



User Manual

Wireless AC750 Dual Band Router

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
1.02	October 27, 2015	• Initial release for revision A3
1.03	April 28, 2016	• Content revision and correction

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Table of Contents

Preface	i	Wireless Settings	26
Product Overview	1	Wireless Router Mode	26
Package Contents	1	Access Point Mode	27
System Requirements	2	Repeater Mode	28
Introduction	3	Wireless Router Mode	29
Features	4	2.4G Wireless Network Settings	29
Hardware Overview	5	5G Wireless Network Settings	30
Connections	5	Wireless Security	31
LEDs	6	What is WPA?	31
Installation	7	2.4G/5G Wireless Security Mode	32
Before you Begin	7	AP Mode	34
Wireless Installation Considerations	8	Repeater 2.4 GHz Mode	35
Manual Setup	9	Repeater 5 GHz Mode	37
Configuration	11	Network Settings	39
Easy Setup Wizard	12	Router Settings	39
Internet Connection	13	DHCP Server Settings	40
Wireless Connection	13	DHCP Reservation	41
Advanced Network Configuration	15	Advanced	42
Internet Connection Type (Manual Configuration)	17	Virtual Server	42
Dynamic IP (DHCP)	18	Port Forwarding	43
Static (assigned by ISP)	19	Application Rules	44
PPPoE (Username / Password)	20	MAC Filter	45
PPTP	22	Website Filters	46
L2TP	24	Traffic Control	47
		Firewall Settings	48
		2.4G Advanced Wireless	50

5G Advanced Wireless.....	51	WPS/WCN 2.0	82
Advanced Network Settings	52	Windows® XP	83
Wi-Fi Protected Setup	54	WPA/WPA2	84
Wi-Fi Protected Setup Wizard.....	55	Troubleshooting	86
Tools	57	Wireless Basics	90
Admin.....	57	What is Wireless?.....	91
Time	58	Tips.....	93
System	59	Wireless Modes.....	94
Firmware	60	Networking Basics	95
Language Pack.....	60	Check your IP address.....	95
Dynamic DNS	61	Statically Assign an IP address	96
System Check.....	62	Technical Specifications	97
Status	63		
Device Info	63		
Logs.....	64		
Statistics	65		
Internet Sessions.....	66		
Wireless.....	67		
Support	68		
Connect a Wireless Client to your Router	69		
WPS Button	69		
Windows® 8.....	70		
WPA/WPA2	70		
Windows® 7.....	72		
WPA/WPA2	72		
WPS.....	75		
Windows Vista®	79		
WPA/WPA2	80		

Package Contents



DIR-809 Wireless AC750 Dual Band Router



Ethernet Cable



Power Adapter



Wi-Fi Configuration Note



CD-ROM

If any of the above items are missing, please contact your reseller.

Note: Using a power supply with a different voltage rating than the one included with the DIR-809 will cause damage and void the warranty for this product.

System Requirements

Network Requirements	<ul style="list-style-type: none">• An Ethernet-based Cable or DSL modem• IEEE 802.11ac, 802.11a, 802.11n or 802.11g wireless clients• 10/100 Ethernet
Web-based Configuration Utility Requirements	<p>Computer with the following:</p> <ul style="list-style-type: none">• Windows®, Apple® Mac OS®, or Linux-based operating system• An installed Ethernet adapter <p>Browser Requirements: Microsoft Internet Explorer® 9, Mozilla® Firefox® 20.0, Google® Chrome® 25.0, or Safari® 5.1 or higher version</p> <p>Windows® Users: Make sure you have the latest version of Java installed. Visit www.java.com to download the latest version.</p>

Introduction

The D-Link DIR-809 is a IEEE 802.11ac compliant device that delivers up to three times faster speeds than 802.11n while staying backward compatible with 802.11a/g/b devices. Connect the DIR-809 to a Cable or DSL modem and provide high-speed Internet access to multiple computers, game consoles, and media players. Create a secure wireless network to share photos, files, music, videos, printers, and network storage. Powered by the 802.11ac technology this router provides wireless coverage for homes and offices, or for users running bandwidth-intensive applications.

With some routers, all wired and wireless traffic, including VoIP, Video Streaming, Online Gaming, and Web browsing are mixed together into a single data stream. By handling data this way, applications like video streaming could pause or delay. With D-Link Intelligent QoS Technology, wired and wireless traffic are analyzed and separated into multiple data streams.

The DIR-809 supports the latest wireless security features to help prevent unauthorized access, be it from over a wireless network or the Internet. Support for WPA™ and WPA2™ standards ensure that you will be able to use the best possible encryption regardless of your client devices. In addition, this router utilizes Dual Active Firewalls (SPI and NAT) to prevent potential attacks from across the Internet so you and your family can browser the Internet with peace-of-mind.

Features

- **Ultimate Fast Wireless Networking** - The DIR-809 provides up to 300 Mbps wireless bandwidth in the 2.4 GHz band and up to 433 Mbps wireless bandwidth in the 5 GHz band with other 802.11ac and draft 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 802.11ac wireless router gives you the freedom of wireless networking at speeds 3x faster than 802.11n.
- **Compatible with 802.11a/g/n Devices** - The DIR-809 is compatible with the IEEE 802.11a, 802.11g, and 802.11n wireless standards, so it can connect with existing networking devices as well as PCI, USB, and CardBus network 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 or URL.
 - **Secure Multiple/Concurrent Sessions** - The DIR-809 can pass through VPN sessions. It supports multiple and concurrent IPsec and PPTP sessions, so users behind the DIR-809 can securely access corporate networks.
- **User-friendly Easy Setup Wizard** - Through its easy-to-use Web-based user interface, the DIR-809 lets you quickly and easily configure your router, letting you surf the Internet within minutes.

* Maximum wireless signal rate derived from IEEE Standard 802.11a, 802.11g, 802.11n and draft 802.11ac 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	LAN Ports (1 - 4)	Connect 10/100 Ethernet devices such as computers, switches, storage (NAS) devices and game consoles.
2	Internet Port	Using an Ethernet cable, connect your broadband modem to this port.
3	Power Connector	Connector for the supplied power adapter.
4	WPS & Reset Button	Press and hold the button for 1-7 seconds to activate WPS-PBC Discovery Mode.
		Press and hold the button for at least 8 seconds to reset the router to default settings.

Hardware Overview

LEDs



1	Power LED	A solid green light indicates a proper connection to the power supply.
2	Internet LED	A solid light indicates connection on the Internet port.
3	WPS LED	This LED blinks during WPS handshake phase.
4	WLAN	A solid light indicates that the wireless segment is ready.
5	Local Network LEDs	A solid light indicates a connection to an Ethernet-enabled computer on ports 1-4.

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 an 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.

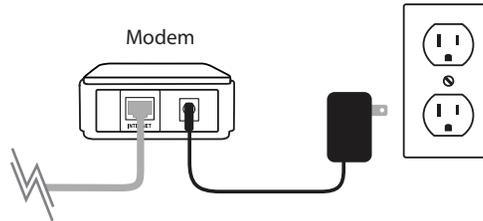
Wireless Installation Considerations

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:

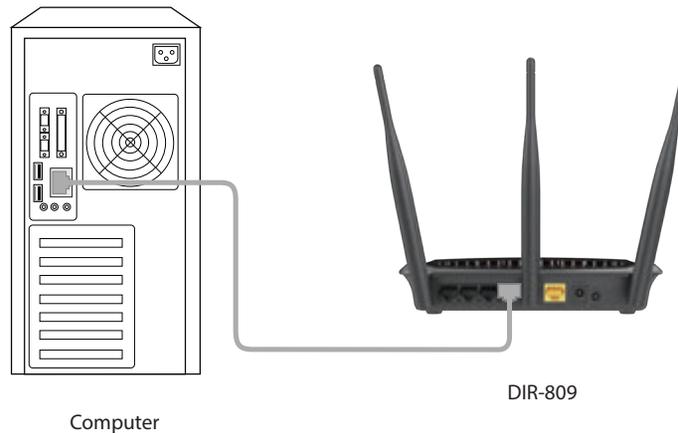
1. Keep the number of walls and ceilings between the D-Link router and other network devices to a minimum - each wall or ceiling can reduce your adapter's range from 3-90 feet (1-30 meters.) Position your devices so that the number of walls or ceilings is minimized.
2. Be aware of the direct line between 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 is not in use.

Manual Setup

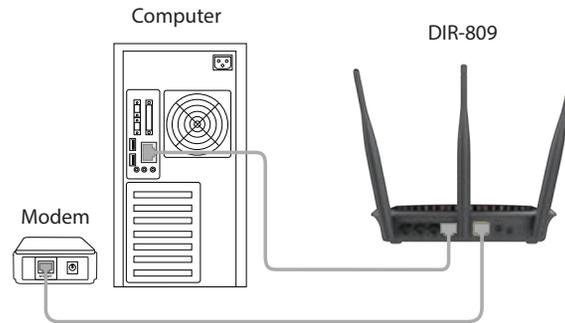
1. Turn off and unplug your cable or DSL broadband modem. This is required.



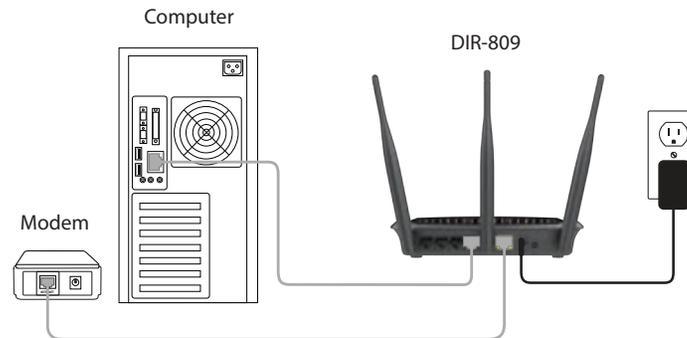
2. Position your router close to your modem and a computer. Place the router in an open area of your intended work area for better wireless coverage.
3. Unplug the Ethernet cable from your modem (or existing router if upgrading) that is connected to your computer. Plug it into the LAN port labeled **1** on the back of your router. The router is now connected to your computer.



4. Plug one end of the included blue Ethernet cable that came with your router into the yellow port labeled INTERNET on the back of the router. Plug the other end of this cable into the Ethernet port on your modem.



5. Reconnect the power adapter to your cable or DSL broadband modem and wait for two minutes.
6. Connect the supplied power adapter into the power port on the back of the router and then plug it into a power outlet or surge protector. The power LED will light up. Allow 1 minute for the router to boot up.



7. If you are connecting to a Broadband service that uses a dynamic connection (not PPPoE), you may be online already. Try opening a web browser and enter a web site address.

Configuration

There are several different ways you can configure your router to connect to the Internet and connect to your clients:

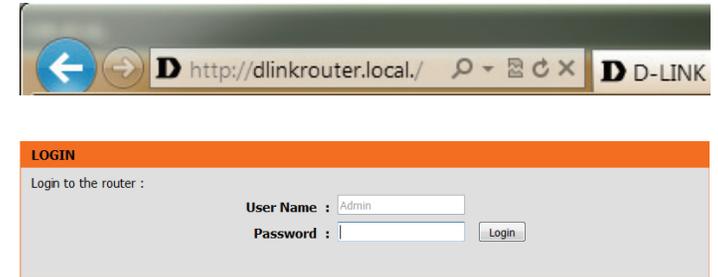
- **D-Link Easy Setup Wizard** - This wizard will launch when you log into the router for the first time. Refer to page 12.
- **Manual Setup** - Log into the router and manually configure your router (advanced users only). Refer to page 15.

Easy Setup Wizard

If this is your first time using the router, open your web browser. You will automatically be directed to the **Wizard Setup Screen**. If not, type **http://dlinkrouter.local./** or **192.168.0.1** into the address bar and press **Enter**. The username, "admin" will already be filled in. Leave the password blank and press the login button.

If you would like to manually set up the router, please refer to the Web-Based Configuration Utility section on page 15.

The Easy Setup Wizard consists of two parts: **Internet Connection** and **Wireless Connection**.



Internet Connection

First select the **INTERNET** connection type. The options are **Static IP**, **Dynamic IP (DHCP)**, and **PPPoE (Username / Password)**.

Dynamic IP (DHCP)

The router will attempt to automatically configure itself for Dynamic IP Internet Connections.

Internet Connection Type:

Static IP

Enter the IP and DNS settings supplied by your ISP.

Internet Connection Type:

*IP Address:

*Subnet Mask:

*Gateway Address:

*Primary DNS Server:

Secondary DNS Server:

PPPoE

Enter your username and user password details provided by your Internet Service Provider. This option is typically used for DSL Internet service.

Internet Connection Type:

*User name:

User Password:

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

Wireless Connection

Next, create a Wi-Fi network name (SSID) for both the 2.4 GHz and 5 GHz segments using up to 32 characters.

Create a Wi-Fi password (between 8-63 characters). Your wireless clients will need to have this passphrase or key in order to connect to your wireless network.

Click **Connect** to continue.

Wireless Connection

2.4GHz Band

Wireless Network Name (SSID):

Wireless Password:

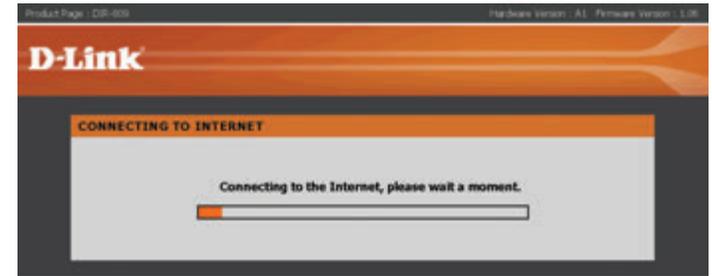
5GHz Band

Wireless Network Name (SSID):

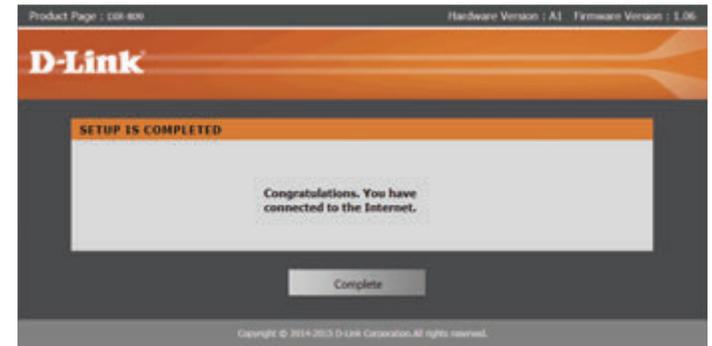
Wireless Password:

Connect Save & Logout Advanced Network

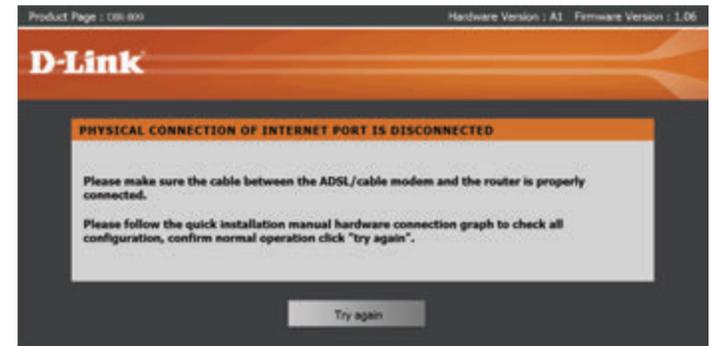
Please wait while your router detects your Internet connection type. If you selected PPPoE as your Internet connection, you may need to enter information provided by you ISP, such as username and password.



Congratulations, your router setup is complete. Upon clicking **Complete** you will be redirected to the www.dlink.com may now freely use the Internet.



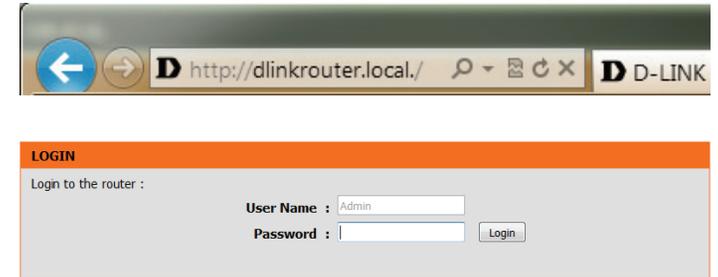
If the router does not detect a valid Ethernet connection from the Internet port, this screen will appear. Verify your broadband modem is connected to the Internet port and then click **Try Again**.



Advanced Network Configuration

If this is your first time using the router, open your web browser. You will automatically be directed to the **Wizard Setup Screen**. If not, type **http://dlinkrouter.local./** or **192.168.0.1** into the address bar and press **Enter**. The username, "admin" will already be filled in. Leave the password blank and press the login button.

Upon login, bypass the Easy Setup by clicking **Advanced Network** in the bottom right hand corner of the page.



Upon clicking the “**Advanced Network**” option, you will be brought to the **Setup - Internet** page. From this page you can configure your connection and router settings manually.

If you want to configure your router to connect to the Internet using the wizard, click **Easy Setup**. You will be directed back to the Easy Setup Wizard. Refer to the previous section.

The screenshot shows the D-Link DIR-809 Advanced Network Setup - Internet page. The page is titled "D-Link" and "DIR-809". It has a navigation menu with "SETUP", "ADVANCED", "TOOLS", "STATUS", and "SUPPORT". The "ADVANCED" tab is selected, and the "INTERNET" sub-tab is active. The page is divided into several sections:

- WAN:** A section for configuring the Internet Connection type. It includes a note: "Use this section to configure your Internet Connection type. There are several connection types to choose from: Static IP, DHCP, PPPoE. If you are unsure of your connection method, please contact your Internet Service Provider." Below this are "Save Settings" and "Don't Save Settings" buttons.
- INTERNET CONNECTION TYPE:** A section for choosing the mode to be used by the router to connect to the Internet. It shows "My Internet Connection is: Dynamic IP (DHCP)".
- DYNAMIC IP (DHCP) INTERNET CONNECTION TYPE:** A section for configuring Dynamic IP (DHCP) settings. It includes fields for Host Name (DIR-809), MAC Address (00-10-10-10-10-10 (optional)), Primary DNS Server (0.0.0.0), Secondary DNS Server (0.0.0.0 (optional)), and MTU (1500 bytes MTU default 200). Below these are "Save Settings" and "Don't Save Settings" buttons.
- Helpful Hints:** A sidebar on the right with instructions: "When configuring the router to access the Internet, be sure to choose the correct Internet Connection Type from the drop-down menu. If you are unsure of which option to choose, contact your Internet Service Provider (ISP). If you are having trouble accessing the Internet through the router, double check any settings you have entered on this page and verify them with your ISP if needed."

Internet Connection Type (Manual Configuration)

Internet Connection Type

In this section, the user can select from a list of Internet Connection types that can be configured and used on this router. Options to choose from are **Static IP**, **Dynamic IP**, **PPPoE**, **PPTP**, and **L2TP**.

After selecting a specific Internet Connection type, this page will automatically refresh and provide unique fields to configure related to the specified Internet Connection type.

At any given point the user can save the configuration by clicking on the **Save Settings** button. If you choose to discard the changes made, click on the **Don't Save Settings** button.

INTERNET CONNECTION TYPE

Choose the mode to be used by the router to connect to the Internet.

My Internet Connection is :

DYNAMIC IP (DHCP) INTERNET CONNECTION TYPE

Use this Internet connection type if your Internet Service Provider (ISP) didn't provide you with IP Address information and/or a username and password.

Host Name :

MAC Address : - - - - - (optional)

Primary DNS Server :

Secondary DNS Server : (optional)

MTU : bytes MTU default 1500

WAN

Use this section to configure your Internet Connection type. There are several connection types to choose from: Static IP, DHCP, PPPoE. If you are unsure of your connection method, please contact your Internet Service Provider.

Note : If using the PPPoE option, you will need to remove or disable any PPPoE client software on your computers.

Dynamic IP (DHCP)

My Internet Connection is: Dynamic IP (DHCP)

This option allows the router to obtain an IP address automatically from the WAN device that is connected to the Internet port.

Note: If you're not sure about the type of Internet Connection you have, please contact your Internet Service Provider (ISP) for assistance.

After selecting Dynamic IP, the following parameters will be available for configuration:

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

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.

Primary DNS: Enter the Primary DNS IP address used here.

Secondary DNS: Enter the Secondary DNS IP address used here. This field is normally optional. Only one DNS address is required for a functional Internet connection, but using a second DNS address provides more stability.

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

INTERNET CONNECTION TYPE

Choose the mode to be used by the router to connect to the Internet.

My Internet Connection is :

DYNAMIC IP (DHCP) INTERNET CONNECTION TYPE

Use this Internet connection type if your Internet Service Provider (ISP) didn't provide you with IP Address information and/or a username and password.

Host Name :

MAC Address : - - - - - (optional)

Primary DNS Server :

Secondary DNS Server : (optional)

MTU : bytes MTU default 1500

Static (assigned by ISP)

My Internet Connection is: Static IP

Select Static IP Address 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.

My Internet Connection Select **Static IP** to manually enter the IP settings supplied by your ISP.

IP Address: Enter the Static IP address provided by the ISP here.

Subnet Mask: Enter the Subnet Mask provided by the ISP here.

Default Gateway: Enter the Gateway IP address provided by the ISP here.

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 **Copy Your PC's MAC Address** button to replace the Internet port's MAC address with the MAC address of your Ethernet card.

Primary DNS Address: Enter the Primary DNS IP address used here.

Secondary DNS Address: Enter the Secondary DNS IP address used here. This field is normally optional. Only one DNS address is required for a functional Internet connection, but using a second DNS address provides more stability.

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

INTERNET CONNECTION TYPE

Choose the mode to be used by the router to connect to the Internet.

My Internet Connection is :

STATIC IP ADDRESS INTERNET CONNECTION TYPE

Enter the static address information provided by your Internet Service Provider (ISP).

IP Address :

Subnet Mask :

Default Gateway :

MAC Address : - - - - - (optional)

Primary DNS Server :

Secondary DNS Server : (optional)

MTU : bytes MTU default 1500

PPPoE (Username / Password)

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.

My Internet Connection: Select **PPPoE (Username/Password)** from the drop-down menu.

Address Mode: Here the user can specify whether this Internet connection requires the use of a **Dynamic** or **Static IP** address. PPPoE usually requires a Dynamic IP configuration.

Username: Enter the PPPoE account user name used here. This information is given by the ISP.

Password: Enter the PPPoE account password used here. This information is given by the ISP.

Confirm Password: Re-enter the PPPoE account password used here.

Service Name: This optional field enables the user to enter a service name to identify this Internet connection here.

IP Address: Enter the PPPoE IP address used here. This option is only available if Static IP is selected.

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 **Copy Your PC's MAC Address** button to replace the Internet port's MAC address with the MAC address of your Ethernet card.

INTERNET CONNECTION TYPE

Choose the mode to be used by the router to connect to the Internet.

My Internet Connection is : PPPoE(Username / Password) ▾

PPPOE

Enter the information provided by your Internet Service Provider (ISP).

Dynamic IP (DHCP) Static IP

User Name :

Password :

Confirm Password :

Service Name : (optional)

IP Address :

MAC Address : - - - - - (optional)

Receive DNS from ISP Enter DNS Manually

Primary DNS Server :

Secondary DNS Server : (optional)

Maximum Idle Time : (minutes, 0=infinite)

MTU : bytes MTU default 1492

Connection mode select : Always On

Manual Connection-on demand

DNS Mode: This option allow the router to obtain the DNS IP addresses from the ISP, when **Receive DNS from ISP** is selected, or allows the user to enter DNS IP address manually, when **Enter DNS Manually** is selected.

Primary DNS Server: Enter the Primary DNS IP address used here.

Secondary DNS Server: Enter the Secondary DNS IP address used here. This field is normally optional. Only one DNS address is required for a functional Internet connection, but using a second DNS address provides more stability.

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 Use the radio buttons to specify the reconnect mode. The user can select **Always On**, **Manual**, or **Connection-on Demand**.

INTERNET CONNECTION TYPE

Choose the mode to be used by the router to connect to the Internet.

My Internet Connection is : PPPoE(Username / Password) ▼

PPPOE

Enter the information provided by your Internet Service Provider (ISP).

Dynamic IP (DHCP) Static IP

User Name :

Password :

Confirm Password :

Service Name : (optional)

IP Address :

MAC Address : - - - - - (optional)

Receive DNS from ISP Enter DNS Manually

Primary DNS Server :

Secondary DNS Server : (optional)

Maximum Idle Time : (minutes, 0=infinite)

MTU : bytes MTU default: 1492

Connection mode select : Always On

Manual Connection-on demand

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.

My Internet Connection: Select **PPTP (Username/Password)** from the drop-down menu.

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

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 (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).

INTERNET CONNECTION TYPE

Choose the mode to be used by the router to connect to the Internet.

My Internet Connection is : PPTP(Username / Password) ▾

PPTP INTERNET CONNECTION TYPE :

Enter the information provided by your Internet Service Provider (ISP).

Dynamic IP (DHCP) Static IP

PPTP IP Address : 0.0.0.0

PPTP Subnet Mask : 255.255.255.0

PPTP Gateway IP Address : 0.0.0.0

Primary DNS Server : 0.0.0.0 (optional)

MAC Address : 00 - 00 - 00 - 00 - 00 - 00

(optional) PPTP Server IP Address : 0.0.0.0

User Name :

Password :

Confirm Password :

Maximum Idle Time : 5 (minutes, 0=infinite)

MTU : 1400 bytes

Connection mode select : Always On Manual Connection-on demand

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 CONNECTION TYPE

Choose the mode to be used by the router to connect to the Internet.

My Internet Connection is :

PPTP INTERNET CONNECTION TYPE :

Enter the information provided by your Internet Service Provider (ISP).

Dynamic IP (DHCP) Static IP

PPTP IP Address :

PPTP Subnet Mask :

PPTP Gateway IP Address :

Primary DNS Server : (optional)

MAC Address : - - - - -

(optional) PPTP Server IP Address :

User Name :

Password :

Confirm Password :

Maximum Idle Time : (minutes, 0=infinite)

MTU : bytes

Connection mode select : Always On
 Manual Connection-on demand

L2TP

Choose L2TP (Point-to-Point-Tunneling Protocol) if your ISP uses a L2TP connection. Your ISP will provide you with a username and password.

My Internet Connection: Select **L2TP (Username/Password)** from the drop-down menu.

Address Mode: Here the user can specify whether this Internet connection requires the use of a dynamic or static IP address. L2TP usually requires a dynamic IP configuration.

L2TP IP Address: Enter the L2TP IP address used here. This option is only available if Static IP is selected.

L2TP Subnet Mask: Enter the L2TP subnet mask used here.

L2TP Gateway IP Address: Enter the L2TP gateway IP address used here.

Primary DNS Address: Enter the primary DNS IP address used here.

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.

INTERNET CONNECTION TYPE

Choose the mode to be used by the router to connect to the Internet.

My Internet Connection is : L2TP(Username / Password) ▾

L2TP INTERNET CONNECTION TYPE :

Enter the information provided by your Internet Service Provider (ISP).

Dynamic IP (DHCP) Static IP

L2TP IP Address :

L2TP Subnet Mask :

L2TP Gateway IP Address :

Primary DNS Server : (optional)

MAC Address : - - - - -

(optional) L2TP Server IP Address :

User Name :

Password :

Confirm Password :

Maximum Idle Time : (minutes, 0=infinite)

MTU : bytes

Connection mode select : Always On
 Manual Connection-on demand

L2TP Server IP Address: Enter the L2TP server IP address used here. This is normally the same as the L2TP gateway IP address.

User Name: Enter the L2TP username used here.

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**.

INTERNET CONNECTION TYPE

Choose the mode to be used by the router to connect to the Internet.

My Internet Connection is : L2TP(Username / Password) ▼

L2TP INTERNET CONNECTION TYPE :

Enter the information provided by your Internet Service Provider (ISP).

Dynamic IP (DHCP) Static IP

L2TP IP Address :

L2TP Subnet Mask :

L2TP Gateway IP Address :

Primary DNS Server : (optional)

MAC Address : - - - - -

(optional) L2TP Server IP Address :

User Name :

Password :

Confirm Password :

Maximum Idle Time : (minutes, 0=infinite)

MTU : bytes

Connection mode select : Always On
 Manual Connection-on demand

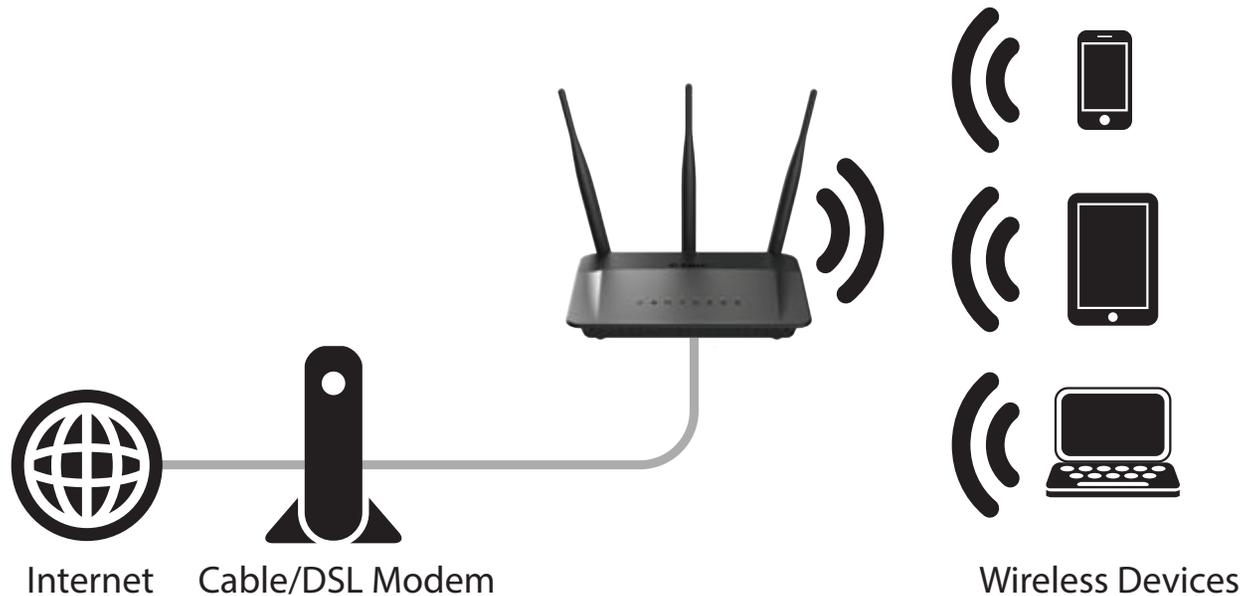
Wireless Settings

Wireless Mode: The DIR-809 may be used as a **Wireless Router**, **Access Point**, or a **Repeater** on either the 2.4 GHz or 5 GHz bands.



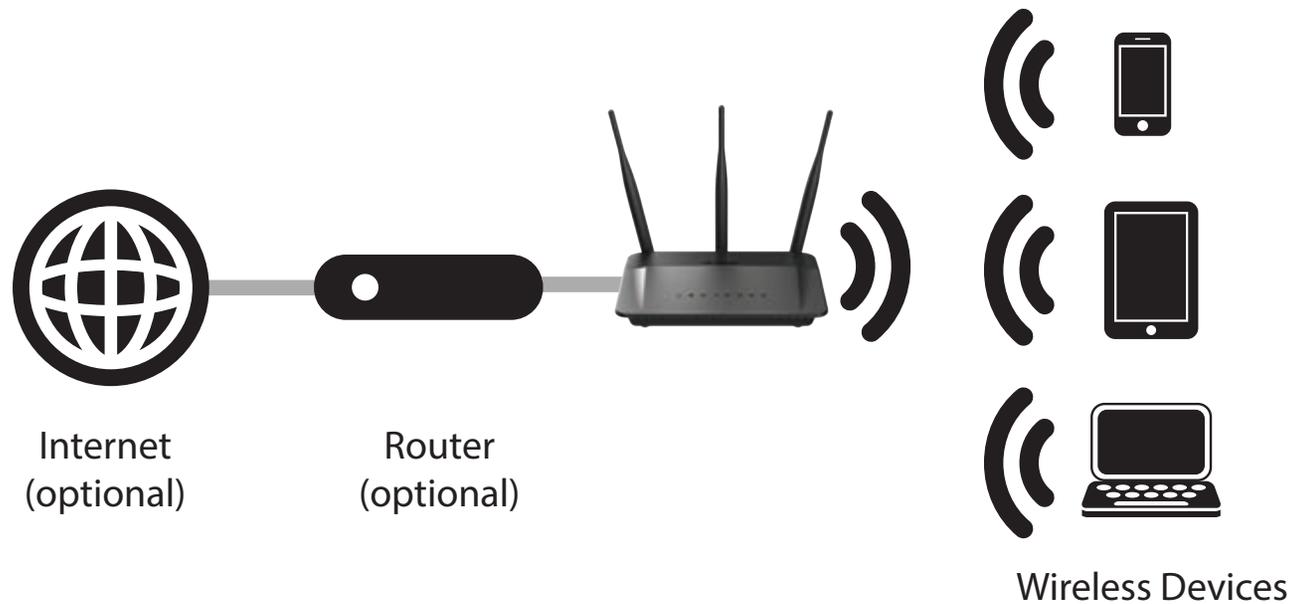
Wireless Router Mode

In **Wireless Router Mode**, the DIR-809 connects to your cable modem, DSL modem, or other Internet source and shares your Internet connection with your devices wirelessly, providing Internet access for an entire home or office. See “Wireless Router Mode” on page 29 for configuration options.



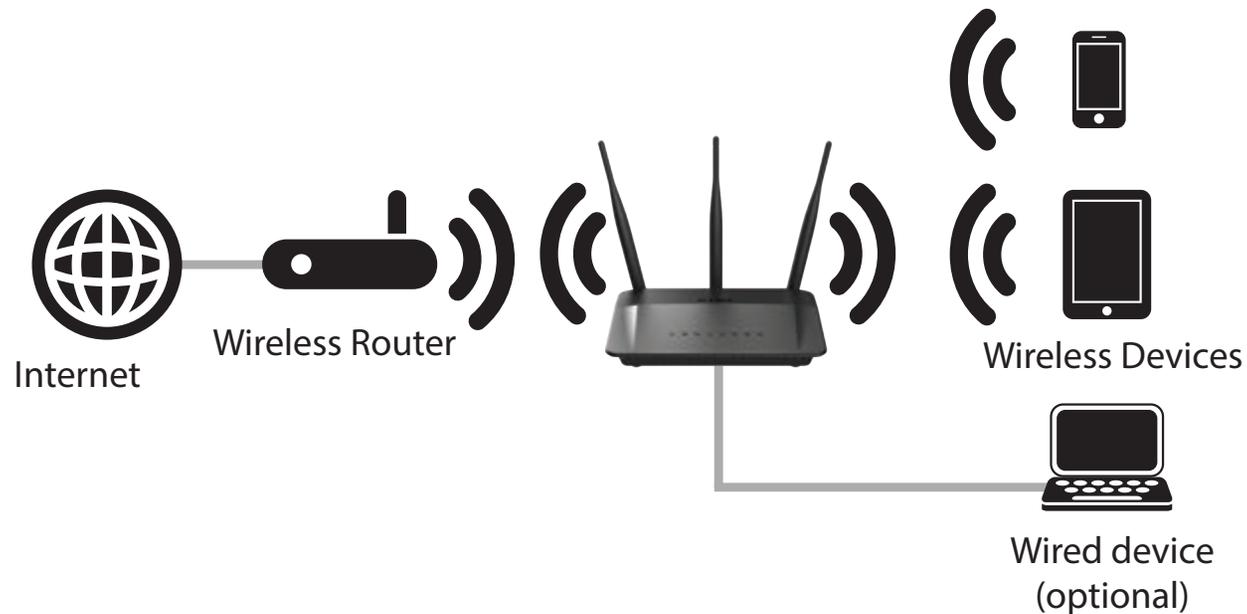
Access Point Mode

In **Access Point Mode**, the DIR-809 connects your wireless devices together, but does not provide routing functionality. It also allows a connected wired device to connect to your other devices wirelessly. This can be useful if you already have an existing Internet router that does not have built-in wireless capabilities. You can also use this to create a private wireless network without Internet access so that your devices can securely connect to one another without being exposed to the Internet or other computers. See “AP Mode” on page 34 for configuration options.



Repeater Mode

In **Repeater Mode (2.4 GHz/5 GHz)**, the DIR-809 extends the range of an existing wireless network. You can use this to extend the coverage of an existing wireless router to provide better signal for parts of your home or office that may have poor reception. Additionally, you can use this mode to connect a wired device to a wireless network, which can be useful for devices that do not have a built-in wireless card, such as some smart TVs, game consoles, or DVRs. When using repeater mode, the SSID and settings of the repeated network will be duplicated by the DIR-809. The other unused wireless frequency will be available to create a second wireless network with a different SSID. See “Repeater 2.4 GHz Mode” on page 35 and “Repeater 5 GHz Mode” on page 37 for configuration options.



Wireless Router Mode

2.4G Wireless Network Settings

Enable Wireless Select or deslect this checkbox in order to enable or disable the 2.4 GHz wireless radio.

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. Enable **Auto Channel**

Enable Auto Channel Scan: The auto channel selection setting can be selected to allow this device to choose the channel with the least amount of interference.

Wireless Channel: 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.

Transmission Rate: Select the transmit rate. It is strongly suggested to select Best (Automatic) for best performance.

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

Enable Hidden Wireless The Hidden Wireless option allows you to hide your wireless network. When this option is set to Visible, your wireless network name is broadcasted to anyone within the range of your signal. If you are not using encryption then they could connect to your network. When Invisible mode is enabled, you must enter the Wireless Network Name (SSID) on the client manually to connect to the network.

2.4G WIRELESS NETWORK SETTINGS

Enable Wireless:

Wireless Network Name (SSID): (Also called the SSID)

Enable Auto Channel Selection:

Wireless Channel:

Transmission Rate: (Mbit/s)

WMM Enable: (Wireless QoS)

Enable Hidden Wireless: (Also called the SSID Broadcast)

5G Wireless Network Settings

Enable Wireless Select or deslect this checkbox in order to enable or disable the 2.4 GHz wireless radio.

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. Enable Auto Channel

Enable Auto Channel Scan: The auto channel selection setting can be selected to allow this device to choose the channel with the least amount of interference.

Wireless Channel: 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.

Transmission Rate: Select the transmit rate. It is strongly suggested to select Best (Automatic) for best performance.

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

Enable Hidden Wireless The Hidden Wireless option allows you to hide your wireless network. When this option is set to Visible, your wireless network name is broadcasted to anyone within the range of your signal. If you are not using encryption then they could connect to your network. When Invisible mode is enabled, you must enter the Wireless Network Name (SSID) on the client manually to connect to the network.

5G WIRELESS NETWORK SETTINGS

Enable Wireless :

Wireless Network Name (SSID) : (Also called the SSID)

Enable Auto Channel Selection :

Wireless Channel :

Transmission Rate : (Mbit/s)

WMM Enable : (Wireless QoS)

Enable Hidden Wireless : (Also called the SSID Broadcast)

WIRELESS SECURITY MODE

Security Mode :

Wireless Security

This section will show you the different levels of security you can use to protect your data from intruders. The DIR-809 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.

2.4G/5G Wireless Security Mode

By default the wireless security of this router will be disabled. In this next options you can enable or disable wireless security for the 2.4 and 5 GHz frequency bands. There are five settings available: **Disable Wireless Security**, **WEP Wireless Security**, **WPA Only Wireless Security**, **WPA2 Only Wireless Security**, and **WPA/WPA2 Wireless Security**. Each wireless band may be configured independently.

Wireless Security Mode: WEP

Wired Equivalent Privacy (WEP) is the most basic form of encryption that can be used for wireless networks. Even though it is known as a 'weak' security method, it is better than no security at all. Because some older wireless adapters only support WEP encryption, this encryption method is still supported.

The following parameters will be available for configuration:

WEP Key Length: Here the user can specify to either use a 64 Bit or a 128 Bit encrypted key.

Authentication: Authentication is a process by which the router verifies the identity of a network device that is attempting to join the wireless network. There are two types authentication for this device when using WEP. **Open System** allows all wireless devices to communicate with the router before they are required to provide the encryption key needed to gain access to the network. **Shared Key** requires any wireless device attempting to communicate with the router to provide the encryption key needed to access the network before they are allowed to communicate with the router.

WEP Key 1: Enter the WEP key used here. For 64-bit keys you must enter 10 hex digits into each key box. For 128-bit keys you must enter 26 hex digits into each key box. A hex digit is either a number from 0 to 9 or a letter from A to F. You may also enter any text string into a WEP key box, in which case it will be converted into a hexadecimal key using the ASCII values of the characters. A maximum of 5 text characters can be entered for 64-bit keys, and a maximum of 13 characters for 128-bit keys.

WIRELESS SECURITY MODE	
Security Mode:	Enable WEP Wireless Security (basic) ▼
WEP	
<p>WEP is the wireless encryption standard. To use it you must enter the same key(s) into the router and the wireless stations. For 64 bit keys you must enter 10 hex digits into each key box. For 128 bit keys you must enter 26 hex digits into each key box. A hex digit is either a number from 0 to 9 or a letter from A to F. For the most secure use of WEP set the authentication type to 'Shared Key' when WEP is enabled.</p> <p>You may also enter any text string into a WEP key box, in which case it will be converted into a hexadecimal key using the ASCII values of the characters. A maximum of 5 text characters can be entered for 64 bit keys, and a maximum of 13 characters for 128 bit keys.</p>	
Authentication :	Open ▼
Wep Key Length :	64Bit ▼
WEP Password :	<input type="text"/> (5 ASCII or 10 HEX)

Wireless Security Mode: WPA Wireless Security

Wi-Fi Protected Access (WPA) is a more advanced and secure wireless encryption method than WEP. The options are **WPA Only Wireless Security**, **WPA2 Only Wireless Security**, and **WPA/WPA2 Wireless Security**.

The following parameters will be available for configuration:

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).

Network Key: Enter the password you wish to use for the wireless network here. Wireless clients wishing to join this network must supply this password in order to join the network.

The screenshot shows a configuration window titled "WIRELESS SECURITY MODE". At the top, there is a "Security Mode:" dropdown menu with "Enable WPA Only Wireless Security (enhanced)" selected. Below this is a section header "WPA". Underneath, a note states "WPA Only requires stations to use high grade encryption and authentication." There are three configuration fields: "Cipher Type:" with a dropdown menu showing "AUTO(TKIP/AES)", "PSK:" with a dropdown menu showing "PSK", and "Network Key:" with a text input field containing "WordPass". Below the text input field, there is a note "(8~63 ASCII or 64 HEX)".

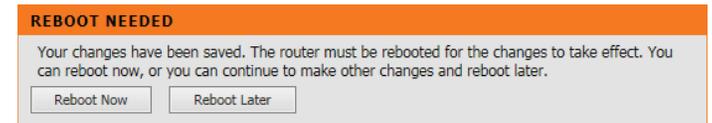
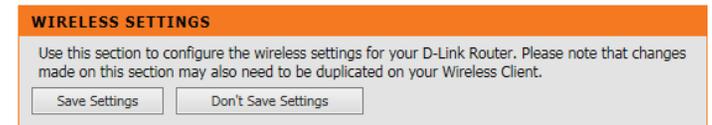
AP Mode

To switch to AP Mode, select it from the drop down box, configure the desired wireless network settings and press the **Save Settings** button at the top of the page.

Upon pressing the **Save Settings** button, the following reboot confirmation warning will be shown.

After clicking **Reboot Now** the following screen will appear indicating that the device may be configured from the **192.168.0.50** IP address.

Note: While in AP Mode, the DIR-809's DHCP server is disabled and many configuration options will be unavailable.



Repeater 2.4 GHz Mode

To repeat a 2.4 GHz network, select **Repeater 2.4 GHz Mode**, from the drop down box.

ACCESS POINT MODE

Use this to disable NAT on the router and turn it into an Access Point.

Wireless Mode:

From **Site Survey**, press the **Scan** button to find networks available for repeating.

Once a **Site Survey** is complete, a list of potential candidates will be listed indicating the type of networking device available, the channel it operates on, its signal strength, the type of wireless security in use, and its SSID.

Select the radio button on the left side of the table of the wireless network you wish to repeat.

SITE SURVEY Scan

<input type="checkbox"/>	Type	CH	Signal	Security	SSID
<input type="radio"/>	AP	7	53	no	D-Link
<input type="radio"/>	AP	6	53	WPA-PSK/WPA2-PSK	WiFiManager240
<input type="radio"/>	AP	6	53	WPA-PSK/WPA2-PSK	WiFiManager240
<input type="radio"/>	AP	6	53	WPA-PSK/WPA2-PSK	WiFiManager240
<input type="radio"/>	AP	3	53	no	D-Link

If the selected wireless network has security enabled, supply the **Network Key** in box provided.

WIRELESS SECURITY MODE

Security Mode:

WPA/WPA2

WPA/WPA2 requires stations to use high grade encryption and authentication.

Cipher Type :

PSK :

Network Key :

(8~63 ASCII or 64 HEX)

Press the **Save Settings** button at the top of the page once you are satisfied with the repeater settings,

The following reboot confirmation warning will be shown.

After clicking **Reboot Now** the following screen will appear indicating that the device may be configured from the **192.168.0.50** IP address.

Note: When the router is in repeater mode, the **Enable Hidden Wireless** option will be disabled. **WMM** will automatically be enabled.

WIRELESS SETTINGS

Use this section to configure the wireless settings for your D-Link Router. Please note that changes made on this section may also need to be duplicated on your Wireless Client.

Save Settings

Don't Save Settings

REBOOT NEEDED

Your changes have been saved. The router must be rebooted for the changes to take effect. You can reboot now, or you can continue to make other changes and reboot later.

Reboot Now

Reboot Later

REBOOTING...

Please wait 32 seconds

If you changed the IP address of the router you will need to change the IP address in your browser before accessing the configuration Web site again.

You can access the device through the IP address:

192.168.0.50

Repeater 5 GHz Mode

To repeat a 5 GHz network, select **Repeater 5 GHz Mode**, from the drop down box.

ACCESS POINT MODE

Use this to disable NAT on the router and turn it into an Access Point.

Wireless Mode: Repeater-5GHz Mode

From **Site Survey**, press the **Scan** button to find networks available for repeating.

Once a **Site Survey** is complete, a list of potential candidates will be listed indicating the type of networking device available, the channel it operates on, its signal strength, the type of wireless security in use, and its SSID.

Select the radio button on the left side of the table of the wireless network you wish to repeat.

SITE SURVEY Scan

	Type	CH	Signal	Security	SSID
<input type="radio"/>	AP	157	85	no	D-Link_5G
<input type="radio"/>	AP	157	83	no	D-Link
<input type="radio"/>	AP	149	75	WPA-PSK/WPA2-PSK	DAJAP54
<input type="radio"/>	AP	149	70	WPA-PSK/WPA2-PSK	dlink-50CS-5GHz
<input type="radio"/>	AP	149	66	no	26605G
<input type="radio"/>	AP	149	65	WPA-PSK/WPA2-	dlink-50CS-5G

If the selected wireless network has security enabled, supply the **Network Key** in the box provided.

WIRELESS SECURITY MODE

Security Mode: Enable WPA/WPA2 Wireless Security (enhanced)

WPA/WPA2

WPA/WPA2 requires stations to use high grade encryption and authentication.

Cipher Type : AUTO(TKIP/AES)

PSK : PSK

Network Key :

(8~63 ASCII or 64 HEX)

Note: When the router is in repeater mode, the **Enable Hidden Wireless** option will be disabled. **WMM** will automatically be enabled.

Press the **Save Settings** button at the top of the page once you are satisfied with the repeater settings,

The following reboot confirmation warning will be shown.

After clicking **Reboot Now** the following screen will appear indicating that the device may be configured from the **192.168.0.50** IP address.

Note: When the router is in repeater mode, the **Enable Hidden Wireless** option will be disabled. **WMM** will automatically be enabled.

WIRELESS SETTINGS

Use this section to configure the wireless settings for your D-Link Router. Please note that changes made on this section may also need to be duplicated on your Wireless Client.

Save Settings

Don't Save Settings

REBOOT NEEDED

Your changes have been saved. The router must be rebooted for the changes to take effect. You can reboot now, or you can continue to make other changes and reboot later.

Reboot Now

Reboot Later

REBOOTING...

Please wait 32 seconds

If you changed the IP address of the router you will need to change the IP address in your browser before accessing the configuration Web site again.

You can access the device through the IP address:

192.168.0.50

Network Settings

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

Router Settings

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

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

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

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.

The screenshot displays the 'NETWORK SETTINGS' page of the D-Link DIR-809 web interface. The page is organized into several sections:

- NETWORK SETTINGS:** Contains instructions for configuring the internal network and a note that this section is optional. It includes 'Save Settings' and 'Don't Save Settings' buttons.
- ROUTER SETTINGS:** Contains fields for 'Router IP Address' (192.168.0.1), 'Subnet Mask' (255.255.255.0), 'Local Domain Name' (dir.router), and 'Enable DNS Relay' (checked).
- DHCP SERVER SETTINGS:** Contains fields for 'Enable DHCP Server' (checked), 'DHCP IP Address Range' (100 to 220), and 'DHCP Lease Time' (340 minutes).
- DHCP CLIENT LIST:** A table showing the following data:

Host Name	IP Address	MAC Address	Expired Time
07518EW947	192.168.0.102	85:de:f1:1a:3a:05	22 Hours 36 Minutes
- DHCP CLIENT RESERVED LIST:** A table with columns for Host Name, IP Address, MAC Address, and Expired Time, currently empty.
- 24-DHCP RESERVATION:** Shows 'Remaining number of clients that can be configured: 24' and a table for reserving IP addresses for specific computers.

DHCP Server Settings

DHCP stands for Dynamic Host Control Protocol. The DIR-809 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 DIR-809. 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.

DHCP Client List: This displays a list of devices which have received an IP address from the DHCP server. The Host Name, IP Address, MAC Address, and Expiration time is listed.

DHCP SERVER SETTINGS	
Use this section to configure the built-in DHCP Server to assign IP addresses to the computers on your network.	
Enable DHCP Server :	<input checked="" type="checkbox"/>
DHCP IP Address Range :	<input type="text" value="100"/> to <input type="text" value="199"/> (address within the LAN subnet)
DHCP Lease Time :	<input type="text" value="1440"/> (minutes)

DHCP CLIENT LIST			
Host Name	IP Address	MAC Address	Expired Time

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.

Computer Name: Enter the computer name or select from the drop-down menu and click <<.

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.

Computer Name: 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.

DHCP Client Reserved List

DHCP Reservations List: Displays any reservation entries. Displays the host name (name of your computer or device), MAC Address, and IP address.

DHCP CLIENT RESERVED LIST			
Host Name	IP Address	MAC Address	Expired Time
24--DHCP RESERVATION			
Remaining number of clients that can be configured : 24			
<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<< Computer Name
<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<< Computer Name

DHCP CLIENT RESERVED LIST			
Host Name	IP Address	MAC Address	Expired Time

Advanced Virtual Server

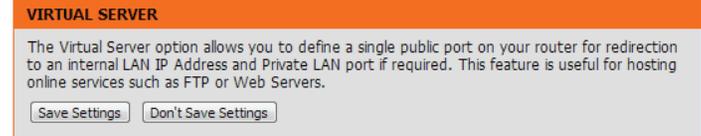
This will allow you to open a single port. If you would like to open a range of ports, refer to the next page.

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 <<.

Private Port/ Enter the port that you want to open next to Private Port and Public Port.
Public Port: The private and public 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.

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



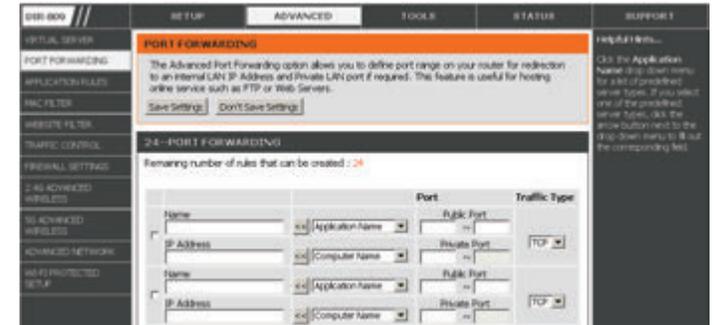
Port Forwarding

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

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/UDP: Enter the TCP and/or UDP port or ports that you want to open. You can enter a single port or a range of ports. Separate ports with a common. Example: 24,1009,3000-4000



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 DIR-809. 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.

The DIR-809 provides some predefined applications in the table on the bottom of the web page. Select the application you want to use and enable it.

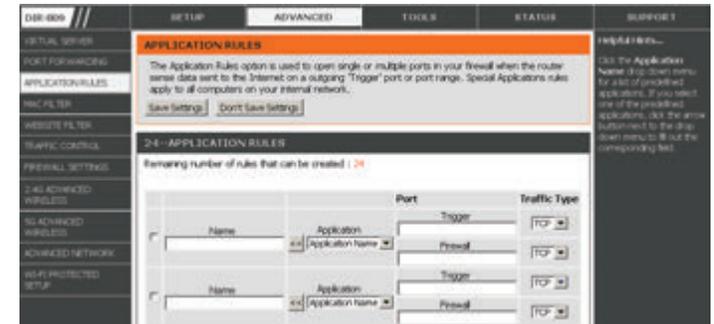
Name: Enter a name for the rule. You may select a pre-defined application from the drop-down menu and click <<.

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 Both).

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, UDP, or Both).



MAC 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 Select **Turn MAC Filtering Off**, **Allow MAC addresses listed below**, or **Deny MAC addresses listed below** from the drop-down menu.

Filtering:

MAC Enter the MAC address you would like to filter.

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

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



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.

The screenshot shows the D-Link DIR-809 web interface. The main navigation bar includes 'D-Link' and 'DIR-809'. Below this, there are tabs for 'SETUP', 'ADVANCED', 'TOOLS', 'STATUS', and 'SUPPORT'. The 'ADVANCED' tab is active. The page title is 'TRAFFIC CONTROL'. A sub-section 'TRAFFIC CONTROL SETTING' contains the following options:

- Enable Traffic Control:
- Automatic Distribute Bandwidth:
- Key in download bandwidth manually: kbps
- Key in upload bandwidth manually: kbps

Below the settings is a table titled 'TRAFFIC CONTROL RULES' with the following structure:

IP Range	Mode	Bandwidth(kbps)
<input type="text" value="IP Address"/>	Restrict maximum	<input type="text"/>
<input type="text" value="IP Address"/>	Restrict maximum	<input type="text"/>
<input type="text" value="IP Address"/>	Restrict maximum	<input type="text"/>
<input type="text" value="IP Address"/>	Restrict maximum	<input type="text"/>
<input type="text" value="IP Address"/>	Restrict maximum	<input type="text"/>
<input type="text" value="IP Address"/>	Restrict maximum	<input type="text"/>
<input type="text" value="IP Address"/>	Restrict maximum	<input type="text"/>
<input type="text" value="IP Address"/>	Restrict maximum	<input type="text"/>
<input type="text" value="IP Address"/>	Restrict maximum	<input type="text"/>
<input type="text" value="IP Address"/>	Restrict maximum	<input type="text"/>

Firewall Settings

A firewall protects your network from the outside world. The DIR-809 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.

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

DMZ 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 **Setup > Network Settings** page so that the IP address of the DMZ machine does not change.

RTSP: Allows application that uses Real Time Streaming Protocol to receive streaming media from the Internet. QuickTime and Real Player are some of the common applications using this protocol.



Firewall Rules: A total of 24 fire wall rules may be created which dictate how specific traffic should be allowed or denied to pass through the firewall.

Name: Enter a descriptive name for the firewall rule.

Source Interface: Select the source interface, either WAN or LAN traffic.

Interface:

Source IP Address Input the source IP address, or IP address range to apply the rule to.

Destination Interface: Select the destination interface, either WAN or LAN.

Destination IP Address Input the IP address, or IP address range to apply the rule to.

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

Protocol: Select the transport protocol that will be used for the filter rule: **TCP**, **UDP**, **ICMP**, or **ALL**.

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

The screenshot shows a web-based configuration interface titled "24 - FIREWALL RULES". At the top, it indicates "Remaining number of rules that can be created : 24". Below this, there is a form with several fields and dropdown menus. The form is organized into two main sections: "Source" and "Destination". The "Source" section includes a "Name" field, a "Source" dropdown menu, and an "IP Address" field. The "Destination" section includes a "Dest" dropdown menu and an "IP Address" field. There are also fields for "Protocol" (set to "TCP") and "Port Range" (set to "0"). An "Action" dropdown menu is set to "Allow".

2.4G Advanced Wireless

Transmit Power: Set the transmit power of the antennas.

Wireless Mode: Select the preferred frequency band to use for this wireless network. **802.11n only, 802.11Mixed(g/b), 802.11, 802.11Mixed(n/g/b).**

Band Width: Select **20 MHz** or **20/40 MHz (Auto)**. Select **20/40 MHz (Auto)**, if you are using both 802.11n and non-802.11n wireless devices. Select **20 MHz**, if you are not using any 802.11n wireless clients.

HT20/40 Coexistence: Enable this option to reduce interference from other wireless networks in your area. If the channel width is operating at 40 MHz and there is another wireless network's channel over-lapping and causing interference, the router will automatically change to 20 MHz.



5G Advanced Wireless

Transmit Power: Set the transmit power of the antennas.

Power:

Wireless Mode Select the preferred frequency band to use for this wireless network. The **Mode** options are **5G A**, **5G N**, **5G A+N**, **5G AC**, **5G N+AC**, **5G A+N+AC**.

Band Width Select **20 MHz**, **20/40 MHz (Auto)**, or **20/40/80 MHz (Auto)**.



Advanced Network Settings

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

WAN Ping: Checking the box will allow the DIR-809 to respond to pings. Unchecking the box may provide some extra security from hackers.

WAN Port Speed: You may set the port speed of the Internet port to 10 Mbps, 100 Mbps, or Auto (recommended).

Enable Multicast Streams: Check the box to allow multicast traffic to pass through the router from the Internet (IPv4).



Add Wireless 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 120 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.

WPS Button

You can also simply press and hold the WPS button for one second on the back of the router or until the WPS indicator LED begins flashing, and then press the WPS button on your wireless client to automatically connect without logging into the router.

Refer to page 69 for more information.



Wi-Fi Protected Setup

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 pressing 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.

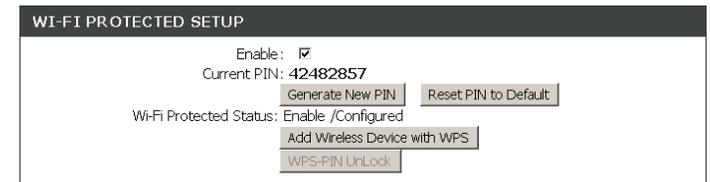
Current PIN: *Note: if this option is unchecked, the WPS button on the side of the router will be disabled.*

Reset PIN to Shows the current PIN.

Default: Restore the default PIN of the router.

Generate Create a random number that is a valid PIN. This becomes the router’s PIN.

New PIN: You can then copy this PIN to the user interface of the wireless client.



Wi-Fi Protected Setup Wizard

Wireless Settings: Wi-Fi Protected Setup Wizard

If your Wireless Clients support the WPS connection method, this Wi-Fi Protected Setup Wizard can be used to initiate a wireless connection between this device and Wireless clients with a simple click of the WPS button. The Wi-Fi Protected Setup Wizard is specially designed to assist basic network users with a simple, step-by-step set of instructions to connect wireless clients to this router using the WPS method.

To initiate the Wi-Fi Protected Setup Wizard click on the **Add Wireless Device with WPS** button.

Step 1: In this step the user have two options to choose from. You can choose **Auto** if the wireless client supports WPS, or **Manual** if the wireless client does not support WPS.

Click on the **Prev** button to return to the previous page. Click on the **Next** button to continue to the next page. Click on the **Cancel** button to discard the changes made and return to the main wireless page.

Step 2: After selecting **Auto**, the following page will appear. There are two ways to add a wireless device, that supports WPS. Firstly, there is the Personal Identification Number (**PIN**) method. Using this method will prompt the user to enter a PIN code. This PIN code should be identical on the wireless client. Secondly, there is the Push Button Configuration (**PBC**) method. Using this method will allow the wireless client to connect to this device by similarly pressing the PBC button on it.

Click on the **Prev** button to return to the previous page. Click on the **Next** button to continue to the next page. Click on the **Cancel** button to discard the changes made and return to the main wireless page.

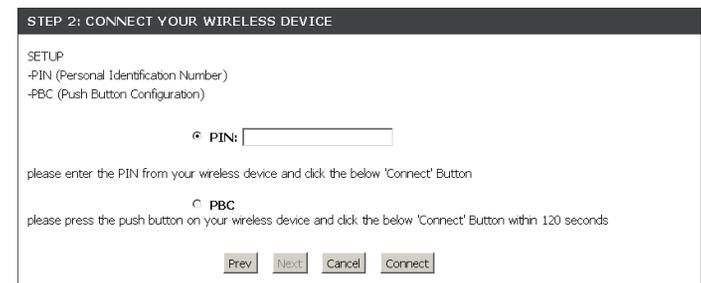


STEP 1: SELECT CONFIGURATION METHOD FOR YOUR WIRELESS NETWORK

Please select one of following configuration methods and click next to continue.

Auto Select this option if your wireless device supports WPS (Wi-Fi Protected Setup)

Manual Select this option will display the current wireless settings for you to configure the wireless device manually



STEP 2: CONNECT YOUR WIRELESS DEVICE

SETUP

- PIN (Personal Identification Number)
- PBC (Push Button Configuration)

PIN:

please enter the PIN from your wireless device and click the below 'Connect' Button

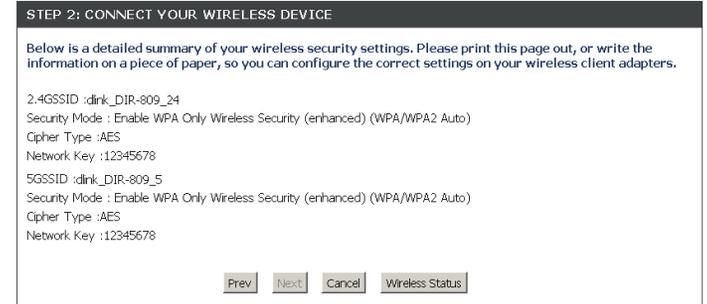
PBC

please press the push button on your wireless device and click the below 'Connect' Button within 120 seconds

Step 2: After selecting Manual, the following page will appear. On this page to user can view the wireless configuration of this router. The wireless clients should configure their wireless settings to be identical to the settings displayed on this page for a successful connection. This option is for wireless clients that can't use the WPS method to connect to this device.

Click on the **Prev** button to return to the previous page. Click on the **Next** button to continue to the next page. Click on the **Cancel** button to discard the changes made and return to the main wireless page. Click on the **Wireless Status** button to navigate to the Status > Wireless page to view what wireless client are connected to this device.

End of Wizard.



Tools

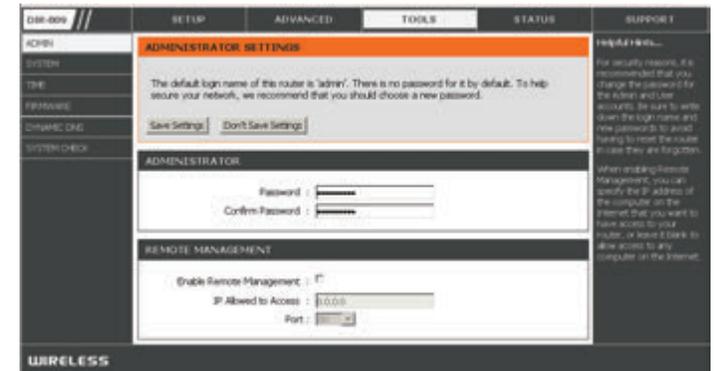
Admin

This page will allow you to change the Administrator. You can also enable Remote Management.

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

Enable Remote Management: Remote management allows the DIR-809 to be configured from the Internet by a web browser. A username/password is still required to access the Web Management interface.

Remote Admin Port: The port number used to access the DIR-809 is used in the URL. Example: **http://x.x.x.x:8080** whereas x.x.x.x is the Internet IP address of the DIR-809 and 8080 is the port used for the Web Management interface.



Time

The Time Configuration option 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: Displays the current date and time of the router.

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

Enable 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.

Automatically synchronize with D-Link's Internet Time Server NTP is short for Network Time Protocol. A NTP server will synch the time and date with your router. This will only connect to a server on the Internet, not a local server. Check the box to enable this feature.

Time Server

NTP Server Used: Enter the IP address of a 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** to synch the date and time with the computer you are currently on.



System

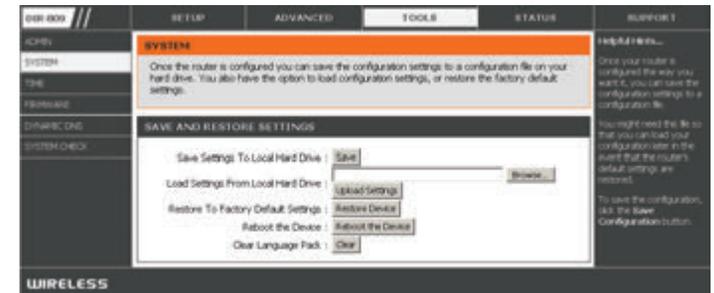
This section allows you to manage the router's configuration settings, reboot the router, and restore the router to the factory default settings. Restoring the unit to the factory default settings will erase all settings, including any rules that you've created.

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

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

Restore This option will restore all configuration settings back to the settings that were **to Factory** in effect at the time the router was shipped from the factory. Any settings that **Default** have not been saved will be lost, including any rules that you have created. If **Settings:** 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 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 website for firmware updates at <http://support.dlink.com>. You can download firmware upgrades to your hard drive from this site.

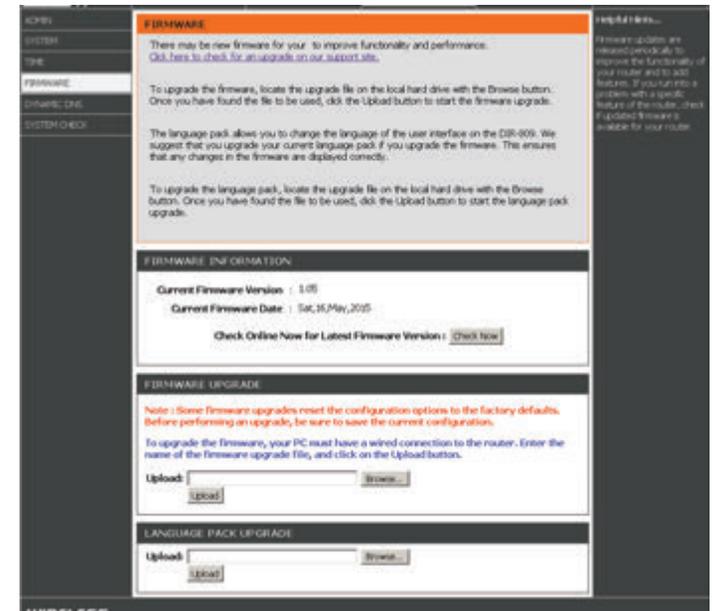
Browse: After you have downloaded the new firmware, click **Browse** to locate the firmware update on your hard drive. Click **Upload** to complete the firmware upgrade.

Upload: Once you have a firmware update on your computer, use this option to browse for the file and then upload the information into the access point.

Language Pack

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

Browse: After you have downloaded the new language pack, click **Browse** to locate the language pack file on your hard drive. Click **Upload** to complete the language pack 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 Dynamic DNS: 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: Select your DDNS provider from the drop-down menu or enter the DDNS server address.

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

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

Password or Key: Enter the Password or key for your DDNS account.

Timeout: Enter a timeout time (in hours).

Status: Displays the current connection status.



System Check

Virtual Cable Tester (VCT) 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 **INFO:** 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.

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



Status Device Info

This page displays the current information for the DIR-809. 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.

Device Information: Displays the router's time and firmware version.

LAN: Displays the MAC address and the public IP settings

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

Wireless 2.4G: Displays the 2.4 GHz wireless MAC address and your wireless settings such as SSID and Channel.

Wireless 5G: Displays the 5 GHz wireless MAC address and your wireless settings such as SSID and Channel.

The screenshot displays the 'Status Device Info' page for a D-Link DIR-809 router. The page is organized into several sections:

- Device Information:** Shows the firmware version as '1.05, Sat, 06 May 2015'.
- LAN:** Displays the MAC Address as 'F8E9:03:C4:30:0C', IP Address as '192.168.0.1', Subnet Mask as '255.255.255.0', and DHCP Server as 'Enabled'.
- Internet:** Displays the MAC Address as 'F8E9:03:C4:30:0F', Connection as 'DHCP Client Connected', IP Address as '172.17.5.101', Subnet Mask as '255.255.255.0', Default Gateway as '172.17.5.254', and DNS as '193.168.168.200'. There are buttons for 'DHCP Renew' and 'DHCP Release'.
- Wireless 2.4G:** Displays the SSID as 'DIR-809_24', Channel as '11', and Encryption as 'WPA/WPA2'.
- Wireless 5G:** Displays the SSID as 'DIR-809_5', Channel as '36', and Encryption as 'WPA/WPA2'.

Logs

The router automatically logs (records) events of possible interest in its 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.

First Page: Click to go to the first page.

Last Page: Click to go to the last page.

Previous: Click to go back one page.

Next: Click to go to the next page.

Clear: Clears all of the log contents.



Statistics

The screen below displays the **Traffic Statistics**. Here you can view the amount of packets that pass through the DIR-809 on both the WAN, LAN ports and the wireless segments. The traffic counter will reset if the device is rebooted.

DIR-809	SETUP	ADVANCED	TOOLS	STATUS	SUPPORT
DEVICE INFO	TRAFFIC STATISTICS				Helpful Hints... This is a summary of the number of packets that have passed between the WAN and the LAN since the router was last initialized.
LOGS	Traffic Statistics display Receive and Transmit packets passing through your router .				
STATISTICS					
INTERNET SESSIONS					
WIRELESS					
		<input type="button" value="Refresh"/> <input type="button" value="Reset"/>			
		Received		Transmit	
	Internet	4		0	
	LAN	6		10	
	WIRELESS 5G	14		0	
	WIRELESS 2.4G	2		0	
WIRELESS					

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.

DIR-809 //	SETUP	ADVANCED	TOOLS	STATUS	SUPPORT					
DEVICE INFO	INTERNET SESSIONS				Helpful Hints... This is a list of all active conversations between WAN computers and LAN computers.					
LOGS	This page displays the full details of active internet sessions to your router.									
DIR-809	<input type="button" value="Refresh"/>									
STATISTICS										
INTERNET SESSIONS										
WIRELESS	NAPT SESSION									
	TCP Session: 21 UDP Session: 6 Total: 27									
	NAPT SESSION									
	<table border="1"> <thead> <tr> <th>IP Address</th> <th>TCP Session</th> <th>UDP Session</th> </tr> </thead> <tbody> <tr> <td>192.168.0.130</td> <td>21</td> <td>6</td> </tr> </tbody> </table>				IP Address	TCP Session	UDP Session	192.168.0.130	21	6
IP Address	TCP Session	UDP Session								
192.168.0.130	21	6								
WIRELESS										

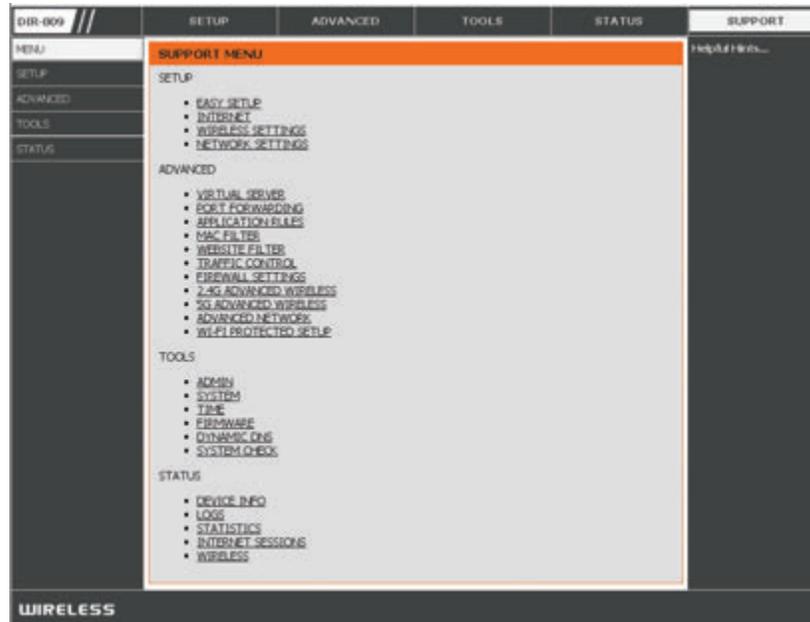
Wireless

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.

DIR-809 //	SETUP	ADVANCED	TOOLS	STATUS	SUPPORT									
DEVICE INFO	WIRELESS				Helpful Hints... This is a list of all wireless clients that are currently connected to your wireless router.									
LOGS	Use this option to view the wireless clients that are connected to your wireless router.													
STATISTICS														
INTERNET SESSIONS	NUMBER OF WIRELESS CLIENTS : 0													
WIRELESS	<table border="1"> <thead> <tr> <th>MAC Address</th> <th>IP Address</th> <th>Mode</th> <th>Rate</th> <th>Signal (%)</th> </tr> </thead> <tbody> <tr> <td colspan="5"> </td> </tr> </tbody> </table>					MAC Address	IP Address	Mode	Rate	Signal (%)				
MAC Address	IP Address	Mode	Rate	Signal (%)										
WIRELESS														

Support

From the Support section you can find online help covering a number of topics.



Connect a Wireless Client to your Router

WPS Button

The easiest and most secure way to connect your wireless devices to the router is WPS (Wi-Fi Protected Setup). Most wireless devices such as wireless adapters, media players, Blu-ray DVD players, wireless printers and cameras will have a WPS button (or a software utility with WPS) that you can press to connect to the DIR-809 router. Please refer to your user manual for the wireless device you want to connect to make sure you understand how to enable WPS. Once you know, follow the steps below:

Step 1 - Press and hold the WPS button on the back of DIR-809 for 1-7 seconds. If held longer than 8 seconds the router will reset. The Internet LED on the front will start to blink.



Step 2 - Within 2 minutes, press the WPS button on your wireless client (or launch the software utility and start the WPS process).

Step 3 - Allow up to 1 minute to configure. Once the Internet light stops blinking, you will be connected and your wireless connection will be secure with WPA2.

Windows® 8

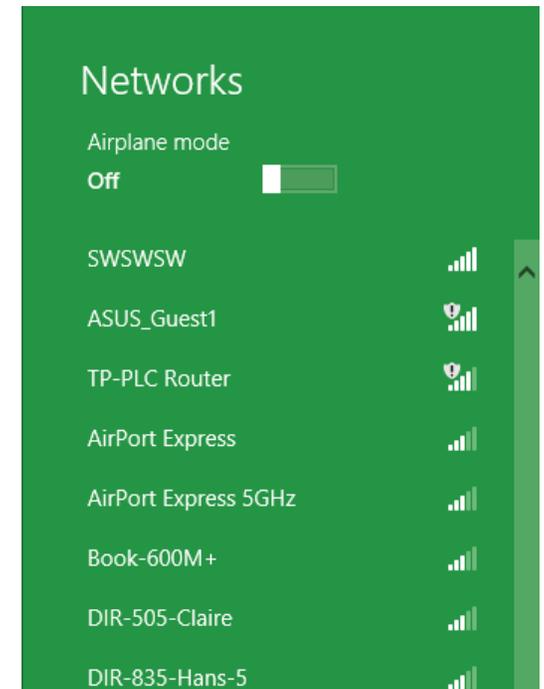
WPA/WPA2

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.

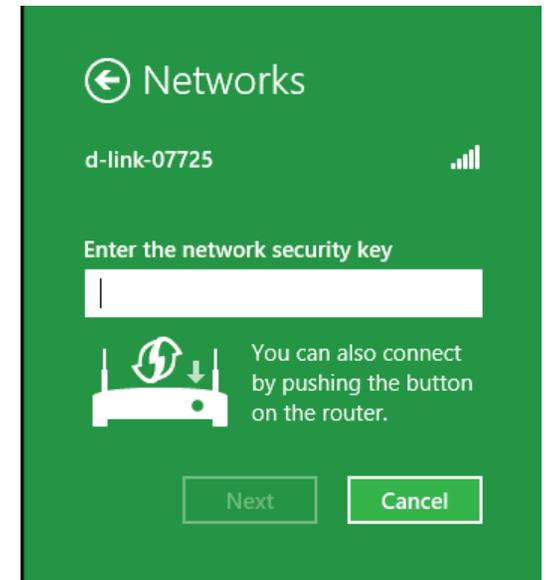


Clicking on this icon will display a list of wireless networks which are within connecting proximity of your computer. Select the desired network by clicking on the network name.

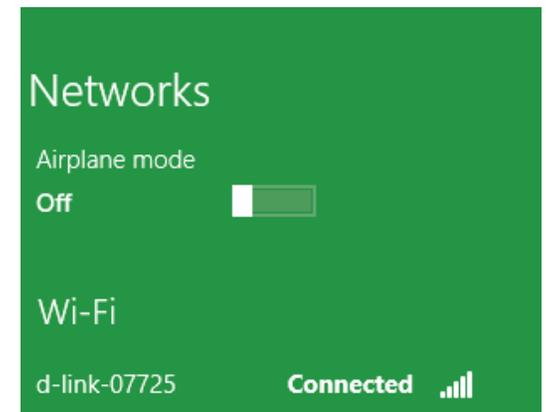


You will then be prompted to enter the network security key (Wi-Fi password) for the wireless network. Enter the password into the box and click **Next**.

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 the point to enable the WPS function.



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



Windows® 7

WPA/WPA2

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).



Wireless Icon

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

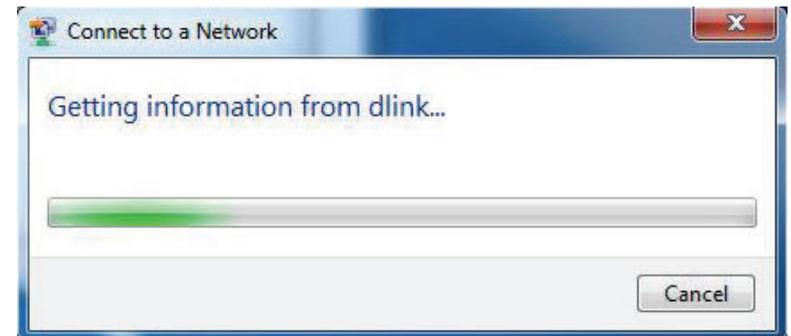


3. Highlight the wireless connection with Wi-Fi name (SSID) you would like to connect to and click the **Connect** button.

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 (Wi-Fi password) that is on your router and click **Connect**. You can also connect by pushing the WPS button on the router.

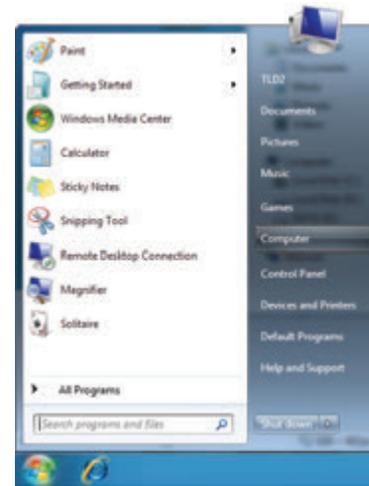
It may take 20-30 seconds to connect to the wireless network. If the connection fails, please verify that the security settings are correct. The key or passphrase must be exactly the same as on the wireless router.



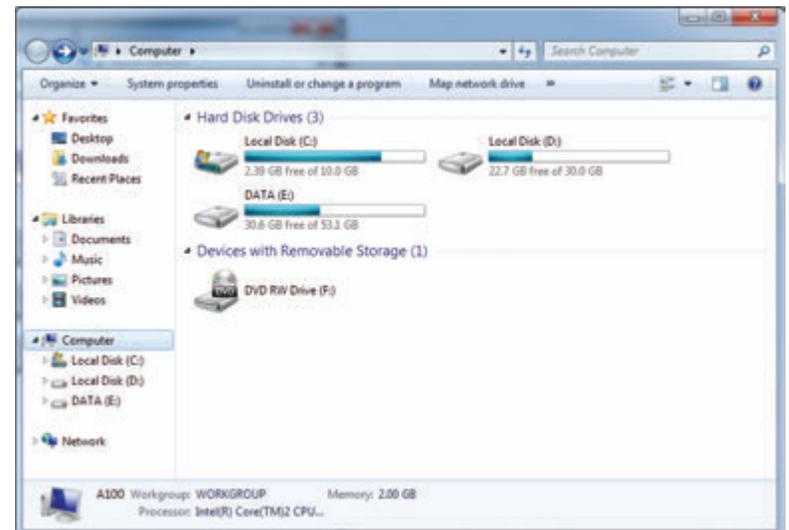
WPS

The WPS feature of the DIR-809 can be configured using Windows® 7. Carry out the following steps to use Windows® 7 to configure the WPS feature:

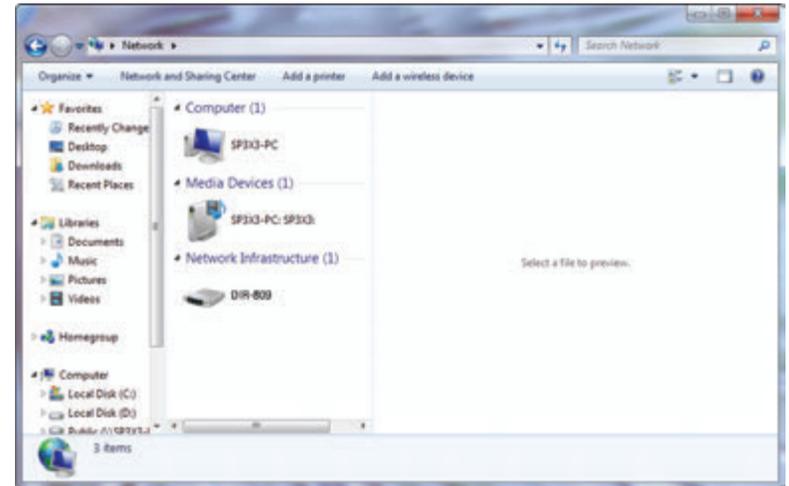
1. Click the **Start** button and select **Computer** from the Start menu.



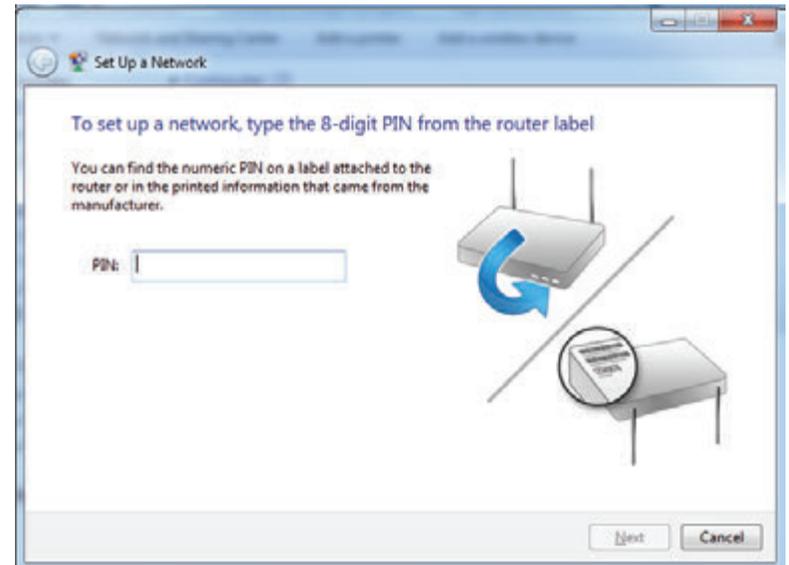
2. Click **Network** on the left side.



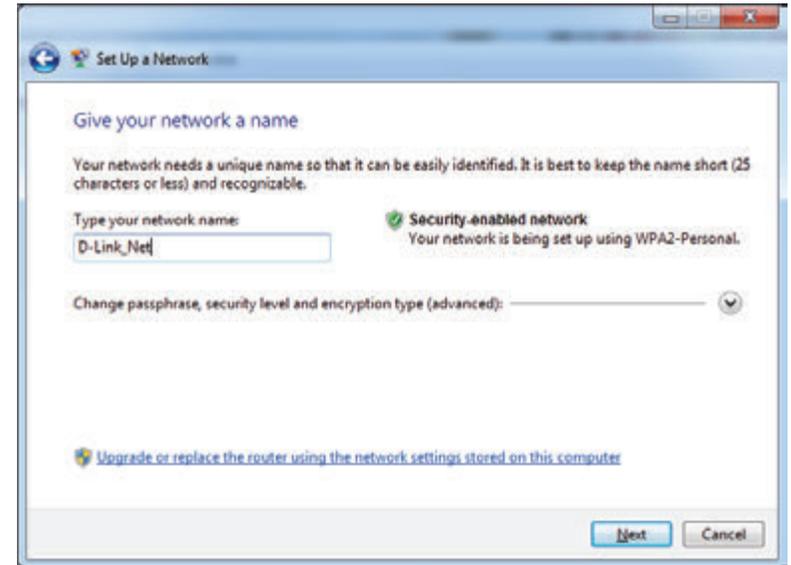
3. Double-click the DIR-809.



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



5. Type a name to identify the network.



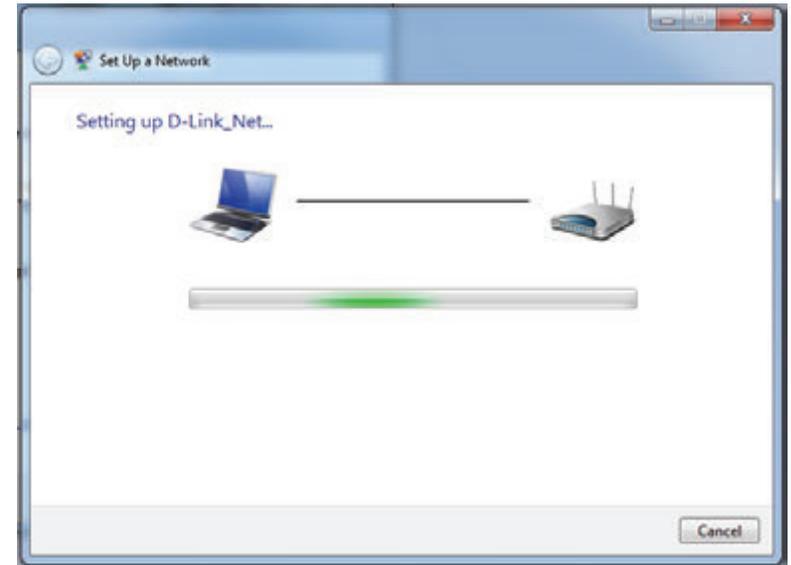
6. To configure advanced settings, click the  icon.

Click **Next** to continue.



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

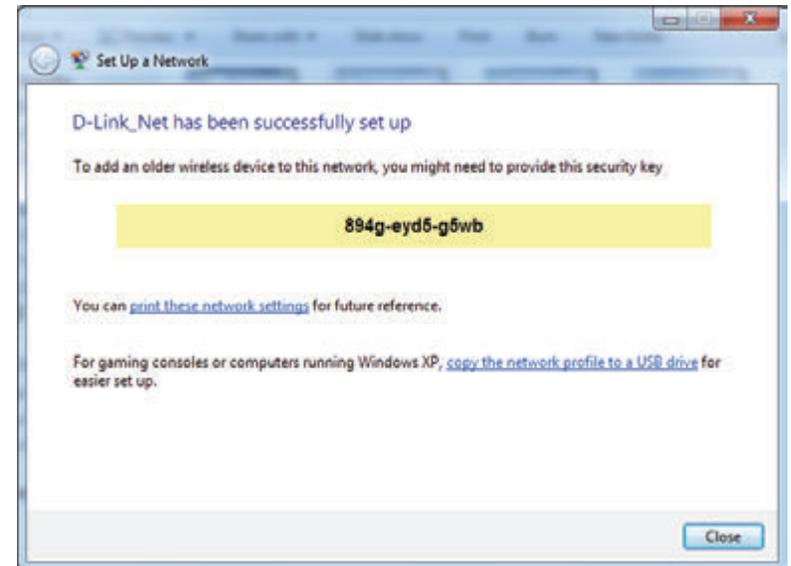
Wait for the configuration to complete.



8. The following window informs you that WPS on the router 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.



Windows Vista®

Windows Vista® users may use the built-in wireless utility. If you are using another company's utility, 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.

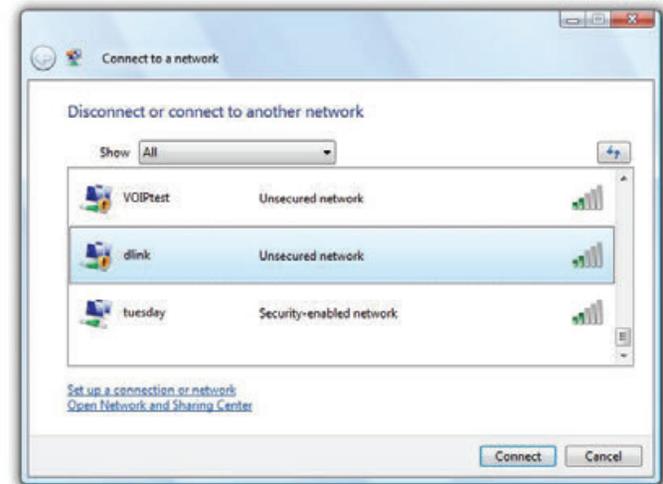
If you receive the **Wireless Networks Detected** bubble, click on the center of the bubble to access the utility.

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.



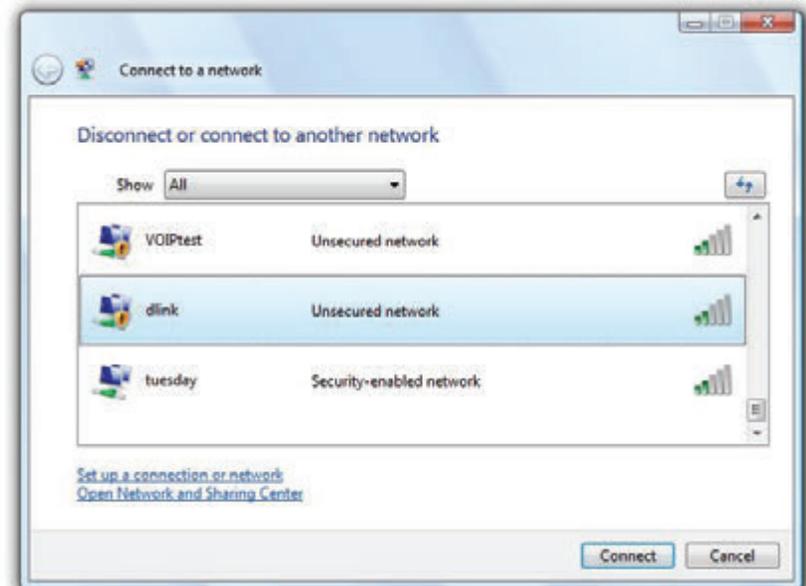
WPA/WPA2

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 Wi-Fi name (SSID) you would like to connect to and click **Connect**.



3. Enter the same security key or passphrase (Wi-Fi password) 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.



WPS/WCN 2.0

The router supports Wi-Fi protection, referred to as WCN 2.0 in Windows Vista®. The following instructions for setting this up depends on whether you are using Windows Vista® to configure the router or third party software.

When you first set up the router, Wi-Fi protection is disabled and unconfigured. To enjoy the benefits of Wi-Fi protection, the router must be both enabled and configured. There are three basic methods to accomplish this: use Windows Vista's built-in support for WCN 2.0, use software provided by a third party, or manually configure.

If you are running Windows Vista®, log into the router and click the **Enable** checkbox in the **Basic > Wireless** section. Use the Current PIN that is displayed on the **Advanced > Wi-Fi Protected Setup** section or choose to click the **Generate New PIN** button or **Reset PIN to Default** button.



If you are using third party software to set up Wi-Fi Protection, carefully follow the directions. When you are finished, proceed to the next section to set up the newly-configured router.

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, 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.

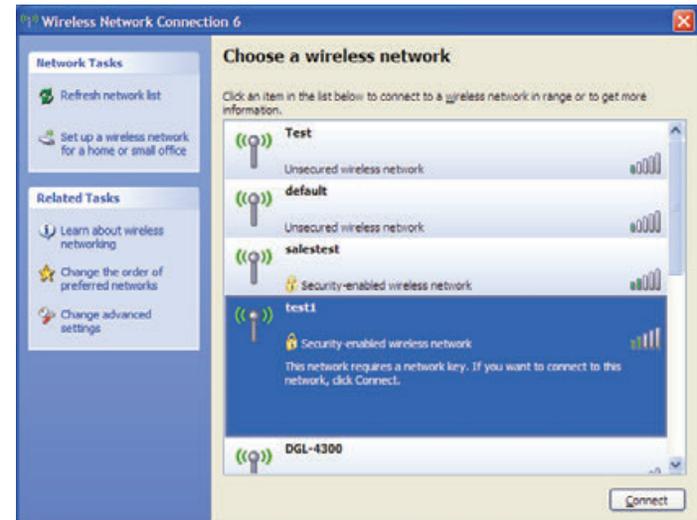
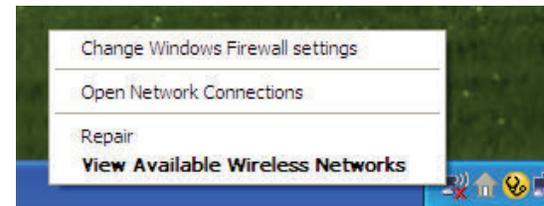
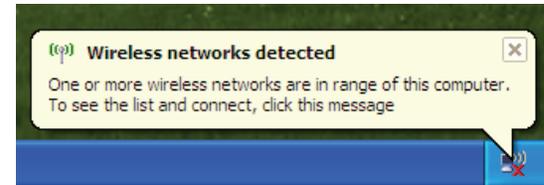
If you receive the **Wireless Networks Detected** bubble, click on the center of the bubble to access the utility.

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 Wi-Fi network (displayed using the SSID) and click the **Connect** button.

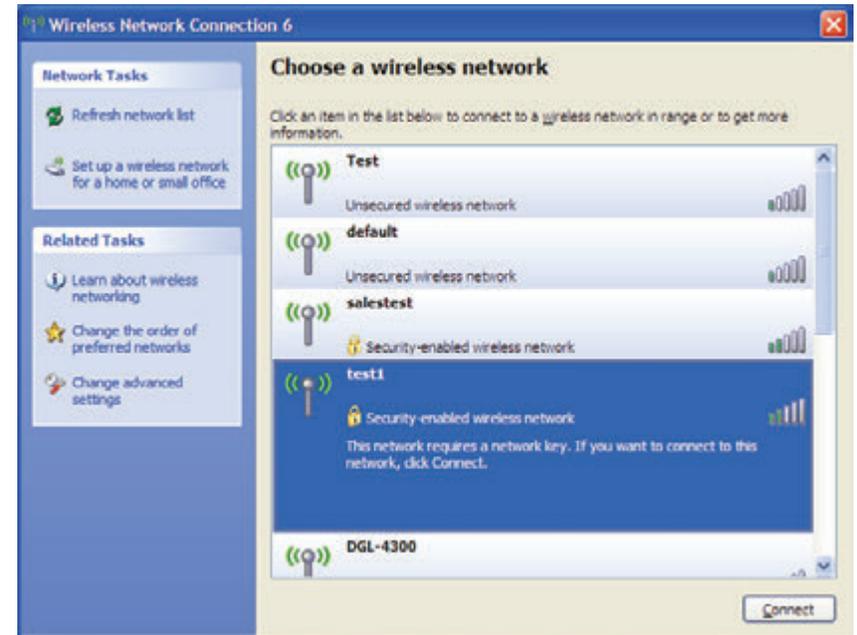
If you get a good signal but cannot access the Internet, check you TCP/IP settings for your wireless adapter. Refer to the **Networking Basics** section in this manual for more information.



WPA/WPA2

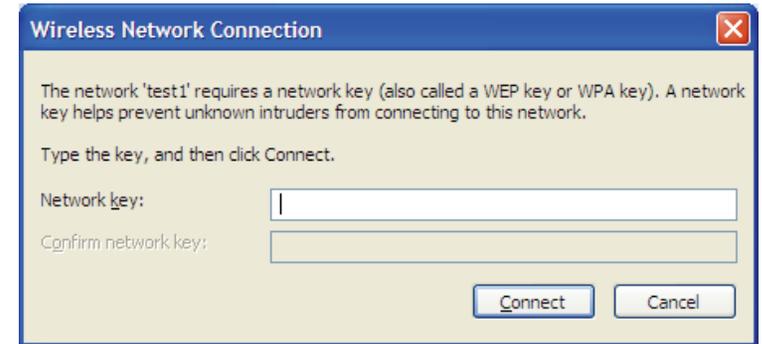
It is recommended to enable WPA on your wireless router or access point before configuring your wireless adapter. If you are joining an existing network, you will need to know the WPA key being used.

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 Wi-Fi network (SSID) you would like to connect to and click **Connect**.



3. The **Wireless Network Connection** box will appear. Enter the WPA-PSK Wi-Fi password 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 Wi-Fi password 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-809. 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® 9 and higher
 - Mozilla Firefox 20.0 and higher
 - Google™ Chrome 25.0 and higher
 - Apple Safari 5.1 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 10 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 email, 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).

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, XP, Vista®, and 7 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.
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, 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 (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 email. 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 email, 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 your 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-809 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

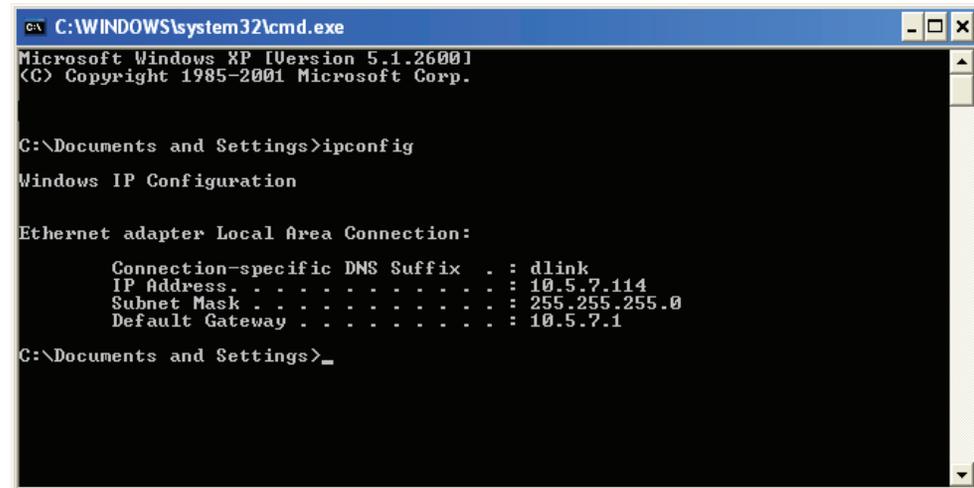
After you install your new D-Link adapter, by default, the TCP/IP settings should be set to obtain an IP address from a DHCP server (i.e. wireless router) automatically. To verify your IP address, please follow the steps below.

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.



```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : dlink
    IP Address . . . . . : 10.5.7.114
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 10.5.7.1

C:\Documents and Settings>_
```

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**.
 - 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**.

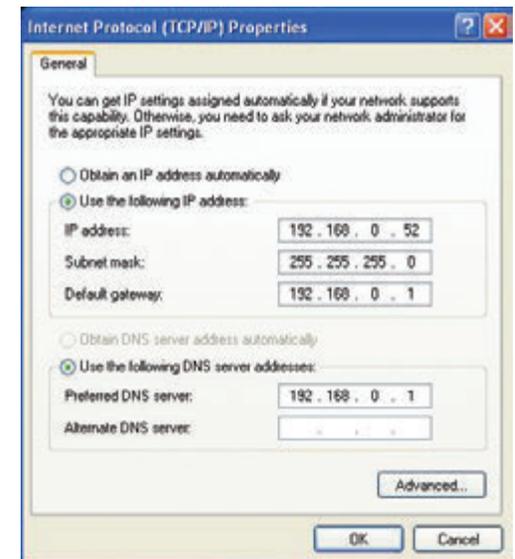
Step 3
Highlight **Internet Protocol (TCP/IP)** and click **Properties**.

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 the Default Gateway the same as the LAN IP address of your router (I.E. 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

Hardware Specifications

- LAN Interface: Four 10/100 Mbps LAN ports
- WAN Interface: One 10/100 Mbps Internet port
- Wireless Interface (2.4 GHz): IEEE 802.11n/g/b
- Wireless Interface (5 GHz): IEEE 802.11ac/n/a

Operating Voltage

- Input: 100~240 V ($\pm 20\%$), 50~60 Hz
- Output: DC 5 V, 1 A

Temperature

- Operating: 0 ~ 40 °C (32 ~ 104 °F)
- Non-Operating: -20 ~ 65 °C (-4 ~ 149 °F)

Humidity

- Operating: 10% - 90% non-condensing
- Non-Operating: 5% - 95% non-condensing

Wireless Frequency Range¹

- IEEE 802.11a: 5180 MHz~5240 MHz
- IEEE 802.11b: 2400 MHz~2483 MHz
- IEEE 802.11g: 2400 MHz~2484 MHz
- IEEE 802.11n: 2400 MHz~2484 MHz, 5180 MHz~5240 MHz
- IEEE 802.11ac: 5180 MHz~5240 MHz, 5745 MHz~5825 MHz

Wireless Bandwidth Rate

- IEEE 802.11a: 54, 48, 36, 24, 18, 12, 9, and 6 Mbps
- IEEE 802.11b: 11, 5.5, 2, and 1 Mbps
- IEEE 802.11g: 54, 48, 36, 24, 18, 12, 9, and 6 Mbps
- IEEE 802.11n: 6.5 to 300 Mbps
- IEEE 802.11ac (draft): 6.5 to 433 Mbps

Antenna Type

- Three external antennas

Wireless Security

- WPA/WPA2-Personal, WPA/WPA2-Enterprise, WPS (PIN & PBC)

Certifications

- FCC
- CE
- CSA

Dimensions & Weight

- 189.95 x 132.97 x 38.11 mm
- 227.8 grams (8.03 ounces)

Warranty

- 2 years

¹ Wireless frequency range may vary according to regional regulations.