Save Settings: Click **Save Settings** to save and activate the new changes.

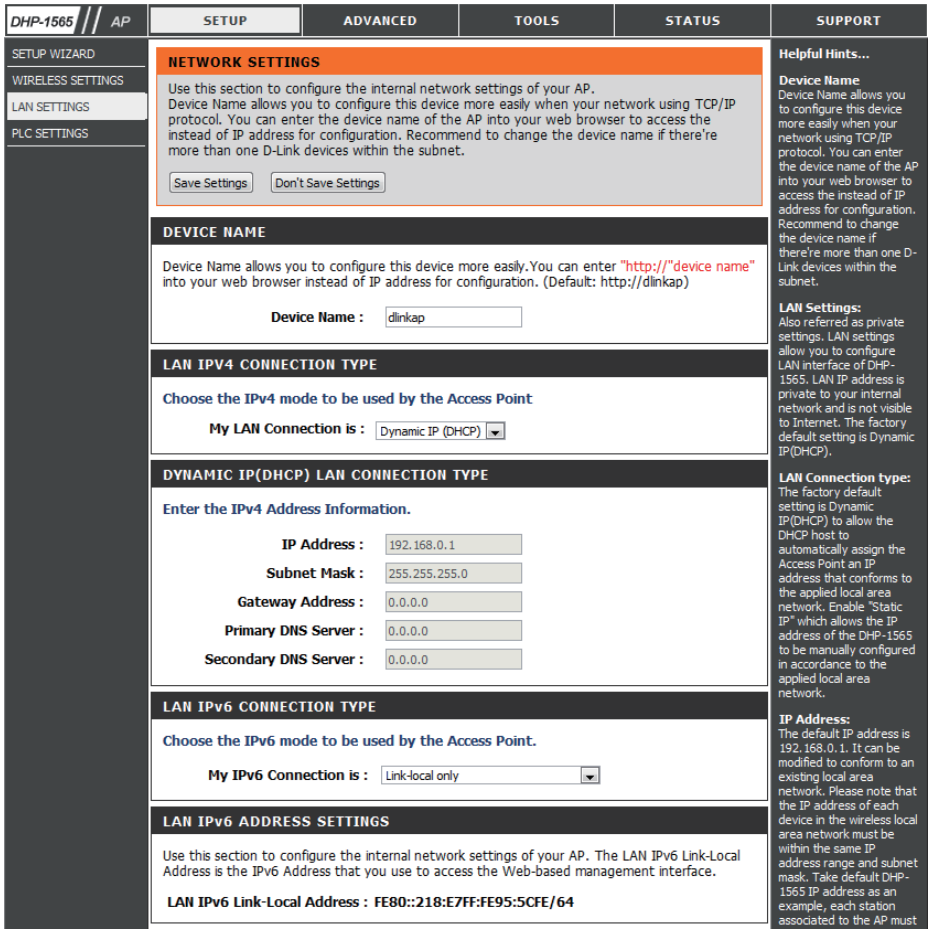
Network Settings - DHCP

This section will allow you to change the local network settings of the access point and to configure the DHCP settings.

LAN Connection Type: Use the drop-down menu to select Dynamic IP (DHCP) to automatically obtain an IP address on the LAN/private network.

Device Name: Enter the Device Name of the AP. Changing the Device Name is recommended if there is more than one D-Link device within the subnet.

Save Settings: Click **Save Settings** to save and activate the new changes.



Network Setup - Static IP

Select Static IP to manually enter the IP address, subnet mask, and default gateway addresses.

LAN Connection Type: Select Static IP from the drop-down menu.

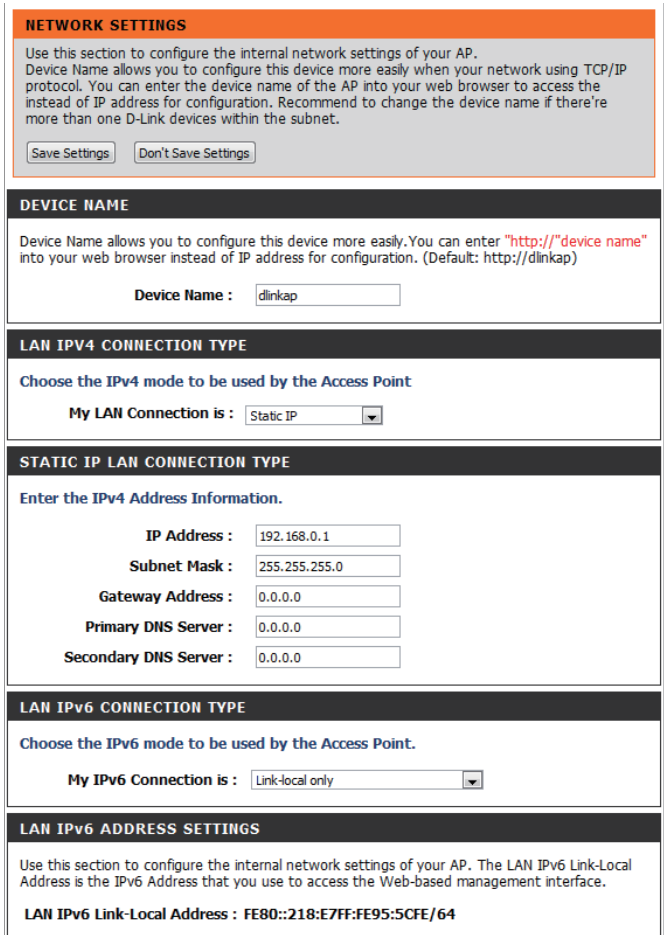
IP Address: Enter the IP address of the access point. The default IP address is 192.168.0.1. If you change the IP address, once you click Apply, you will need to enter the new IP address in your browser to return to the configuration utility.

Subnet Mask: Enter the Subnet Mask.

Default Gateway: Enter the Gateway. This is usually the LAN or internal IP address of your router.

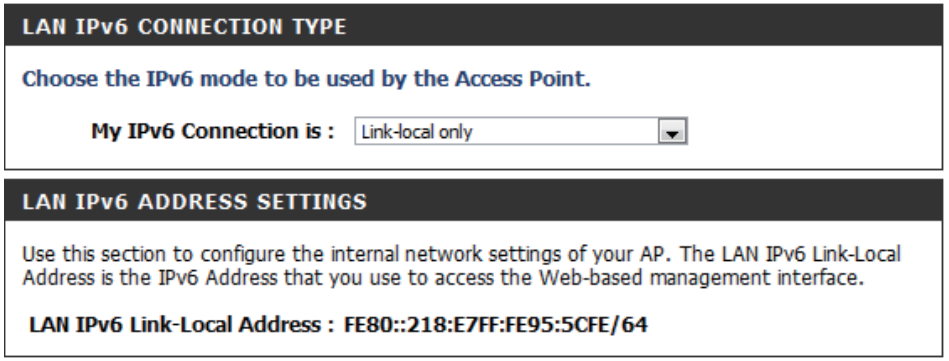
Device Name: Enter the Device Name of the AP. It is recommended that you change the Device Name if there is more than one D-Link device within the subnet. You can enter the device name of the AP into your web browser to access it instead of IP address for configuration. If you are using the device name to connect, make sure that your PC and your DHP-1565 are on the same network.

Save Settings: Click **Save Settings** to save and activate the new changes.



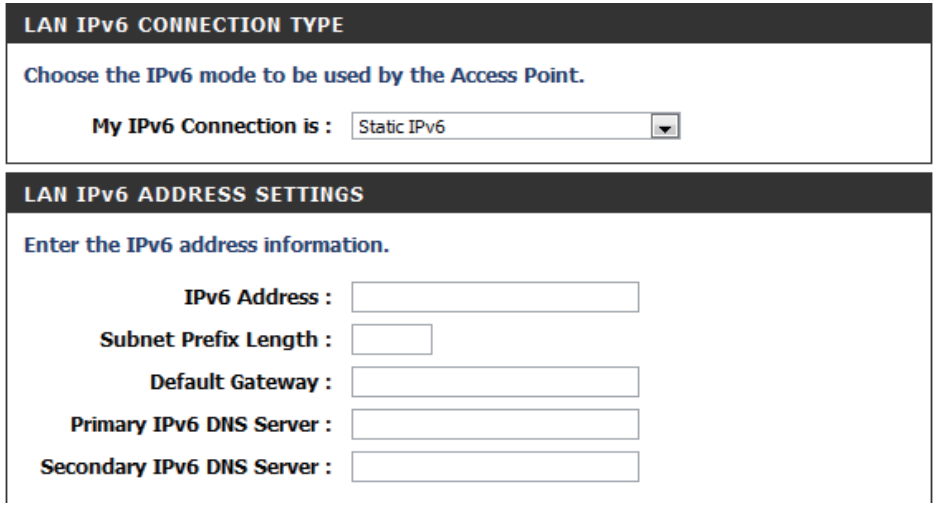
My IPv6 Connection is: Select Link-local only from the drop-down menu.

LAN IPv6 Address settings: This section displays the IPv6 address of the router.



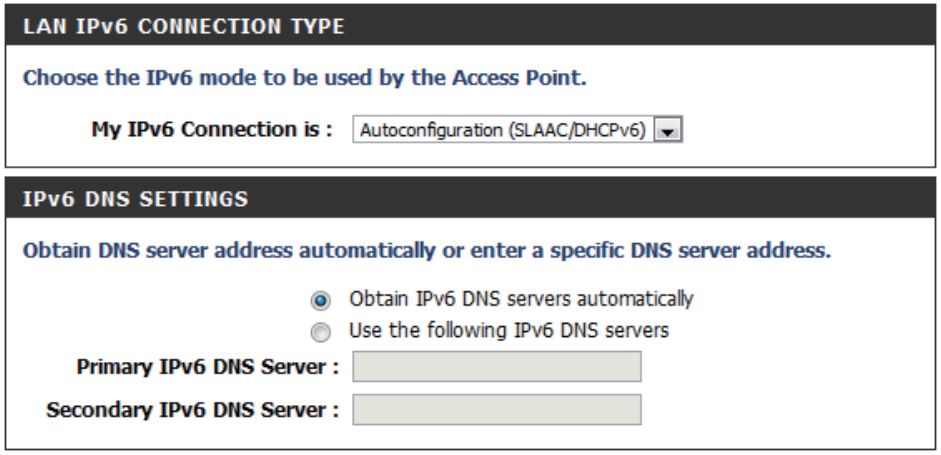
My IPv6 Connection is: Select static IPv6 from the drop-down menu.

LAN IPv6 Address: Enter the LAN (local) IPv6 address for the router.



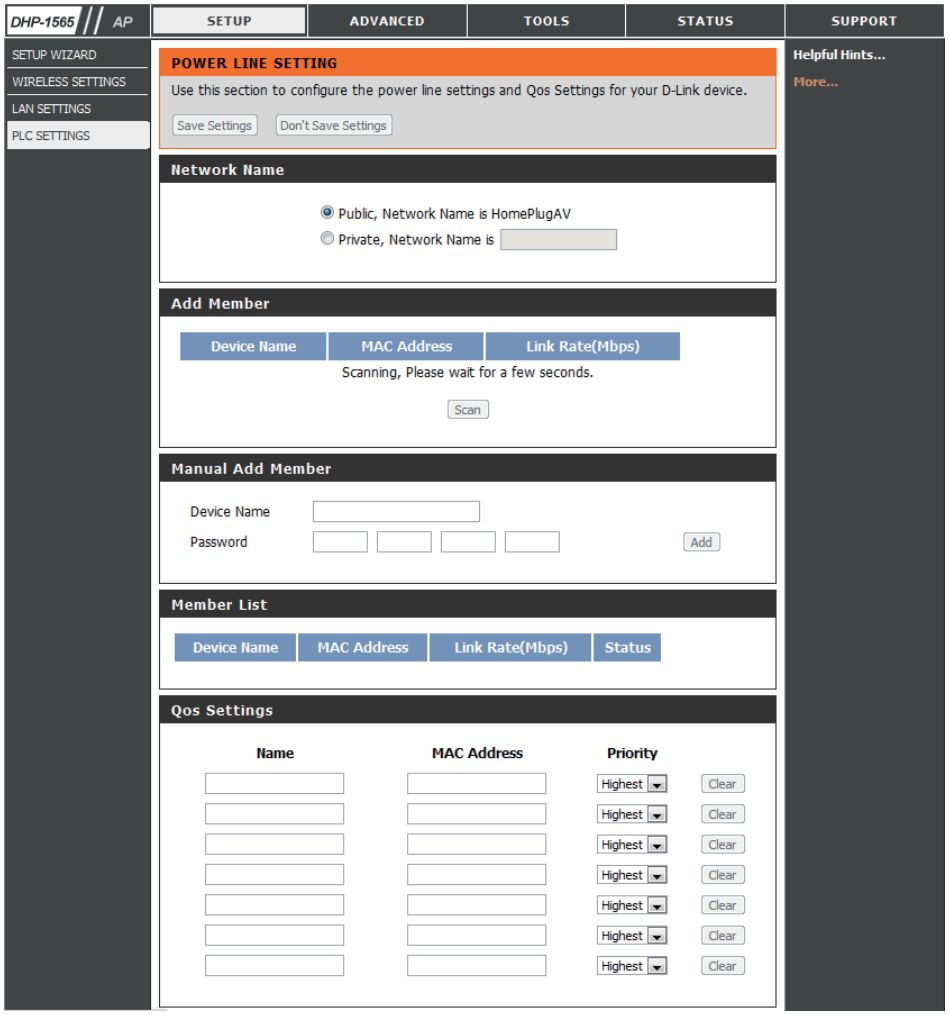
My IPv6 Connection: Select **Autoconfiguration (Stateless/DHCPv6)** from the drop down menu.

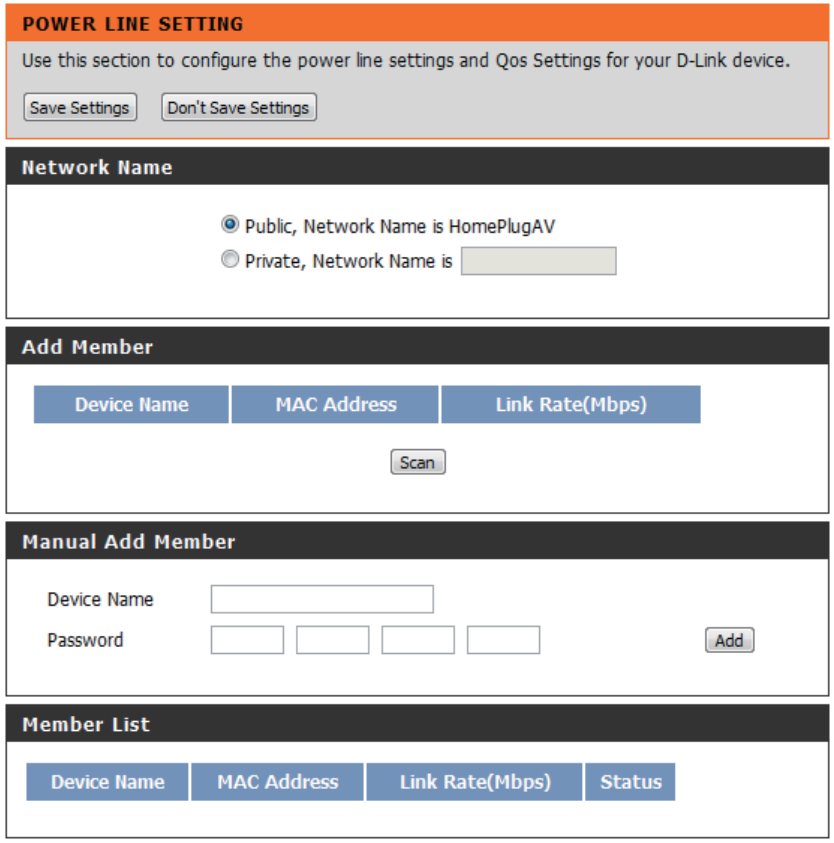
IPv6 DNS Settings: Select **Obtain IPv6 DNS Server automatically** or enter a specific DNS Server address.



Configuration
PLC Settings - AP Mode

This section will show you how to configure your new D-Link PowerLine AV using the web-based configuration utility.





Network Name: You can set the name of your network and to make it either public or private. Make sure the Network Name of all of the devices within your PowerLine network is the same.

Public Network Name: Select this option if you would like to make your PowerLine network public with the default Network Name of "HomePlugAV". Since this is a commonly used Network Name, it is less secure than a private Network Name.

Private Network Name: Select this option if you wish to make your PowerLine network more secure by using a private Network Name. Type the name of your private PowerLine network in the field.

Scan: Scan for new PowerLine devices.

Add Member: This section lets you add new PowerLine AV devices to your PowerLine network. To add a new device, give it a Device Name and enter its Password, then click Add. When you add a device it is given the current Network Name.

Device Name: Type a name you wish to use to identify a specific PowerLine AV device. For example, "Jack's room".

Password: The Password is used to verify that you are authorized to perform changes on a device. You can find the Password printed on the back of your device.

Member List: This section provides information on the PowerLine AV devices in your PowerLine network, or any devices that were previously connected but it are currently disconnected.

Link Rate: Displays the device's current data rate in Mbps.

Status: This field shows the status of the device. If the field displays the word Connect, then the device is connected to your PowerLine

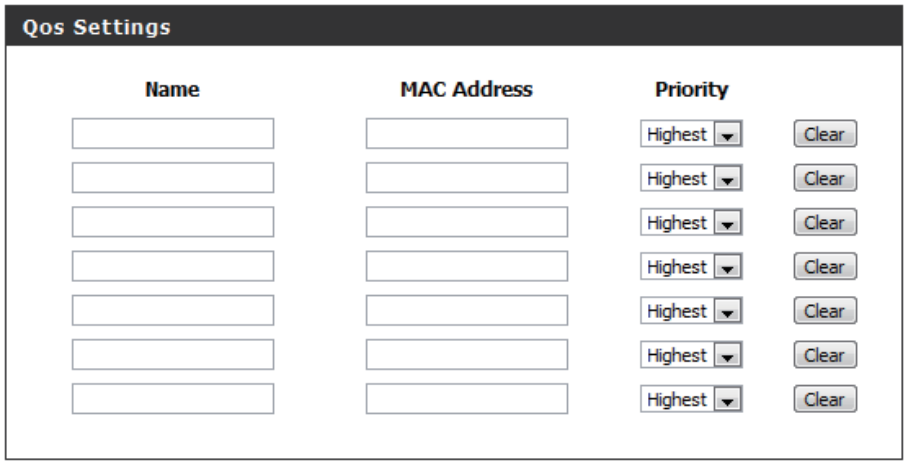
network. If the field displays the word Disconnect, then the device has been added to the network but it is not ready. Please check its password and make sure the device is powered on.

QoS Settings:

You can configure your PowerLine AV devices to give priority to the powerline network traffic accordingly. Enter the name, MAC Address, and priority level.

Mac Address:

You can find the MAC address printed on the back of your device.



Network Filter

Use MAC (Media Access Control) Filters to authorize wireless clients to access your network by their MAC addresses. When enabled, any client not on the MAC filter list will not be able to access your network.

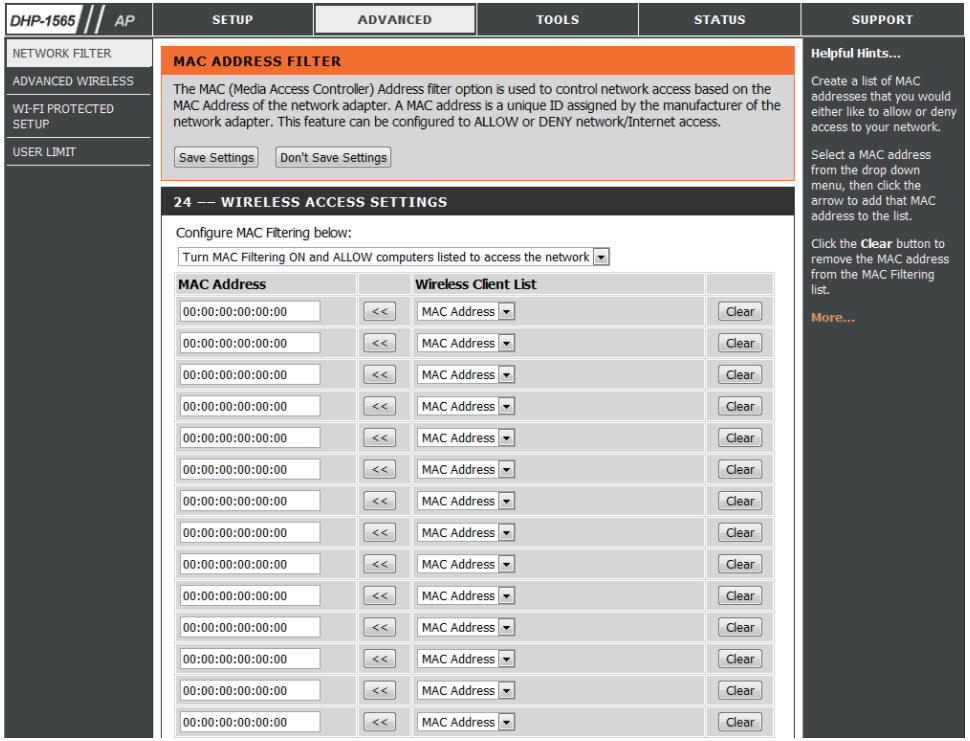
MAC Address Filter: Select **Enable** or Disable from the drop-down menu.

MAC Address: Enter the MAC address you would like to filter. To find the MAC address on a computer, please refer to the Networking Basics section in this manual. Click **Save Settings** to activate and save.

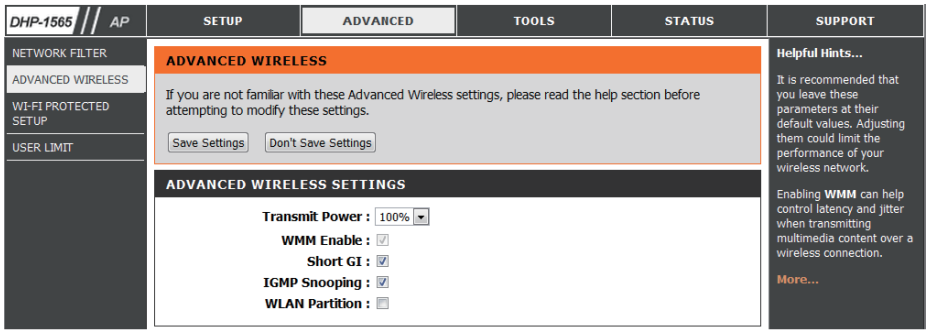
Note: Make sure to enter the computer you are currently using to configure the access point first or you will not be able to access the configuration utility once you click Save Settings.

Wireless Client List: Select a DHCP client from the drop-down menu and click to copy the MAC Address.

Save Settings: Click **Save Settings** to save and activate the new changes.



Advanced Wireless



Transmit Power: Sets the transmit power of the antennas.

Note: Transmit power is regulated by international standard. Users are forbidden to change its maximum limit.

WLAN Partition: Select this checkbox to enable WLAN partition. If this feature is enabled, then there is no barrier between communication among wireless stations connecting to the Access Point. If this is disabled, wireless clients are not allowed to exchange data through the Access Point.

WMM Enable: WMM is a Quality of Service (QoS) system for your wireless network. Enabling this feature will improve the quality of video and ice applications for your wireless clients.

Short GI: Check this box to reduce the guard interval time therefore increasing the data capacity. However, this setting less reliable and may create higher data loss.

Wi-Fi Protect Setup

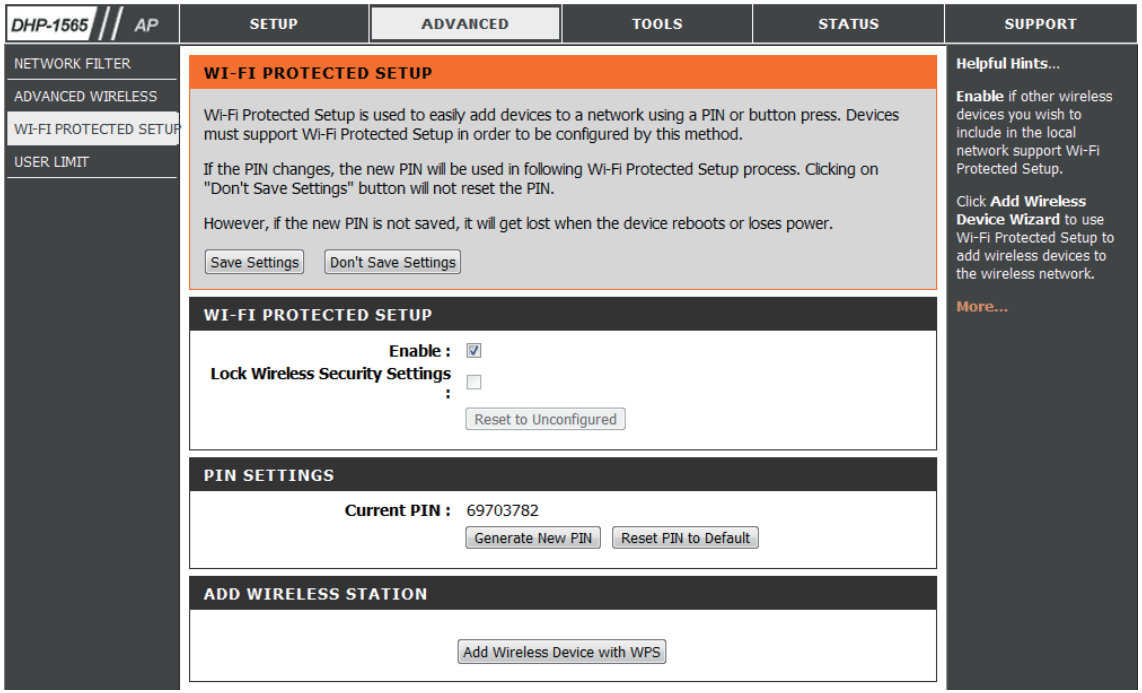
Wi-Fi Protect Setup: Enables the Wi-Fi Protected Setup feature.

Reset to Unconfigure: Restores the default Wi-Fi setup.

Current PIN: Shows the current value of the access point's PIN.

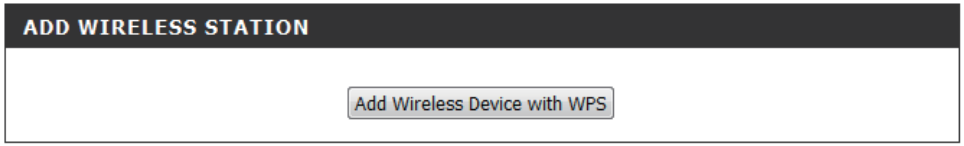
Generate New PIN: Create a random number that is a valid PIN. This becomes the access point's PIN. You can then copy this PIN to the user interface of the user.

Reset PIN to Default: Restores the default PIN of the access point.



Add Wireless Device with WPS

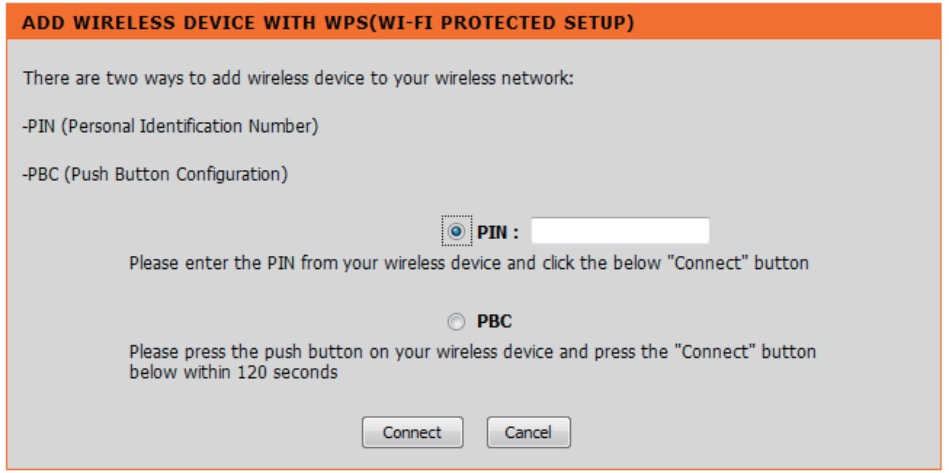
Click **Add Wireless Device with WPS**.



Adding a Wireless Device Using the PIN Method

If your wireless device supports WPS, select **Auto** and click **Next** to continue.

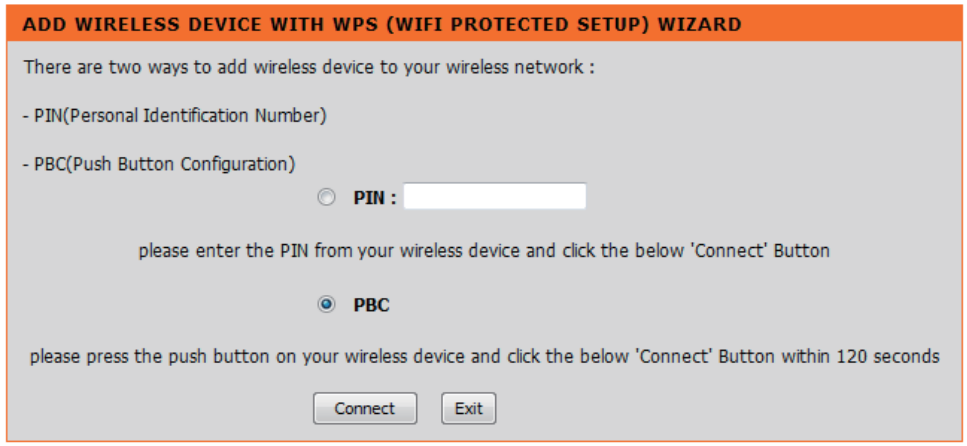
Please select one of the following configuration methods and click **Next** to continue.



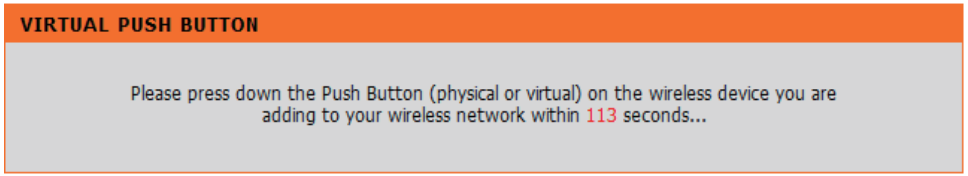
Adding a Wireless Device Using the PBC Method

Select PBC to use Push Button Configuration in order to connect to your network.

Click **Connect** to continue.



Press the Common Connect Button on the wireless device that you are adding to your network to complete the setup.



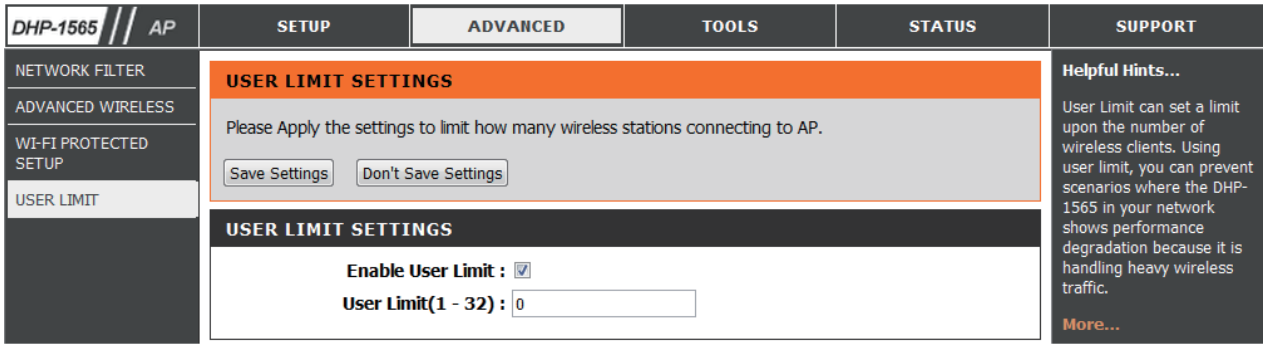
Manually Add Wireless Device with WPS

If you would like to add a wireless device with WPS manually, select **Manual** and click **Next** to continue.

Enter the following settings in the wireless device you are adding to your wireless network. Click **Ok** to continue.

User Limit Settings

In this section, you may set a limit to the number of wireless clients to prevent heavy wireless traffic.



Admin

This page will allow you to change the Administrator password. The administrator password has read/write access.

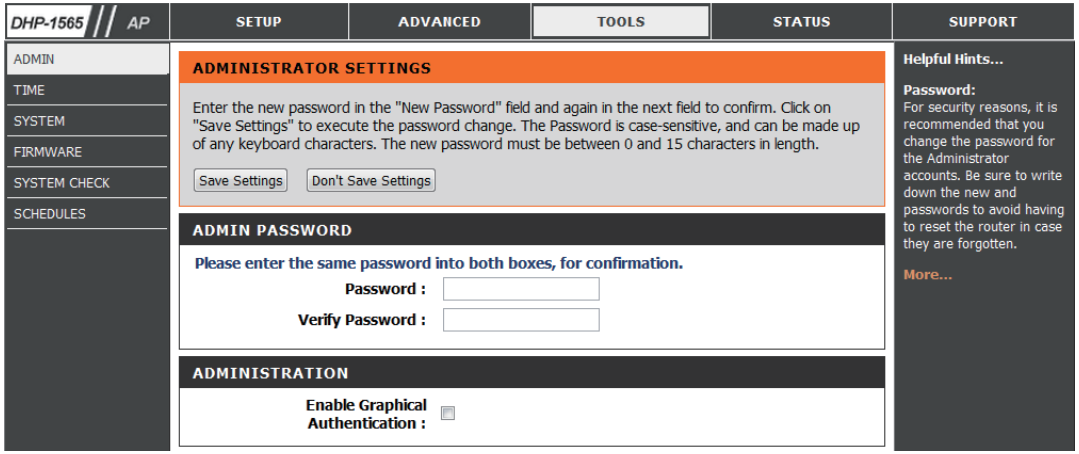
Password: Enter a new password for the Admin User Name. The administrator account can change the configuration of the device.

Verify Password: Enter the same password that you entered in the previous textbox in order to confirm its accuracy.

System Name: Enter DHP-1565.

Enable Graphical: Enables a challenge-response test which will require users to type letters or numbers from a distorted image displayed on the screen to prevent online hackers and unauthorized users from gaining access to your device's configuration. This feature is disabled by default.

Save Settings: Click **Save Settings** to save and activate the new changes.



Time

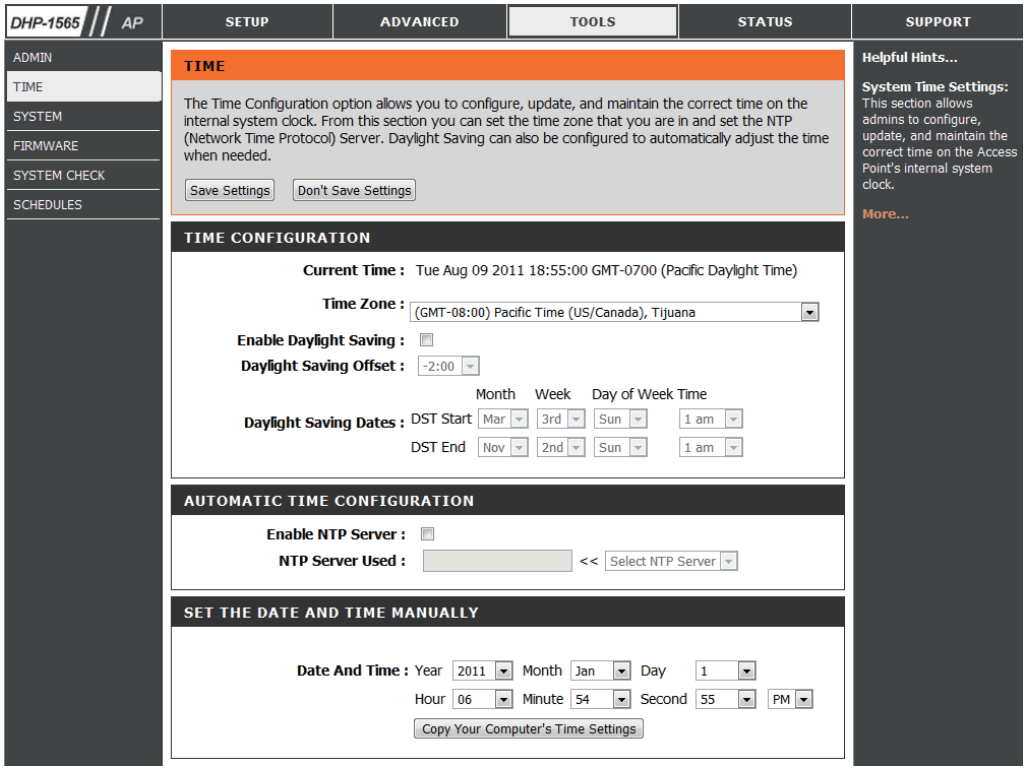
Time Zone: Select the Time Zone from the drop-down menu.

Daylight Saving: To select Daylight Saving time manually, select enabled or disabled, and enter a start date and an end date for daylight saving time.

Enable NTP Server: NTP is short for Network Time Protocol. NTP synchronizes computer clock times in a network of computers. Check this box to use a NTP server. This will only connect to a server on the Internet, not a local server.

NTP Server Used: Enter the NTP server or select one from the drop down menu.

Manual: To manually input the time, enter the values in these fields for the Year, Month, Day, Hour, Minute, and Second and then click **Set Time**. You can also click **Copy Your Computer's Time Settings**.



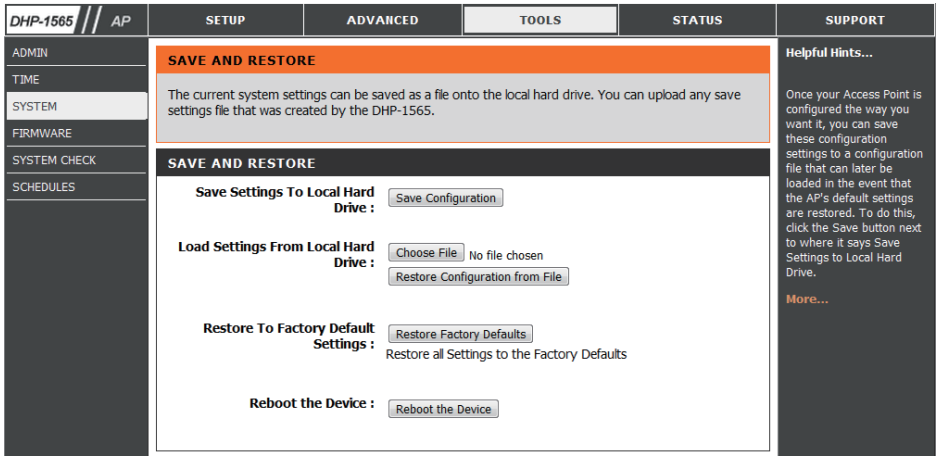
System Settings

Save Settings to Local Hard Drive: Use this option to save the current router configuration settings to a file on the hard disk of the computer you are using. First, click the **Save** button. You will then see a file dialog, where you can select a location and file name for the settings.

Load Settings from Local Hard Drive: Use this option to load previously saved router configuration settings. First, use the Browse control to find a previously save file of configuration settings. Then, click the **Load** button to transfer those settings to the router.

Restore to Factory Default Settings: This option will restore all configuration settings back to the settings that were in effect at the time the router was shipped from the factory. Any settings that have not been saved will be lost, including any rules that you have created. If you want to save the current router configuration settings, use the **Save** button above.

Reboot Device: Click to reboot the router.



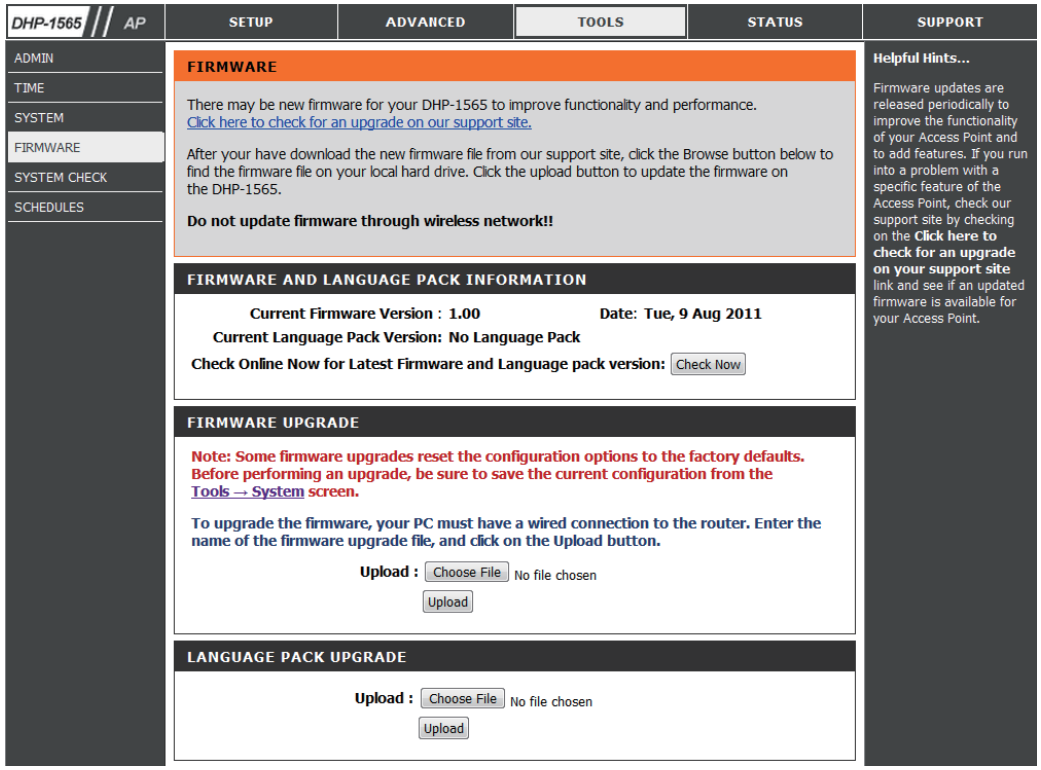
Firmware

You can upgrade the firmware of the access point from this page. Make sure the firmware you would like to use is on the local hard drive of your computer. Click **Browse...** to locate the firmware file to be used for the update. Please check the D-Link support site for firmware updates at http://support.dlink.com. You can download firmware upgrades to your hard drive from the D-Link support site.

Firmware Information: Click on the **Check Now** button to find out if there is an updated firmware or language pack version. If a new version exists, download the new firmware to your hard drive.

Firmware Upgrade: After you have downloaded the new firmware, click Browse to locate the firmware update on your hard drive. Click **Upload** to complete the firmware upgrade.

Notification Options: Check Online for the latest firmware version in order to have your router check automatically for new firmware upgrades.



Language Pack

You can change the language of the web UI by uploading available language packs.

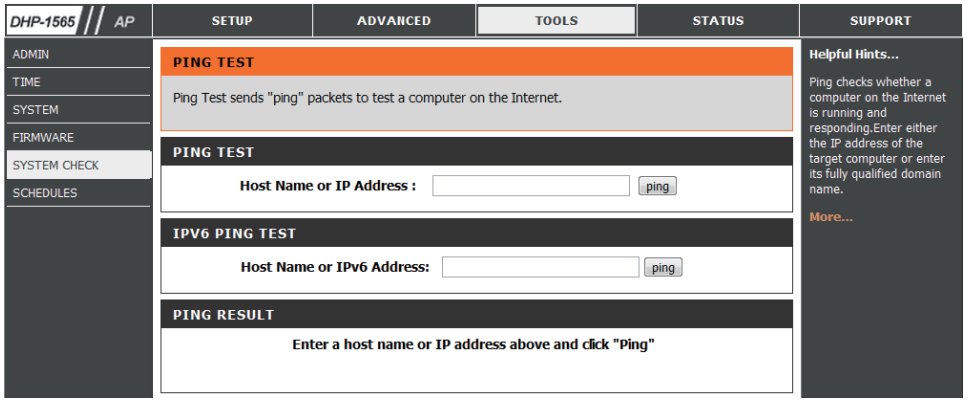
Choose File: After you have downloaded the new language pack, click **Choose File** to locate the language pack file on your hard drive. Click **Upload** to complete the language pack upgrade.

Note: In most cases you must unzip the file first before uploading.

System Check

Ping Test: The Ping Test is used to send Ping packets to test if a computer is on the Internet. Enter the IP Address or host name that you wish to Ping and click **Ping**.

Ping Results: The results of your ping attempts will be displayed here.



Schedules

Schedules can be created for use with enforcing rules. For example, if you would like to restrict web access to Mon-Fri from 3:00 p.m. to 8:00 p.m., you could create a schedule selecting Mon, Tue, Wed, Thu, and Fri and enter a Start Time of 3:00 p.m. and End Time of 8:00 p.m.

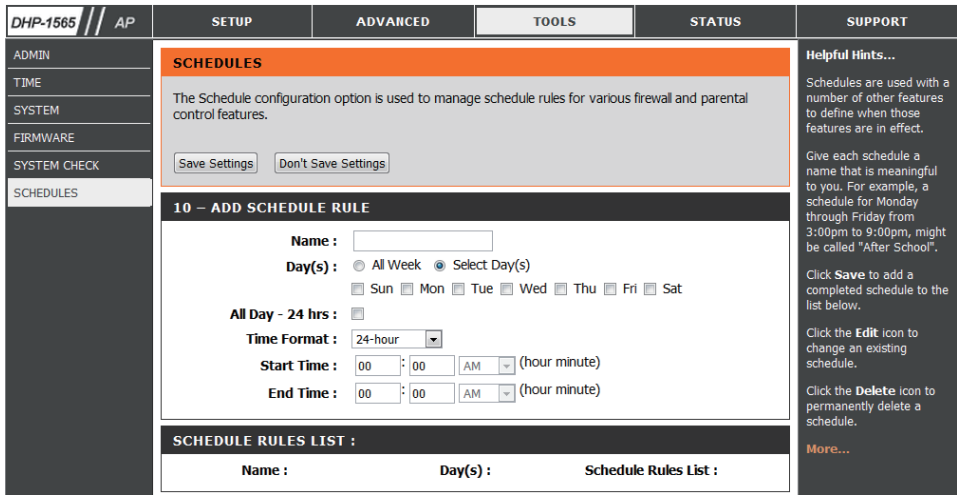
Name: Enter a name for your new schedule.

Days: Select a day, a range of days, or All Week to include every day.

Time: Check All Days or enter a start and end time for your schedule.

Add Schedule Rules: After making your changes, click **Save** to save the schedule rule.

List: The list of schedules will be listed here. Click the **Edit** icon to make changes or click the **Delete** icon to remove the schedule.



Status

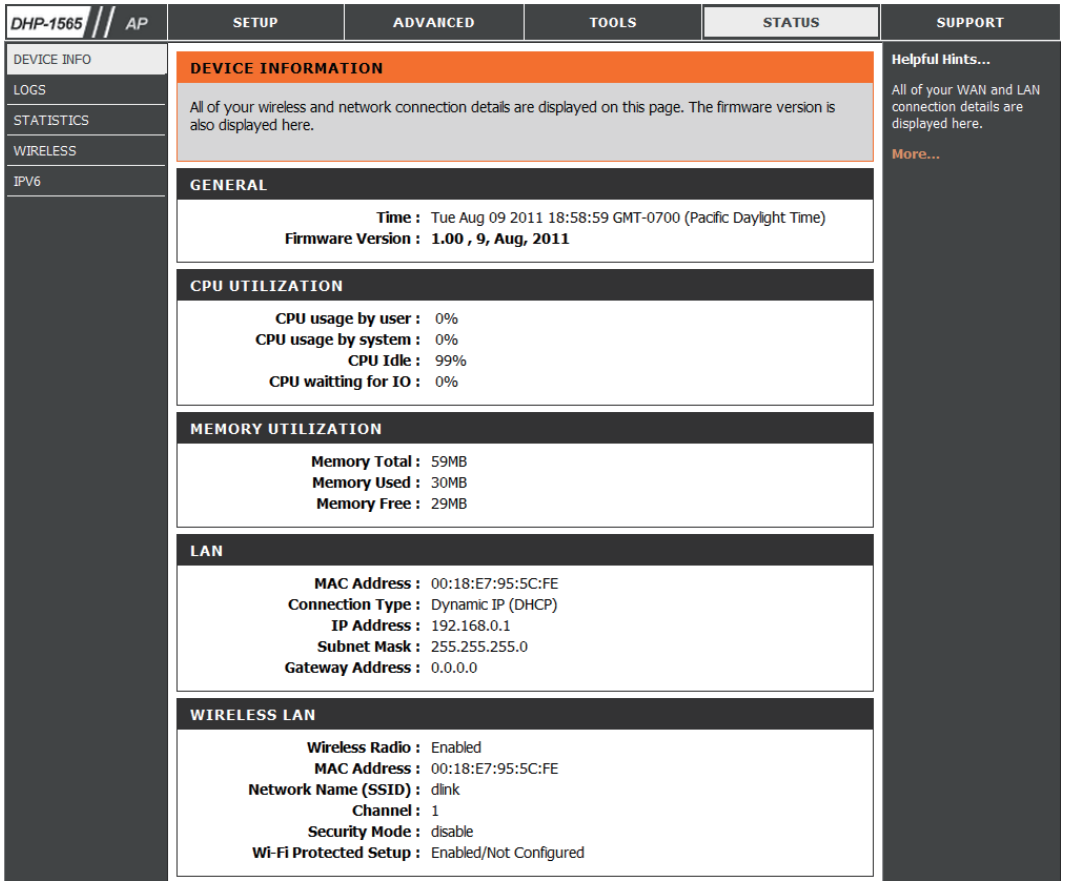
Device Info

This page displays the current information for the DHP-1565. It will display the LAN and wireless LAN information.

General: Displays the access point's time and firmware version.

LAN: Displays the MAC address and the private (local) IP settings for the access point.

Wireless LAN: Displays the wireless MAC address and your wireless settings such as SSID and Channel.



Logs

The DHP-1565 keeps a running log of events and activities occurring on the AP. If the AP is rebooted, the logs are automatically cleared. You can save the log files under Log Settings.

Log Options: You can select the types of messages that you would like to display from the log: System Activity, Debug Information, Attacks, Dropped Packets, and Notice. Select the types you want to view and click Apply Log Settings Now.

First Page: This button directs you to the first page of the log.

Last Page: This button directs you to the last page of the log.

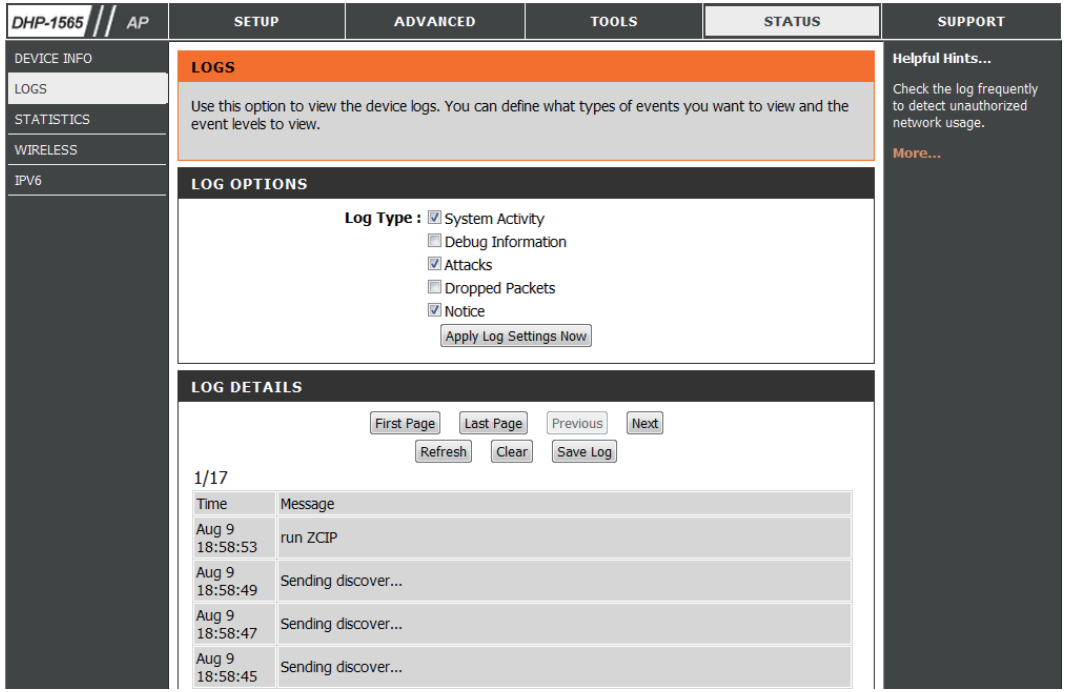
Previous: This button directs you to the previous page of the log.

Next: This button directs you to the next page of the log.

Clear: This button clears all current log content.

Log Settings: This button opens a new menu where you can configure the log settings.

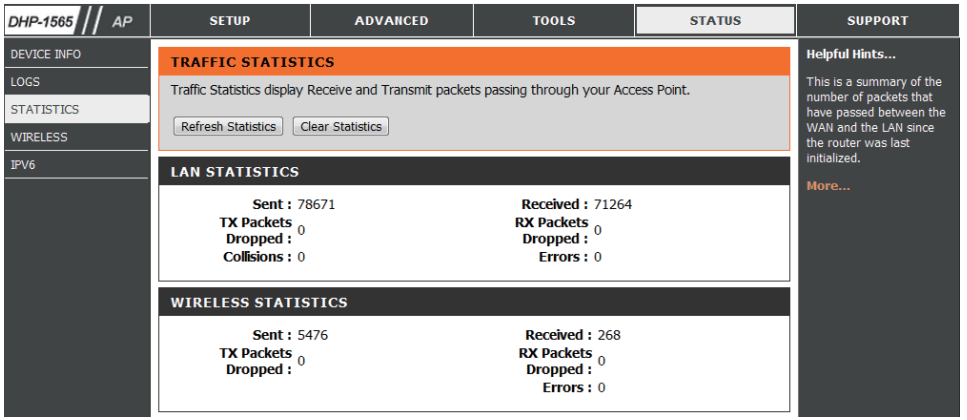
Refresh: This button refreshes the log.



Statistics

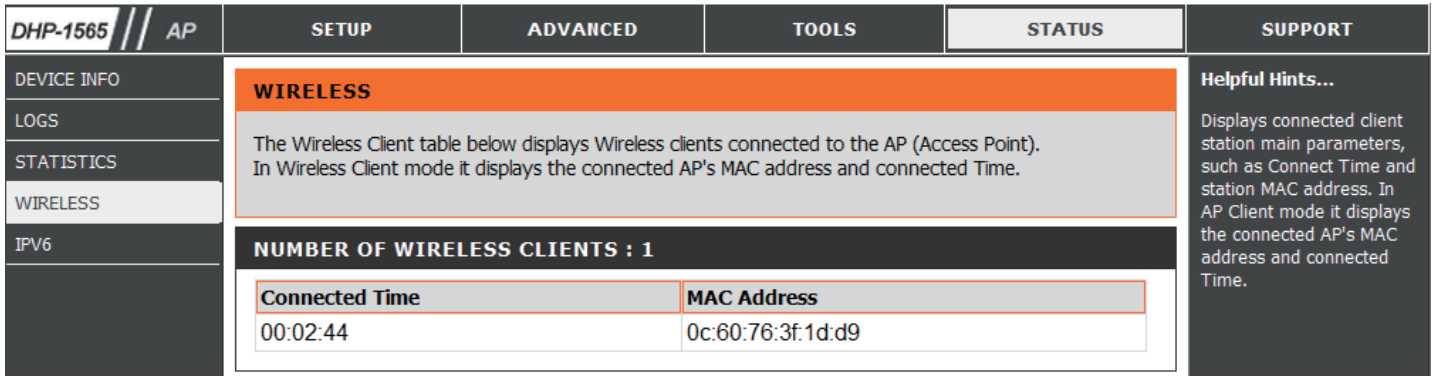
The DHP-1360 keeps statistics of the traffic that passes through it. You can view the amount of packets that pass through the LAN and wireless portions of the network. The traffic counter will reset if the access point is rebooted.

Refresh Statistics: Click the **Refresh** button to refresh the Access Point's traffic statistics.



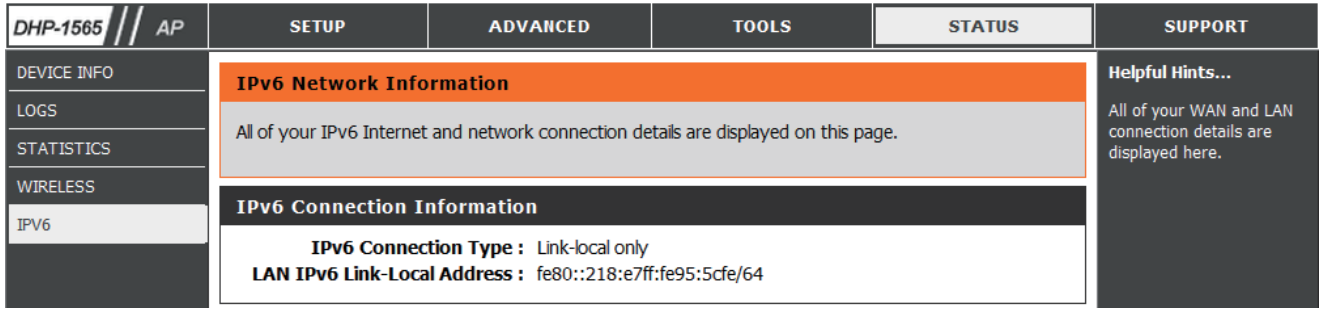
Wireless

This section allows you to view the wireless clients that are connected to your wireless access point.

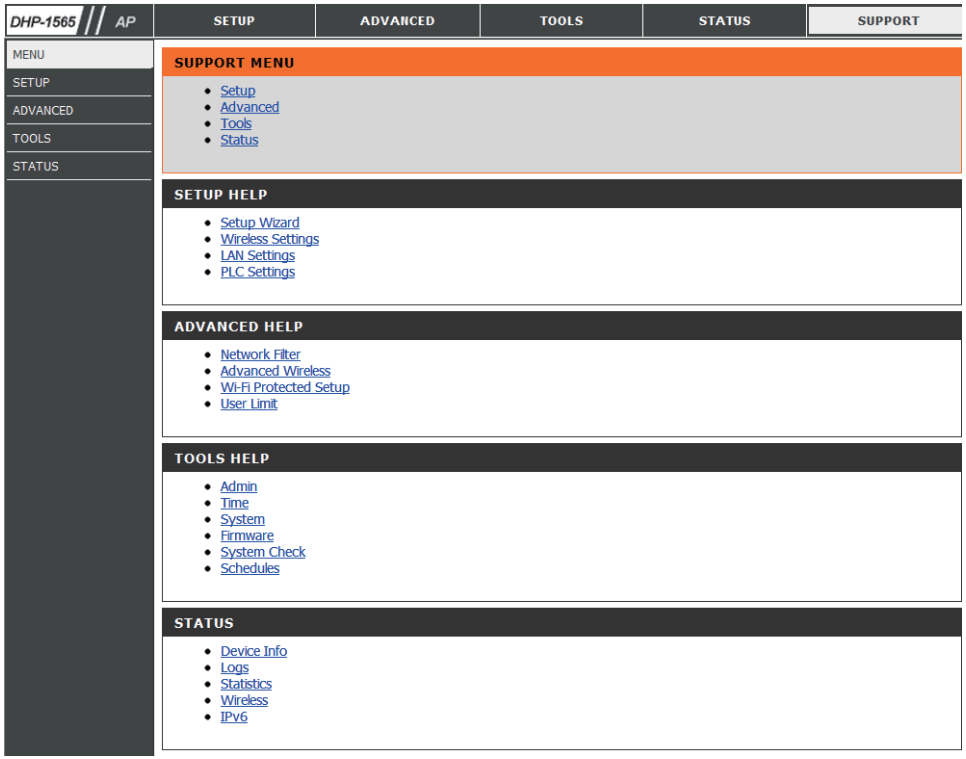


IPv6

This section will display all of your IPv6 Internet and network connection details.



Support


DHP-1565 // AP
SETUP
ADVANCED
TOOLS
STATUS
SUPPORT
MENU
SETUP
ADVANCED
TOOLS
STATUS
SUPPORT MENU
Setup
Advanced
Tools
Status
SETUP HELP
Setup Wizard
Wireless Settings
LAN Settings
PLC Settings
ADVANCED HELP
Network Filter
Advanced Wireless
Wi-Fi Protected Setup
User Limit
TOOLS HELP
Admin
Time
System
Firmware
System Check
Schedules
STATUS
Device Info
Logs
Statistics
Wireless
IPv6

Wireless Security

This section will show you the different levels of security you can use to protect your data from intruders. The DHP-1565 offers the following types of security:

- WPA2 (Wi-Fi Protected Access 2)
- WPA (Wi-Fi Protected Access)
- WPA2-PSK (Pre-Shared Key)
- WPA-PSK (Pre-Shared Key)

What is WPA?

WPA (Wi-Fi Protected Access), is a Wi-Fi standard that was designed to improve the security features of WEP (Wired Equivalent Privacy).

The 2 major improvements over WEP:

- Improved data encryption through the Temporal Key Integrity Protocol (TKIP). TKIP scrambles the keys using a hashing algorithm and, by adding an integrity-checking feature, ensures that the keys haven't been tampered with. WPA2 is based on 802.11i and uses Advanced Encryption Standard (AES) instead of TKIP.

- User authentication, which is generally missing in WEP, through the extensible authentication protocol (EAP). WEP regulates access to a wireless network based on a computer's hardware-specific MAC address, which is relatively simple to be sniffed out and stolen. EAP is built on a more secure public-key encryption system to ensure that only authorized network users can access the network.

WPA-PSK/WPA2-PSK uses a passphrase or key to authenticate your wireless connection. The key is an alpha-numeric password between 8 and 63 characters long. The password can include symbols (!?*&_) and spaces. This key must be the exact same key entered on your wireless router or access point.

WPA/WPA2 incorporates user authentication through the Extensible Authentication Protocol (EAP). EAP is built on a more secure public key encryption system to ensure that only authorized network users can access the network.

Configure WEP

It is recommended to enable encryption on your wireless router before your wireless network adapters. Please establish wireless connectivity before enabling encryption. Your wireless signal may degrade when enabling encryption due to the added overhead.

1. Log into the web-based configuration by opening a web browser and entering the IP address of the router (192.168.0.1).

2. Click on **Setup** and then click **Wireless Settings** on the left side.

3. Click the **Manual Wireless Connection Setup** button.

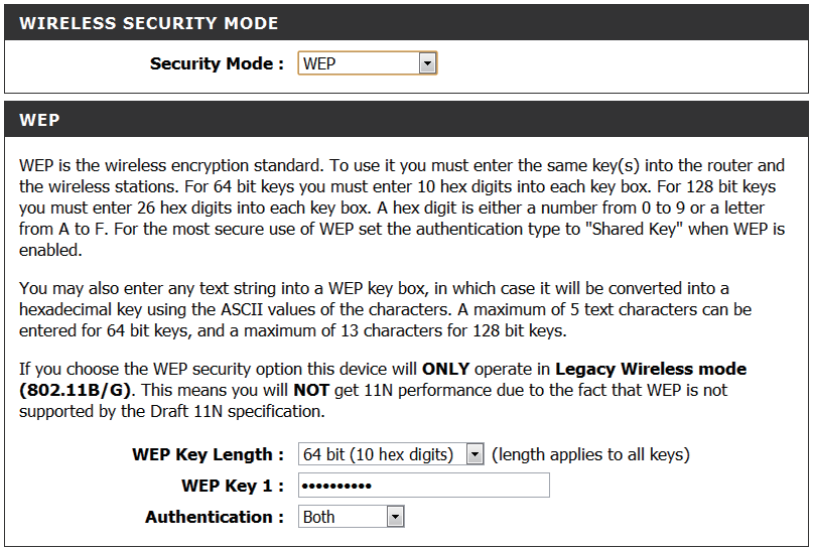
4. Next to *Security Mode*, select **WEP**.

5. Next to *WEP Encryption*, select **64bit** or **128bit**.

6. Next to *Default WEP Key*, select the WEP key you would like to use as the default WEP key. The available option is **WEP Key 1**.

7. Enter the WEP key you would like to use in the *WEP Key* field.

8. Click **Save Settings** to save your settings. If you are configuring the router with a wireless adapter, you will lose connectivity until you enable WEP on your adapter and enter the same WEP key as you did on the router.



Configure WPA/WPA2-Personal (PSK)

It is recommended to enable encryption on your wireless router before your wireless network adapters. Please establish wireless connectivity before enabling encryption. Your wireless signal may degrade when enabling encryption due to the added overhead.

1. Log into the web-based configuration by opening a web browser and entering the IP address of the router (192.168.0.1).

2. Click on **Setup** and then click **Wireless Settings** on the left side.

3. Click the **Manual Wireless Connection Setup** button.

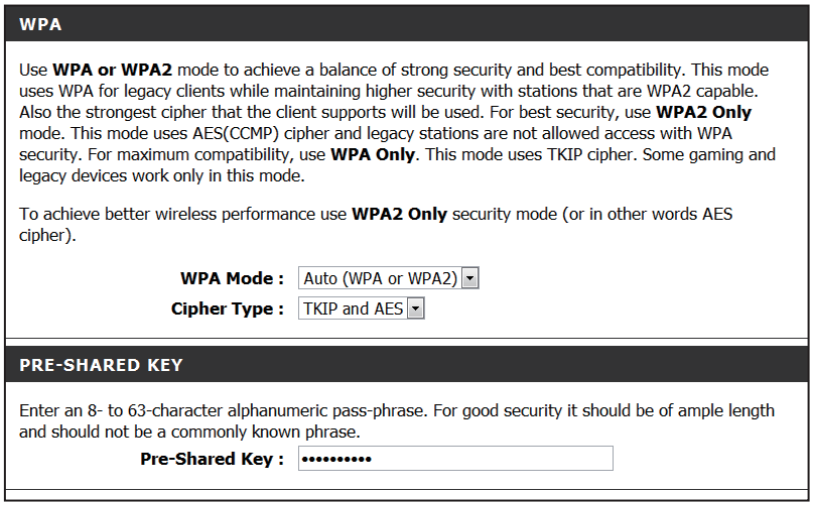
4. Next to *Security Mode*, select **WPA-Personal**

5. Next to *WPA Mode*, select **WPA/WPA2, WPA2 only** or **WPA only**

6. Next to *Cypher Type* select **TKIP, AES or TKIP** and **AES**.

7. Enter the **WPA network key** you would like to use in the *Network Key* field.

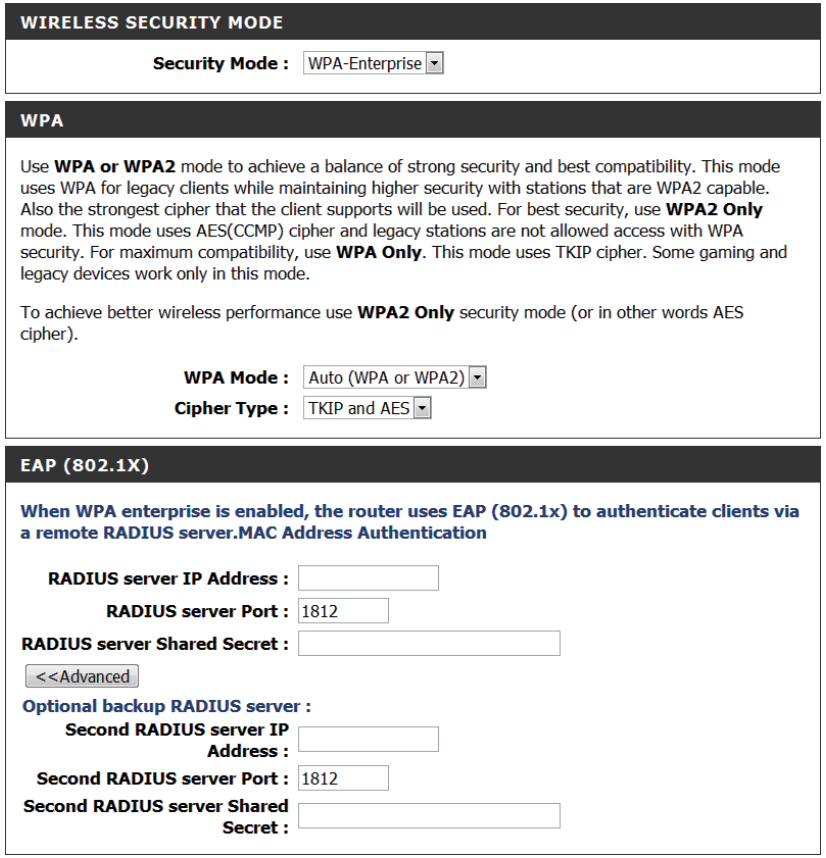
8. Click **Save Settings** to save your settings. If you are configuring the router with a wireless adapter, you will lose connectivity until you enable WPA-PSK on your adapter and enter the same passphrase as you did on the router.



Configure WPA/WPA2-Enterprise (RADIUS)

It is recommended to enable encryption on your wireless router before your wireless network adapters. Please establish wireless connectivity before enabling encryption. Your wireless signal may degrade when enabling encryption due to the added overhead.

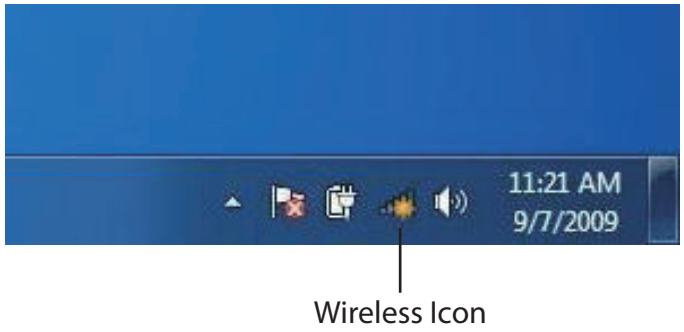
1. Log into the web-based configuration by opening a web browser and entering the IP address of the router (192.168.0.1).
2. Click on **Setup** and then click **Wireless Settings** on the left side.
3. Click the **Manual Wireless Connection Setup** button.
4. Next to *Security Mode*, select **WPA- Enterprise.**
5. Next to WPA mode, select **Auto (WPA** or **WPA2), WPA2 only** or **WPA only.**
6. Next to *Cipher Type*, select **(TKIP/AES)**, **TKIP**, or **AES**.
7. Next to *RADIUS Server IP Address* enter the IP Address of your RADIUS server.
8. Next to *Port*, enter the port you are using with your RADIUS server. 1812 is the default port.
9. Next to *Shared Secret*, enter the security key.
10. Click **Save Settings** to save your settings.



Connect to a Wireless Network
Using Windows® 7

It is recommended to enable wireless security (WPA/WPA2) on your wireless router or access point before configuring your wireless adapter. If you are joining an existing network, you will need to know the security key or passphrase being used.

1. Click on the wireless icon in your system tray (lower-right corner).

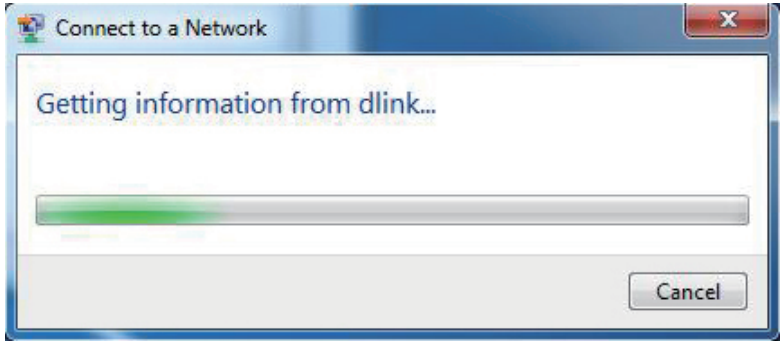


2. The utility will display any available wireless networks in your area.

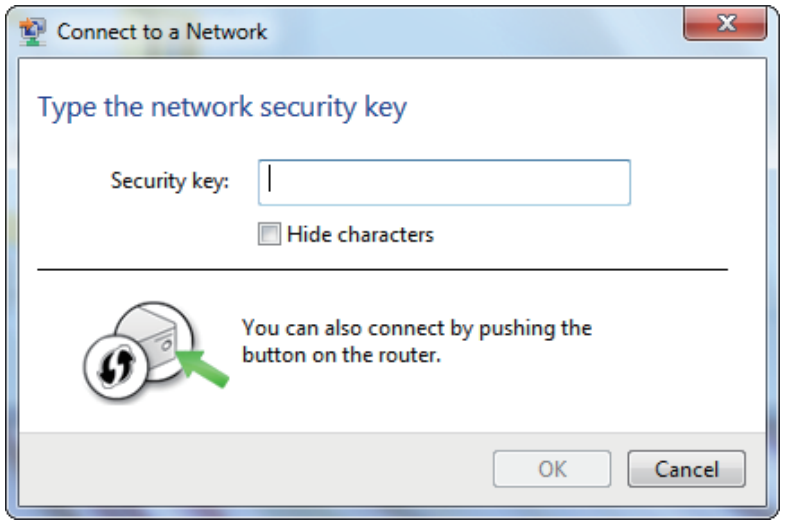
3. Highlight the wireless network (SSID) you would like to connect to and click the **Connect** button.

   If you get a good signal but cannot access the Internet, check your TCP/IP settings for your wireless adapter. Refer to the Networking Basics section in this manual for more information.

4. The following window appears while your computer tries to connect to the router.



5. Enter the same security key or passphrase that is on your router and click **Connect**. You can also connect by pushing the Common Connect Button on the router.

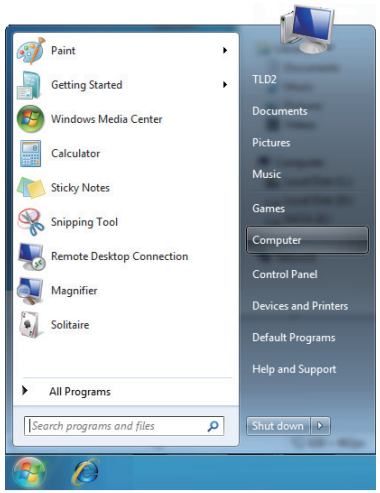


It may take 20-30 seconds to connect to the wireless network. If the connection fails, please verify that the security settings are correct. The key or passphrase must be exactly the same as on the wireless router.

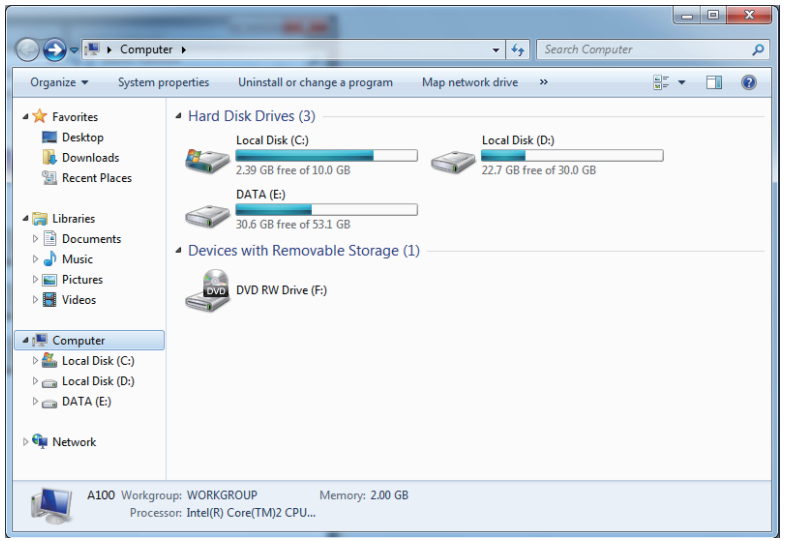
Configure WPS

The WPS feature of the router can be configured using Windows® 7. Carry out the following steps to use Windows® 7 to configure the WPS feature of the router:

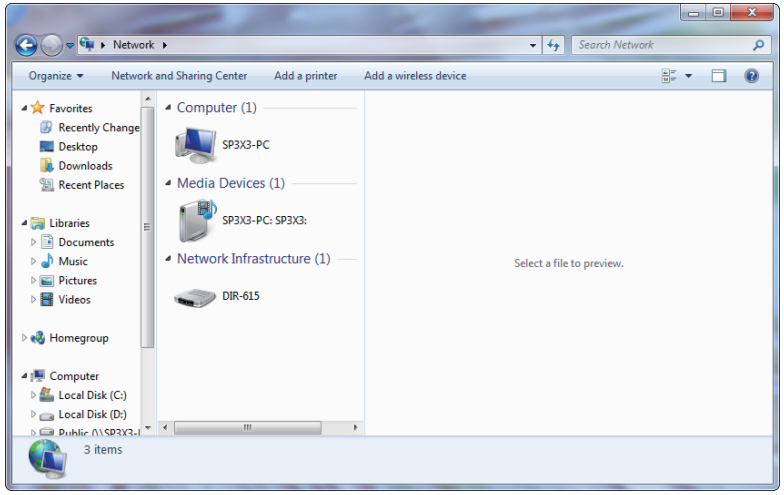
1. Click the **Start** button and select **Computer** from the Start menu.



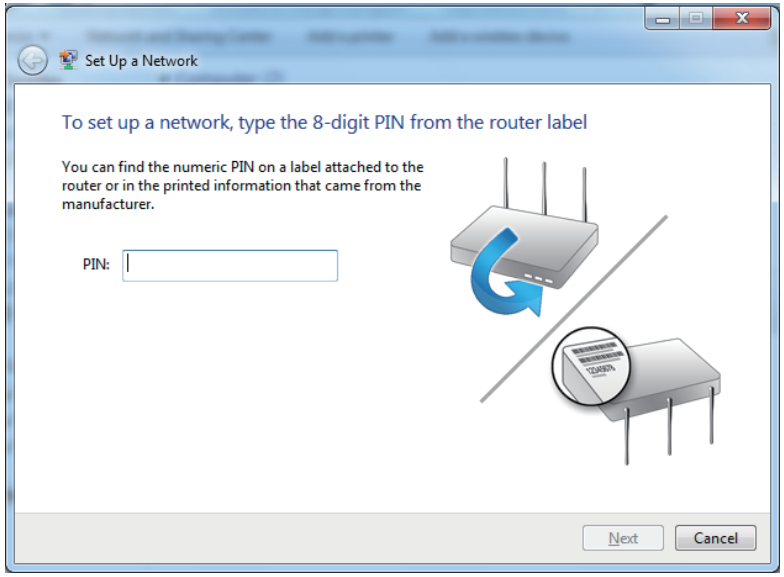
2. Click the **Network** option.



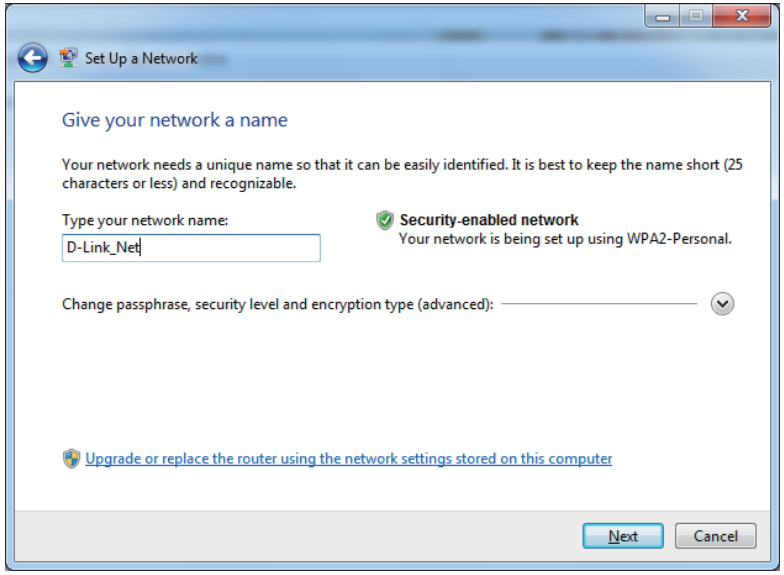
3. Double-click the DHP-1565.



4. Input the WPS PIN number (displayed in the WPS window on the Router's LCD screen or in the **Setup** > **Wireless Setup** menu in the Router's Web UI) and click **Next**.

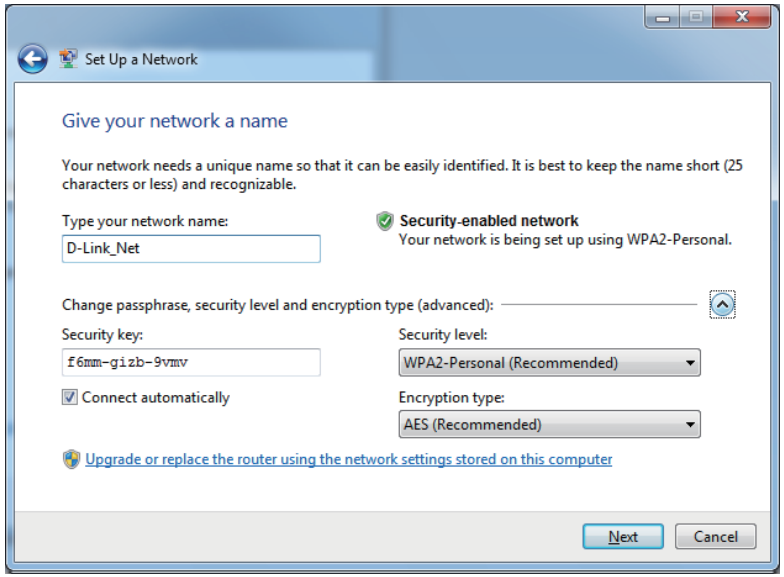


5. Type a name to identify the network.



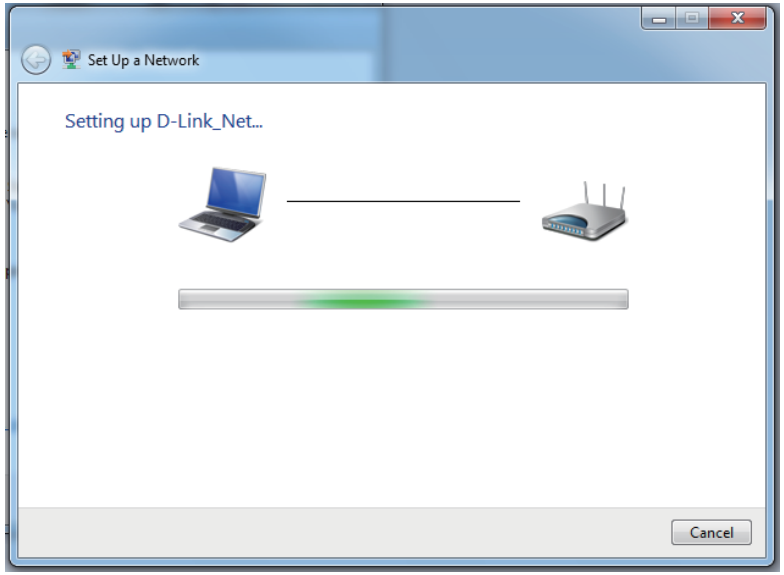
6. To configure advanced settings, click the icon.

Click **Next** to continue.



7. The following window appears while the Router is being configured.

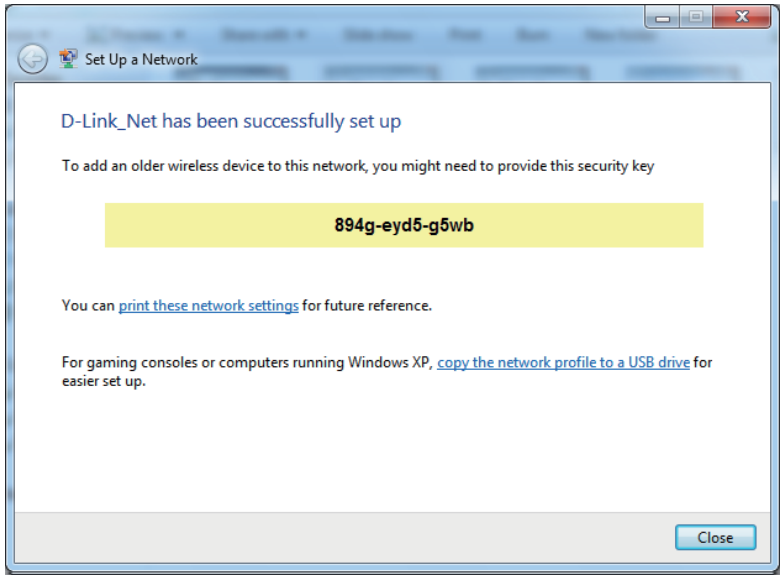
   Wait for the configuration to complete.



8. The following window informs you that WPS on the DHP-1565 has been setup successfully.

   Make a note of the security key as you may need to provide this security key if adding an older wireless device to the network in the future.

9. Click **Close** to complete WPS setup.



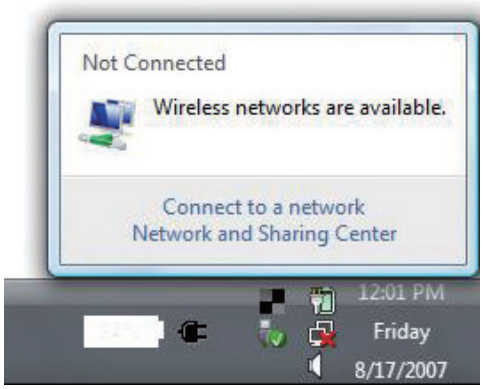
Using Windows Vista®

Windows Vista® users may use the built-in wireless utility. If you are using another company's utility or Windows® 2000, please refer to the user manual of your wireless adapter for help with connecting to a wireless network. Most utilities will have a "site survey" option similar to the Windows Vista® utility as seen below.

If you receive the **Wireless Networks Detected** bubble, click on the center of the bubble to access the utility.

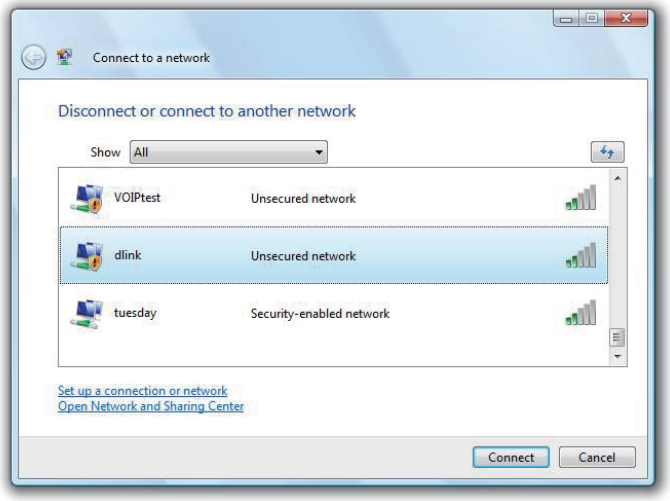
or

Right-click on the wireless computer icon in your system tray (lower-right corner next to the time). Select **Connect to a network**.



The utility will display any available wireless networks in your area. Click on a network (displayed using the SSID) and click the **Connect** button.

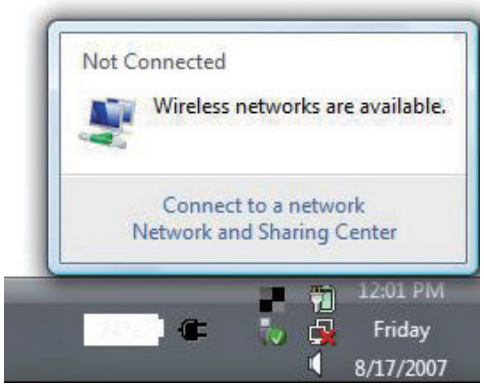
If you get a good signal but cannot access the Internet, check you TCP/IP settings for your wireless adapter. Refer to the **Networking Basics** section in this manual for more information.



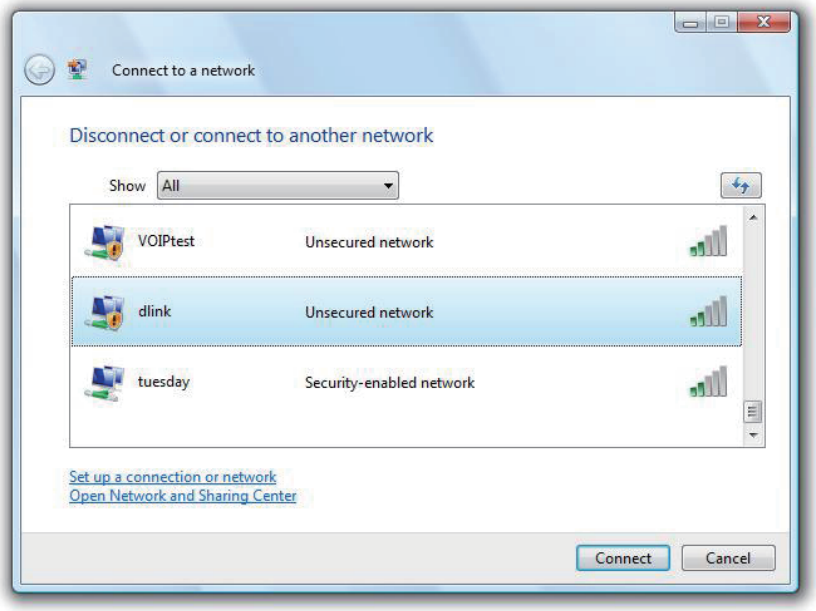
Configure Wireless Security

It is recommended to enable wireless security (WPA/WPA2) on your wireless router or access point before configuring your wireless adapter. If you are joining an existing network, you will need to know the security key or passphrase being used.

1. Open the Windows Vista® Wireless Utility by right-clicking on the wireless computer icon in your system tray (lower right corner of screen). Select **Connect to a network**.



2. Highlight the wireless network (SSID) you would like to connect to and click **Connect**.



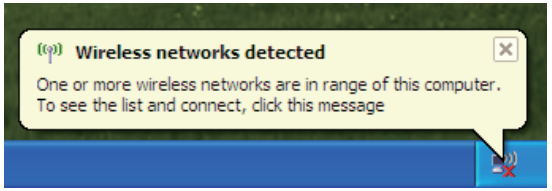
3. Enter the same security key or passphrase that is on your router and click **Connect**.

It may take 20-30 seconds to connect to the wireless network. If the connection fails, please verify that the security settings are correct. The key or passphrase must be exactly the same as on the wireless router.

Using Windows® XP

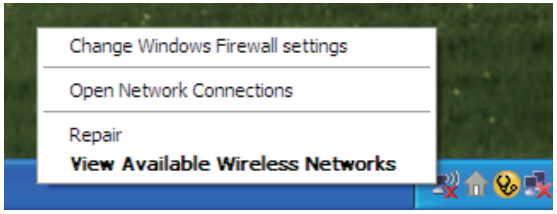
Windows® XP users may use the built-in wireless utility (Zero Configuration Utility). The following instructions are for Service Pack 2 users. If you are using another company's utility or Windows® 2000, please refer to the user manual of your wireless adapter for help with connecting to a wireless network. Most utilities will have a "site survey" option similar to the Windows® XP utility as seen below.

If you receive the **Wireless Networks Detected** bubble, click on the center of the bubble to access the utility.



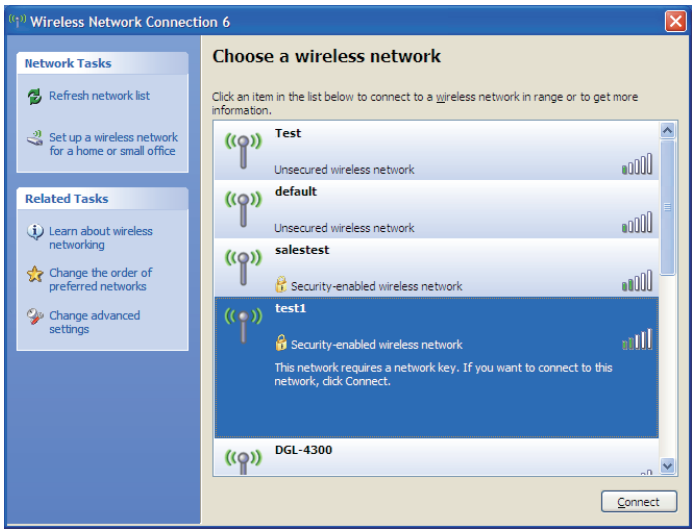
or

Right-click on the wireless computer icon in your system tray (lower-right corner next to the time). Select **View Available Wireless Networks**.



The utility will display any available wireless networks in your area. Click on a network (displayed using the SSID) and click the **Connect** button.

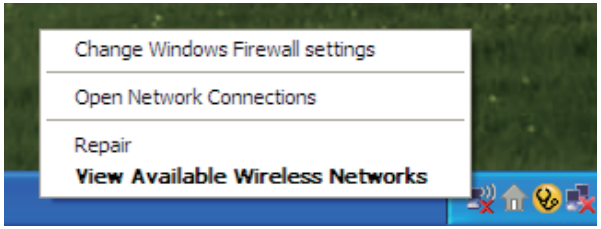
If you get a good signal but cannot access the Internet, check you TCP/IP settings for your wireless adapter. Refer to the **Networking Basics** section in this manual for more information.



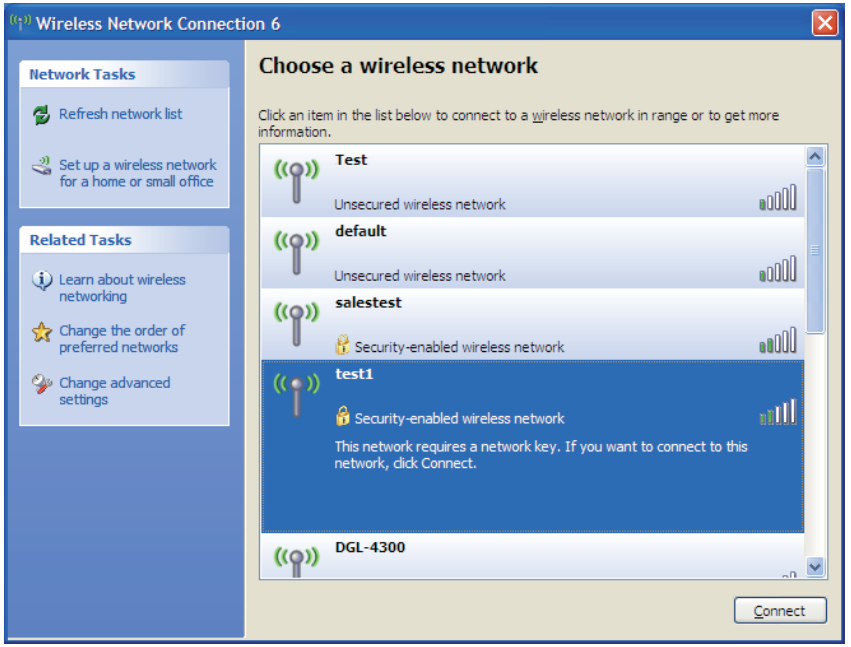
Configure WPA-PSK

It is recommended to enable WPA on your wireless router or access point before configuring your wireless adapter. If you are joining an existing network, you will need to know the WPA key being used.

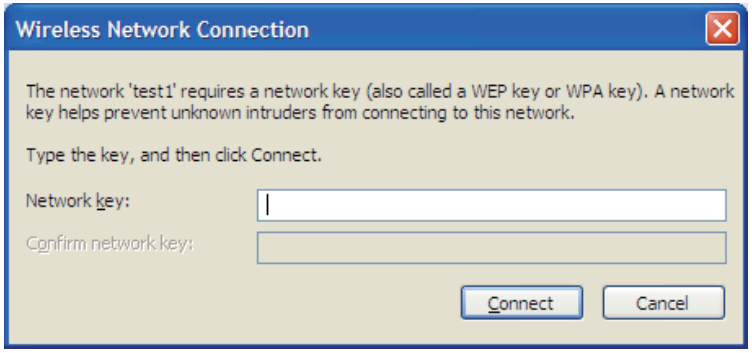
1. Open the Windows® XP Wireless Utility by right-clicking on the wireless computer icon in your system tray (lower-right corner of screen). Select **View Available Wireless Networks**.



2. Highlight the wireless network (SSID) you would like to connect to and click **Connect**.



3. The **Wireless Network Connection** box will appear. Enter the WPA-PSK passphrase and click **Connect**.



It may take 20-30 seconds to connect to the wireless network. If the connection fails, please verify that the WPA-PSK settings are correct. The WPA-PSK passphrase must be exactly the same as on the wireless router.

Troubleshooting

This chapter provides solutions to problems that can occur during the installation and operation of the DHP-1565. Read the following descriptions if you are having problems. The examples below are illustrated in Windows® XP. If you have a different operating system, the screenshots on your computer will look similar to the following examples.

1. Why can't I access the web-based configuration utility?

When entering the IP address of the D-Link router (192.168.0.1 for example), you are not connecting to a website nor do you have to be connected to the Internet. The device has the utility built-in to a ROM chip in the device itself. Your computer must be on the same IP subnet to connect to the web-based utility.

- Make sure you have an updated Java-enabled web browser. We recommend the following:

  - Microsoft Internet Explorer® 6.0 and higher
  - Mozilla Firefox 3.0 and higher
  - Google™ Chrome 2.0 and higher
  - Apple Safari 3.0 and higher

- Verify physical connectivity by checking for solid link lights on the device. If you do not get a solid link light, try using a different cable or connect to a different port on the device if possible. If the computer is turned off, the link light may not be on.

- Disable any Internet security software running on the computer. Software firewalls such as Zone Alarm, Black Ice, Sygate, Norton Personal Firewall, and Windows® XP firewall may block access to the configuration pages. Check the help files included with your firewall software for more information on disabling or configuring it.

- Configure your Internet settings:
    - Go to **Start** > **Settings** > **Control Panel**. Double-click the **Internet Options** Icon. From the **Security** tab, click the button to restore the settings to their defaults.
    - Click the **Connection** tab and set the dial-up option to Never Dial a Connection. Click the LAN Settings button. Make sure nothing is checked. Click **OK**.
    - Go to the **Advanced** tab and click the button to restore these settings to their defaults. Click **OK** three times.
    - Close your web browser (if open) and open it.
- Access the web management. Open your web browser and enter the IP address of your D-Link router in the address bar. This should open the login page for your web management.
- If you still cannot access the configuration, unplug the power to the router for 10 seconds and plug back in. Wait about 30 seconds and try accessing the configuration. If you have multiple computers, try connecting using a different computer.

2. What can I do if I forgot my password?

If you forgot your password, you must reset your router. Unfortunately this process will change all your settings back to the factory defaults.

To reset the router, locate the reset button (hole) on the rear panel of the unit. With the router powered on, use a paperclip to hold the button down for 5 seconds. Release the button and the router will go through its reboot process. Wait about 30 seconds to access the router. The default IP address is 192.168.0.1. When logging in, the username is **admin** and leave the password box empty.

3. Why can't I connect to certain sites or send and receive emails when connecting through my router?

If you are having a problem sending or receiving e-mail, or connecting to secure sites such as eBay, banking sites, and Hotmail, we suggest lowering the MTU in increments of ten (Ex. 1492, 1482, 1472, etc).

Note: AOL DSL+ users must use MTU of 1400.

To find the proper MTU Size, you'll have to do a special ping of the destination you're trying to go to. A destination could be another computer, or a URL.

- Click on **Start** and then click **Run**.
- Windows® 95, 98, and Me users type in **command** (Windows® NT, 2000, and XP users type in **cmd**) and press **Enter** (or click **OK**).
- Once the window opens, you'll need to do a special ping. Use the following syntax:

  ping [url] [-f] [-l] [MTU value]

Example: **ping yahoo.com -f -l 1472**

```
C:\>ping yahoo.com -f -l 1482

Pinging yahoo.com [66.94.234.13] with 1482 bytes of data:

Packet needs to be fragmented but DF set.
Packet needs to be fragmented but DF set.
Packet needs to be fragmented but DF set.
Packet needs to be fragmented but DF set.

Ping statistics for 66.94.234.13:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum =  0ms, Average =  0ms

C:\>ping yahoo.com -f -l 1472

Pinging yahoo.com [66.94.234.13] with 1472 bytes of data:

Reply from 66.94.234.13: bytes=1472 time=93ms TTL=52
Reply from 66.94.234.13: bytes=1472 time=109ms TTL=52
Reply from 66.94.234.13: bytes=1472 time=125ms TTL=52
Reply from 66.94.234.13: bytes=1472 time=203ms TTL=52

Ping statistics for 66.94.234.13:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 93ms, Maximum =  203ms, Average =  132ms

C:\>
```

You should start at 1472 and work your way down by 10 each time. Once you get a reply, go up by 2 until you get a fragmented packet. Take that value and add 28 to the value to account for the various TCP/IP headers. For example, lets say that

1452 was the proper value, the actual MTU size would be 1480, which is the optimum for the network we're working with (1452+28=1480).

Once you find your MTU, you can now configure your router with the proper MTU size.

To change the MTU rate on your router follow the steps below:

- Open your browser, enter the IP address of your router (192.168.0.1) and click **OK**.
- Enter your username (admin) and password (blank by default). Click **OK** to enter the web configuration page for the device.
- Click on **Setup** and then click **Manual Configure**.
- To change the MTU enter the number in the MTU field and click **Save Settings** to save your settings.
- Test your e-mail. If changing the MTU does not resolve the problem, continue changing the MTU in increments of ten.

Wireless Basics

D-Link wireless products are based on industry standards to provide easy-to-use and compatible high-speed wireless connectivity within your home, business or public access wireless networks. Strictly adhering to the IEEE standard, the D-Link wireless family of products will allow you to securely access the data you want, when and where you want it. You will be able to enjoy the freedom that wireless networking delivers.

A wireless local area network (WLAN) is a cellular computer network that transmits and receives data with radio signals instead of wires. Wireless LANs are used increasingly in both home and office environments, and public areas such as airports, coffee shops and universities. Innovative ways to utilize WLAN technology are helping people to work and communicate more efficiently. Increased mobility and the absence of cabling and other fixed infrastructure have proven to be beneficial for many users.

Wireless users can use the same applications they use on a wired network. Wireless adapter cards used on laptop and desktop systems support the same protocols as Ethernet adapter cards.

Under many circumstances, it may be desirable for mobile network devices to link to a conventional Ethernet LAN in order to use servers, printers or an Internet connection supplied through the wired LAN. A Wireless Router is a device used to provide this link.

What is Wireless?

Wireless or Wi-Fi technology is another way of connecting your computer to the network without using wires. Wi-Fi uses radio frequency to connect wirelessly, so you have the freedom to connect computers anywhere in your home or office network.

Why D-Link Wireless?

D-Link is the worldwide leader and award winning designer, developer, and manufacturer of networking products. D-Link delivers the performance you need at a price you can afford. D-Link has all the products you need to build your network.

How does wireless work?

Wireless works similar to how cordless phone work, through radio signals to transmit data from one point A to point B. But wireless technology has restrictions as to how you can access the network. You must be within the wireless network range area to be able to connect your computer. There are two different types of wireless networks Wireless Local Area Network (WLAN), and Wireless Personal Area Network (WPAN).

Wireless Local Area Network (WLAN)

In a wireless local area network, a device called an Access Point (AP) connects computers to the network. The access point has a small antenna attached to it, which allows it to transmit data back and forth over radio signals. With an indoor access point as seen in the picture, the signal can travel up to 300 feet. With an outdoor access point the signal can reach out up to 30 miles to serve places like manufacturing plants, industrial locations, college and high school campuses, airports, golf courses, and many other outdoor venues.

Wireless Personal Area Network (WPAN)

Bluetooth is the industry standard wireless technology used for WPAN. Bluetooth devices in WPAN operate in a range up to 30 feet away. Compared to WLAN the speed and wireless operation range are both less than WLAN, but in return it doesn't use nearly as much power which makes it ideal for personal devices, such as mobile phones, PDAs, headphones, laptops, speakers, and other devices that operate on batteries.

Who uses wireless?

Wireless technology as become so popular in recent years that almost everyone is using it, whether it's for home, office, business, D-Link has a wireless solution for it.

Home

- Gives everyone at home broadband access
- Surf the web, check e-mail, instant message, etc.
- Gets rid of the cables around the house
- Simple and easy to use

Small Office and Home Office

- Stay on top of everything at home as you would at office
- Remotely access your office network from home
- Share Internet connection and printer with multiple computers
- No need to dedicate office space

Where is wireless used?

Wireless technology is expanding everywhere not just at home or office. People like the freedom of mobility and it's becoming so popular that more and more public facilities now provide wireless access to attract people. The wireless connection in public places is usually called "hotspots".

Using a D-Link Cardbus Adapter with your laptop, you can access the hotspot to connect to Internet from remote locations like: Airports, Hotels, Coffee Shops, Libraries, Restaurants, and Convention Centers.

Wireless network is easy to setup, but if you're installing it for the first time it could be quite a task not knowing where to start. That's why we've put together a few setup steps and tips to help you through the process of setting up a wireless network.

Tips

Here are a few things to keep in mind, when you install a wireless network.

Centralize your router or Access Point

Make sure you place the router/access point in a centralized location within your network for the best performance. Try to place the router/access point as high as possible in the room, so the signal gets dispersed throughout your home. If you have a two-story home, you may need a repeater to boost the signal to extend the range.

Eliminate Interference

Place home appliances such as cordless telephones, microwaves, and televisions as far away as possible from the router/access point. This would significantly reduce any interference that the appliances might cause since they operate on same frequency.

Security
Don't let you next-door neighbors or intruders connect to your wireless network. Secure your wireless network by turning on the WPA or WEP security feature on the router. Refer to product manual for detail information on how to set it up.

Wireless Modes

There are basically two modes of networking:

- **Infrastructure** – All wireless clients will connect to an access point or wireless router.

- **Ad-Hoc** – Directly connecting to another computer, for peer-to-peer communication, using wireless network adapters on each computer, such as two or more DHP-1565 wireless network Cardbus adapters.

An Infrastructure network contains an Access Point or wireless router. All the wireless devices, or clients, will connect to the wireless router or access point.

An Ad-Hoc network contains only clients, such as laptops with wireless cardbus adapters. All the adapters must be in Ad-Hoc mode to communicate.

Networking Basics

Check your IP address

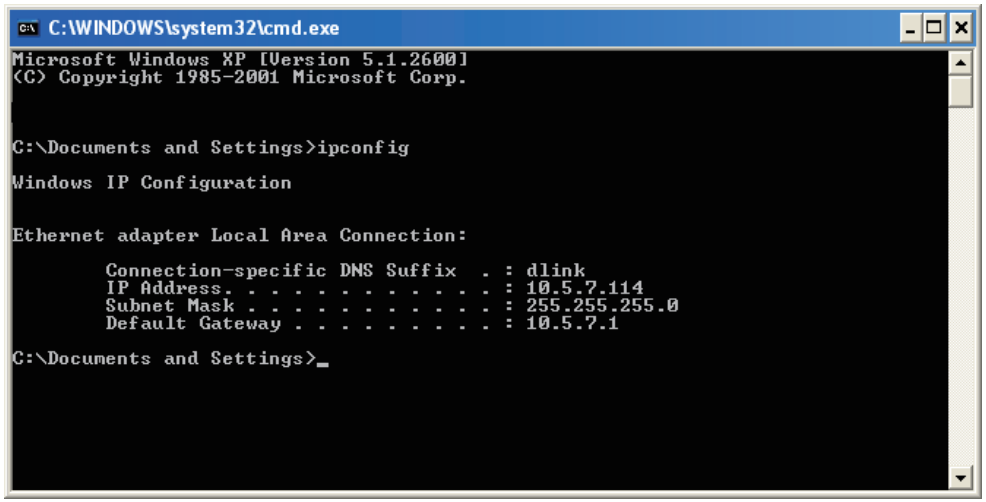
After you install your new D-Link adapter, by default, the TCP/IP settings should be set to obtain an IP address from a DHCP server (i.e. wireless router) automatically. To verify your IP address, please follow the steps below.

Click on **Start** > **Run**. In the run box type ***cmd*** and click **OK.** (Windows® 7/Vista® users type *cmd* in the **Start Search** box.)

At the prompt, type ***ipconfig*** and press **Enter**.

This will display the IP address, subnet mask, and the default gateway of your adapter.

If the address is 0.0.0.0, check your adapter installation, security settings, and the settings on your router. Some firewall software programs may block a DHCP request on newly installed adapters.



Statically Assign an IP address

If you are not using a DHCP capable gateway/router, or you need to assign a static IP address, please follow the steps below:

Step 1

Windows® 7 - Click on **Start** > **Control Panel** > **Network and Internet** > **Network and Sharing Center** > **Change Adapter Settings.**
Windows Vista® - Click on **Start** > **Control Panel** > **Network and Internet** > **Network and Sharing Center** > **Manage Network Connections.**

Windows® XP - Click on **Start** > **Control Panel** > **Network Connections**.

Windows® 2000 - From the desktop, right-click **My Network Places** > **Properties**.

Step 2

Right-click on the **Local Area Connection** which represents your network adapter and select **Properties**.

Step 3

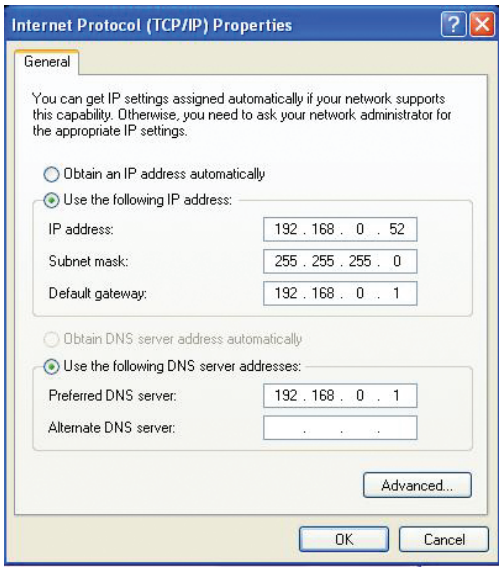
Highlight **Internet Protocol (TCP/IP)** and click **Properties**.

Step 4

Click **Use the following IP address** and enter an IP address that is on the same subnet as your network or the LAN IP address on your router.

Example: If the router´s LAN IP address is 192.168.0.1, make your IP address 192.168.0.X where X is a number between 2 and 99. Make sure that the number you choose is not in use on the network. Set Default Gateway the same as the LAN IP address of your router (192.168.0.1).

Set Primary DNS the same as the LAN IP address of your router (192.168.0.1). The Secondary DNS is not needed or you may enter a DNS server from your ISP.



Step 5

Click **OK** twice to save your settings.

Technical Specifications

Standards
- IEEE 802.3
- IEEE 802.3u
- IEEE 802.11b
- IEEE 802.11g
- IEEE 802.11n
- HomePlug AV

Ethernet Interface
- 10/100/1000 Base-TX Ethernet Port with Auto MDI/MDIX
- RJ-45 Connector

Security
- 128-bit AES Data encryption
- WEP 64/128-Bit Data encryption
- Wi-Fi Protected Access (WPA/WPA2)
- WPS™

Maximum PowerLine Data Rate
- 500 Mbps

Antenna
- Two fixed internal 2 dBi Omni-direction antennas

PowerLine Modulations Scheme
- OFDM Symbol Modulation

PowerLine Frequency Band
- 2Mhz to 70Mhz

LEDs
- Power
- Internet
- Powerline

Power Saving
- Power saving mode supported
- Compliant with European Energy using Product Directive (EuP)

Safety Certifications
- UL
- LVD & CB

EMC Certifications
- FCC
- IC
- CE

Operating Temperature
- 30°F to 104°F (0°C to 40°C)

Operating Humidity
- 10% to 95% (Non-condensing)

Wireless Signal Rates[1]

IEEE 802.11n:

20MHz Channel:
- 1Nss: 65/72.2 Mbps (max)
- 2Nss: 130/144.44 Mbps (max)

1 Maximum wireless signal rate derived from IEEE Standard 802.11g and 802.11n specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate. Environmental factors will adversely affect wireless signal range.

2 Frequency Range varies depending on country's regulation

40MHz Channel:
- 1Nss: 135/150 Mbps (max)
- 2Nss: 270/300 Mbps (max)

IEEE 802.11g:
- 54Mbps
- 48Mbps
- 36Mbps
- 24Mbps
- 18Mbps
- 12Mbps
- 11Mbps
- 9Mbps
- 6Mbps

Wireless Frequency Range[2] (North America)
- 2.412GHz to 2.462GHz (802.11g/n)