D-Link®

Version 3.10(EU) | 12/02/2014

User Manual

Wireless N 300 Cloud Router

DIR-605L

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
3.00	July 21, 2014	• B2 hardware revision
3.10	December 2, 2014	• Corrections

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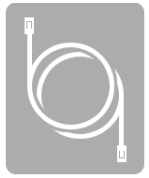
Table of Contents

Package Contents

DIR-605L Wireless N 300 Cloud Router



Ethernet Cable

Power Adapter

CD

Quick Installation Guide

Note: *Always attach the power cord plug to the power supply, before inserting the power cord and connected power supply to the wall outlet. Using a power supply with a different voltage rating than the one included with the DIR-605L will cause damage and void the warranty for this product.*

System Requirements

Network Requirements	• An Ethernet-based Cable or DSL modem • IEEE 802.11b, 802.11g, 802.11n wireless clients • 10/100 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 8 or higher • Firefox 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.

Features

- **Faster Wireless Networking** - The DIR-605L provides up to 300 Mbps* 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.

- **Compatible with 802.11b and 802.11g Devices** - The DIR-605L is fully compatible with the IEEE 802.11b and IEEE 802.11g standards, so it can connect with existing 802.11b and 802.11g wireless adapters and devices.

- **mydlink Cloud Service** - The DIR-605L features a new mydlink cloud service that pushes information such as firmware upgrade notifications, user activity, and intrusion alerts, to the mydlink app on Android and iPhone, iPad, and iPod touch devices. You can monitor a user's online activity with real-time web-browsing history, maintaining a safe and secure environment, especially for children at home. To ensure that your router is up-to-date with the latest features, mydlink will also notify you when an update is available for your router.

- **Easy Setup Wizard** - Through its easy-to-use web-based user interface, the DIR-605L lets you control what information is accessible to those on the wireless network, whether from the Internet or from your internal network. Simply configure your router to your specific settings within minutes.

* Maximum wireless signal rate derived from IEEE Standard 802.11g and Draft 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.

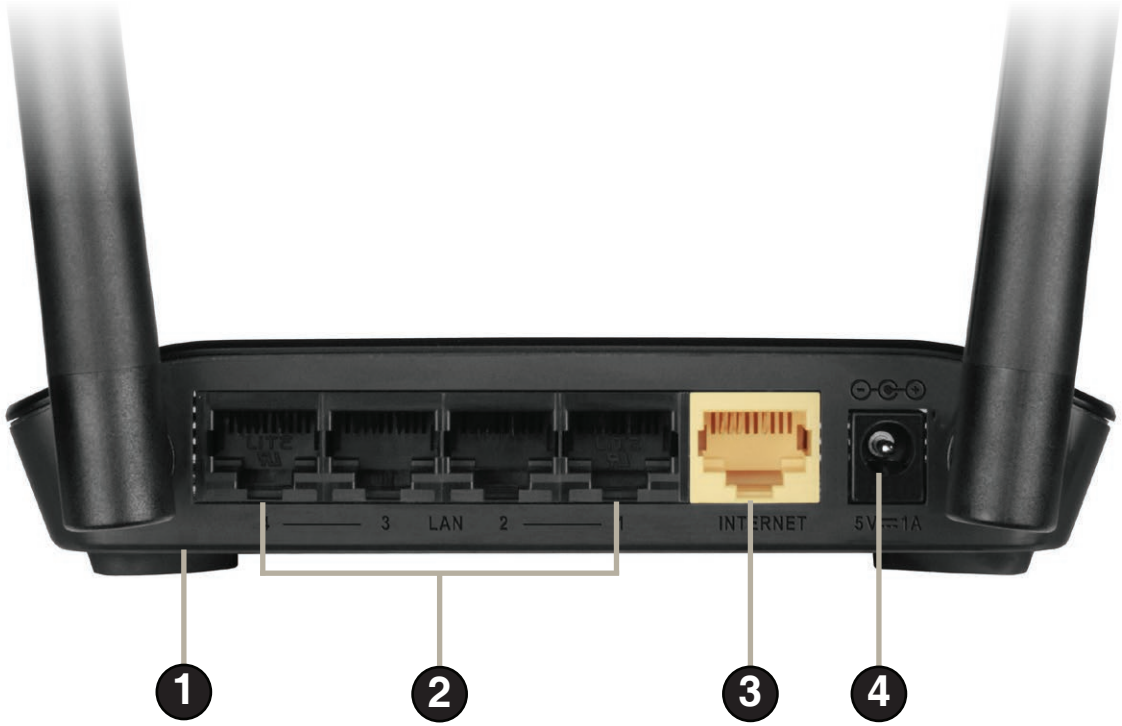
Hardware Overview

LEDs

1	Power LED	A solid green light indicates a proper connection to the power supply.
2	Internet	A solid light indicates connection on the WAN port. This LED blinks during data transmission.
3	Wireless LED	A solid light indicates that the wireless segment is ready. This LED blinks during wireless data transmission.
4	LAN	A solid light indicates connection on the LAN port. This LED blinks during data transmission.

Hardware Overview

Connections



1	Reset	Pressing the Reset button on the bottom of the device for 10 seconds restores the router to its original factory default settings.
2	LAN Ports (1-4)	Connect Ethernet devices such as computers, switches, and hubs.
3	Internet Port	Connect your DSL, cable modem or other Internet connection here to provide Internet connectivity to the router.
4	Power Receptor	Receptor for the supplied power adapter.

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, make sure the computer 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 2.4 GHz 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 2.4 GHz 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.

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 adapter into the router.

2. Turn the power off on your modem. If there is no on/off switch, then unplug the modem's power adapter. Shut down your computer.

3. Unplug the Ethernet cable (that connects your computer to your modem) from your computer and plug it into the WAN port on the router.

4. Plug an Ethernet cable into one of the four LAN ports on the router. Plug the other end into the Ethernet port on your computer.

5. Turn on or plug in your modem. Wait for the modem to boot (about 30 seconds).

6. Connect the power adapter to the router and plug it into an outlet or power strip. Wait about 30 seconds for the router to boot.

7. Turn on your computer.

8. Verify the link lights on the router. The Power, Internet, and the LAN LEDs (the port that your computer is plugged into) should be lit. If not, make sure your computer, modem, and router are powered on and verify the cable connections are correct.

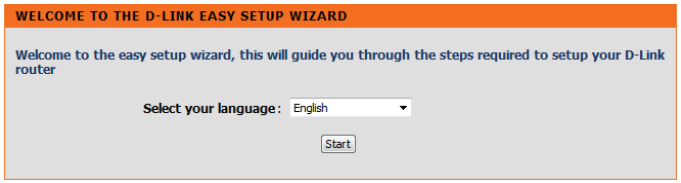
9. Go to page 9 to configure your router.

Configuration
Easy Setup Wizard

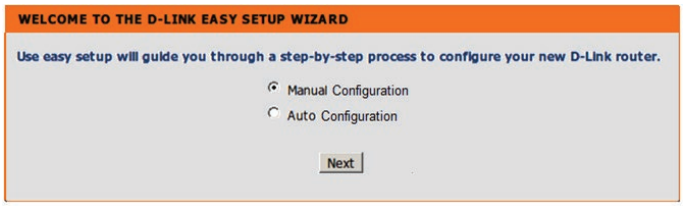
This section will show you how to configure your new D-Link wireless router using the Easy Setup Wizard.

Step 1: To access the configuration utility, open a Web browser such as Internet Explorer and enter the IP address of the router (192.168.0.1) or **http://dlinkrouter.local./**

Step 2: Select your preferred language and click **Start**.

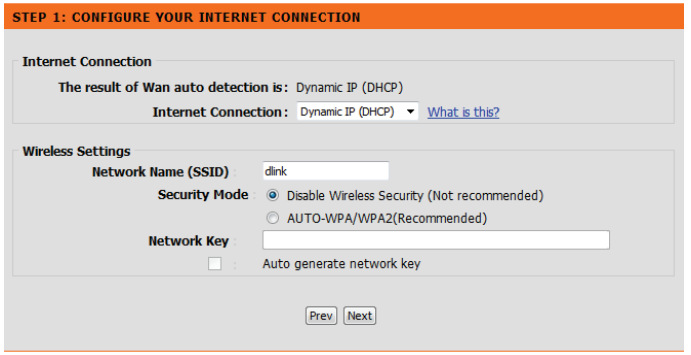


Step 3: Select **Auto Configuration** (or **Manual Configuration** if you wish to manually configure your settings) and click **Next** to continue.



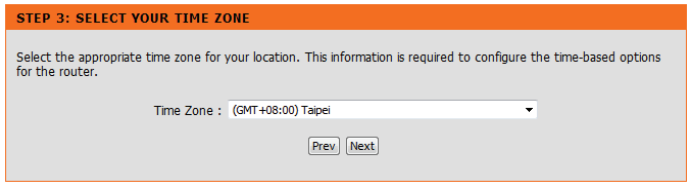
Step 4: If you selected **Auto Configuration**, the router will detect your Internet type.

Step 5: You can configure your custom wireless settings on the next screen. Click **Next** when you are done.



Step 6: You can change the username and password for your router's administrator account. Click **Next** when you are done.

Step 7: Select the Time Zone for your location. Click **Next** to save the settings. The "Easy Setup Complete" page will display your configuration summary.



Step 8: Click **Setting** next to "mydlink Account" to proceed to setup mydlink service;

OR

Click **Complete** to skip mydlink and store your settings.

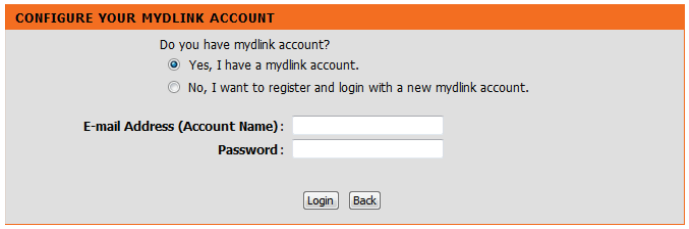
Step 9: If you do not have a mydlink account, click **No, I want to register with a new mydlink account** and complete the registration form.

Click **Register**.

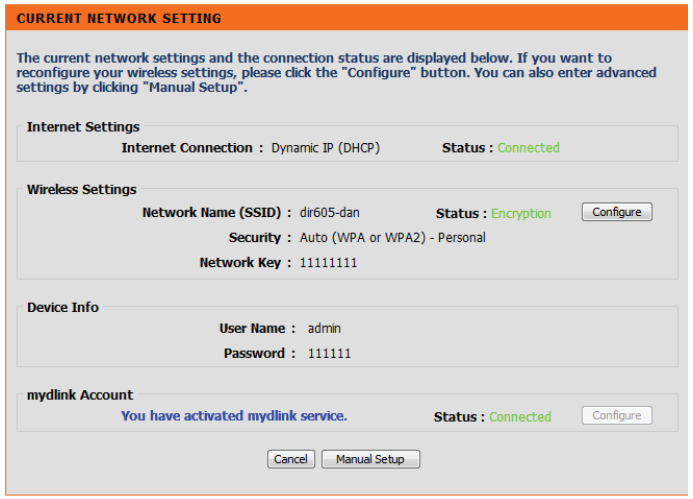
OR

If you already have a mydlink account, click **Yes, I have a mydlink account** and enter your account name and password.

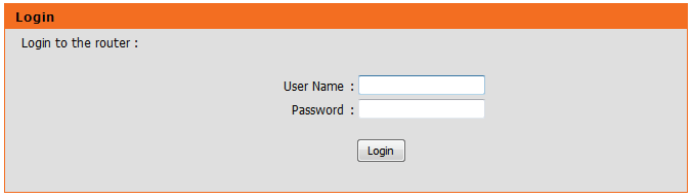
Click **Login**.



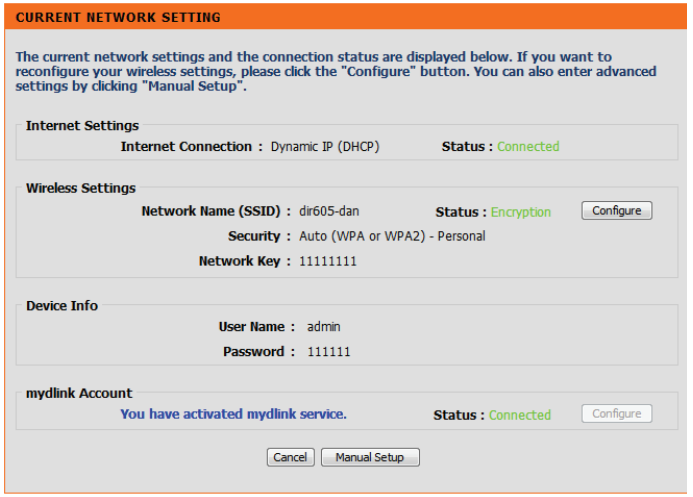
Step 10: On the next screen, there will be a note indicating mydlink service is activated and the status will show "Connected". You have completed the setup wizard and can click **Manual Setup** to continue to the management UI or simply close your browser.



The next time you access the router's IP from your browser, you will need to log in with the username and password for the administrator account. Click **Login**.



The current network settings will be shown and you can click **Manual Setup** to continue to the management UI for further configuration.



After the router is connected to mydlink service, you can download the "mydlink Lite" app from Google Play or App Store for your mobile device!

After installation, simply log in with your mydlink account details and you can manage your router from anywhere!

Internet Connection

Static IP (assigned by ISP)

Select Static IP Address if all WAN 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. Click **Save Settings** to apply them.

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.

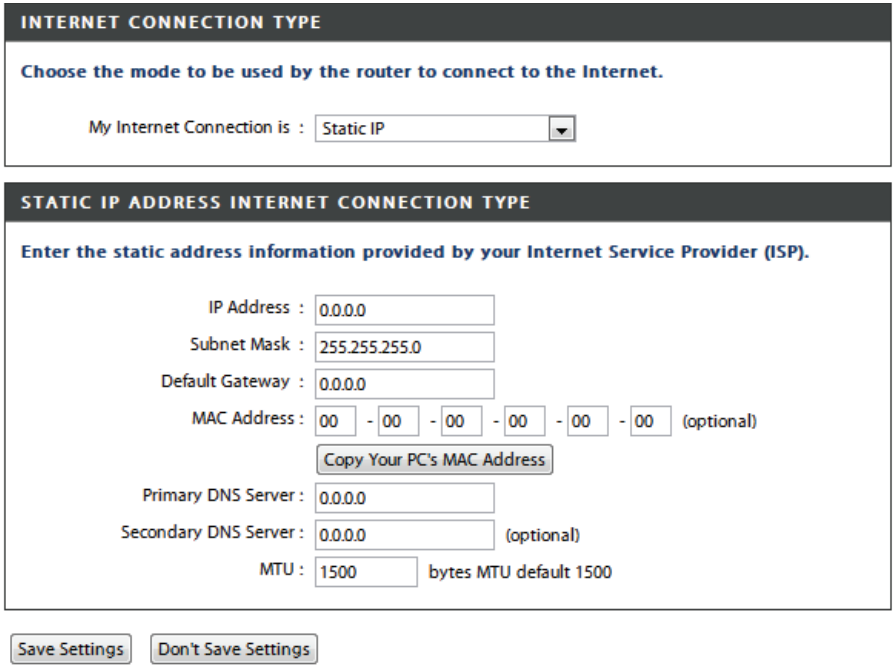
MAC Address: The default MAC address is set to the WAN's physical interface MAC address on the broadband router. It is not recommended that you change the default MAC address unless required by your ISP.

You can use the **Copy Your PC's MAC Address** button to copy the MAC address of the Ethernet card installed by your ISP and replace the WAN MAC address with the MAC address of the router. It is not recommended that you change the default MAC address unless required by your ISP.

Primary DNS Server: Enter the primary DNS server IP address assigned by your ISP.

Secondary DNS Server: Enter an optional secondary DNS address.

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



Internet Setup
Dynamic IP (DHCP)

To manually set up the Internet connection, click the **Manual Internet Connection Setup** button on the router's opening window. Click **Save Settings** to apply them.

Dynamic IP Address: Choose Dynamic IP Address 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.

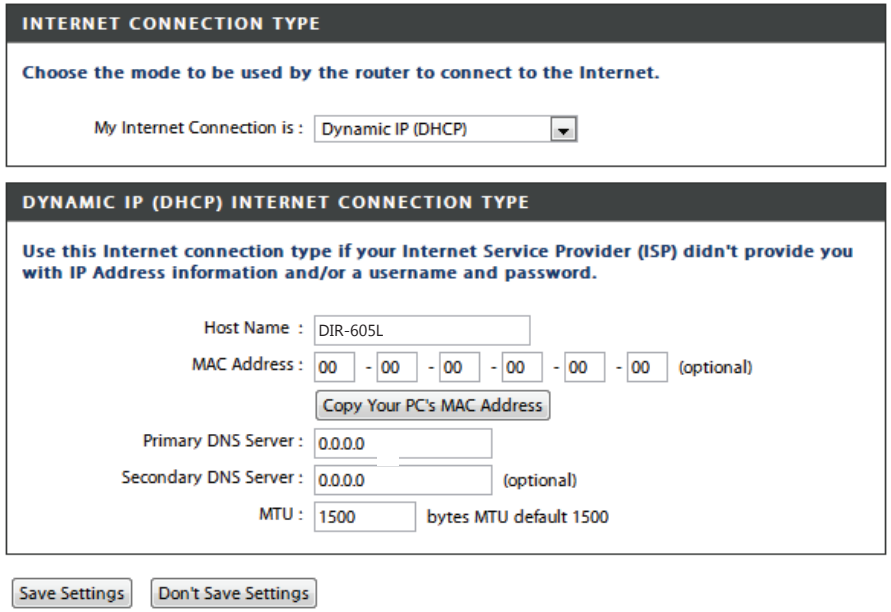
Host Name: The host name is optional but may be required by some ISPs. The default host name is the device name of the router and may be changed.

MAC Address: The default MAC address is set to the WAN'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 **Copy Your PC's MAC Address** button to copy the MAC address of the Ethernet card installed by your ISP and replace the WAN MAC address with the MAC address of the router. It is not recommended that you change the default MAC address unless required by your ISP.

Primary and Secondary DNS Servers: Enter the primary and secondary DNS (Domain Name Server) server IP addresses assigned by your ISP.

MTU: Maximum Transmission Unit - You may need to change the MTU for optimal performance with your specific ISP.



Internet Setup
PPPoE

Choose PPPoE (Point to Point Protocol over Ethernet) 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. Click **Save Settings** to apply them.

PPPoE: Select **Dynamic IP** (most common) or **Static IP**. Select **Static IP** if your ISP assigned you the IP address, subnet mask, gateway, and DNS server addresses.

User Name: Enter your PPPoE user name.

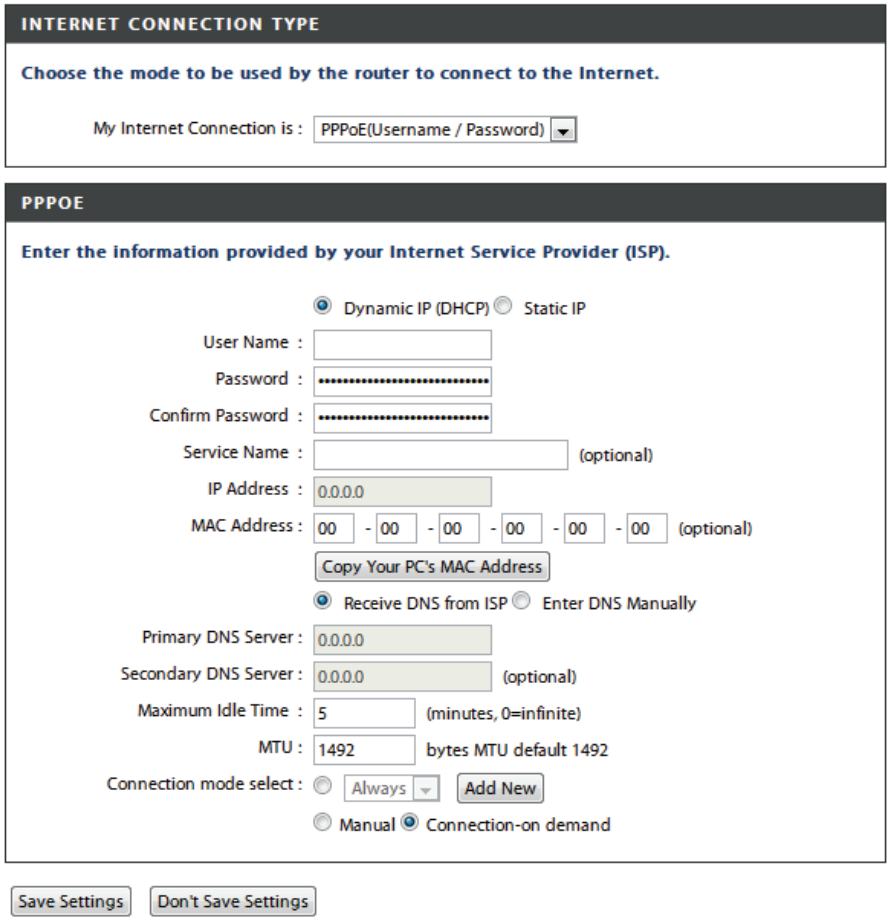
Password: Enter your PPPoE password, then retype the password in the next box.

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

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

MAC Address: The default MAC address is set to the WAN'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 **Copy Your PC's MAC Address** button to copy the MAC address of the Ethernet card installed by your ISP and replace the WAN MAC address with the MAC address of the router. It is not recommended that you change the default MAC address unless required by your ISP. Tick **Receive DNS from ISP** or **Enter DNS Manually** depending on your ISP.

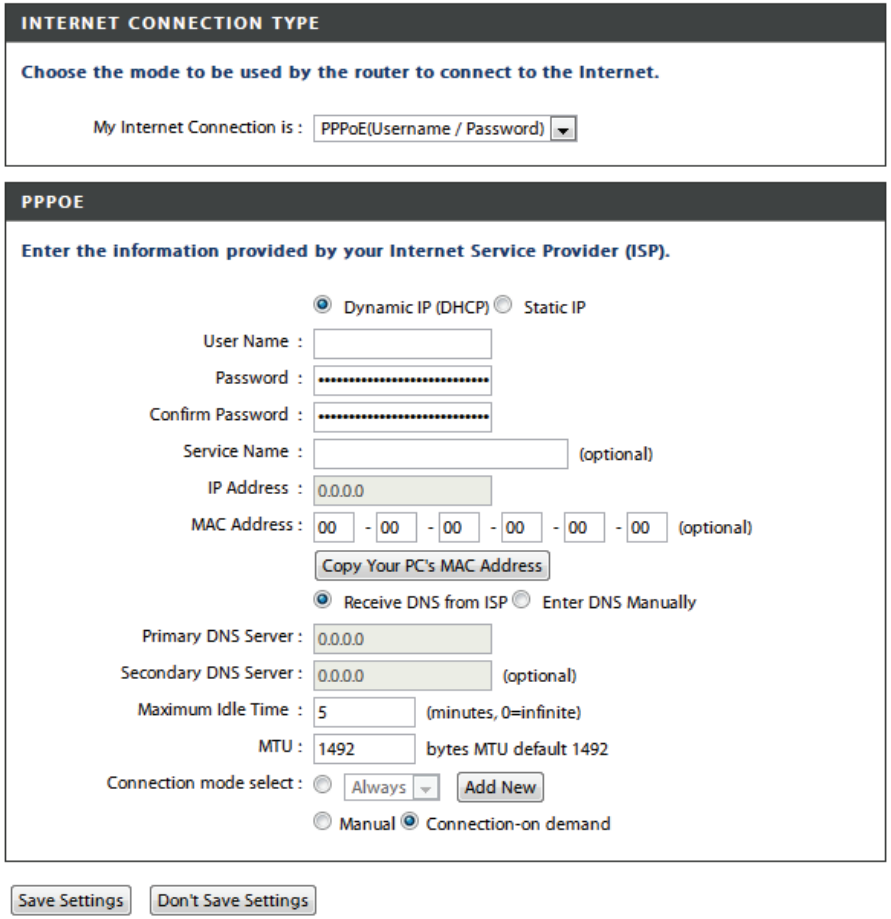


Primary and Secondary DNS Servers: Enter the primary and secondary DNS server addresses (Static PPPoE only).

Maximum Idle Time: Enter a maximum idle time during which the Internet connection is maintained during inactivity.

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

Connection Mode Select: Select either **Always-on, Manual,** or **Connect-on demand**.



Internet Setup
PPTP

Choose PPTP (Point-to-Point-Tunneling Protocol) 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.

PPTP: Select **Dynamic** (most common) or **Static**. Select **Static** if your ISP assigned you the IP address, subnet mask, gateway, and DNS server addresses.

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

PPTP Subnet Mask: Enter the primary and secondary DNS server addresses (Static PPTP only).

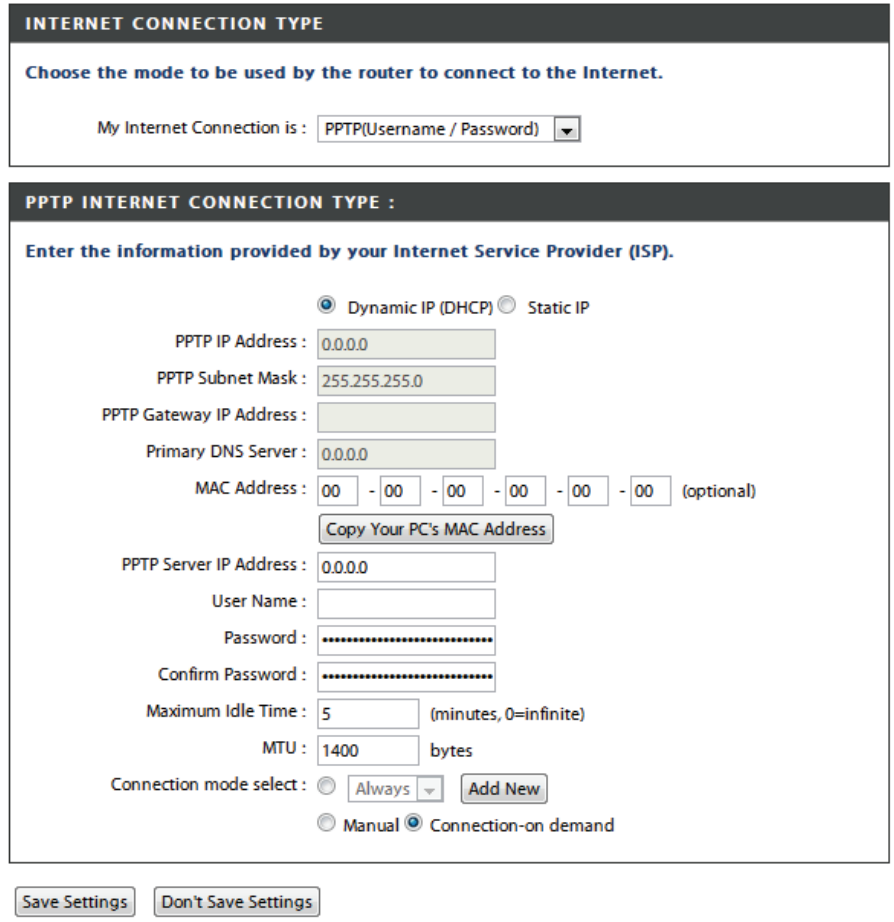
PPTP Gateway IP Address: Enter the gateway IP address provided by your ISP (Static only).

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

MAC Address: The default MAC address is set to the WAN'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 **Copy Your PC's MAC Address** button to copy the MAC address of the Ethernet card installed by your ISP and replace the WAN MAC address with the MAC address of the router. It is not recommended that you change the default MAC address unless required by your ISP.

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



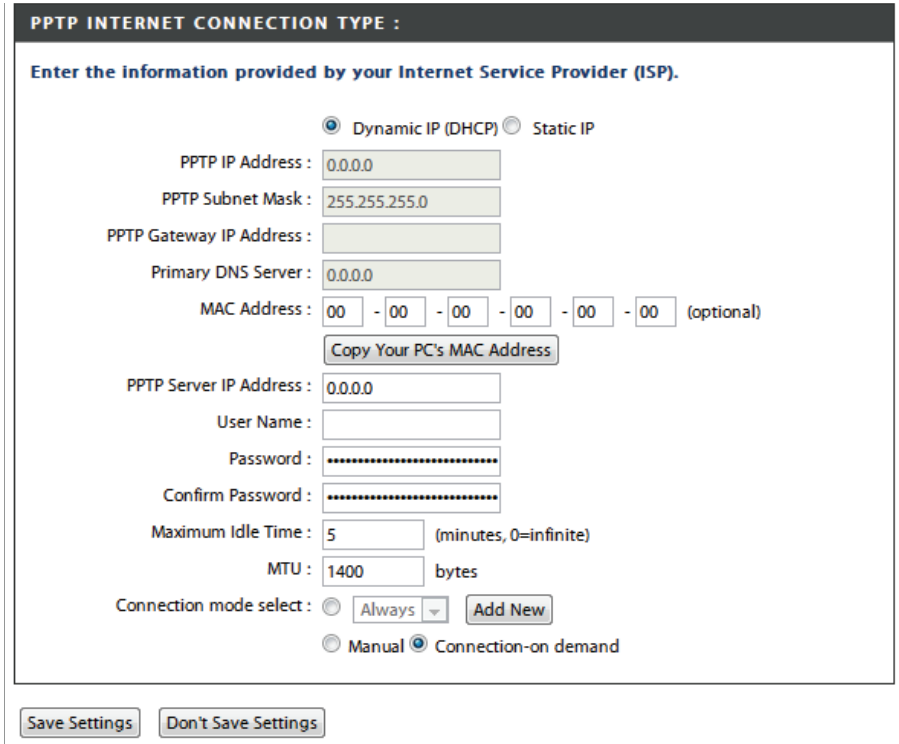
User Name: Enter your PPTP account name.

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

Maximum Idle Time: Enter a maximum idle time during which the Internet connection is maintained during inactivity.

MTU: Maximum Transmission Unit - You may need to change the MTU for optimal performance.

Connect Mode: Select either **Always-on, Manual,** or **Connect-on demand**.



Internet 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.

L2TP: Select **Dynamic** (most common) or **Static**. Select **Static** if your ISP assigned you the IP address, subnet mask, gateway, and DNS server addresses.

L2TP IP Address: Enter the IP address (Static L2TP only).

L2TP Subnet Mask: Enter the primary and secondary DNS server addresses (Static L2TP only).

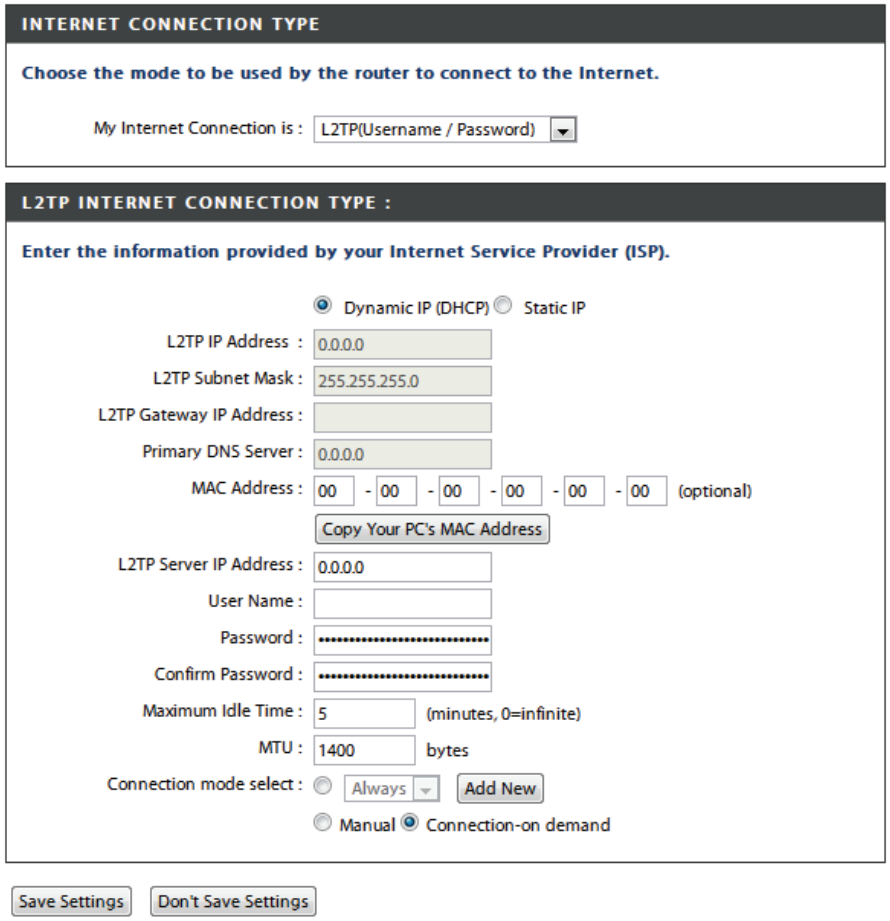
L2TP Gateway Address: Enter the gateway IP address provided by your ISP.

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

MAC Address: The default MAC address is set to the WAN'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 **Copy Your PC's MAC Address** button to copy the MAC address of the Ethernet card installed by your ISP and replace the WAN MAC address with the MAC address of the router. It is not recommended that you change the default MAC address unless required by your ISP.

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



User Name: Enter your L2TP account name.

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

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.

Connect Mode Select: Select either **Always-on, Manual,** or **Connect-on demand**.

Wireless Connection

You can configure your specific wireless network settings in this section. Click **Save Settings** to apply them.

Wi-Fi Protected Setup: To implement WPS, tick the **Enable** checkbox. Click either **Generate New PIN** or **Reset PIN to Default**, then configure the Wi-Fi settings below. Click **Add Wireless Device with WPS** to connect a WPS-enabled device.

Wireless Mode: Select between **Wireless Router, Access Point, WDS Only, WDS +AP, WDS +AP +Router** modes.

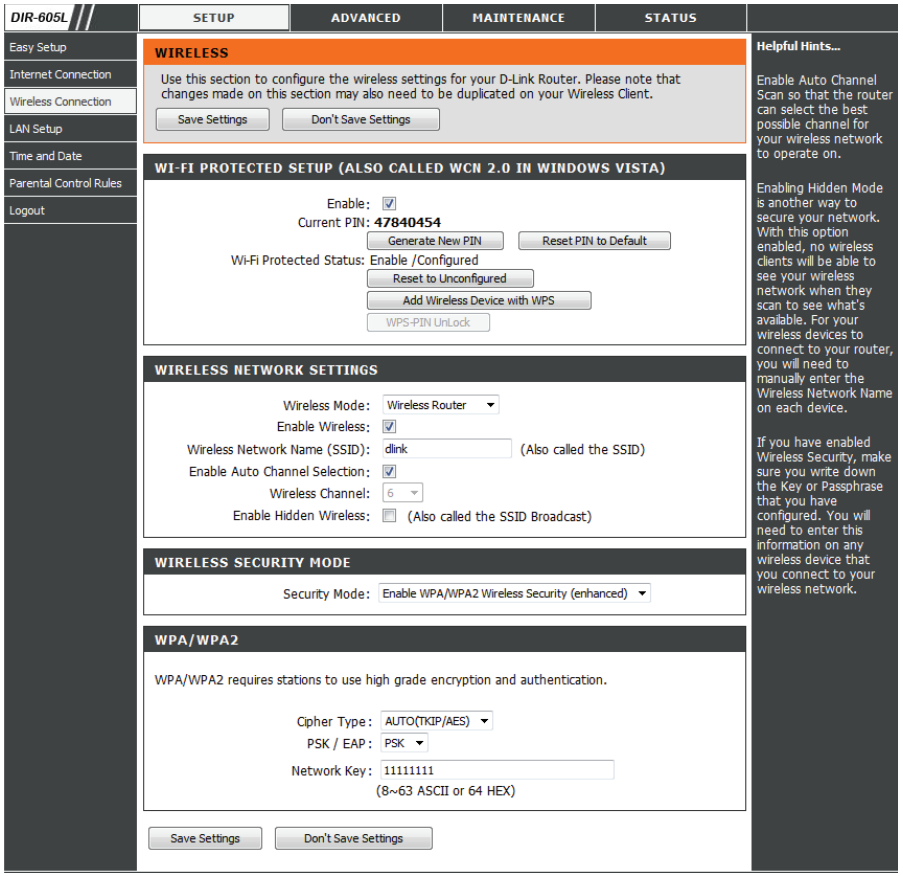
Enable Wireless: Check the box to enable the wireless function. If you do not want to use wireless, uncheck the box to disable all the wireless functions.

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

Enable Auto Channel Selection: This setting can be selected to allow the DIR-605L to choose the channel with the least amount of interference.

Wireless Channel: Indicates the channel setting for the DIR-605L. By default the channel is set to *6*. The channel can be changed to fit the channel setting for an existing wireless network or to customize the wireless network.

Enable Hidden Wireless: Check this option if you would not like the SSID of your wireless network to be broadcasted by the DIR-605L. If this option is checked, the SSID of the DIR-605L will not be seen by Site Survey utilities so your wireless clients will have to know the SSID of your DIR-605L in order to connect to it.

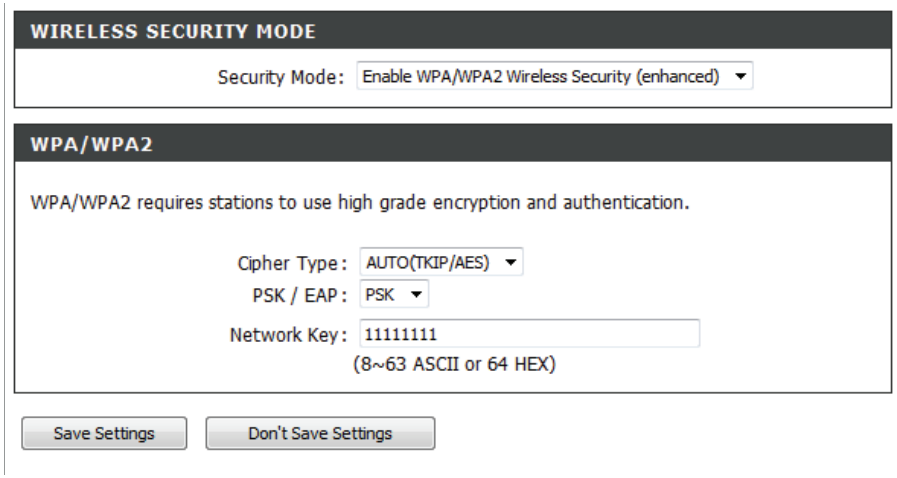


Wireless Security Mode: Select between **WEP, WPA Only, WPA2 Only, WPA/WPA2,** or **Disabled** wireless security. The fields below will change according to your choice and you can set a custom key for your network.

Cipher Type: Select the appropriate cipher type to use here. Options to choose from are Temporal Key Integrity Protocol (TKIP), Advanced Encryption Standard (AES), and Both (TKIP and AES).

PSK/EAP: Select between Personal (PSK) and Enterprise (EAP).

Network Key: Enter the shared secret used here. The key is an alpha-numeric password between 8 and 63 characters long. The password can include symbols (!?*&_) and spaces. Make sure you enter this key exactly the same on all other wireless clients.



Wireless Security

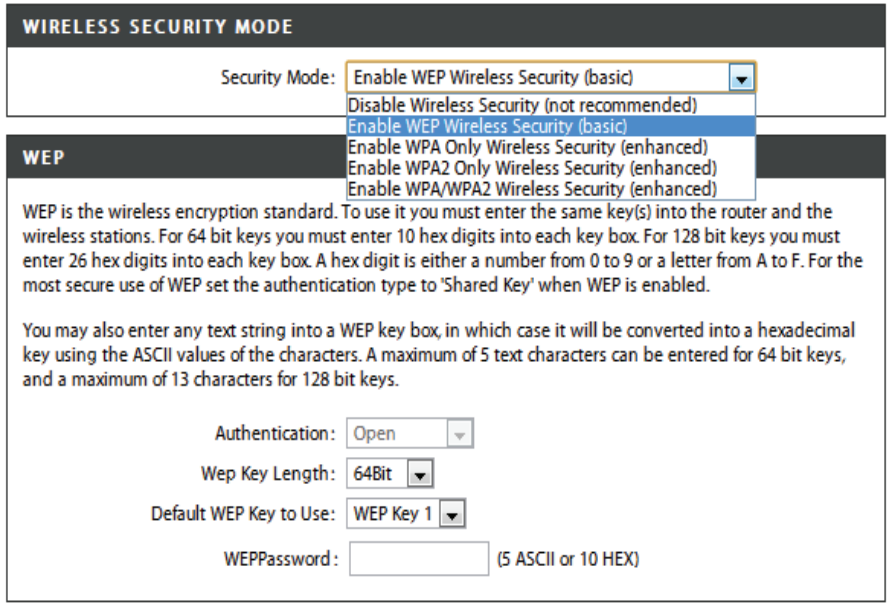
1. To enable wireless security on the router, use the drop-down menu to select the desired option. To enable WEP, select *Enable WEP Wireless Security (basic)*.

2. Next to **Authentication**, select either *Open* or *Shared Key*. Shared Key provides greater security.

3. Select either *64-bit* or *128-bit* encryption from the drop-down menu next to **WEP Key Length**.

4. Next to **Default WEP Key**, select *WEP Key 1* and enter a WEP key next to **WEP Password**. Make sure you enter this key exactly on all your wireless devices. You may enter up to four different keys either using *Hex* or *ASCII*. *Hex* is recommended (letters A-F and numbers 0-9 are valid). In *ASCII* all numbers and letters are valid.

5. 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.



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

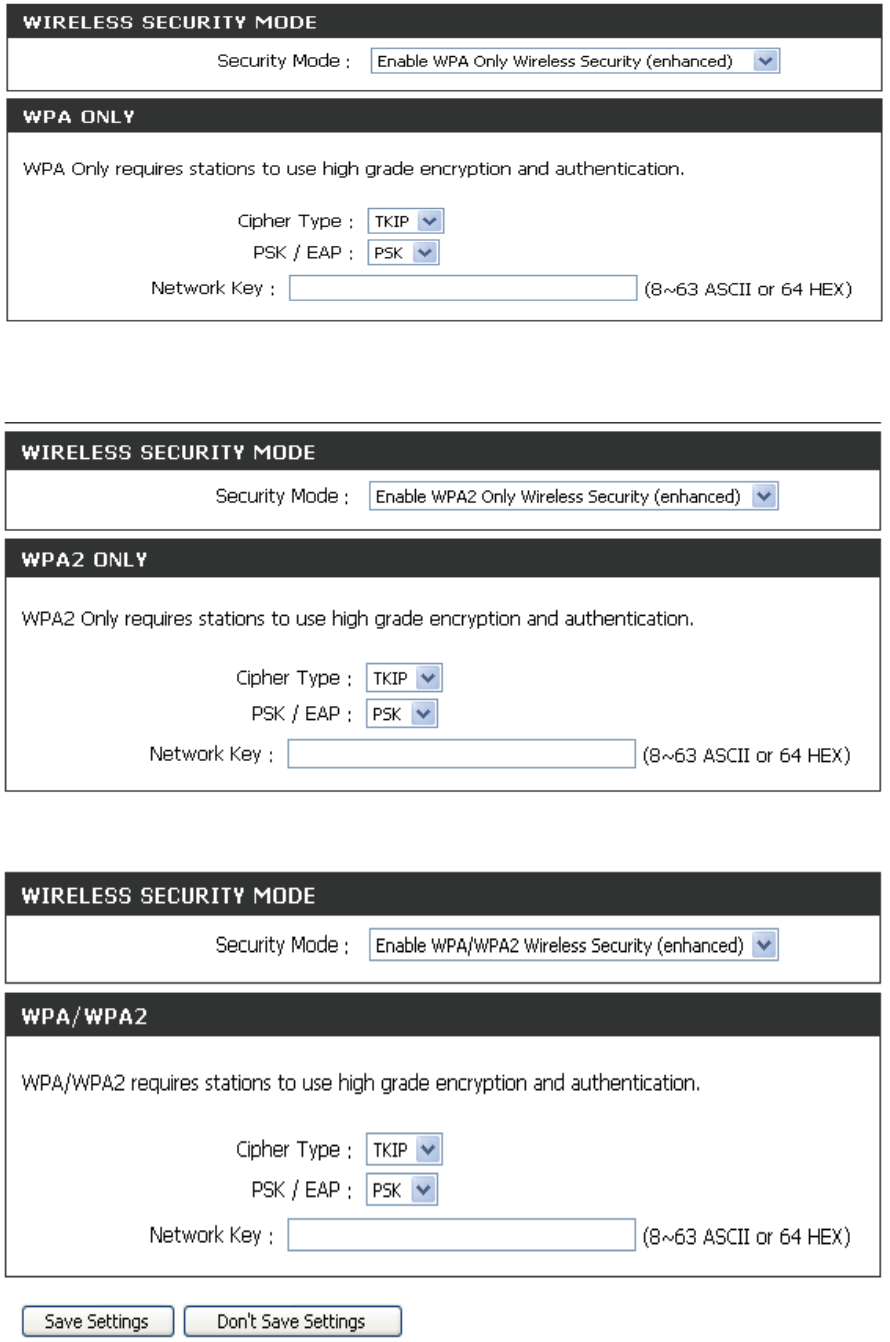
1. To enable WPA, WPA2, or WPA/WPA2, select either *Enable WPA Only Wireless Security (enhanced), Enable WPA2 Only Wireless Security (enhanced),* or *Enable WPA/WPA2 Wireless Security (enhanced).*

2. Next to **Cipher Type**, select *AUTO*, *TKIP*, or *AES*.

3. Next to **PSK/EAP**, select *PSK*.

4. Next to **Network Key**, enter a passphrase. The key is an alpha-numeric password between 8 and 63 characters long. The password can include symbols (!?*&_) and spaces. Make sure you enter this key exactly the same on all other wireless clients.

5. 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, WPA2, or WPA/WPA2 (whichever of the three options you have selected above) on your adapter and enter the same network key as you did on the router.



LAN Setup

This section will allow you to change the local network settings of the router and to configure the DHCP settings. Click **Save Settings** to apply your settings.

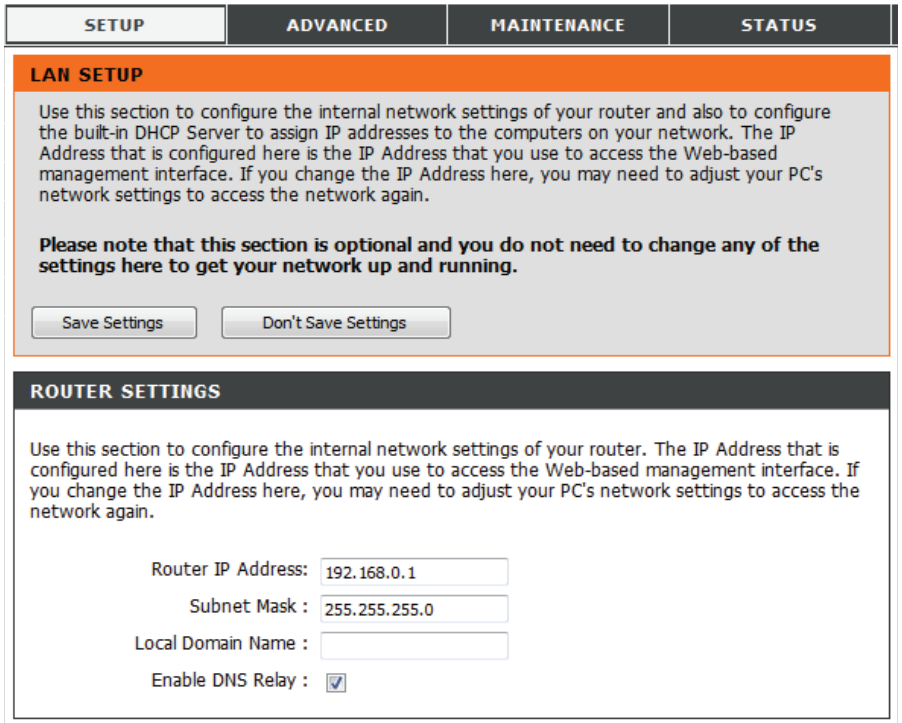
Router IP Address: Enter the IP address of the router. The default IP address is 192.168.0.1.

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.

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

Local Domain Name: Enter the Domain name (Optional).

Enable DNS Relay: Check the box to transfer the DNS server information from your ISP to your computers. If unchecked, your computers will use the router as its DNS server.



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

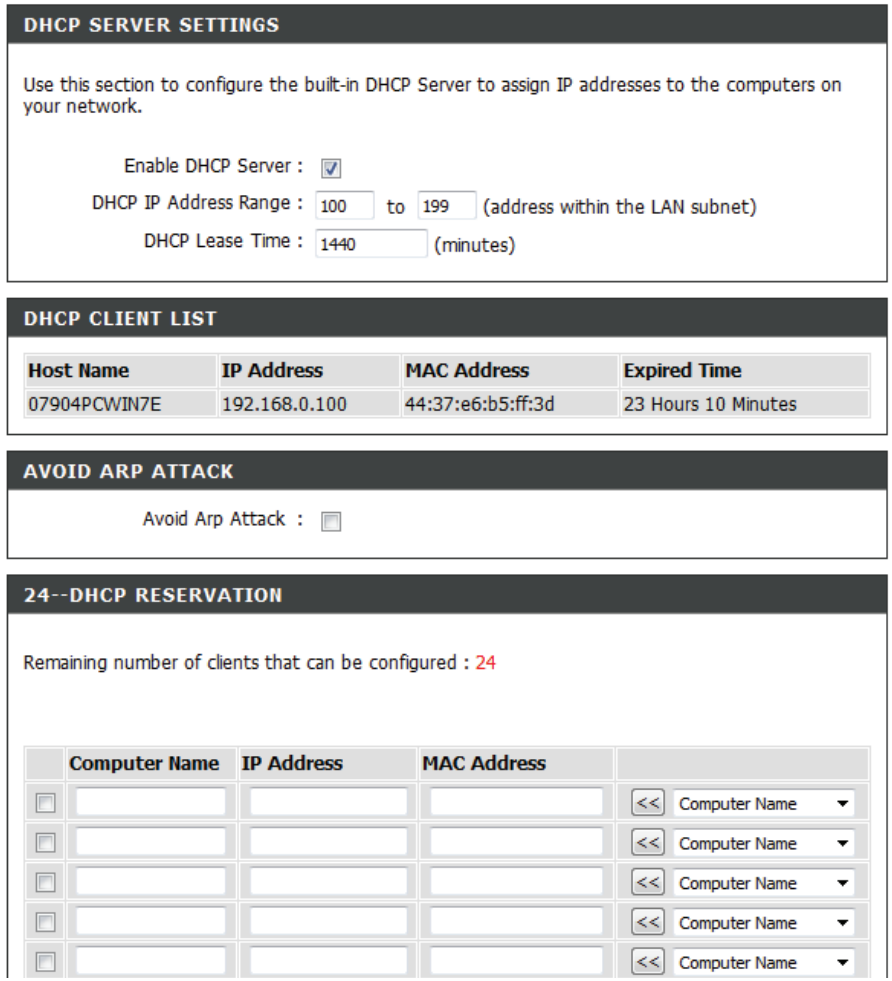
DHCP IP Address Range: Enter the starting and ending IP addresses for the DHCP server's IP assignment.

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

DHCP Client List: Displays currently connected client details.

Avoid ARP Attack: Tick this to enable ARP spoofing prevention feature.

DHCP Reservation: Enter the MAC address of specific clients to reserve an IP address for each one.



Time and Date

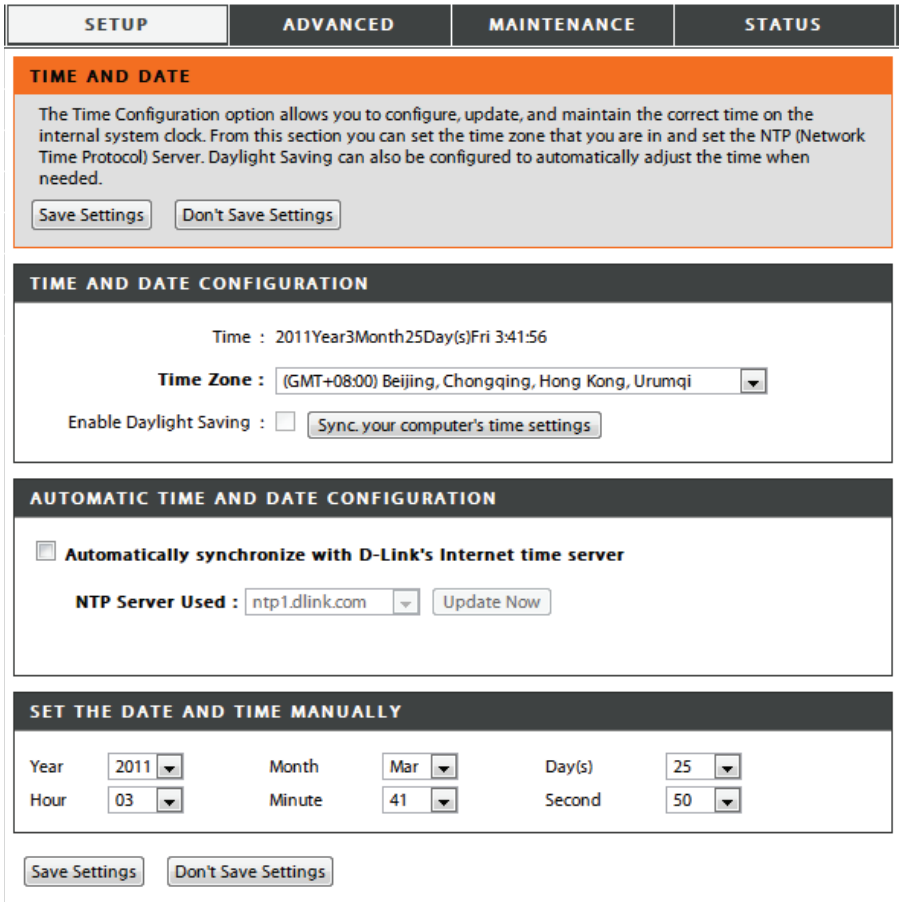
This section will allow you to configure, update, and maintain the correct time on the internal system clock of the device. Click **Save Settings** to apply your settings.

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

Enable Daylight Saving: Ticking this checkbox enables Daylight Saving time. Click **Sync your computer's time settings** to copy your PC's time settings.

NTP Server Used: Tick the **Automatically synchronize with D-Link's Internet time server** checkbox, then use the drop-down menu to select an NTP server. NTP is short for Network Time Protocol. NTP synchronizes computer clock times in a network of computers.

Set the Date and Time Manually: To manually input the time, enter the values in these fields for the Year, Month, Day, Hour, Minute, and Second. Click **Save Settings**.



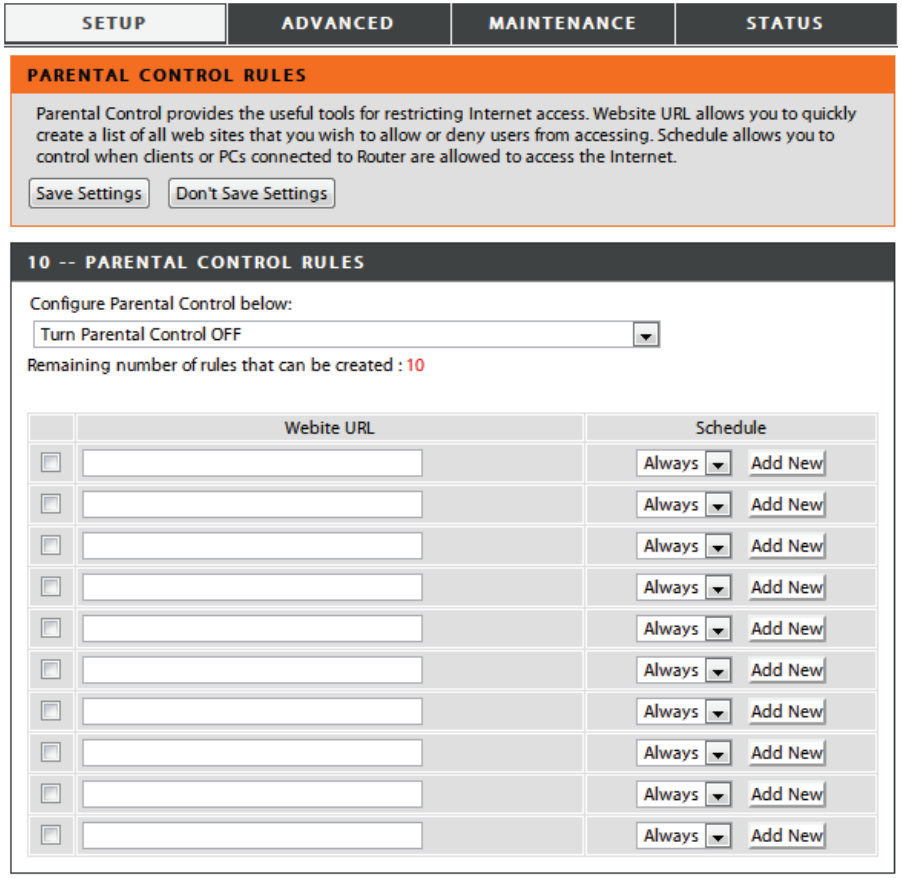
Parental Control Rules

This feature allows you to create a list of websites that you want to either allow or deny users access. Click **Save Settings** to apply your settings.

Configure Parental Control: Select **Turn Parental Control OFF, Turn Parental Control ON and ALLOW computers access to ONLY these sites, or Turn Parental Control ON and DENY computers access to ONLY these sites**.

Website URL: Enter the keywords or URLs that you want to block (or allow). Any URL with the keyword in it will be blocked.

Schedule: The schedule of time when the parental control filter 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 by clicking **Add New** as well as in the **Maintenance** > **Schedules** section.



Advanced

Advanced Port Forwarding Rules

This will allow you to open a single port or a range of ports. Click **Save Settings** to apply your settings.

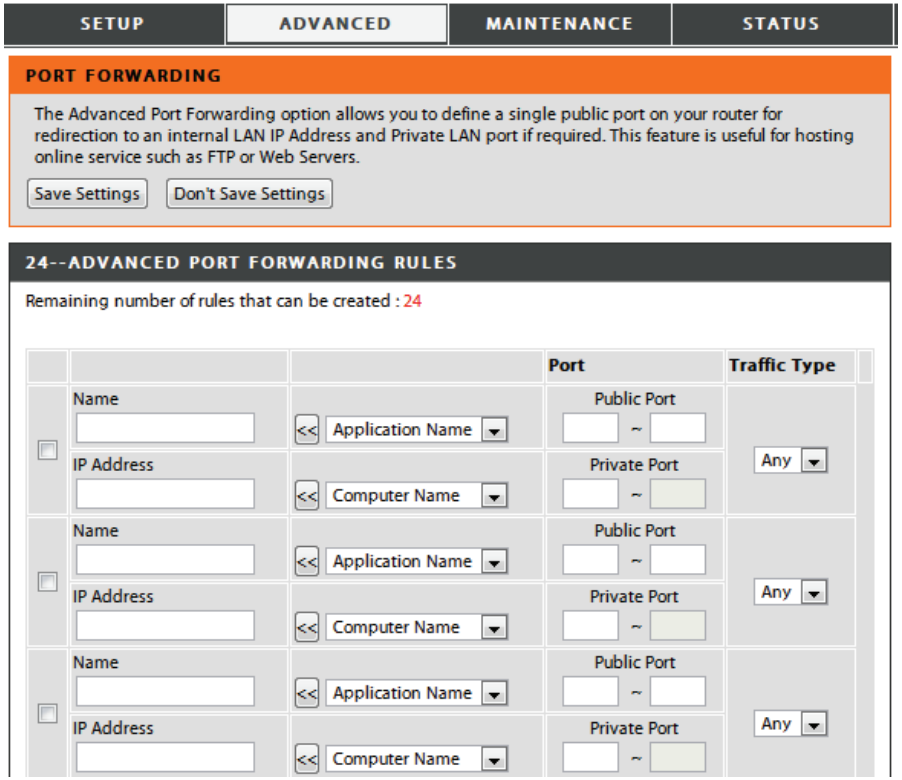
Rule: Check the box to enable the rule.

Name: Enter a name for the rule. You can also choose from the **Application Name** drop-down box.

IP Address: Enter the IP address of the computer on your local network that you want to allow the incoming service to. You can also choose from the Computer Name drop-down box.

Public Port/ Private Port: Enter the port or range of ports that you want to open. If you want to open one port, enter the same port in both boxes.

Traffic Type: Select **TCP, UDP,** or **Any** to specify the protocol.



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). Application rules let these applications trigger and pass through the DIR-605L's firewall. Click **Save Settings** to apply your settings.

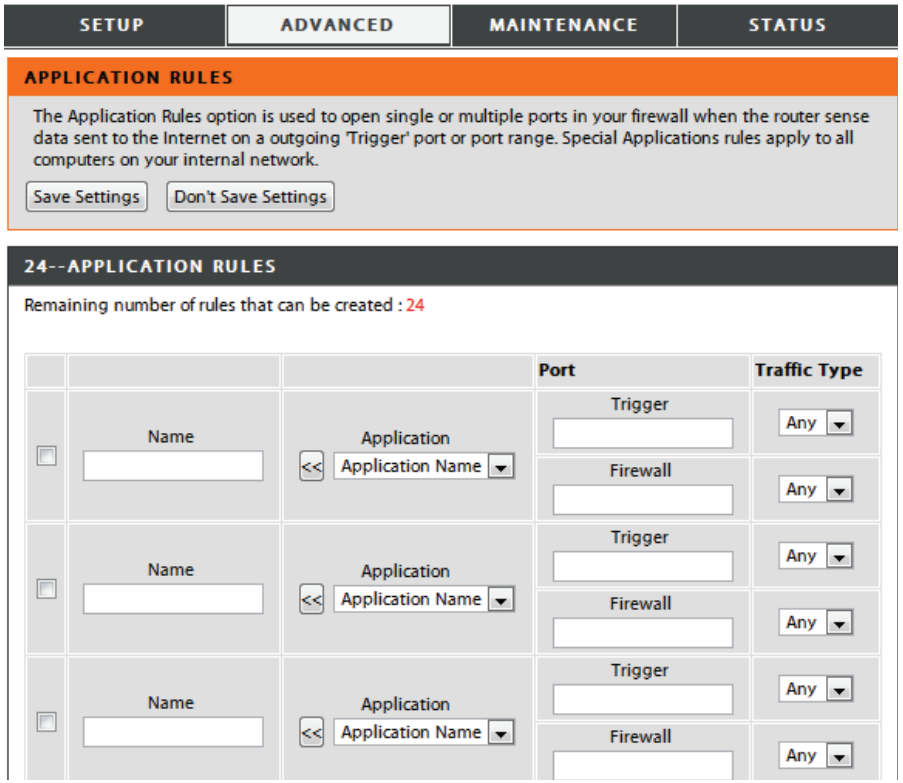
Rule: Check the box to enable the rule.

Name: Enter a name for the rule. You can also choose from the **Application Name** drop-down box.

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

Firewall Port: This is the port number on the WAN 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 **TCP, UDP, or Any**.



MAC Filtering

The MAC (Media Access Controller) Address filter option is used to control network access based on the MAC Address of the client device. This feature can be configured to ALLOW or DENY network/Internet access for this client. Click **Save Settings** to apply your settings.

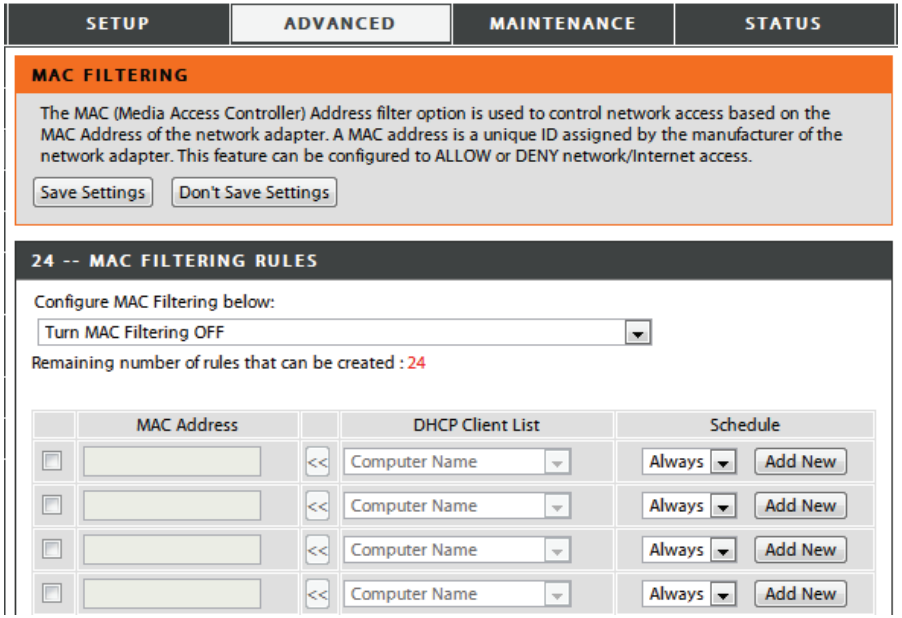
Configure MAC Filtering below: Select how the rule will work: **Turn MAC Filtering OFF, Turn MAC Filtering ON and ALLOW computers,** or **Turn MAC Filtering ON and DENY computers listed**.

Rule: Check the box to enable the rule.

MAC Address: Enter the MAC Address of the device that the rule will affect. You can also choose from the **DHCP Client List** drop-down box.

DHCP Client list: Select a Computer Name from the list.

Schedule: This sets the schedule for when the filter 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 by clicking **Add New** as well as in the **Maintenance** > **Schedules** section.

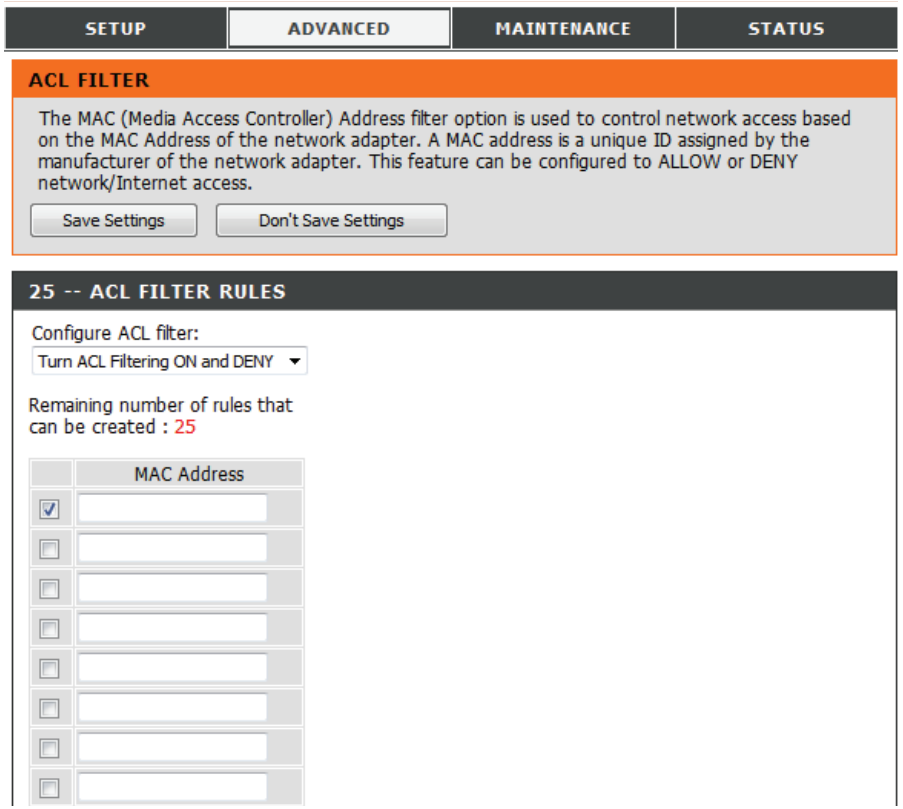


ACL Filter

Use ACL (Access Control Lists) Filter rules to allow or deny LAN (Local Area Network) computers by their MAC addresses from accessing the network. You can manually add a MAC address and apply a rule. Click **Save Settings** to apply your settings.

Configure ACL Filter: Select **Close ACL filter** or **Turn ACL filtering ON and DENY computers listed to access the network.**

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" on page 74 section in this manual.



Traffic Control

Traffic Control can guarantee bandwidth priority to specified LAN/Wireless clients. You can do this by setting up traffic control rules. Click **Save Settings** to apply your settings.

Enable Traffic Control: Select this function to control the access bandwidth of computers in LAN.

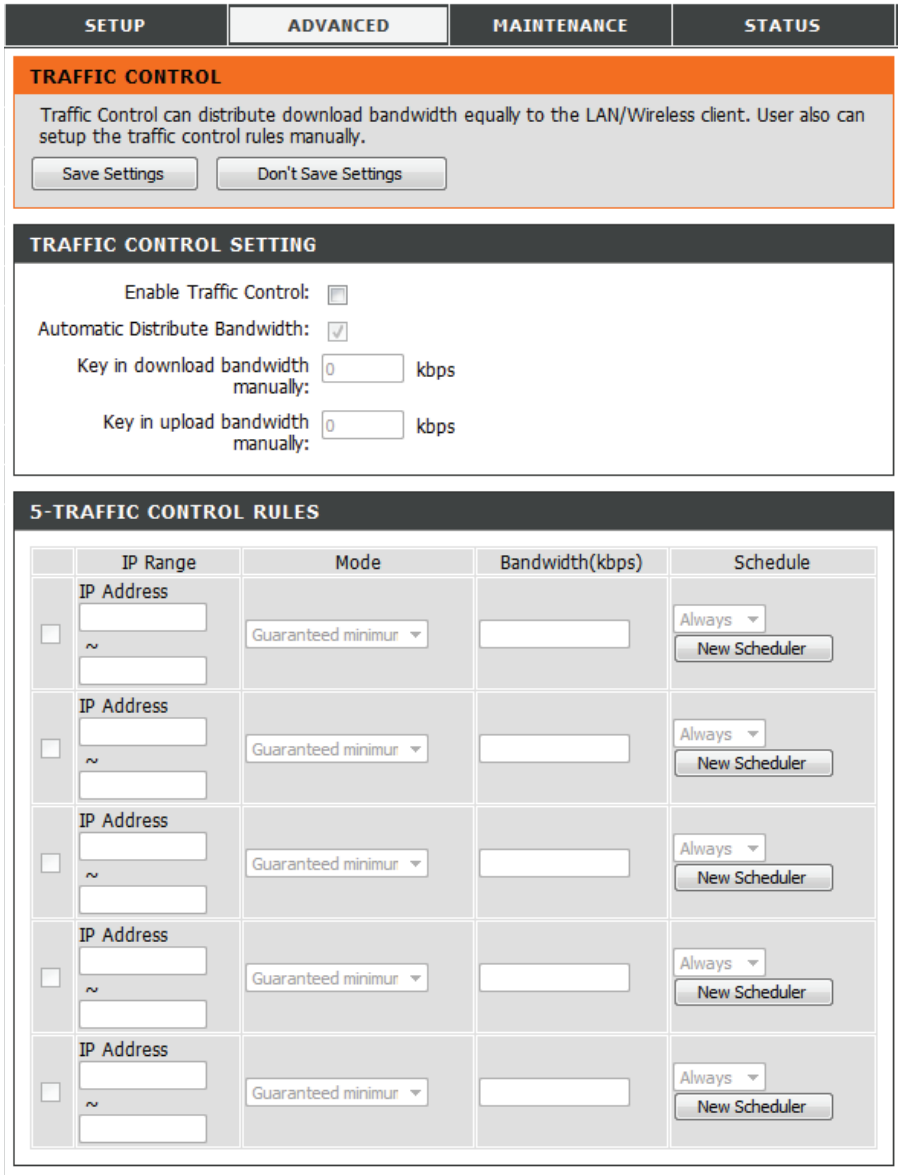
Automatic Distribute Bandwidth: All of the computers in LAN will have their bandwidth distributed equally.

Key in Download Bandwidth Manually: Key in the value in kbps to setup the bandwidth manually.

Key in Upload Bandwidth Manually: Key in the value in kbps to setup the upload bandwidth manually.

Traffic Control Rules: When the option **Automatic Distribute Bandwidth** is unchecked, you can select **Guarantee minimum bandwidth, Restrict maximum download bandwidth,** or **Restrict maximum upload bandwidth** of specific IP addresses from their drop-down boxes.

Schedule: The schedule of time when the filter 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 by clicking **New Scheduler** as well as in the **Maintenance** > **Schedules** section.



Firewall & DMZ

If you have a client PC that cannot run Internet applications properly from behind the DIR-605L, then you can set the client up for unrestricted Internet access. It allows a computer to be exposed to the Internet. This feature is useful for gaming purposes. Enter the IP address of the internal computer that will be the DMZ host. Adding a client to the DMZ (Demilitarized Zone) may expose your local network to a variety of security risks, so only use this option as a last resort. Click **Save Settings** to apply your settings.

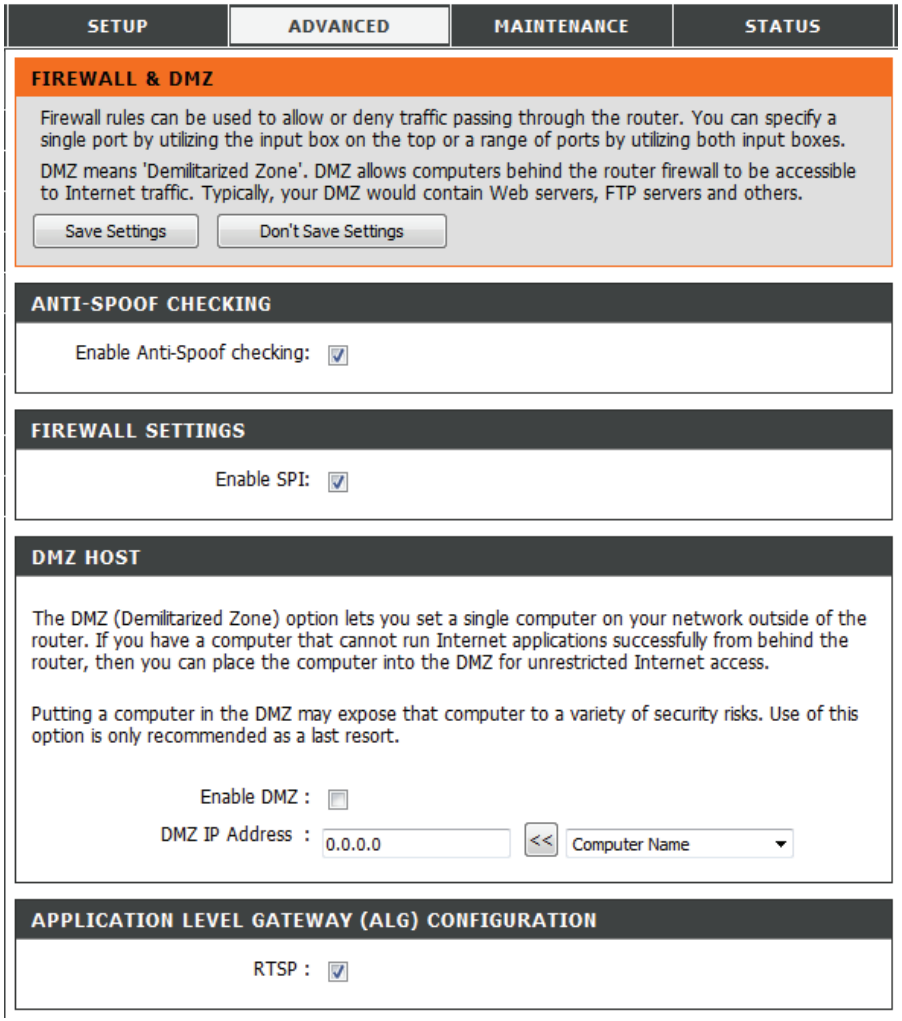
Enable Anti-Spoof checking: Check to enable Anti-Spoof checking.

Enable SPI: Check this to enable SPI.

Enable DMZ: Check this box to enable DMZ.

DMZ IP Address: Enter the IP address of the computer you would like to open all ports to.

Application Level Gateway (ALG) Configuration: Check the box to enable RTSP.



Name: Choose a name for the firewall rule.

Action: Select to **Allow** or **Deny** transport of the data packets according to the criteria defined in the rule.

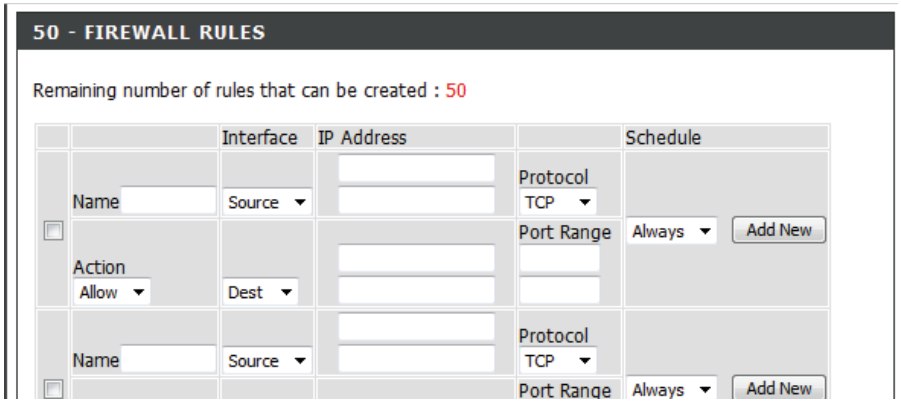
Interface: The Source/Destination is the TCP/UDP port on either the LAN or WAN side.

IP Address: Enter a beginning and ending IP address.

Protocol: Select the transport protocol that will be used for the filter rule.

Port Range: Enter the desired port range for the filter rule.

Schedule: Click **Add New** to access the Schedules window. Go to **Maintenance>Schedules** for more information.



Advanced Wireless Settings

This window allows you to change the behavior of the wireless radio from the standard settings. Please be aware that any changes to the factory default settings may adversely affect the behavior of your network. Click **Save Settings** to apply your settings.

Transmit Power: Set the transmit power of the antennas.

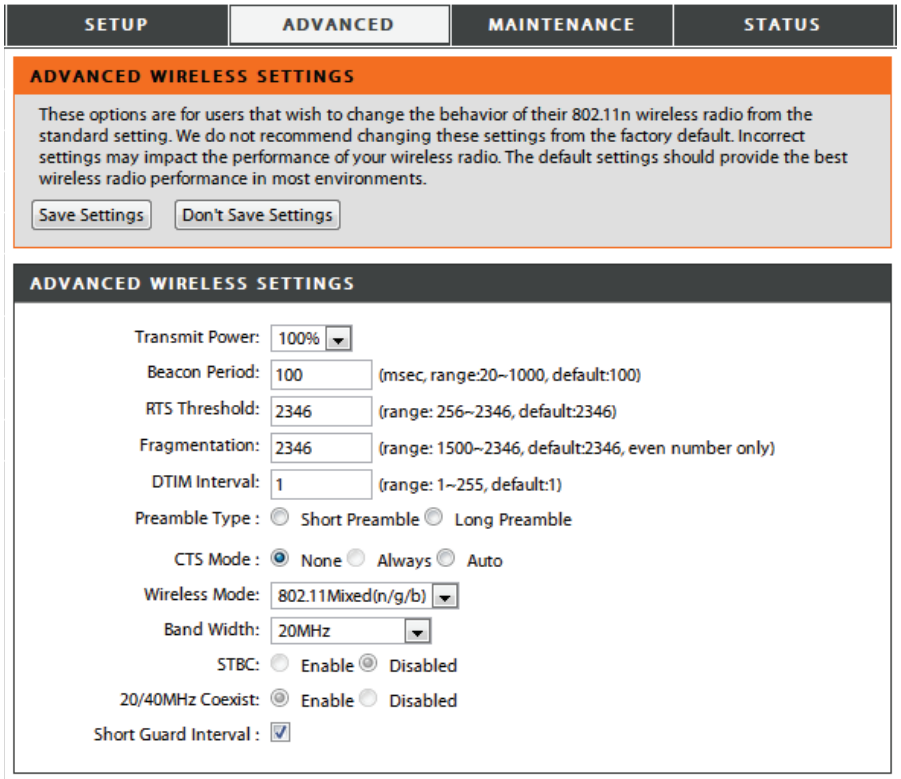
Beacon Period: Beacons are packets sent by an Access Point to synchronize a wireless network. Specify a value. *100* is the default setting and is recommended.

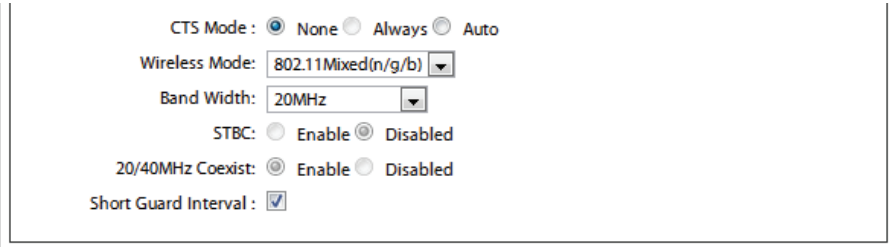
RTS Threshold: This value should remain at its default setting of *2346*. If inconsistent data flow is a problem, only a minor modification should be made.

Fragmentation: The fragmentation threshold, which is specified in bytes, determines whether packets will be fragmented. Packets exceeding the 2346 byte setting will be fragmented before transmission. *2346* is the default setting.

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.

Preamble Type: Select **Short** or **Long Preamble**. The preamble defines the length of the CRC block (Cyclic Redundancy Check is a common technique for detecting data transmission errors) for communication between the wireless router and the roaming wireless network adapters. **Auto** is the default setting. Note: High network traffic areas should use the shorter preamble type.





CTS Mode: CTS (Clear To Send) is a function used to minimize collisions among wireless devices on a wireless local area network (LAN). CTS will make sure the wireless network is clear before a wireless client attempts to send wireless data. Enabling CTS will add overhead and may lower wireless throughput.
None: CTS is typically used in a pure 802.11g environment. If CTS is set to "None" in a mixed mode environment populated by 802.11b clients, wireless collisions may occur frequently.
Always: CTS will always be used to make sure the wireless LAN is clear before sending data.
Auto: CTS will monitor the wireless network and automatically decide whether to implement CTS based on the amount of traffic and collisions that occurs on the wireless network.

Wireless Mode: Select one of the following:
Mixed 802.11g and 802.11b - Select if you are using both 802.11g and 802.11b 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.

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

STBC: **Enable** or **disable** Space-time block code.

20/40 MHz Coexist: **Enable** or **disable** 20/40 MHz Coexistence.

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

Advanced Network Settings

This window allows you to change the LAN settings. Please be aware that any changes to the factory default settings may affect the behavior of your network. Click **Save Settings** to apply your settings.

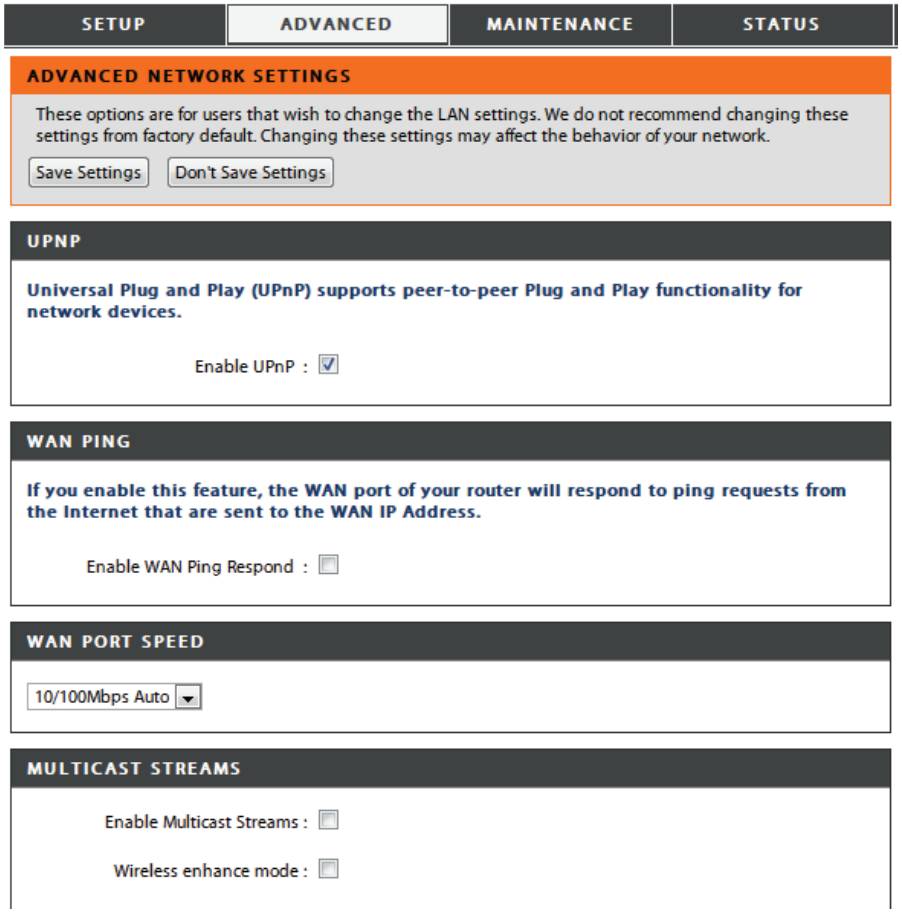
Enable UPnP: To use the Universal Plug and Play (UPnP™) feature tick this checkbox. UPnP provides compatibility with networking equipment, software and peripherals.

Enable WAN Ping Respond: Unchecking the box will not allow the DIR-605L to respond to pings. Blocking the ping may provide some extra security from hackers. Tick this checkbox to allow the WAN port to be "pinged".

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

Enable Multicast Streams: Tick to enable multicasting.

Wireless Enhance mode: Tick to enhance wireless.



Routing

This option allows you to define fixed routes to defined destinations. Click **Save Settings** to apply your settings.

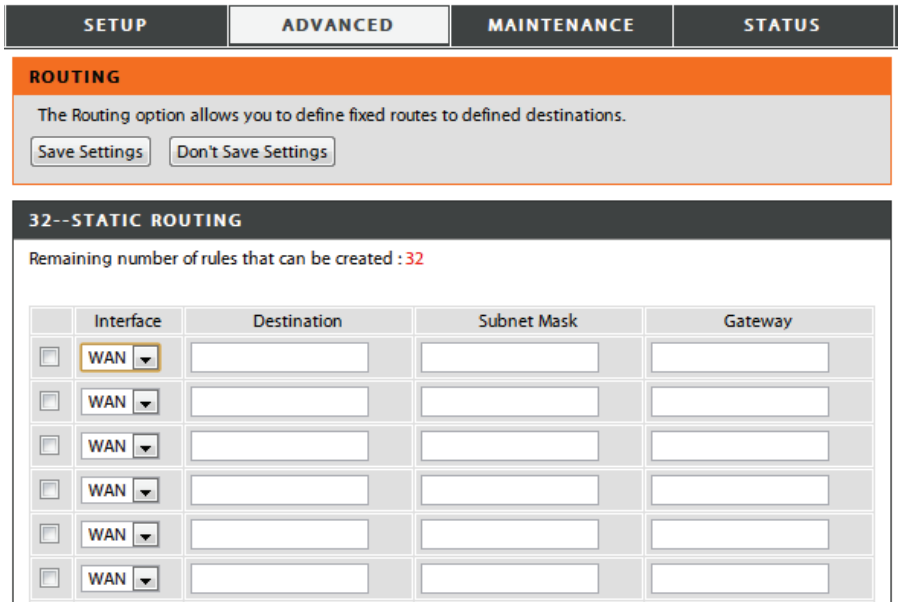
Enable: Tick this checkbox to enable or disable fixed routes to defined destinations.

Interface: Use the drop-down menu to choose the *WAN or WAN (Physical Port)* Interface the IP packet must use to transit out of the router.

Destination: The IP address of the packets that will take this route.

Subnet Mask: The subnet of the IP address of the packets that will take this route.

Gateway: Specifies the next hop to be taken if this route is used.



Maintenance
Device Administration

This window will allow you to change the administrator password. You can also enable remote management.

Administrator Login Name: Enter a new Login Name for the administrator account.

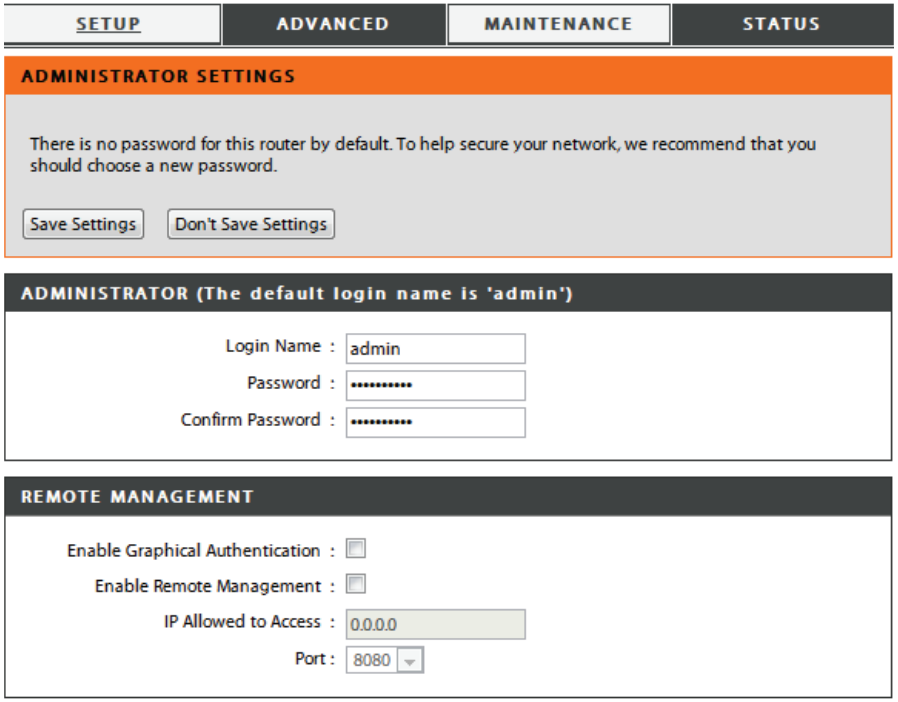
Administrator Password: Enter a new password for the administrator Login Name, then retype the new password in the Confirm Password text box. The administrator can make changes to the settings.

Enable Graphical Authentication: Tick this to enable a graphical captcha for secure administrator login.

Enable Remote Management: Remote management allows the DIR-605L 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 Internet.

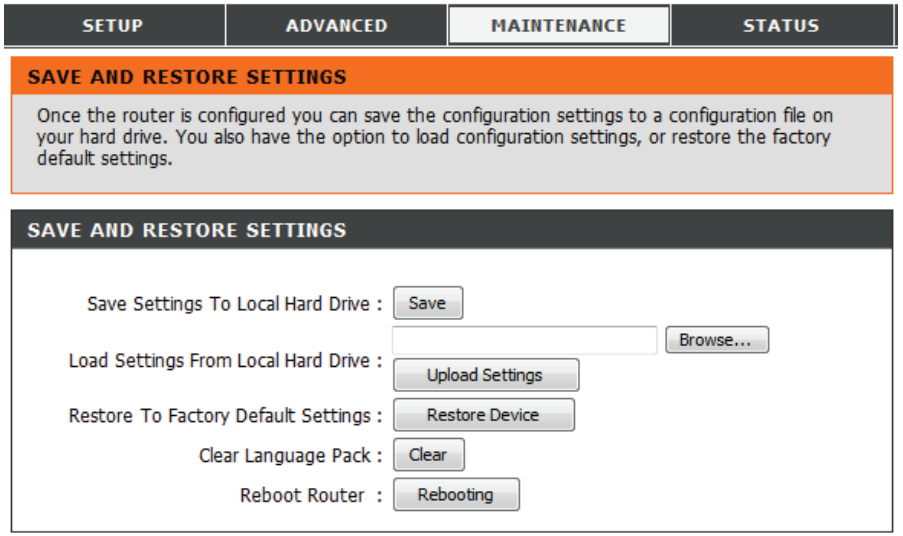
IP Allowed to Access: The Internet IP address of the computer that has access to the broadband router. If you input an asterisk (*) into this field, then any computer will be able to access the router. Putting an asterisk (*) into this field would present a security risk and is not recommended.

Port: The port number used to access the DIR-605L. For example: http://x.x.x.x:8080 whereas x.x.x.x is the WAN IP address of the DIR-605L and 8080 is the port used for the web-Management interface.



Save and Restore Settings

This window allows you to save your configuration file to a hard drive, load configuration settings from a hard drive, and restore the router's factory default 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** button to find a previously save file of configuration settings. Then, click the **Upload Settings** 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.

Clear Language Pack: Click **Clear** to remove installed language packs.

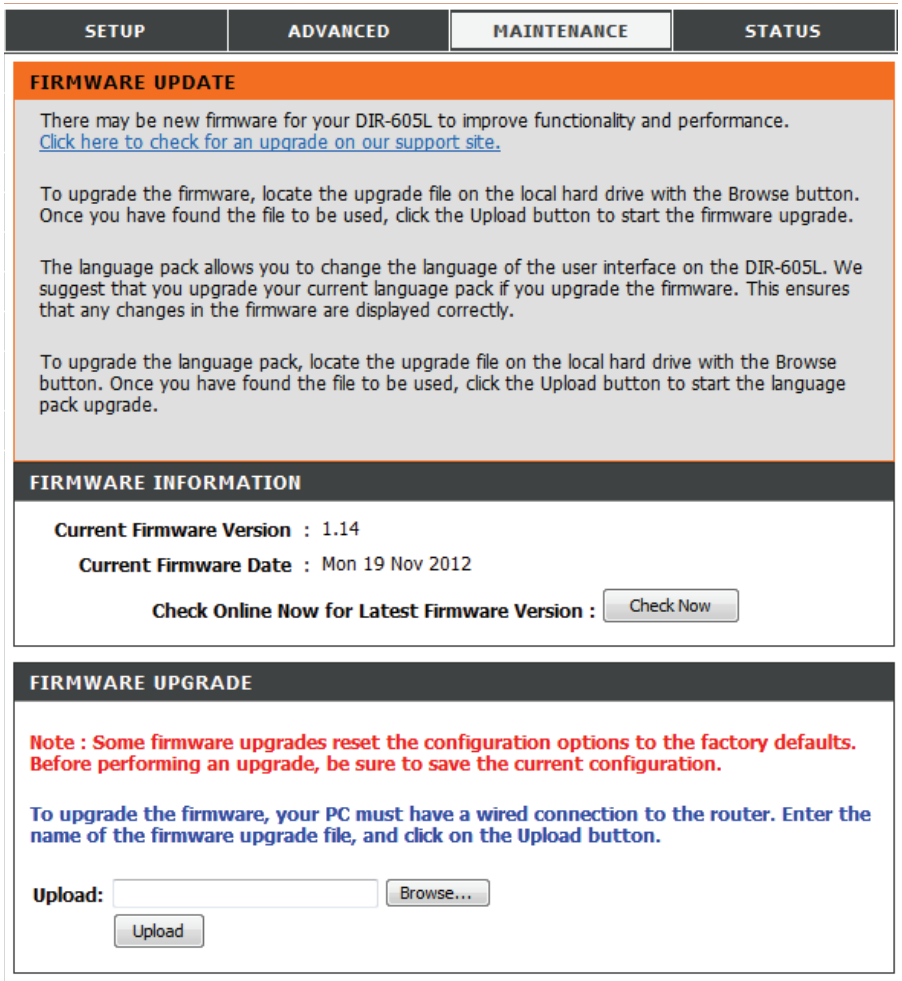
Reboot Router: Click the **Reboot** button on the left side of the window to restart the router.

Firmware Update

You can upgrade the firmware of the router here. Make sure the firmware you want to use is on the local hard drive of the computer. Click on **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.

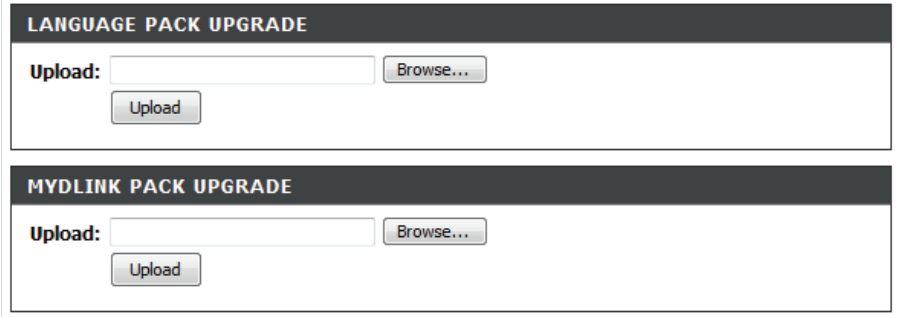
Firmware Information: This section displays the firmware version and date. Click the **Check Now** button (or the link at the top of the window) to find out if there is an updated firmware; if so, download the new firmware to your hard drive.

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



Language Pack Upgrade: Click the **Browse** button (or the link at the top of the window) and **Upload** to install the language pack.

mydlink Pack Upgrade: You can click **Browse** in this window to locate the mydlink pack upgrade on your hard drive. Click **Upload** to complete the upgrade.



Dynamic DNS

The router supports DDNS (Dynamic Domain Name Service). The Dynamic DNS service allows a dynamic public IP address to be associated with a static host name in any domain, allowing access to a specified host from various locations on the Internet. Many ISPs assign public IP addresses using DHCP, which can make it difficult to locate a specific host if the IP changes. For example, if you are running a public Web server or VPN server on your LAN, this ensures that the host can be located from the Internet if the ISP reassigns your public IP address.

Enable DDNS: Tick the checkbox to enable support for DDNS.

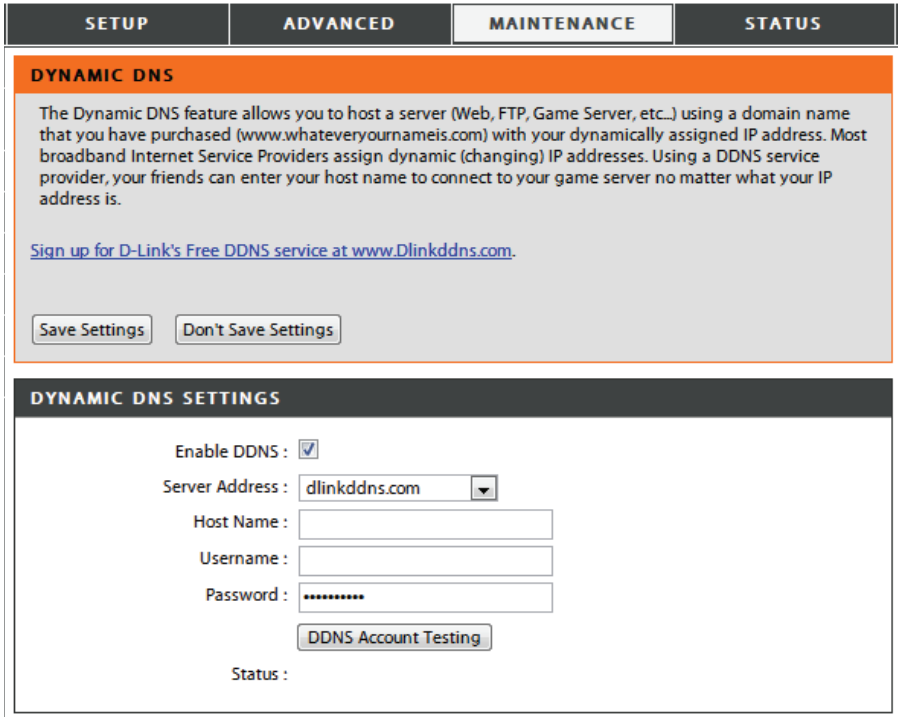
Server Address: Select one of the DDNS registration organizations from those listed in the pull-down menu.

Host Name: Enter the host name of the DDNS server.

Username: Enter the username given to you by your DDNS provider.

Password: Enter the password given to you by your DDNS provider. Click **DDNS Account Testing** to test your DDNS connection.

Status: Shows the status of the DDNS connection.

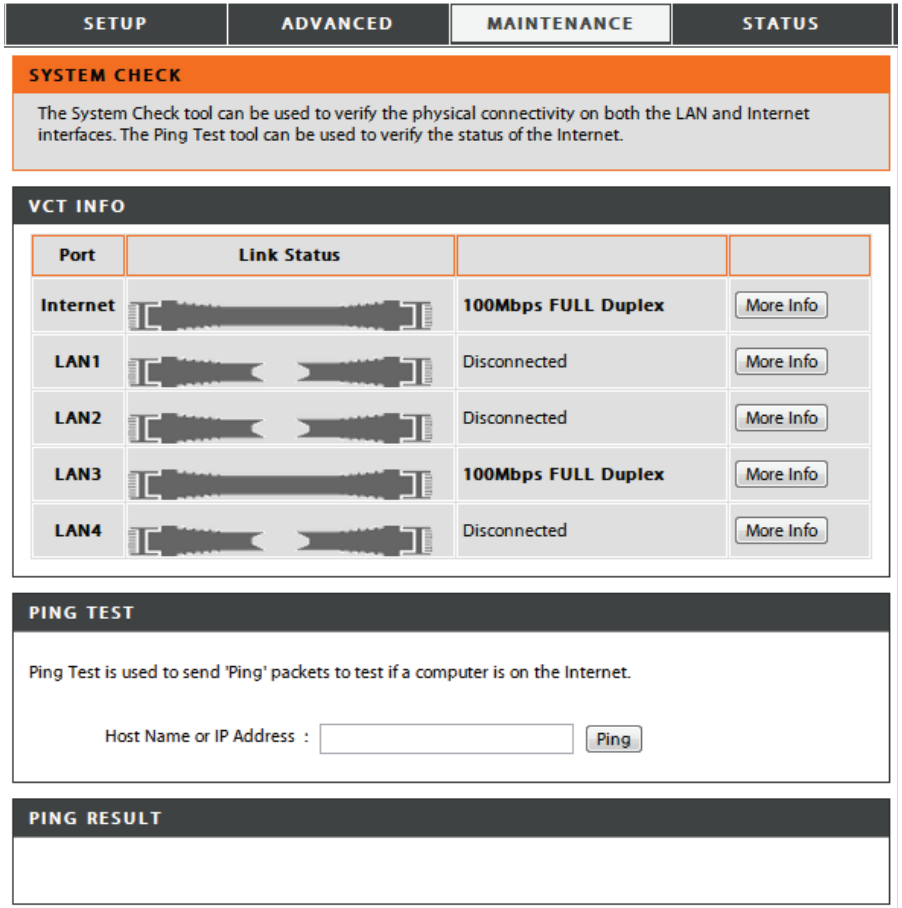


System Check

This tool is used to verify the physical connectivity on both the LAN and the WAN interfaces. The Ping Test can be used to test the status of the Internet.

Virtual Cable Tester (VCT) Info: VCT is an advanced feature that integrates a LAN cable tester on every Ethernet port on the router. Through the graphical user interface (GUI), VCT can be used to remotely diagnose and report cable faults such as opens, shorts, swaps, and impedance mismatch. This feature significantly reduces service calls and returns by allowing users to easily troubleshoot their cable connections.

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**. The results will be shown under Ping Result.



Schedule

The router allows the user the ability to manage schedule rules for various firewall and parental control features on this window. Once you have finished configuring the new schedule rule, click the **Save Settings** button at the top of the window.

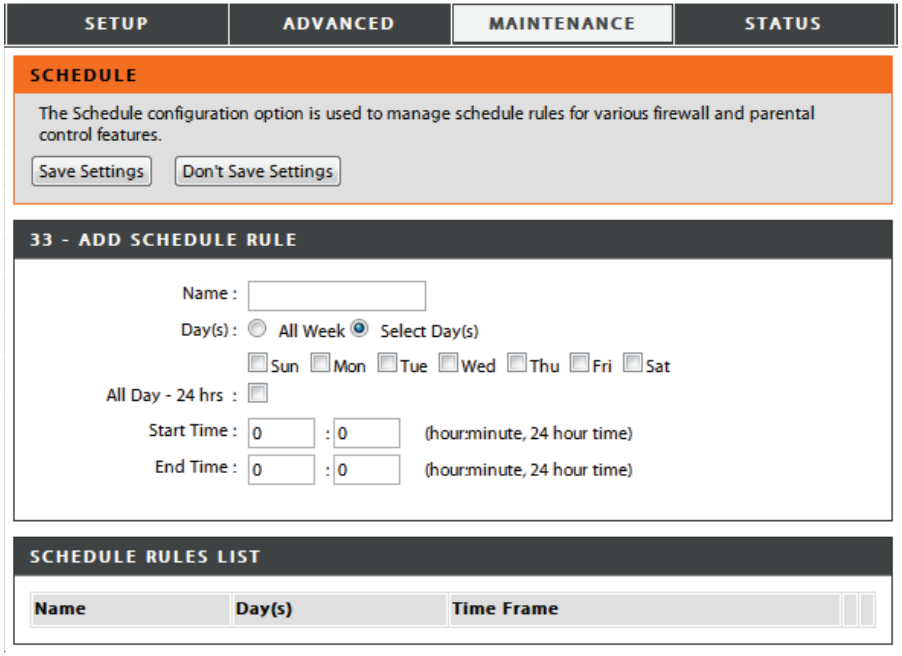
Name: Enter a name for the new schedule rule.

Day(s): Choose the desired day(s), either **All Week** or **Select Day(s)**. If the latter is selected, please use the checkboxes directly below to specify the individual days.

All Day - 24 hrs: Tick this check box if the new schedule rule applies to the full 24-hour period.

Start Time/ End Time: If the new schedule rule does not apply to the full 24-hour period, untick the previous checkbox, then enter a specific beginning and ending time.

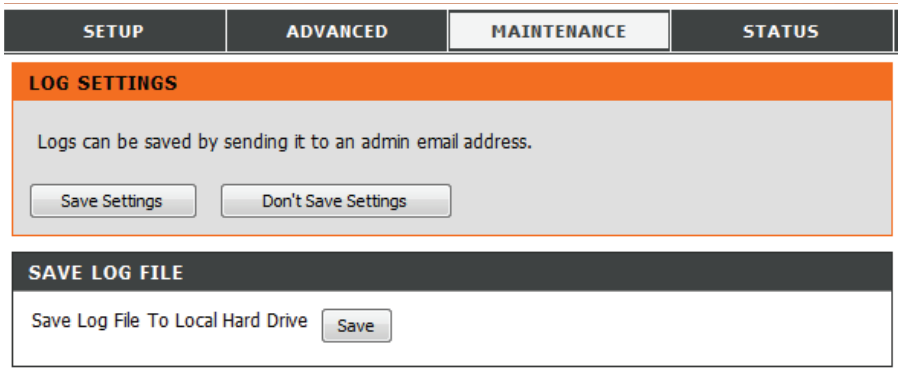
Schedule Rules List: Displays details of your schedule rules.



Log Settings

The system log displays chronological event log data specified by the admin. You may also save a simple text file containing the log to your computer. Click the **Save Settings** button to apply changes.

Save Log File: Click on the **Save** button link on this window to save the log file to your local hard drive.



Status

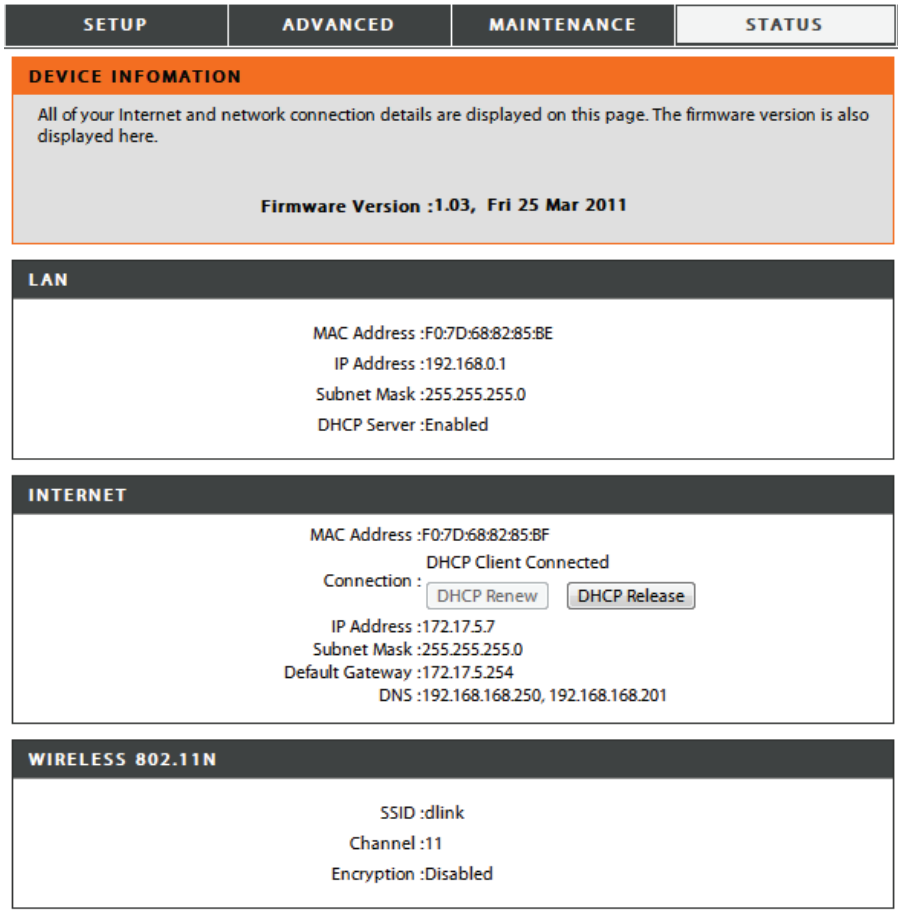
Device Info

This window displays the current information for the DIR-605L. It will display the LAN, WAN, and Wireless information. If your WAN connection is set up for a Dynamic IP address then a **DHCP Release** button and a **DHCP Renew** button will be displayed. Use **DHCP Release** to disconnect from your ISP and use **DHCP Renew** to connect to your ISP. If your WAN 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.

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

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

Wireless 802.11n: Displays the your network's wireless settings such as SSID, Channel, and Encryption status.



View Log

This section allows you to view a log of activities on the router. This is especially helpful for detecting unauthorized network usage.

First Page: View the first page of the log.

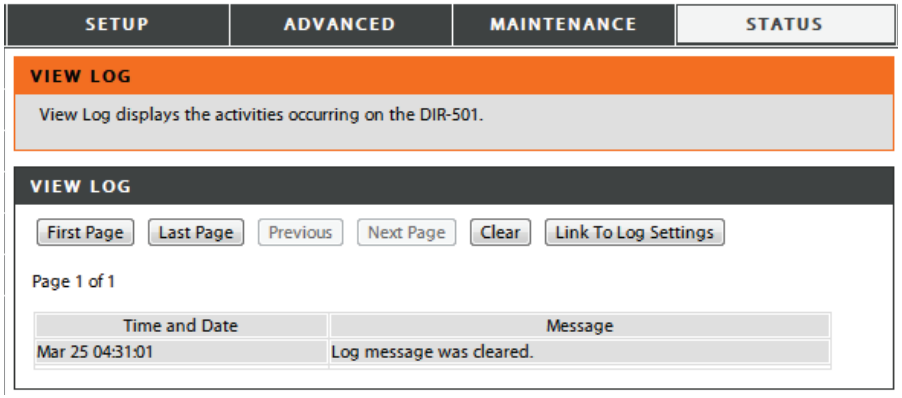
Last Page: View the last page of the log.

Previous: View the previous page.

Next Page: View the next page.

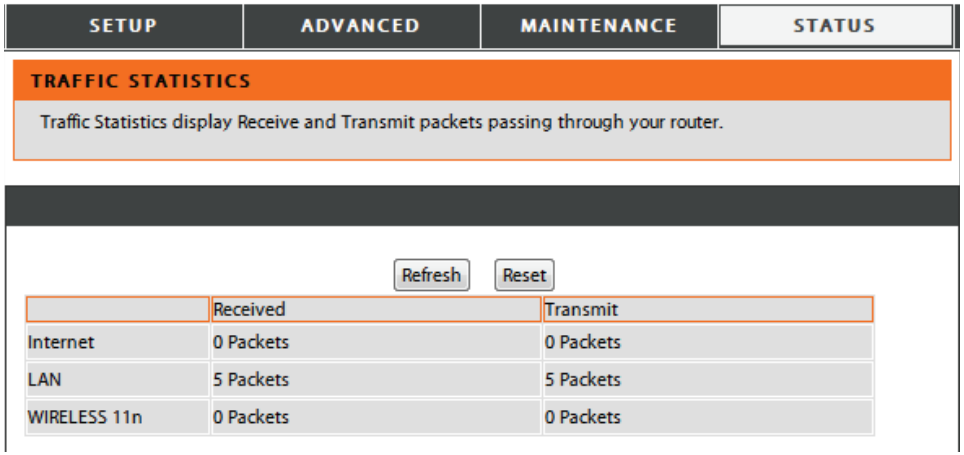
Clear: Clear the log.

Link to Log Settings: Click this button to go directly to the Log Settings window (**Maintenance** > **Log Settings**).



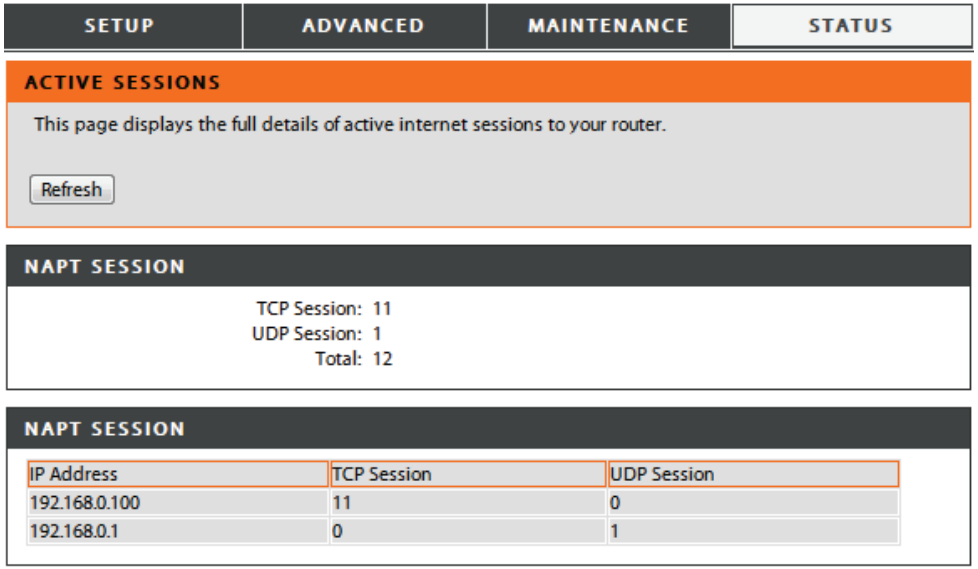
Traffic Statistics

The window below displays the Traffic Statistics. Here you can view the amount of packets that pass through the DIR-605L on both the WAN and the LAN ports. The traffic counter will reset if the device is rebooted. Click **Refresh** to update the statistics. Click **Reset** to reset the statistics.



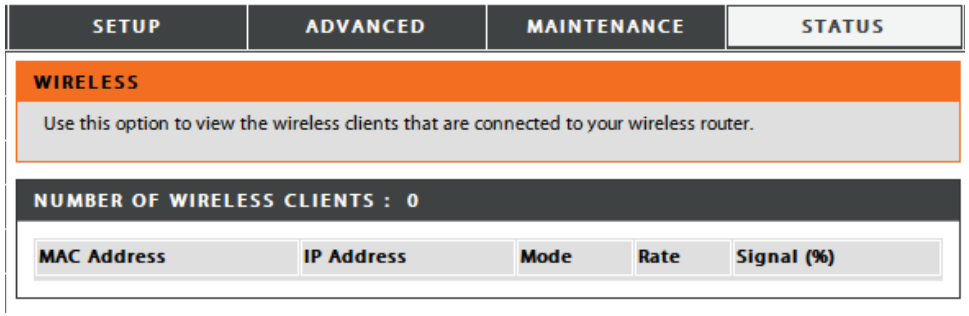
Active Sessions

The NAPT Active Sessions table displays a list of all active conversations between WAN computers and LAN computers. Click **Refresh** to update the statistics.



Wireless

The wireless client table displays a list of currently connected wireless clients. This table also displays the connection details of any connected wireless clients.



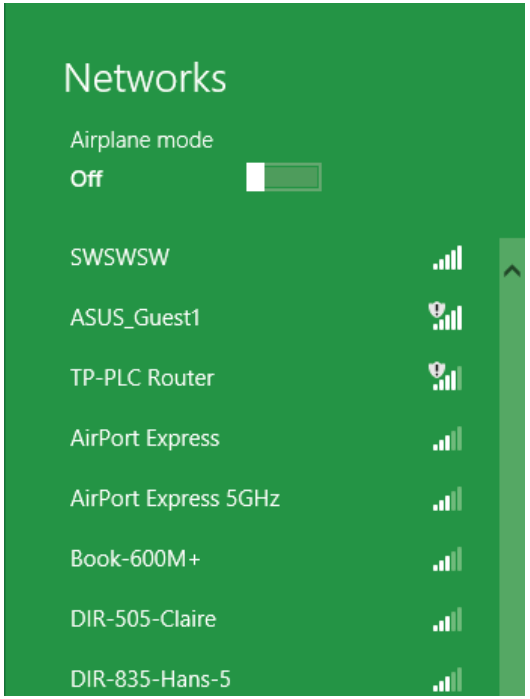
Connect to a Wireless Network
Using Windows® 8

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 (Wi-Fi password) being used.

To join an existing network, locate the wireless network icon in the taskbar, next to the time display.

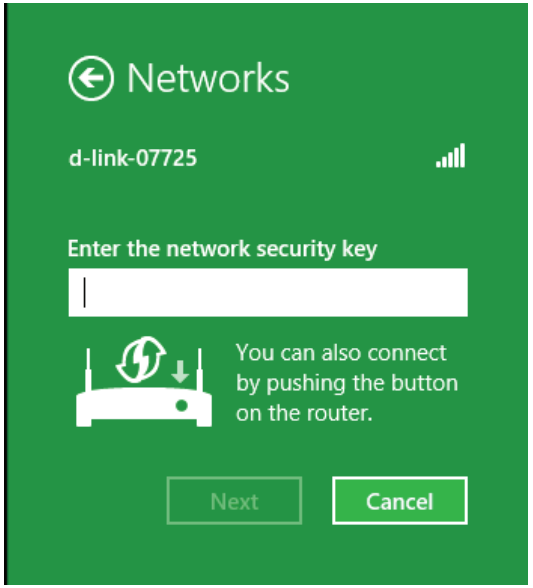
Wireless Icon

Clicking on this icon will display a list of wireless networks which are within connecting proximity of your computer. Select the desired network by clicking on the network name.

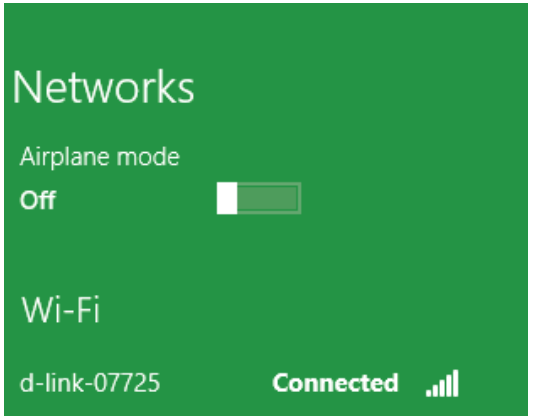


You will then be prompted to enter the network security key (Wi-Fi password) for the wireless network. Enter the password into the box and click **Next**.

If you wish to use Wi-Fi Protected Setup (WPS) to connect to the router, you can also press the WPS button on your router at this point to enable the WPS function.



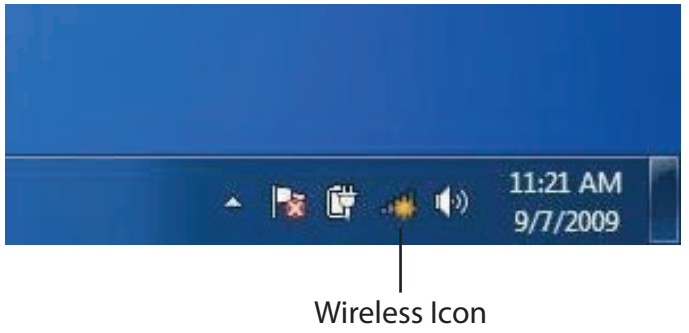
When you have established a successful connection to a wireless network, the word **Connected** will appear next to the name of the network to which you are connected.



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).

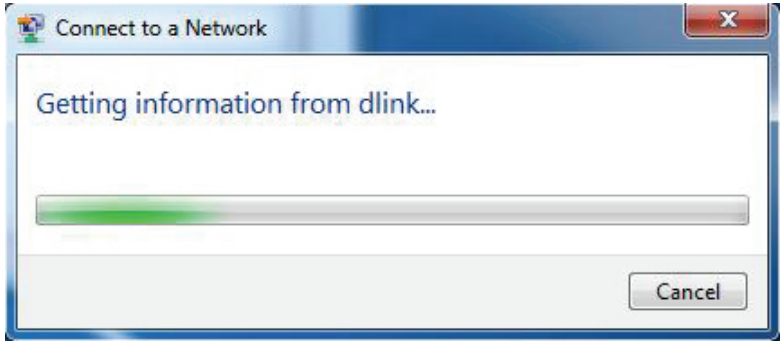


2. The utility will display any available wireless networks in your area.

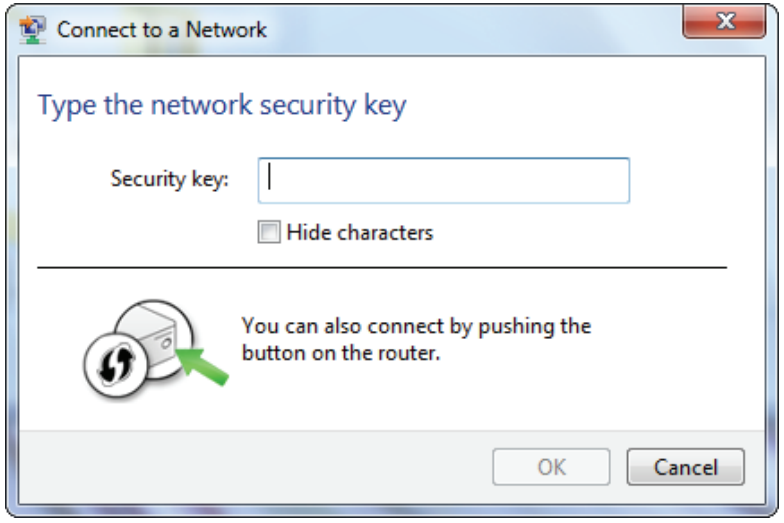
3. Highlight the wireless network (SSID) you would like to connect to and click the **Connect** button.

   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 WPS 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.

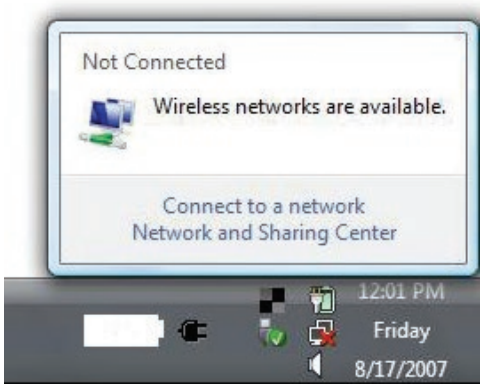
Using Windows Vista®

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.

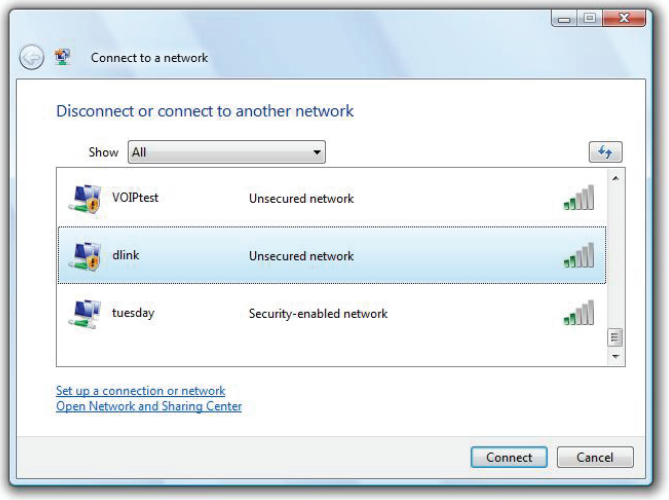
or

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.

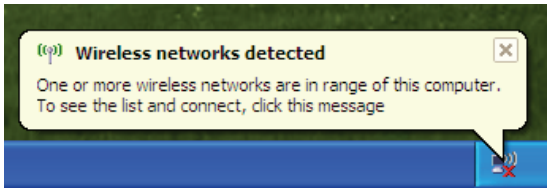
If you get a good signal but cannot access the Internet, check you TCP/IP settings for your wireless adapter. Refer to the **Networking Basics** section in this manual for more information.



Using Windows® XP

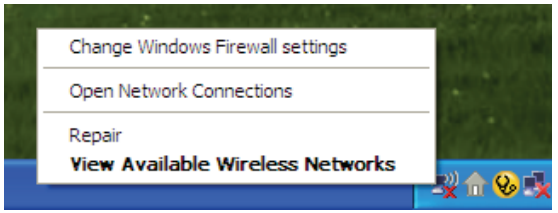
Windows® XP users may use the built-in wireless utility (Zero Configuration Utility). The following instructions are for Service Pack 2 users. If you are using another company's utility or Windows® 2000, please refer to the user manual of your wireless adapter for help with connecting to a wireless network.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

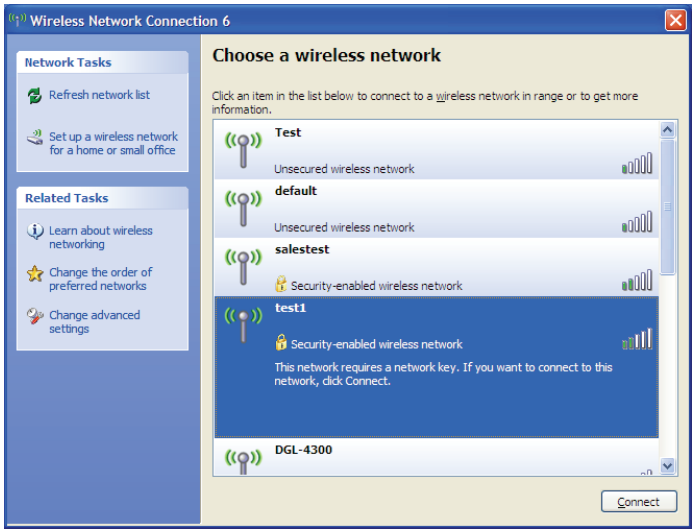


OR

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.



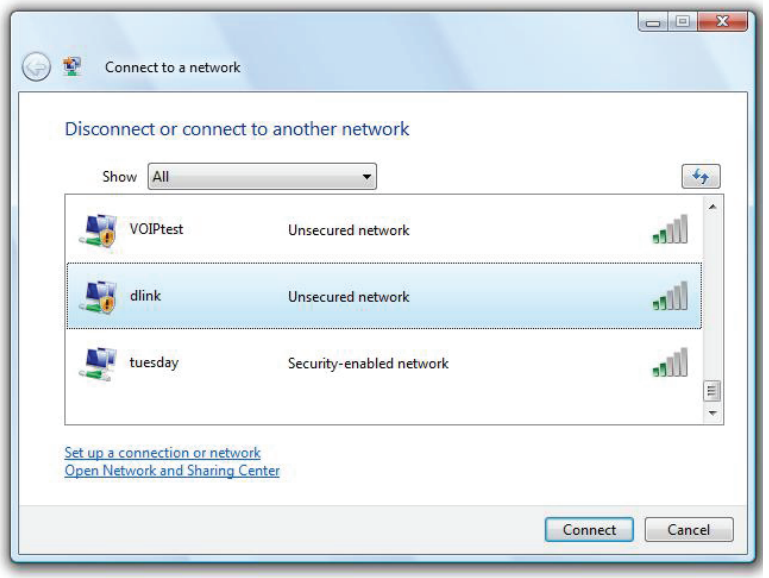
If you get a good signal but cannot access the Internet, check you TCP/IP settings for your wireless adapter. Refer to the **Networking Basics** section in this manual for more information.

Configure 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**.



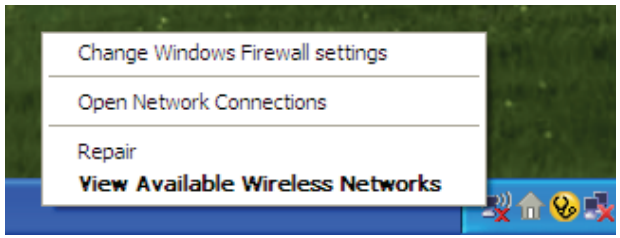
3. Enter the same security key or passphrase that is on your router and click **Connect**.

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.

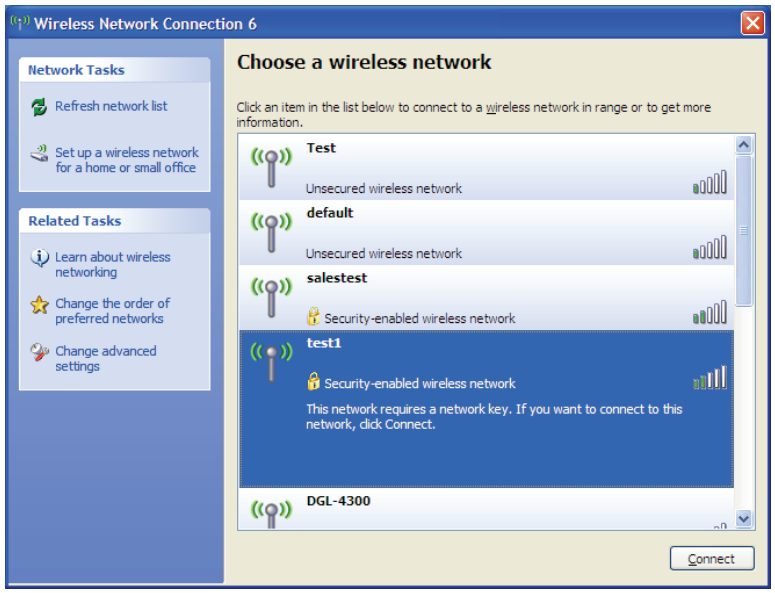
Configure WPA-PSK

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.

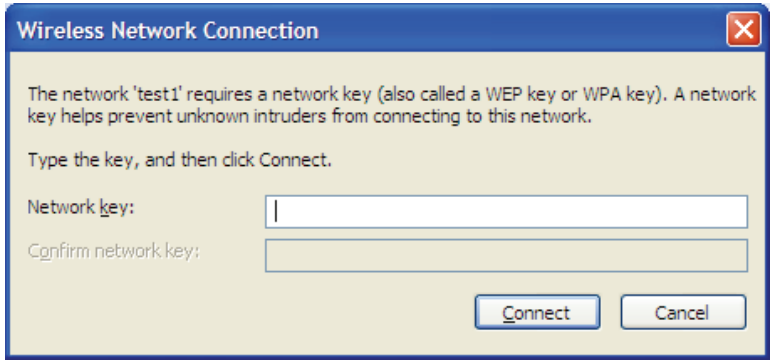
1. Open the Windows® XP Wireless Utility by right-clicking on the wireless computer icon in your system tray (lower-right corner of screen). Select **View Available Wireless Networks**.



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 DIR-605L. 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 the 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 bottom of the unit. With the router powered on, use a paperclip to hold the button down for 10 seconds. Release the button and the router will go through its reboot process. Wait about 30 seconds to access the router. Open your Web browser and go to **http://dlinkrouter/** and the Setup Wizard will run. When logging in, the default username is **admin** and you can leave the password box empty.

3. Why can't I connect to certain sites or send and receive e-mails 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).

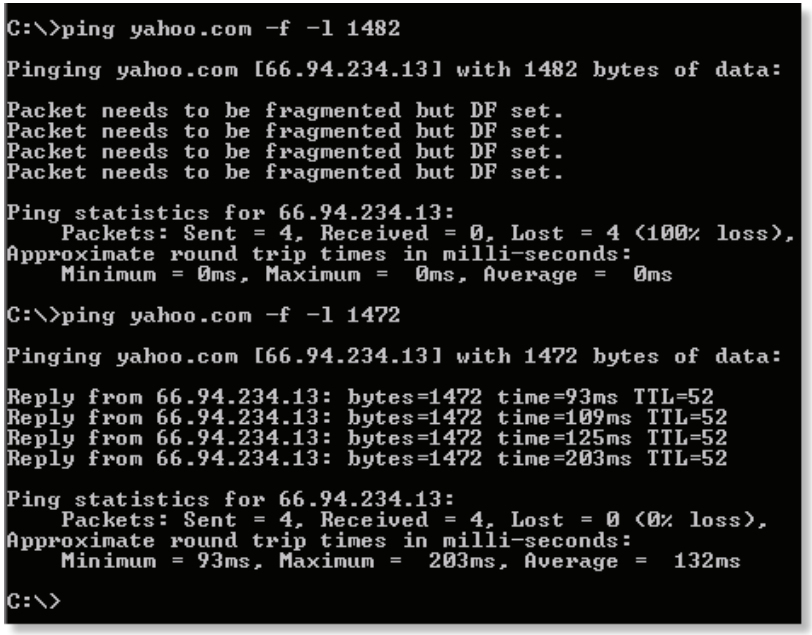
Note: AOL DSL+ users must use MTU of 1400.

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** 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**



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, let's 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 (the default is 192.168.0.1) and click **OK**.
- Enter your username and password. Click **OK** to enter the web configuration page for the device.
- Click on **Setup** then click **Manual Setup**.
- To change the MTU enter the number in the MTU field and click the **Save Settings** button 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 has 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, and 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 are usually called "hotspots".

Using a D-Link Cardbus Adapter with your laptop, you can access the hotspot to connect to the 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 DIR-605L 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

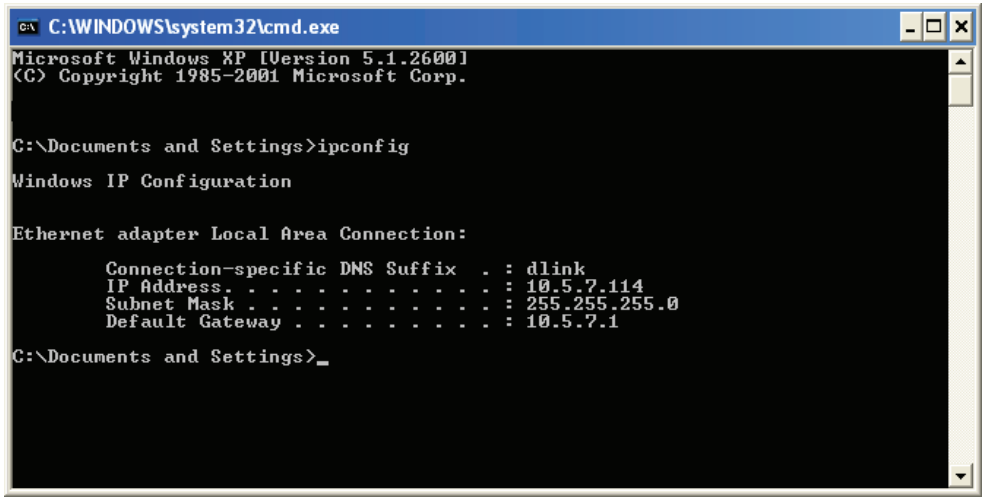
After you install your new D-Link adapter, by default, the TCP/IP settings should be set to obtain an IP address from a DHCP server (i.e. wireless router) automatically. To verify your IP address, please follow the steps below.

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 Setting.**

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

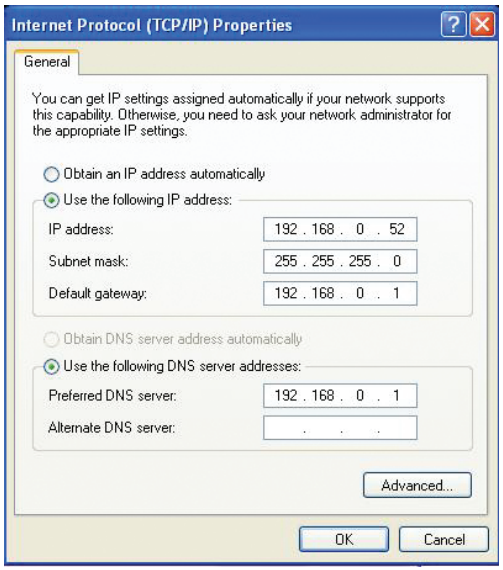
Highlight **Internet Protocol (TCP/IP)** and click **Properties**.

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 802.11b
- IEEE 802.11g
- IEEE 802.11n
- IEEE 802.3
- IEEE 802.3u
- IEEE 802.3x

Wireless Signal Rates*
- 300 Mbps • 150 Mbps
- 54 Mbps • 48 Mbps
- 36 Mbps • 24 Mbps
- 18 Mbps • 12 Mbps
- 11 Mbps • 9 Mbps
- 6 Mbps • 5.5 Mbps
- 2 Mbps • 1 Mbps

Security
- WPA - Wi-Fi Protected Access (TKIP, MIC, IV Expansion, Shared Key Authentication)
- 64/128-bit WEP

Modulation Technology
- 802.11b : DSSS / DBPSK / DQPSK / CCK
- 802.11g : 16QAM / 64QAM / BPSK / QPSK with OFDM
- 802.11n : 16QAM / 64QAM / BPSK / QPSK with OFDM

VPN Passthrough/ Multi-Sessions
- PPTP
- IPSec

Device Management
- Web-based Internet Explorer 8 or later; Netscape Navigator v6 or later; or other Java-enabled browsers
- DHCP Server and Client

Wireless Frequency Range
- 2.4 GHz to 2.497 GHz (802.11b)
- 2.4 GHz to 2.4835 GHz (802.11g and 802.11n)

Wireless Operating Range
- Indoors - up to 328 ft. (100 meters)
- Outdoors- up to 1312 ft. (400 meters)

Wireless Transmit Power (AVG Power)
- 802.11b:17 dBm (Max)
- 802.11g:16 dBm (Max)
- 802.11n:13 dBm (Max)

External Antenna Type
- Two fixed external antenna

Advanced Firewall Features
- NAT with VPN Pass-through (Network Address Translation)
- MAC Filtering
- IP Filtering

- URL Filtering
- Scheduling

LEDs
- Power
- Status
- Internet
- WLAN (Wireless Connection)
- LAN (10/100)

Operating Temperature
- 0 °C to 40 °C (32 °F to 129 °F)

Humidity
- 95% maximum (non-condensing)

Safety and Emissions
- FCC Part 15B/ 15C/ MPE
- CE
- C-tick
- NCC
- CCC

Dimensions
- L = 132 mm (5.2 inches)
- W = 87 mm (3.4 inches)
- H = 29 mm (1.14 inches)

Weight
- 145.2 grams (5.12 ounces)

Warranty
- 2 Years

* Maximum wireless signal rate derived from IEEE Standard 802.11b, 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.