D-Link®



User Manual

All-in-one Mobile Companion

Preface

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

Manual Revisions

Revision Date		Description	
1.0	March 29, 2012	Initial release for Revision A1	

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Package Contents



DIR-505 All-in-One Mobile Companion



Ethernet Cable



Quick Install Guide

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

System Requirements

Network Requirements	 An Ethernet-based Cable or DSL modem IEEE 802.11n or 802.11g wireless clients 10/100 Ethernet
Web-based Configuration Utility Requirements	Computer with the following: • Windows®, Macintosh, or Linux-based operating system • An installed Ethernet adapter Browser Requirements: • Internet Explorer 8 or higher • Firefox 8.0 or higher • Safari 4.0 or higher • Google Chrome (16.0.9.12.75) Windows® Users: Make sure you have the latest version of Java installed. Visit www.java.com to download the latest version.

Introduction

TOTAL PERFORMANCE

Combines award winning router features and IEEE 802.11 g/n wireless technology to provide the best wireless performance.

TOTAL SECURITY

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

TOTAL COVERAGE

The DIR-505 delivers powerful 802.11n performance and increases the range of your wireless network by extending the range of your wireless coverage of another AP or wireless router.

ULTIMATE PERFORMANCE

The D-Link All-in-One Mobile Companion (DIR-505) is a 802.11n compliant device that delivers real world performance. Create a secure wireless network to share photos, files, music, video, printers, and network storage throughout your home. Connect the DIR-505 router to a cable or DSL modem and share your high-speed Internet access with everyone on the network. In addition, this Router includes a Quality of Service (QoS) engine that keeps digital phone calls (VoIP) and online gaming smooth and responsive, providing a better Internet experience.

TOTAL NETWORK SECURITY

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

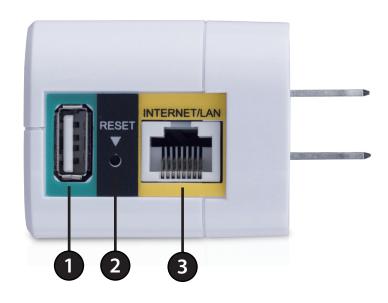
^{*} Maximum wireless signal rate derived from IEEE Standard, 802.11g and 802.11n specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput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

Features

- **Faster Wireless Networking** The DIR-505 provides up to 150Mbps* wireless connection with other 802.11n wireless clients. This capability allows users to participate in real-time activities online, such as video streaming, online gaming, and real-time audio.
- **Compatible with 802.11g Devices** The DIR-505 is still fully compatible with the IEEE 802.11g standards, so it can connect with existing 802.11g, USB, and Cardbus adapters.
- **Advanced Firewall Features** The Web-based user interface displays a number of advanced network management features including:
 - **Content Filtering** Easily applied content filtering based on MAC Address, URL, and/or Domain Name.
 - **Filter Scheduling** These filters can be scheduled to be active on certain days or for a duration of hours or minutes.
 - **Secure Multiple/Concurrent Sessions** The DIR-505 can pass through VPN sessions. It supports multiple and concurrent IPSec and PPTP sessions, so users behind the DIR-505 can securely access corporate networks.
- **User-friendly Setup Wizard** Through its easy-to-use Web-based user interface, the DIR-505 lets you control what information is accessible to those on the wireless network, whether from the Internet or from your company's server. Configure your router to your specific settings within minutes.

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

Hardware Overview Connections



1	USB Port	Connect a USB 1.1 or 2.0 flash drive to configure the wireless settings using SharePort™ Mobile and SharePort™ Web File Access. Both allows you to share a USB or a storage device with your local network.
2	Reset Button	Pressing the Reset button restores the router to its original factory default settings.
3	Ethernet Port	The auto MDI/MDIX Internet port is the connection for the Ethernet cable to the cable or DSL modem.

Hardware Overview LEDs



LED Indicator	Color	Status	Description
	Green	Solid Green	The device is powered ON and operating properly
		Blinking Green	The device is processing WPS
Power/Status		Light off	The device is off
	Red	Solid Red	During Power ON or system is defective
		Light off	The device is powered off

Installation

Please configure the DIR-505 with a computer connected directly to the AP. The next few pages will explain the different operational modes you can use.

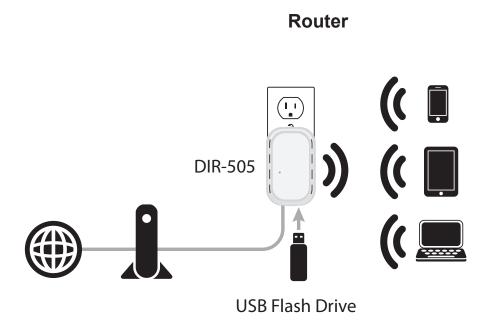
Operation Modes

Depending on how you want to use your DIR-505 will determine which mode you use. This section will help you figure out which setting works with your setup.

- Router/Access Point mode
- Repeater Mode
- Wi-Fi Hot Spot mode

Router

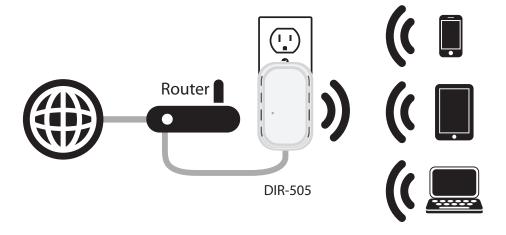
In the Router mode, the DIR-505 acts as a central connection point for any computer (client) that has a 802.11n or backward-compatible 802.11g wireless network interface and is within range of the AP. Clients must use the same SSID (wireless network name) and channel as the AP in order to connect. If wireless security is enabled on the AP, the client will need to enter a password to connect to the AP. In Router mode, multiple clients can connect to the AP at the same time.



Access Point Mode

In the Access Point mode, the DIR-505 acts as a central connection point for any computer (client) that has a 802.11n or backward-compatible 802.11g wireless network interface and is within range of the AP. Clients must use the same SSID (wireless network name) and channel as the AP in order to connect. If wireless security is enabled on the AP, the client will need to enter a password to connect to the AP. In Access Point mode, multiple clients can connect to the AP at the same time.

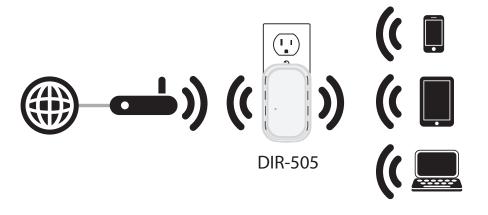
Access Point Mode



Repeater Mode

In Repeater Mode, the DIR-505 increases the range of your wireless network by extending the wireless coverage of another AP or wireless router. The APs and wireless router (if used) must be within range of each other. Make sure that all clients, APs, and the wireless router all use the same SSID (wireless network name), channel, and security settings.

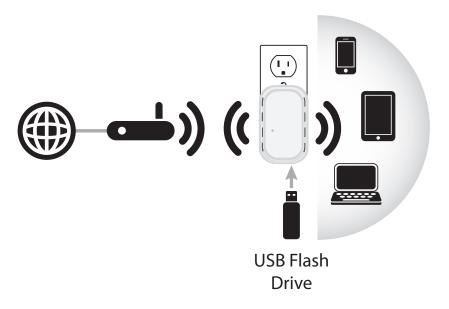
Repeater Mode



Hot Spot Mode

In the HotSpot Mode, the DIR-505 acts as a wireless network adapter for your Ethernet-enabled device (such as a Laptop or an Internet Tablet). If you are going to connect an Ethernet-enabled devices to your DIR-505, move the switch to "Wi-Fi HotSpot Mode". Then, plug the DIR-505 into a wall outlet and verify that the power LED is lit. Wi-Fi Hot Spot Mode has NAT which allows an IP network to maintain a public IP address separately from your private IP address. Additionally, it enhances private network security by limiting the access of external computers in the private IP network space.

Wi-Fi Hotspot Mode



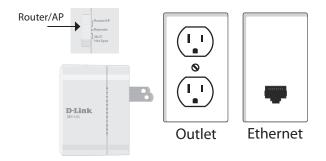
Wireless Installation Considerations

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

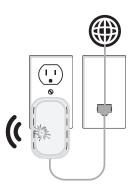
- 1. Keep the number of walls and ceilings between the D-Link router and other network devices to a minimum each wall or ceiling can reduce your adapter's range from 3-90 feet (1-30 meters.) Position your devices so that the number of walls or ceilings is minimized.
- 2. Be aware of the direct line between network devices. A wall that is 1.5 feet thick (.5 meters), at a 45-degree angle appears to be almost 3 feet (1 meter) thick. At a 2-degree angle it looks over 42 feet (14 meters) thick! Position devices so that the signal will travel straight through a wall or ceiling (instead of at an angle) for better reception.
- 3. Building Materials make a difference. A solid metal door or aluminum studs may have a negative effect on range. Try to position access points, wireless routers, and computers so that the signal passes through drywall or open doorways. Materials and objects such as glass, steel, metal, walls with insulation, water (fish tanks), mirrors, file cabinets, brick, and concrete will degrade your wireless signal.
- 4. Keep your product away (at least 3-6 feet or 1-2 meters) from electrical devices or appliances that generate RF noise.
- 5. If you are using 2.4GHz cordless phones or X-10 (wireless products such as ceiling fans, lights, and home security systems), your wireless connection may degrade dramatically or drop completely. Make sure your 2.4GHz phone base is as far away from your wireless devices as possible. The base transmits a signal even if the phone in not in use.

Manual Setup Router/Access Point Mode

1. Find an outlet close to an Internet- enabled device. Then, move the switch to "Router/AP Mode" and plug the DIR-505 into a wall outlet. Verify that the power LED has turned green.



2. Connect one end of the Ethernet cable into the Ethernet port of the Internet-enabled device and then plug the other end of this cable into the Ethernet port of the DIR-505.



3. From your laptop or mobile device go to your Wireless Utility to display the available wireless networks and select the Wi-Fi name that is displayed on your companion card (ex: dlink-a8fa). Then, enter the Wi-Fi password included in your card (akbdj1936).

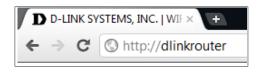




4. Open a web browser. First time users will automatically be directed to the pre-wizard. Please follow the on-screen instructions to complete the setup.

If this is your second time type **http://dlinkrouter** in the address bar. Once the setup is complete then proceed to the next step.

5. From your laptop or mobile device go to your wireless utility to display the available wireless networks and select the network that you created for internet access.

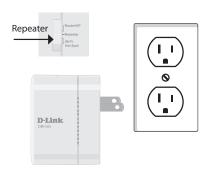






Repeater Mode

1. Move the switch to "Repeater Mode". Then, plug the DIR-505 into a wall outlet and verify that the power LED has turned green.



2. From your laptop or mobile device go to your Wireless Utility to display the available wireless networks and select the network that is displayed on your companion card (ex: dlink-a8fa). Then, enter the Wi-Fi password included in your card (akbdj1936).





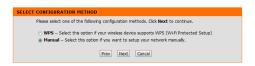
3. Open a web browser. First time users will automatically be directed to the pre-wizard. Please follow the on-screen instructions to complete the setup.

If this is your second time type **http://dlinkrouter** in the address bar. Click **Launch Wireless Setup Wizard** to continue.



4. Select the configuration method and click Next.

For Manual configuration, select the Wi-Fi network you would like the DIR-505 to connect to wirelessly.





5. Enter the Wi-Fi Password and click **Next**.

Once the second screen appears, you have successfully completed the setup. Please click **Save** and write down the SSID and Password on your companion card for future reference.



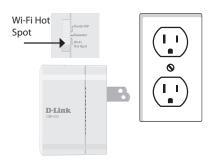


6. From your laptop or mobile device go to your wireless utility to display the available wireless networks and select the network that you previously connected to in Step 5 for internet access.



Wi-Fi Hot Spot Mode

1. Move the switch to "Wi-Fi Hot Spot". Then, plug the DIR-505 into a wall outlet and verify that the power LED has turned green.



2. From your laptop or mobile device go to your Wireless Utility to display the available wireless networks and select the network that is displayed on your companion card (ex: dlink-a8fa). Then, enter the Wi-Fi password included in your card (akbdj1936).





3. Open a web browser. First time users will automatically be directed to the pre-wizard. Please follow the on-screen instructions to complete the setup.

If this is your second time type **http://dlinkrouter** in the address bar. Click Launch Wireless Setup Wizard to continue.



4. Select the Wi-Fi Hotspot you would like to connect to and then click **Connect** to continue. Then, enter the Wi-Fi password and click **Next** to continue.





Extended Wi-Fi Network Name (SSID):

Please take a note of the following summary of your Wi-Fi Security settings for future reference

Wi-Fi Password : dlink123456 Extended Wi-Fi Network Name (SSID) : dlink DIR-505

Use the same Wi-Fi Network Name for the Extended Network
Give your Extended Wi-Fi network a name.

5. If you do not wish to use the same Wi-Fi network name and would like to create your own Name and Password, uncheck the box. Then, enter your own Wi-Fi network name & password in the boxes. When the second screen appears, you have successfully completed the setup. Click **Save** and write down the SSID & password in your companion card for future reference.



Wi-Fi Network Name (SSID): dlink825

6. From your laptop or mobile device go to your wireless utility to display the available wireless networks and select the network that you created in step 5.

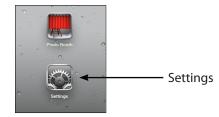


Quick Router Setup for Mobile Device

1. Scan the bar code to download "QRS Mobile" APP from the app store to your iPhone or iPad.



2. From your mobile device, click Settings. Then, click Wi-Fi.



3. Select the network that is displayed on your companion card (ex: dlinka8f). Then, enter the Wi-Fi password included in your card (ex:akbdj1936).



4. Once it connected, click on the QRS Mobile icon.



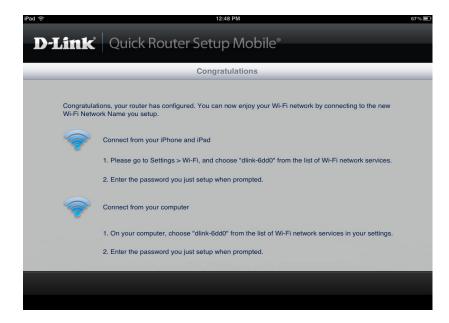
5. Click **Start** to continue.



6. Follow the instruction and click **Next** to continue.



7. Once the Setup is complete, the following screen will show up. Then, select your new Wi-FI Name and enter the password you just setup from your laptop or mobile device.



SharePort Mobile App

1. Move the switch to "Router/AP Mode" (or "Wi-Fi Hotspot Mode").

Router/AP Mode

2. Insert your USB flash drive to DIR-505 first and then Plug DIR-505 into wall outlet.

Note: Please refer to page 56 for Storage setup information before you proceed to the next step below.



3. Scan the bar code to download the **SharePort Mobile APP** from the app store to your iPhone or iPad.

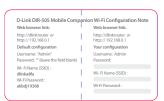


4. From your iOS mobile device, click **Settings.**



5. Click **Wi-Fi** and select the network (SSID) that you assigned during initial setup. Then, enter your Wi-Fi password.





6. Once connected click on the **SharePort Mobile** icon.



7. Then, the following screen will pop up.



8. Click on the **Settings** icon located on the right top corner of the screen Then, click **Edit** to enter your User Name and Password. Once you finish, click **Done** to continue. By default, user Name is "admin" and password is blank.



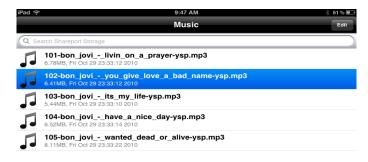
9. For the Movie section, click the movie icon to play your movie from your USB flash drive.





10. For the Music section, click the music icon to play your music from your USB flash drive.





11. For the Photo section, click the Photo icon to open your photo from your USB flash drive.





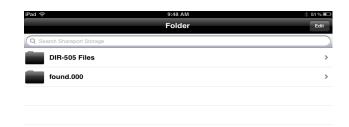
12. For the Files section, click on the Files icon to open your file from your USB flash drive.





14. For the Folder section, click on the folder icon to open a file from your USB flash drive.

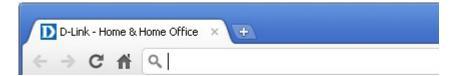




Router Mode Quick Setup Wizard

If this is your first time installing the router, open your web browser. You will automatically be directed to the **Wizard Setup Screen**.

If you have already configured your settings and you would like to access the configuration utility, please refer to page 30.



This wizard is designed to guide you through a step-by-step process to configure your new D-Link router and connect to the Internet.

Click **Next** to continue.



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



Create a wireless security passphrase or key (between 8-63 characters). Your wireless clients will need to have this passphrase or key entered to be able to connect to your wireless network.

Click **Next** to continue.



In order to secure your router, please enter a new password. Check the Enable Graphical Authentication box to enable CAPTCHA authentication for added security. Click **Next** to continue.



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

Select the appropriate time zone for your location. This information is required to configure the time-based options for the router.

(GMT-08:00) Pacific Time (US/Canada), Tijuana

Prev Next Cancel

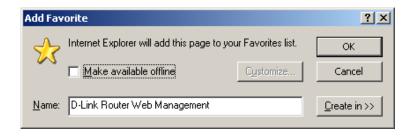
The Setup Complete window will display your wireless settings. Click **Save** to continue.



If you want to create a bookmark to the router, click **OK**. Click **Cancel** if you do not want to create a bookmark.



If you clicked **Yes**, a window may appear (depending on what web browser you are using) to create a bookmark.



The router will now reboot. Please allow a minute or two. Click the **Continue** button once it is active.



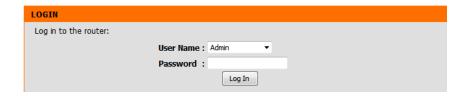
Web-based Configuration Utility

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

Windows and Mac users may also connect by typing **http://dlinkrouter** or **http://dlinkrouter.local** in the address bar.



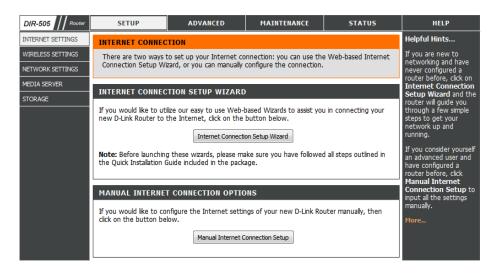
Select **Admin** from the drop-down menu and then enter your password. Leave the password blank by default.



Internet Connection Setup

Click **Manual Internet Connection Setup** to configure your connection manually and continue to the next page.

If you want to configure your router to connect to the Internet using the wizard, click **Internet Connection Setup Wizard**. You will be directed to the Quick Setup Wizard. Please skip to page 23.



This wizard is designed to guide you through a step-by-step process to configure your new D-Link router and connect to the Internet.

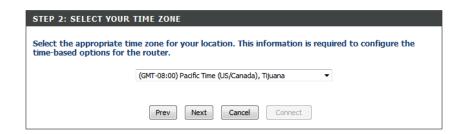
Click **Next** to continue.



In order to secure your router, please enter a new password. Click **Next** to continue.



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



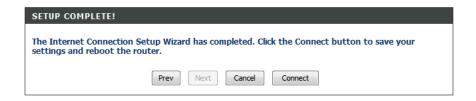
Select your Internet connection type and click **Next** to continue.

STEP 3: CONFIGURE YOUR INTERNET CONNECTION Your Internet Connection could not be detected, please select your Internet Service Provider (ISP) from the list below. If your ISP is not listed, select the "Not Listed or Don't Know" option to manually configure your connection. Comcast If your Internet Service Provider was not listed or you don't know who it is, please select the Internet connection type below DHCP Connection (Dynamic IP Address) Choose this if your Internet connection automatically provides you with an IP Address. Most Cable Modems use this type of connection. Username / Password Connection (PPPoE) Choose this option if your Internet connection requires a username and password to get online. Most DSL modems use this type of connection. Username / Password Connection (PPTP) PPTP client. Username / Password Connection (L2TP) L2TP client. Static IP Address Connection Choose this option if your Internet Setup Provider provided you with IP Address information that has to be manually configured. Cancel Connect

Verify that you are connected to the D-Link Router with the PC that was originally connected to your broadband connection, and if you are, then click the **Clone MAC button** to copy your computer's MAC Address.

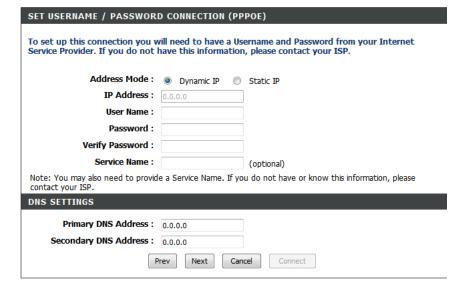
Click **Next** to continue.

Your setup is complete. Click **Connect** to save your settings and reboot your router.

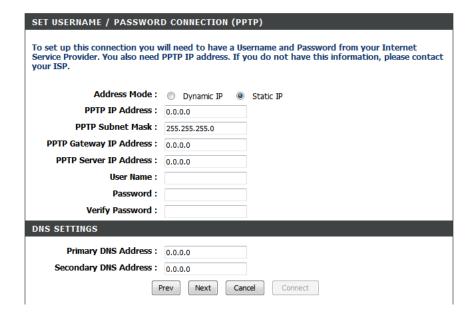


If the router detected or you selected **PPPoE**, enter your PPPoE username, password and verify password, then click **Next** to continue.

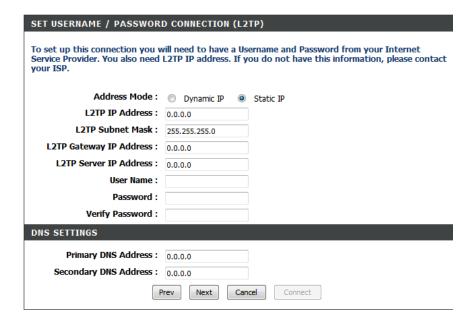
Note: Make sure to remove your PPPoE software from your computer. The software is no longer needed and will not work through a router.



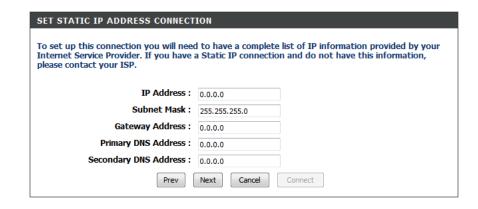
If the router detected or you selected **PPTP**, enter your PPTP username, password, and other information supplied by your ISP. Click **Next** to continue.



If the router detected or you selected **L2TP**, enter your L2TP username, password, and other information supplied by your ISP. Click **Next** to continue.



If the router detected or you selected **Static**, enter the IP and DNS settings supplied by your ISP. Click **Next** to continue.



Manual Internet Setup Dynamic (Cable)

Operation Mode: Select Router or Access point from the drop-down menu.

My Internet Select Dynamic IP (DHCP) to obtain IP Address information Connection: automatically from your ISP. Select this option if your ISP does not give you any IP numbers to use. This option is commonly

used for cable modem services.

Host Name: The Host Name is optional but may be required by some ISPs.

Leave blank if you are not sure.

Use Unicasting: Check the box if you are having problems obtaining an IP

address from your ISP.

Primary/Secondary Enter the Primary and secondary DNS server IP addresses

DNS Server: assigned by your ISP. These addresses are usually obtained automatically from your ISP. Leave at 0.0.0.0 if you did not

specifically receive these from your ISP.

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

the default MTU.

MAC Address: The default MAC Address is set to the Internet port's physical

interface MAC address on the Broadband Router. It is not recommended that you change the default MAC address unless required by your ISP. You can use the **Copy Your PC's**

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

WAN Use this section to configure your Internet Connection type. There are several connection types to choose from: Static IP, DHCP, PPPoE, PPTP, and L2TP. 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. Save Settings Don't Save Settings OPERATION MODE SETTING Operation Mode: Router INTERNET CONNECTION TYPE Choose the mode to be used by the router to connect to the Internet. My Internet Connection is: Dynamic IP (DHCP) 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: **Use Unicasting:** (compatibility for some DHCP Servers) Primary DNS Server: 0.0.0.0 Secondary DNS Server: 0.0.0.0 MTU: 1500 (bytes) MTU default = 1500 MAC Address: 00:00:00:00:00:00 Clone Your PC's MAC address

Internet Setup

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

Address Mode: Select Static IP if your ISP assigned you the IP address, subnet mask, gateway,

and DNS server addresses. In most cases, select **Dynamic**.

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

User Name: Enter your PPPoE user name.

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

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

Reconnect Select either **Always-on**, **On-Demand**, or **Manual**.

Mode:

Maximum Idle Enter a maximum idle time during which the Internet connection is maintained

Time: during inactivity. To disable this feature, enable Auto-reconnect.

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

Server:

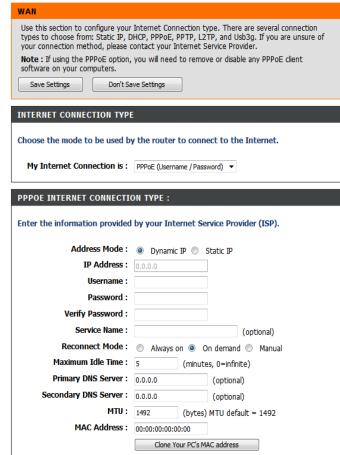
MTU: Maximum Transmission Unit - you may need to change the MTU for optimal

performance with your specific ISP. 1492 is the default MTU.

MAC Address: The default MAC Address is set to the Internet port's physical interface MAC

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

Ethernet card.



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

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

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

Enable True Check to enable true Gigabit routing. This will increase the **Gigabit Routing** through-put of the WAN-LAN connectivity of the router. Connectivity:

Address Mode: Select Static if your ISP assigned you the IP address, subnet

mask, gateway, and DNS server addresses. In most cases,

select **Dynamic**.

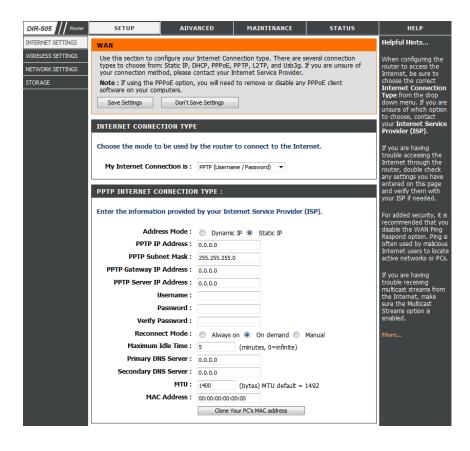
PPTP IP Address: Enter the IP address (Static PPTP only).

PPTP Subnet Enter the Primary and Secondary DNS Server Addresses (Static

Mask: PPTP only).

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

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



Username: Enter your PPTP username.

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

Reconnect Select either **Always-on**, **On-Demand**, or **Manual**.

Mode:

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

Time: Auto-reconnect.

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

MTU: Maximum Transmission Unit - you may need to change the MTU for optimal performance with your specific ISP. 1400 is the default MTU.

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

L2TP

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

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

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

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

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

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

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

Username: Enter your L2TP username.

Password: Enter your L2TP password and then retype the password in the

next box.

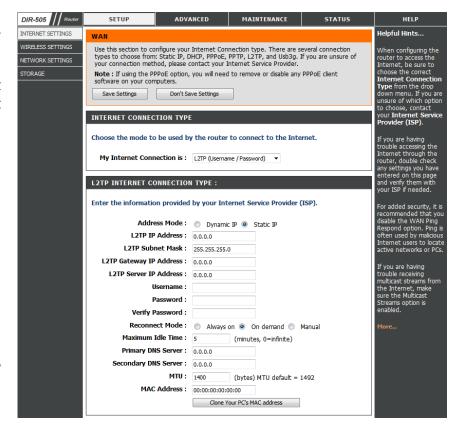
Reconnect Select either **Always-on**, **On-Demand**, or **Manual**.

Mode:

Maximum Idle Enter a maximum idle time during which the Internet connection

Time: is maintained during inactivity. To disable this feature, enable

Auto-reconnect.



DNS Servers: Enter the Primary and Secondary DNS Server Addresses (Static L2TP only).

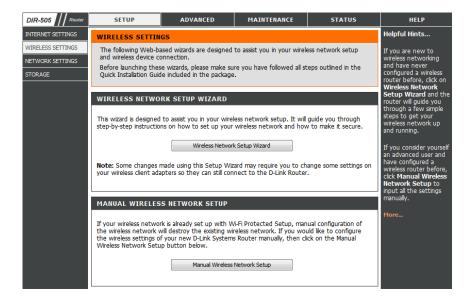
MTU: Maximum Transmission Unit - you may need to change the MTU for optimal performance with your specific ISP. 1400 is the default MTU.

Clone MAC The default MAC Address is set to the Internet port's physical interface MAC address on the Broadband Router. It is not recommended Address: 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.

Wireless Settings

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

If you want to manually configure the wireless settings on your router click **Manual Wireless Network Setup** and refer to page 45.



Wireless Security Setup Wizard

To run the security wizard, click on Setup at the top and then click **Wireless Network Setup Wizard**.

WIRELESS NETWORK SETUP WIZARD This wizard is designed to assist you in your wireless network setup. It will guide you through step-by-step instructions on how to set up your wireless network and how to make it secure.

Wireless Network Setup Wizard

Note: Some changes made using this Setup Wizard may require you to change some settings on your wireless client adapters so they can still connect to the D-Link Router.

Type your desired wireless network name (SSID).

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

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

Give your network a name, using up to 32 characters.

Network Name (SSID): DIR505

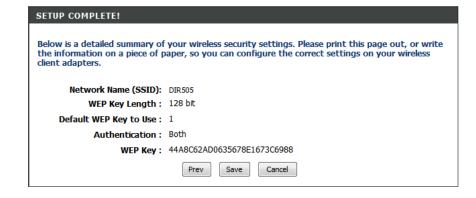
Automatically assign a network key (Recommended)
To prevent outsiders from accessing your network, the router will automatically assign a security to your network.

Manually assign a network key
Use this options if you prefer to create our own key.

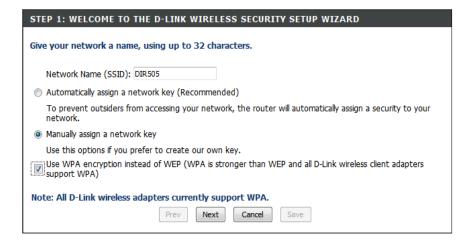
Use WPA encryption instead of WEP (WPA is stronger than WEP and all D-Link wireless client adapters support WPA)

Note: All D-Link wireless adapters currently support WPA.

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



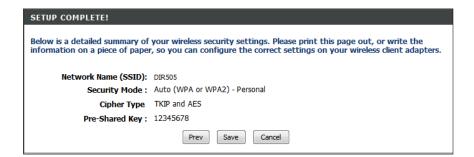
Select **Manually** to manually enter your network key and click **Next**.



Enter your Wireless Security Password and click Next to continue.

STEP 2: SET YOUR WIRELESS SECURITY PASSWORD
You have selected your security level - you will need to set a wireless security password.
The WPA (Wi-Fi Protected Access) key must meet one of following guidelines:
-Between 8 and 63 characters (A longer WPA key is more secure than a short one)
Wireless Security Password :
Note: You will need to enter the same password as keys in this step into your wireless clients in order to enable proper wireless communication.
Prev Next Cancel

If you selected **Manually**, the following screen will appear once the setup is complete.



Manual Configuration Wireless Settings

Router Mode

Enable Wireless: Check the box to enable the wireless function. If you do

not want to use wireless, uncheck the box to disable all the wireless functions. You may also set up a specific time range (schedule). Select a schedule from the drop-down menu or

click **Add New** to create a new schedule.

Wireless Mode: Select Router from the drop-down menu.

Wireless When you are browsing for available wireless networks, this **Network Name:** is the name that will appear in the list (unless Visibility Status

is set to Invisible, see below). This name is also referred to as the SSID. For security purposes, it is highly recommended

to change from the default network name.

802.11 Mode: Select one of the following:

802.11b Only - Select if you are only using 802.11b wireless

clients.

802.11g Only - Select if you are only using 802.11g wireless clients. **802.11n Only** - Select if you are only using 802.11n wireless clients.

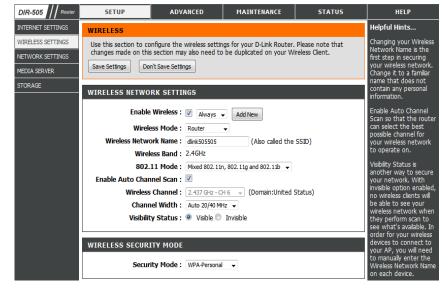
Mixed 802.11g and 802.11b - Select if you are using a mix of 802.11g and 11b wireless clients.

Mixed 802.11n and 802.11g - Select if you are using a mix of 802.11n and 11g wireless clients.

Mixed 802.11n, 802.11g and 802.11b - Select if you are using a mix of 802.11n, 11g, and 11b wireless clients.

Wireless Indicates the channel setting for the DIR-505. The Channel can be changed to fit the channel setting for an existing wireless **Channel:** network or to customize the wireless network. If you enable Auto Channel Scan, this option will be grayed out.

Enable Auto The **Auto Channel Scan** setting can be selected to allow the DIR-505 to choose the channel with the least amount of interference. **Channel Scan**:



Channel Width: Select the Channel Width:

Auto 20/40 - Select if you are using both 802.11n and non-802.11n wireless devices.

20MHz - Select if you are not using any 802.11n wireless clients.

Visibility Status: Check the box if you do not want the SSID of your wireless network to be broadcasted by the DIR-505. If checked, the SSID of

the DIR-505 will not be seen by Site Survey utilities so your wireless clients will have to know the SSID of your DIR-505 in order

to connect to it.

Security Mode: Refer to page 49 for more information regarding the wireless security.

Access Point Mode

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

Wireless Mode: Select Access Point from the drop-down menu.

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

802.11 Mode: Select one of the following:

802.11b Only - Select if you are only using 802.11b

wireless clients.

802.11g Only - Select if you are only using 802.11g

wireless clients.

802.11n Only - Select if you are only using 802.11n wireless clients.

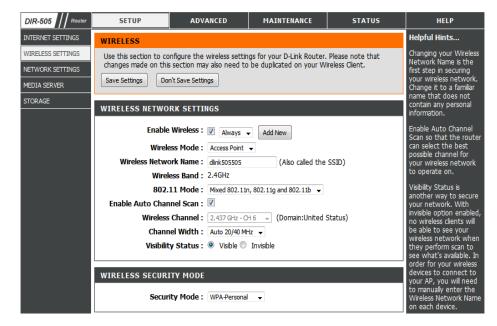
Mixed 802.11g and 802.11b - Select if you are using a mix of 802.11g and 11b wireless clients.

Mixed 802.11n and 802.11g - Select if you are using a mix of 802.11n and 11g wireless clients.

Mixed 802.11n, 802.11g and 802.11b - Select if you are using a mix of 802.11n, 11g, and 11b wireless clients.

Wireless Indicates the channel setting for the DIR-505. The Channel can be changed to fit the channel setting for an existing wireless **Channel:** network or to customize the wireless network. If you enable Auto Channel Scan, this option will be grayed out.

Enable Auto The Auto Channel Scan setting can be selected to allow the DIR-505 to choose the channel with the least amount of Channel Scan: interference.



Channel Width: Select the Channel Width:

Auto 20/40 - Select if you are using both 802.11n and non-802.11n wireless devices.

20MHz - Select if you are not using any 802.11n wireless clients.

Visibility Status: Check the box if you do not want the SSID of your wireless network to be broadcasted by the DIR-505. If checked, the SSID of

the DIR-505 will not be seen by Site Survey utilities so your wireless clients will have to know the SSID of your DIR-505 in order

to connect to it.

Security Mode: Refer to page 49 for more information regarding the wireless security.

Wireless Security

This section will show you the different levels of security you can use to protect your data from intruders. The DIR-505 offers the following types of security:

- WPA2 (Wi-Fi Protected Access 2)
- WPA2-PSK (Pre-Shared Key)
- WPA (Wi-Fi Protected Access)
- WPA-PSK (Pre-Shared Key)
- WEP (Wired Equivalent Privacy)

What is WEP?

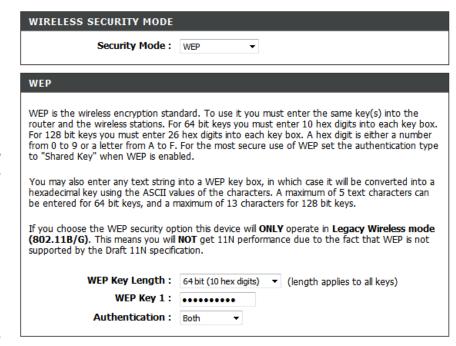
WEP stands for Wired Equivalent Privacy. It is based on the IEEE 802.11 standard and uses the RC4 encryption algorithm. WEP provides security by encrypting data over your wireless network so that it is protected as it is transmitted from one wireless device to another.

To gain access to a WEP network, you must know the key. The key is a string of characters that you create. When using WEP, you must determine the level of encryption. The type of encryption determines the key length. 128-bit encryption requires a longer key than 64-bit encryption. Keys are defined by entering in a string in HEX (hexadecimal - using characters 0-9, A-F) or ASCII (American Standard Code for Information Interchange – alphanumeric characters) format. ASCII format is provided so you can enter a string that is easier to remember. The ASCII string is converted to HEX for use over the network. Four keys can be defined so that you can change keys easily.

Configure WEP

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

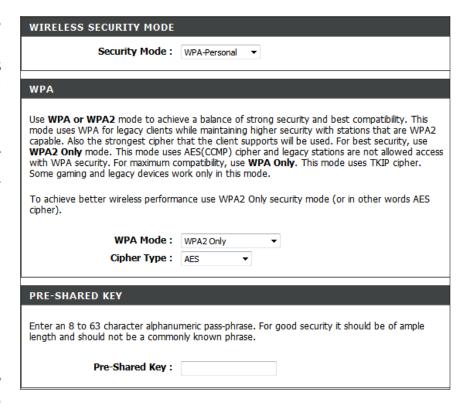
- 1. Log into the web-based configuration by opening a web browser and entering the IP address of the router (192.168.0.1). Click on Wireless Setup on the left side.
- 2. In the **Security Mode section**, select **WEP** from the drop-down menu.
- 3. In **WEP Key Length**, select either 64Bit or 128Bit encryption from the drop-down menu.
- 5. Next to **WEP Key 1**, enter a WEP key that you create. Make sure you enter this key exactly on all your wireless devices. You may enter up to four different keys either using Hex or ASCII. Hex is recommended (letters A-F and numbers 0-9 are valid). In ASCII all numbers and letters are valid.
- 6. Click **Save Settings** to save your settings. If you are configuring the router with a wireless adapter, you will lose connectivity until you enable WEP on your adapter and enter the same WEP key as you did on the router.



Configure WPA/WPA2 Personal

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

- 1. Log into the web-based configuration by opening a web browser and entering the IP address of the access point (192.168.0.50). Click on Setup and then click Wireless Settings on the left side.
- 2. Next to Security Mode, select **WPA-Personal**.
- 3. Next to WPA Mode, Select WPA only, WPA2 only or Auto.
- 4. Next to Cipher Type, select **TKIP**, **AES**, or **Auto**.
- 5. Next to *Passphrase*, enter a key. The key is entered as a passphrase in ASCII format at both ends of the wireless connection. The passphrase must be between 8-63 characters.
- 6. Click **Save Settings** at the top of the window to save your settings. If you are configuring the access point with a wireless adapter, you will lose connectivity until you enable WPA-PSK on your adapter and enter the same passphrase as you did on the access point.

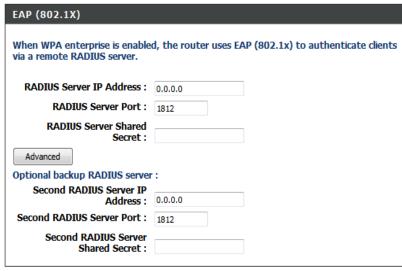


Configure WPA Enterprise

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

- 1. Log into the web-based configuration by opening a web browser and entering the IP address of the access point (192.168.0.50). Click on **Setup** and then click **Wireless Settings** on the left side.
- 2. Next to Security Mode, select WPA-Enterprise.
- 3. Next to WPA Mode select Auto (WPA or WPA2).
- 4. Next to Cipher Mode, select **TKIP**, **AES**, or **Auto**.
- 5. Next to RADIUS Server, enter the IP Address of your RADIUS server.
- 6. Next to *RADIUS Server Port*, enter the port you are using with your RADIUS server. 1812 is the default port.
- 7. Next to *Shared Secret*, enter the security key.
- 8. Click **Save Settings** to save your settings.





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

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.

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

255.255.255.0.

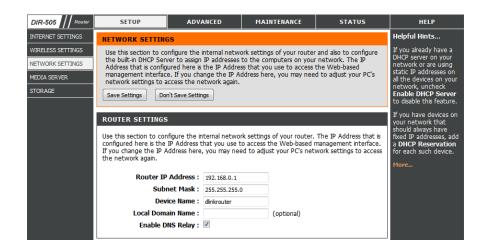
Device Name: Enter a name for the router.

Local Domain: Enter the Domain name (Optional).

Enable DNS Uncheck the box to transfer the DNS server information from

Relay: your ISP to your computers. If checked, your computers will

use the router for a DNS server.



DHCP Reservation

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

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

Enable: Check this box to enable the reservation.

Computer Name: Enter the computer name 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.

Clone Your PC's If you want to assign an IP address to the computer you

MAC Address: 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 Reservations List

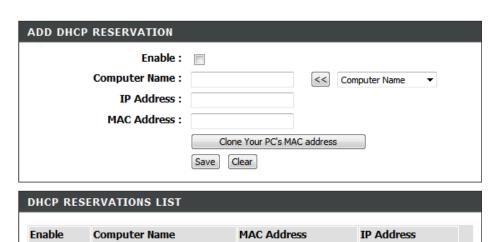
DHCP Displays any reservation entries. Displays the host name **Reservations List:** (name of your computer or device), MAC Address, and IP

address.

Enable: Check to enable the reservation.

Edit: Click the edit icon to make changes to the reservation entry.

Delete: Click to remove the reservation from the list.



Hostname Expires

Sun Jan 2 00:35:39 2011 Revoke Reserve



NUMBER OF DYNAMIC DHCP CLIENTS:

00:16:ea:61:54:76 192.168.0.100 Lifebook

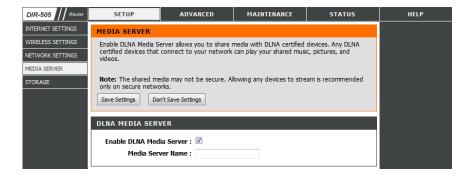
Hardware Address Assigned IP

Media Server

This feature allows you to share music, pictures and videos with any devices connected to your network.

Enable Media Check this box to enable the media server feature. **Server:**

Computer Enter the media server's name. **Name:**



Storage

This page will allow you to access files from a USB external hard drive or thumb drive that is plugged into the router from your local network or from the Internet using either a web browser or an app for your smartphone or tablet. You can create users to be allowed to access these files.

Enable SharePort Check to enable sharing files on your USB storage device **Web Access:** that is plugged in your router.

HTTPS Remote Enter a port (8181 is default). You will have to enter this port **Access Port:** in the URL when connecting to the shared files. For example: (http://192.168.0.1:8181).

Allow Remote Check to enable HTTPS (secure) access to your router's **Access:** storage. You will have to type HTTPS in the URL.

Access HTTPS Enter a port (4433 is default). You will have to enter this port Port: in the URL when connecting to the shared files. For example: (https://192.168.0.1:4433).

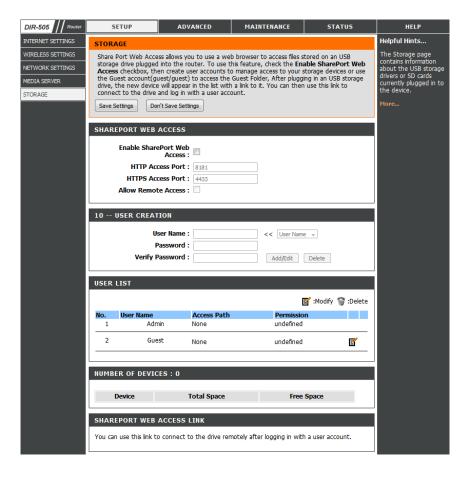
User Name: To create a new user, enter a user name.

Password: Enter a password for this account.

Verify Password: Re-enter the password. Click **Add/Edit** to create the user.

User List: Displays the accounts. The Admin and Guest accounts are built-in to the router.

Number of Displays the USB device plugged into the router. **Devices:**



Advanced Virtual Server

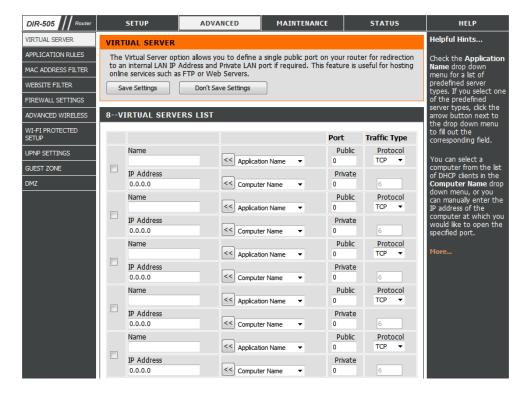
This will allow you to open a single port. If you would like to open a range of ports, refer to the next page.

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 Public Port: Port and 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 **Both** from the drop-down menu.



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-505. 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-505 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).

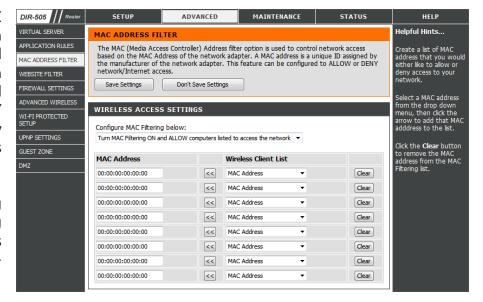


MAC Address Filter

The MAC address filter section can be used to filter network access by machines based on the unique MAC addresses of their network adapter(s). It is most useful to prevent unauthorized wireless devices from connecting to your network. A MAC address is a unique ID assigned by the manufacturer of the network adapter.

Configure When you Turn MAC Filtering OFF is selected, MAC MAC Filtering: addresses are not used to control network access. When Turn MAC Filtering ON and ALLOW computers listed to access the network is selected, only computers with MAC addresses listed in the MAC Address List are granted network access. When Turn MAC Filtering ON and DENY computers listed to access the network is selected, any computer with a MAC address listed in the MAC Address List is refused access to the network.

Add MAC This parameter allows you to manually add a MAC filtering Filtering rule. Click the **SAVE** button to add the new MAC filtering Rule: rule to the MAC Filtering Rules list at the bottom of this screen. You may select a client MAC address from the dropdown menu and click <<.

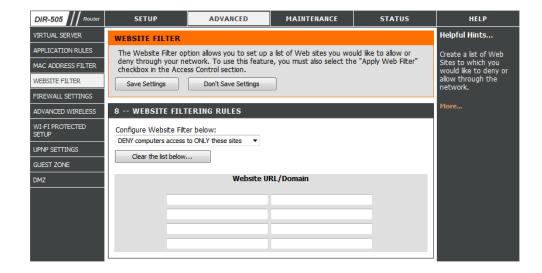


Website Filters

Website Filters are used to allow you to set up a list of Web sites that can be viewed by multiple users through the network. To use this feature select to **Allow** or **Deny**, enter the domain or website and click **Save Settings**. You must also select **Apply Web Filter** under the *Access Control* section.

Add Website Select either DENY computers access to ONLY Filtering Rule: these sites or ALLOW computers access to ONLY these sites.

Website URL/ Enter the keywords or URLs that you want to allow **Domain:** or block. Click **Save Settings**.



Firewall Settings

A firewall protects your network from the outside world. The DIR-505 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.

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.

Anti-Spoof Enable this feature to protect your network from certain **Check:** kinds of "spoofing" attacks.



Advanced Wireless

Transmit Set the transmit power of the antennas.

Power:

WMM Enable: WMM is QoS for your wireless network. This will improve

the quality of video and voice applications for your

wireless clients.

Short GI: Check this box to reduce the guard interval time therefore

increasing the data capacity. However, it's less reliable and

may create higher data loss.

IGMP Check to enable this feature.

Snooping:

WLAN This enables 802.11d operation. 802.11d is a wireless

Partition: specification developed to allow implementation of

wireless networks in countries that cannot use the 802.11 standard. This feature should only be enabled if you are

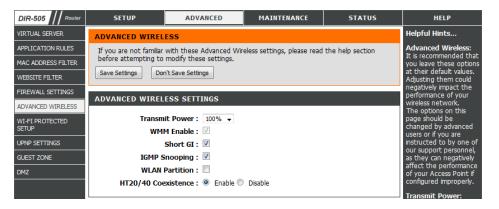
in a country that requires it.

HT20/40 You may choose to Enable or Disable this feature. Enabling

Coexistence: this feature allows two "channels" or paths on which data

can travel to be combined to increase performance in

some environments.



Wi-Fi Protected Setup (WPS)

Wi-Fi Protected Setup (WPS) System is a simplified method for securing your wireless network during the "Initial setup" as well as the "Add New Device" processes. The Wi-Fi Alliance (WFA) has certified it across different products as well as manufactures. The process is just as easy as 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.

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

Disable WPS-PIN Locking the WPS-PIN Method prevents the settings

Method: from being changed by any external registrar using its PIN. Devices can still be added to the wireless network using the Wi-Fi Protected Setup Push Button Configuration (WPS-PBC). It is still possible to change wireless networks settings with Manual Wireless Network Setup or Wireless Network Setu Wizard.

PIN Settings: A PIN is a unique number that can be used to add

the router to an existing network or to create a new network. Only the Administrator ("admin" account) can

change or reset the PIN.

Current PIN: Shows the current PIN.

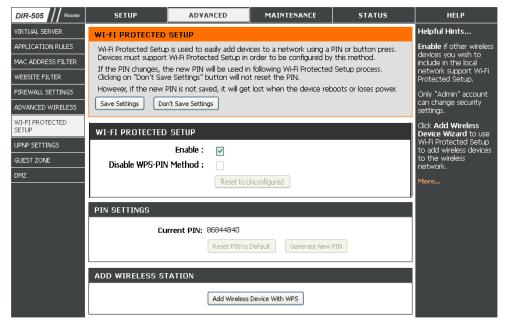
Reset PIN to Restore the default PIN of the router.

Default:

Generate New Create a random number that is a valid PIN. This becomes

PIN: the router's PIN. You can then copy this PIN to the user

interface of the wireless client.



Add Wireless This Wizard helps you add wireless devices to the wireless network. **Station:**

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.

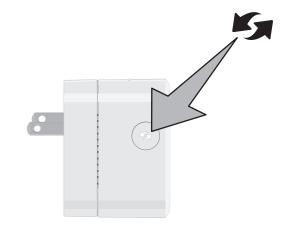
There are several ways to add a wireless device to your network. A "registrar" controls access to the wireless network. A registrar only allows devices onto the wireless network if you have entered the PIN, or pressed a special Wi-Fi Protected Setup button on the device. The router acts as a registrar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

Add Wireless Click to start the wizard. **Device Wizard:**

WPS Button

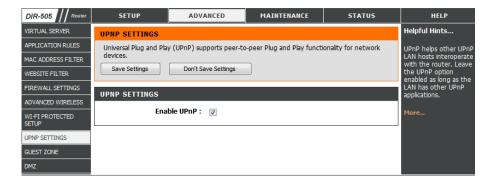
You can also simply press the WPS button on the side of the router, and then press the WPS button on your wireless client to automatically connect without logging into the router.

Refer to page 106 for more information.



UPnP Settings

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



Guest Zone

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

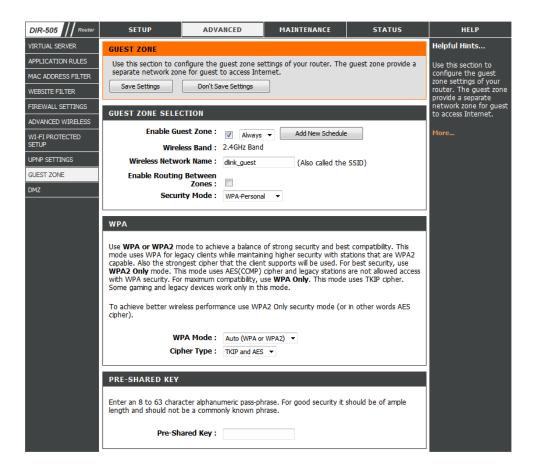
Enable Guest Check to enable the Guest Zone feature. **Zone:**

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

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

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

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

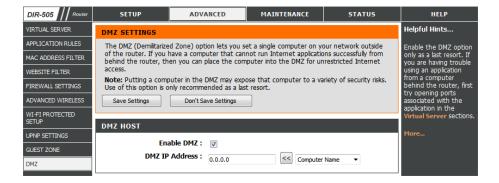


DMZ

This feature allows you to set a single computer from your network to outside of the router and get unrestricted Internet access. 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 DMZ: Check the box to enable DMZ.

DMZ IP Address: Enter the DMZ IP Address.



Maintenance Admin

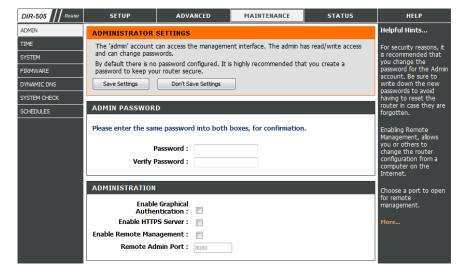
This page will allow you to change the Administrator and User passwords. You can also enable Remote Management. There are two accounts that can access the management interface through the web browser. The accounts are admin and user. Admin has read/write access while user has read-only access. User can only view the settings but cannot make any changes. Only the admin account has the ability to change both admin and user account passwords.

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

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

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

Enable HTTPS Check to enable HTTPS to connect to the router securely. This means to connect to the router, you must enter https://192.168.0.1 (for example) instead of http://192.168.0.1.



Enable Remote Remote management allows the DIR-505 to be configured from the Internet by a web browser. A username/password is still required to **Management:** access the Web Management interface.

Remote Admin The port number used to access the DIR-505 is used in the URL. Example: http://x.x.x.x:8080 whereas x.x.x.x is the Internet IP address of Port: the DIR-505 and 8080 is the port used for the Web Management interface.

If you have enabled **HTTPS Server**, you must enter **https://** as part of the URL to access the router remotely.

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.

Current Router Displays the current date and time of the router. **Time:**

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

Enable Daylight To select Daylight Saving time manually, select enabled

Saving: or disabled, and enter a start date and an end date for

daylight saving time.

Enable NTP Server: NTP is short for Network Time Protocol. 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.

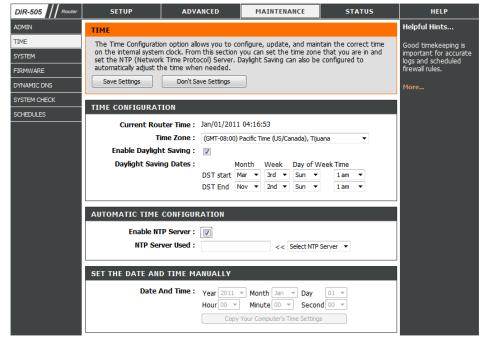
NTP Server Used: Enter the IP address of a NTP server or select one from

the drop-down menu.

Set the Date and To manually input the time, enter the values in these **Time Manually:** 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.

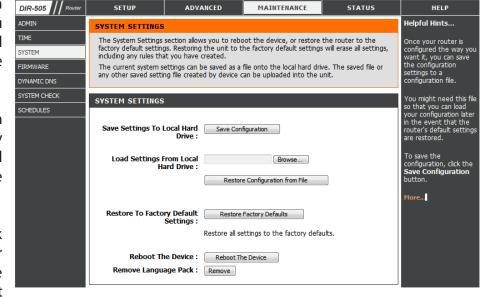
Save Settings Use this option to save the current router configuration to Local Hard settings to a file on the hard disk of the computer you Drive: are using. First, click the Save button. A file dialog will appear, allowing you to select a location and file name for the settings.

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

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

Reboot Device: Click to reboot the router.

Clear Language If you previously installed a language pack and want to **Pack:** revert all the menus on the Router interface back to the default language settings, click the **Clear** button.



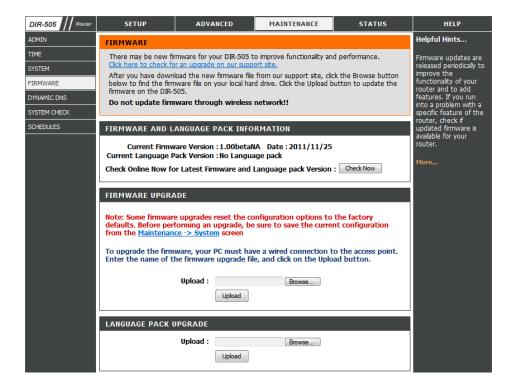
Firmware

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

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

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

Language Pack If you want to change the Router's language pack, click Upgrade: Browse to locate the language pack. Click Upload to complete the load the new language pack.



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

Server Select your DDNS provider from the drop-down menu **Address:** or enter the DDNS server address.

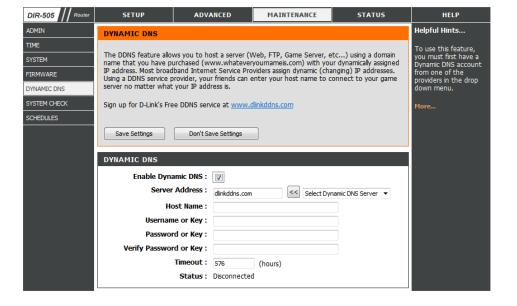
Host Name: Enter the Host Name that you registered with your DDNS service provider.

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

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

Timeout: Enter a timeout time (in hours).

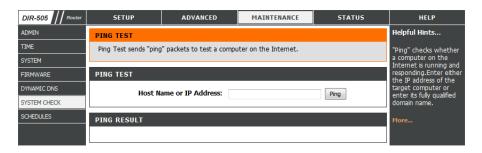
Status: Displays the current connection status.



System Check

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

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



Schedules

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

Name: Enter a name for your new schedule.

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

Time format: Check **All Day - 24hrs** or enter a start and end time for your schedule.

Save: You must click **Save Settings** at the top for your schedules to go into effect.

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



Status Device Info

This page displays the current information for the DIR-505. It will display the LAN, WAN (Internet), and Wireless information. If your Internet connection is set up for a Dynamic IP address then a **Release** button and a **Renew** button will be displayed. Use **Release** to disconnect from your ISP and use **Renew** to connect to your ISP.

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

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

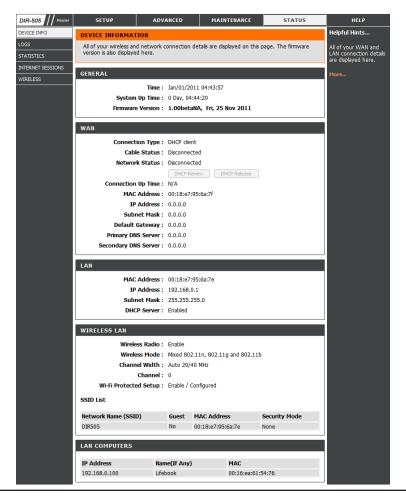
WAN: Displays the MAC address and the public IP settings for the router.

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

Wireless LAN: Displays the wireless MAC address and your wireless

settings such as SSID and Channel.

LAN Computer: Displays the LAN client info which connects to the router.



Logs

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

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

Log Level: There are three levels of message importance: **Critical**, **Warning**, and **Information**. Select the levels that you want displayed in the log.

Log Files: Use this section to view and manage the Router's log entries.

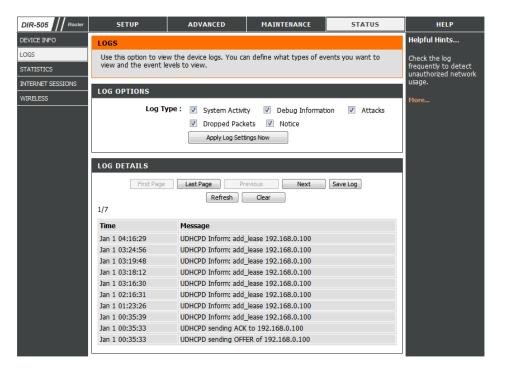
First Page: Click this button to view the first page of the Router logs.

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

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

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

Clears all of the log contents.

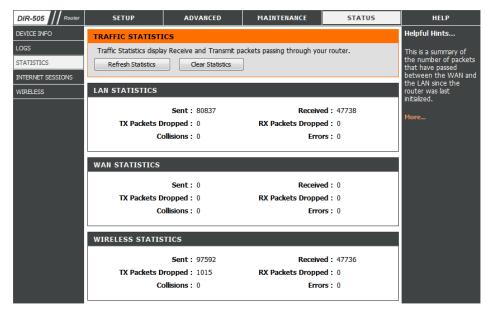


Statistics

The screen below displays the **Traffic Statistics**. Here you can view the amount of packets that pass through the DIR-505 on both the WAN, LAN ports and both the 802.11n/g (2.4GHz) and 802.11n/a (5GHz) wireless bands. The traffic counter will reset if the device is rebooted.

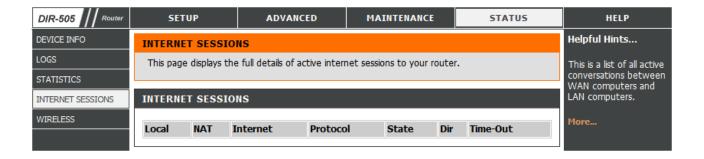
Refresh: Click the **Refresh** button to refresh the Router's traffic statistics.

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



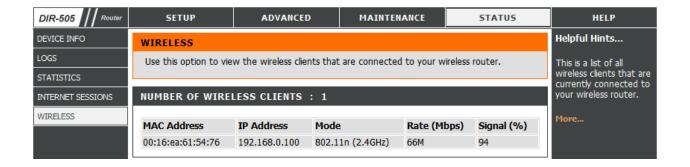
Internet Sessions

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

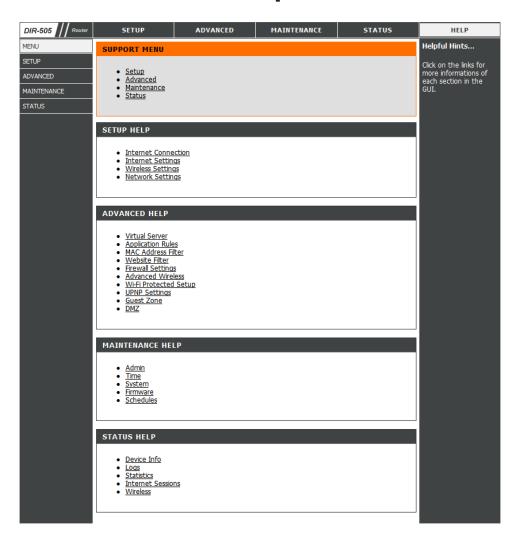


Wireless

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.



Help

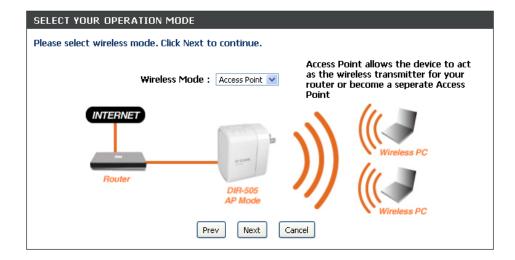


Access Point Mode Quick Setup Wizard

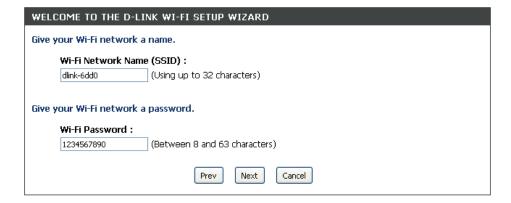
Click Next to begin the Quick Setup Wizard.



Select **Access Point** from the drop-down menu and click **Next** to continue.



Give your Wi-Fi network a name in the box. You may use up to 32 characters. Then enter a Wi-Fi Password and click **Next**.



When this screen appears, the setup is complete. Writ down your Wi-Fi Security Settings information for future reference. Click the **Save** button to save your settings.



Setup Wireless Setup

Enable Wireless: Check the box to enable the wireless function. If you do not want to use

wireless, uncheck the box to disable all the wireless functions.

Wireless Network Service Set Identifier (SSID) is the name of your wireless network.

Name: Create a name using up to 32 characters. The SSID is case-sensitive.

Wireless Mode: Select one of the following:

802.11g Only - Select if all of your wireless clients are 802.11g. **802.11n Only** - Select only if all of your wireless clients are 802.11n. **Mixed 802.11n and 802.11g** - Select if you are using a mix of 802.11n

and 11g wireless clients.

Enable Auto Channel The **Auto Channel Scan** setting can be selected to allow the DIR-657 to

Scan: choose the channel with the least amount of interference.

Wireless Channel: Indicates the channel setting for the DIR-657. By default the channel is

set to 6. The Channel can be changed to fit the channel setting for an existing wireless network or to customize the wireless network. If you

enable Auto Channel Scan, this option will be greyed out.

Channel Width: Select the Channel Width:

Auto 20/40 - This is the default setting. Select if you are using both 802.11n and non-802.11n wireless devices.

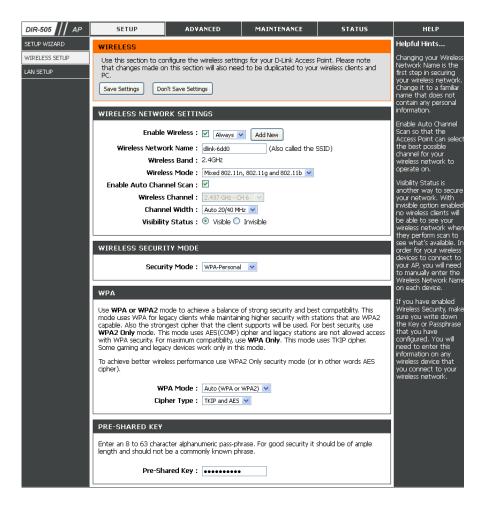
20MHz - Select if you are not using any 802.11n wireless clients.

40MHz - Select if using only 802.11n wireless clients.

Visibility Status: Select Invisible if you do not want the SSID of your wireless network to

be broadcasted by the DIR-657. If Invisible is selected, the SSID of the DIR-657 will not be seen by Site Survey utilities so your wireless clients

will have to know the SSID of your DIR-657



LAN Setup

Device Name: Allows you to configure the device more easily when your network

is using TCP/IP protocol. Enter a name for your device.

My LAN Select from the drop-down menu the Operation Mode you would

Connection: like to use.

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

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

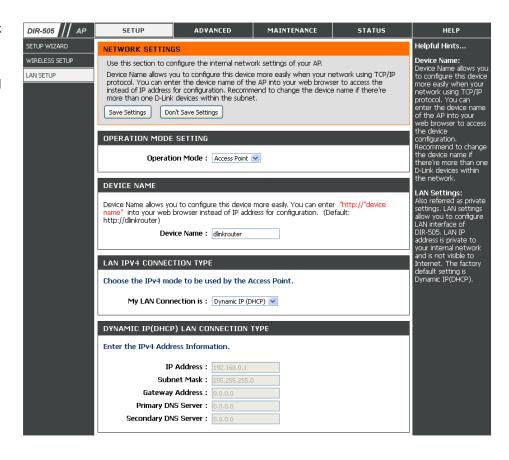
Gateway Address: Enter the Gateway assigned by your ISP.

Primary/ Secondary Enter the Primary and Secondary DNS server IP addresses

DNS Server: assigned by your ISP. These addresses are usually obtained

automatically from your ISP. Enter the value 0.0.0.0 if you

did not specifically receive these from your ISP.



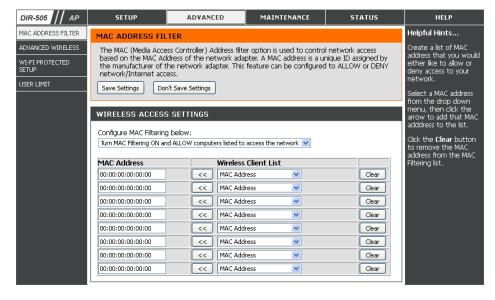
Advanced **MAC Address Filter**

The MAC address filter section can be used to filter network access by machines based on the unique MAC addresses of their network adapter(s). It is most useful to prevent unauthorized wireless devices from connecting to your network. A MAC address is a unique ID assigned by the manufacturer of the network adapter.

Configure When you Turn MAC Filtering OFF is selected, MAC

MAC Filtering: addresses are not used to control network access. When Turn MAC Filtering ON and ALLOW computers listed to access the network is selected, only computers with MAC addresses listed in the MAC Address List are granted network access. When **Turn MAC Filtering ON and DENY** computers listed to access the network is selected, any computer with a MAC address listed in the MAC Address List is refused access to the network.

Add MAC This parameter allows you to manually add a MAC filtering Filtering rule. Click the SAVE button to add the new MAC filtering Rule: rule to the MAC Filtering Rules list at the bottom of this screen. You may select a client MAC address from the drop-down menu and click <<.



Advanced Wireless

Transmit Set the transmit power of the antennas.

Power:

WMM Enable: WMM is QoS for your wireless network. This will improve

the quality of video and voice applications for your

wireless clients.

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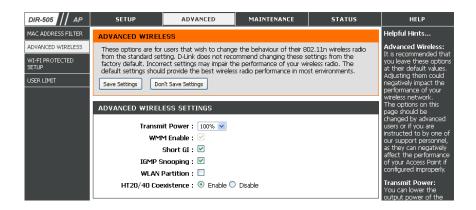
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PIN Settings: A PIN is a unique number that can be used to add the router to an existing network or to create a new network. Only the Administrator ("admin" account) can change or reset the PIN.

Current PIN: Shows the current PIN.

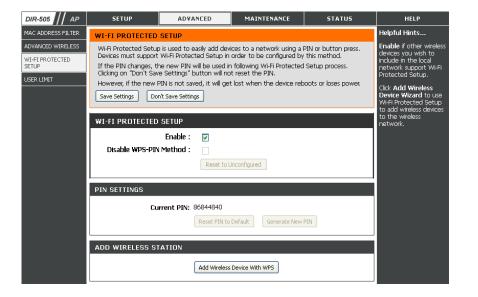
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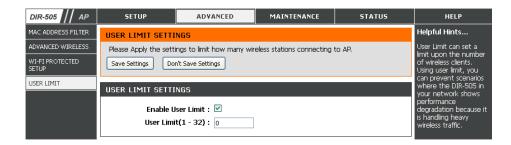
User Limit

This sections allows you to set a limit on the number of wireless clients to control wireless traffic.

Enable User Check the box to enable user limit.

Limit:

User Limit: Enter a number to regulate the user limit and wireless traffic.



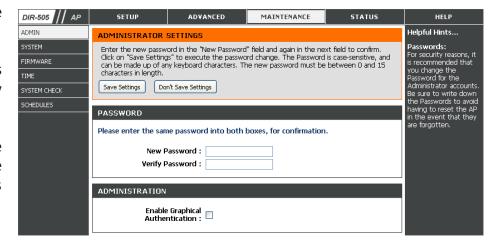
Maintenance Admin

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



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 to Local Hard settings to a file on the hard disk of the computer you Drive: are using. First, click the Save button. A file dialog will appear, allowing you to select a location and file name for the settings.

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

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

Reboot Device: Click to reboot the router.

Clear Language If you previously installed a language pack and want to **Pack:** revert all the menus on the Router interface back to the default language settings, click the **Clear** button.



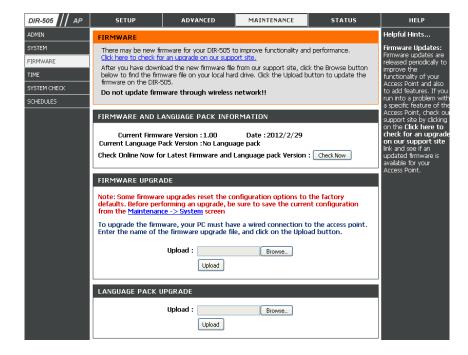
Firmware

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

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

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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.

Current Router Displays the current date and time of the router. **Time:**

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

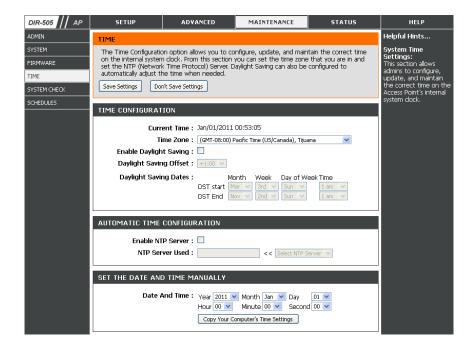
Enable Daylight To select Daylight Saving time manually, select enabled **Saving:** or disabled, and enter a start date and an end date for daylight saving time.

Server: 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.

NTP Server Enter the IP address of a NTP server or select one from **Used:** the drop-down menu.

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

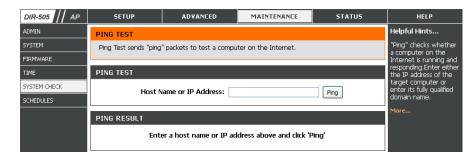
You can also click **Copy Your Computer's Time Settings** to synch the date and time with the computer you are currently on.



System Check

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

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



Schedules

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

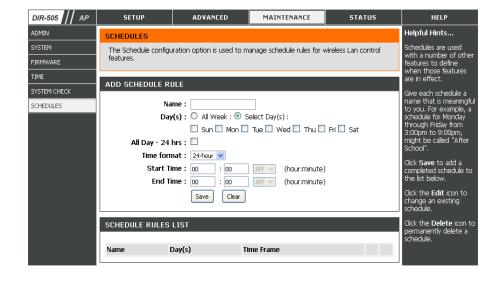
Name: Enter a name for your new schedule.

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

Time format: Check **All Day - 24hrs** or enter a start and end time for your schedule.

Save: You must click **Save Settings** at the top for your schedules to go into effect.

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



Status Device Info

This page displays the current information for the DIR-505. It will display the LAN, WAN (Internet), and Wireless information. If your Internet connection is set up for a Dynamic IP address then a **Release** button and a **Renew** button will be displayed. Use **Release** to disconnect from your ISP and use **Renew** to connect to your ISP.

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

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

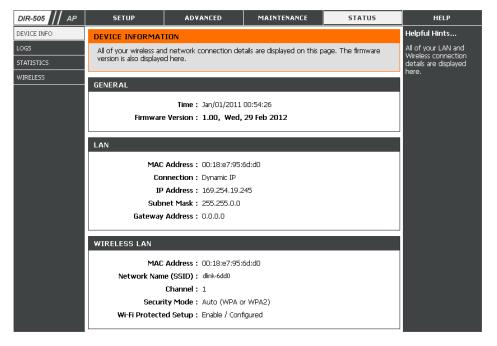
WAN: Displays the MAC address and the public IP settings for the router.

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

Wireless LAN: Displays the wireless MAC address and your wireless

settings such as SSID and Channel.

LAN Computer: Displays the LAN client info which connects to the router.



Logs

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

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

Log Level: There are three levels of message importance: **Critical**, **Warning**, and **Information**. Select the levels that you want displayed in the log.

Log Files: Use this section to view and manage the Router's log entries.

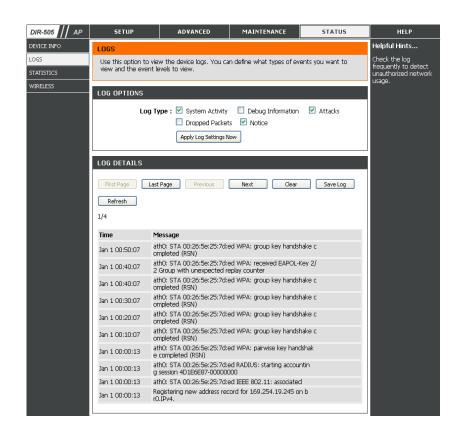
First Page: Click this button to view the first page of the Router logs.

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

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

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

Clear: Clears all of the log contents.

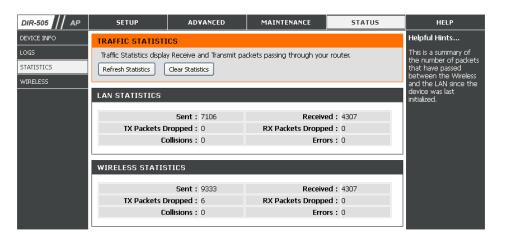


Statistics

The screen below displays the **Traffic Statistics**. Here you can view the amount of packets that pass through the DIR-505 on both the WAN, LAN ports and both the 802.11n/g (2.4GHz) and 802.11n/a (5GHz) wireless bands. The traffic counter will reset if the device is rebooted.

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

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



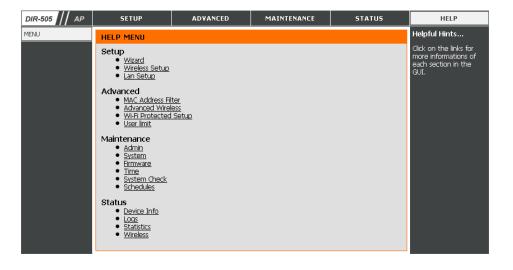
Wireless

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.



Help

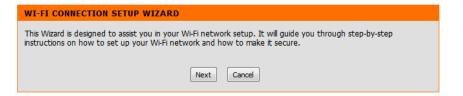
Click the desired hyperlink to get more information about how to use the Router.



Repeater Mode Quick Setup Wizard

This Wizard is designed to assist you in configuring your DIR-505 as an repeater.

To start the Setup Wizard click **Next**.



Select **WPS** as the configuration method only if your wireless device supports Wi-Fi Protected Setup (WPS). For **Manual** setup, skip to page 85.

Click **Next** to continue.

Please select one of the following configuration methods. Click Next to continue.

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

Manual — Select this option if you want to setup your network manually.

Prev Next Cancel

Press down the **Push Button** on the Wireless device you are adding to your wireless network.

VIRTUAL PUSH BUTTON

Please press the Push Button (physical or virtual) on the AP or Router you are connecting to within 120 seconds...

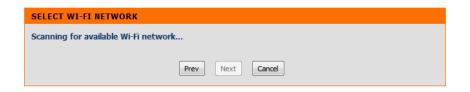
Select **Manual** as the configuration method to set up your network manually.

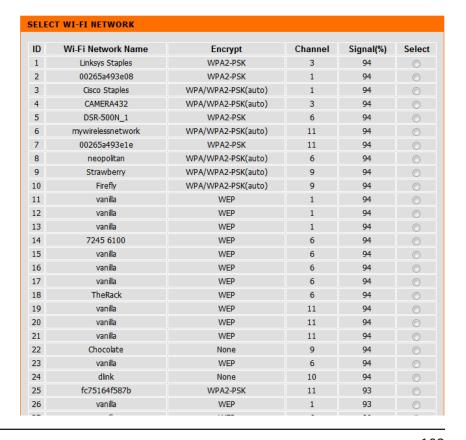
Click **Next** to continue.

Please wait while your device scans for available Wi-Fi networks.

Select the network you would like your device to connect to and click **Connect** to continue.

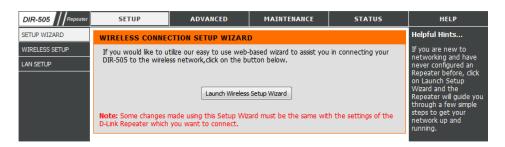






Quick Setup Wizard

Click **Launch Wireless Setup Wizard** to begin the Setup Wizard.



To start the Setup Wizard click Next.

WI-FI CONNECTION SETUP WIZARD

This Wizard is designed to assist you in your Wi-Fi network setup. It will guide you through step-by-step instructions on how to set up your Wi-Fi network and how to make it secure.

Next

Cancel

Select **WPS** as the configuration method only if your wireless device supports Wi-Fi Protected Setup (WPS).

Click **Next** to continue.

Please select one of the following configuration methods. Click Next to continue.

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

Manual — Select this option if you want to setup your network manually.

Prev Next Cancel

Press down the **Push Button** on the Wireless device you are adding to your wireless network.

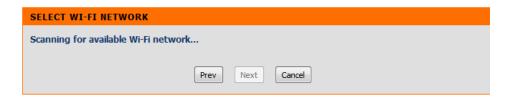
VIRTUAL PUSH BUTTON

Please press the Push Button (physical or virtual) on the AP or Router you are connecting to within 120 seconds...

Select **Manual** as the configuration method to set up your network manually.

Click **Next** to continue.



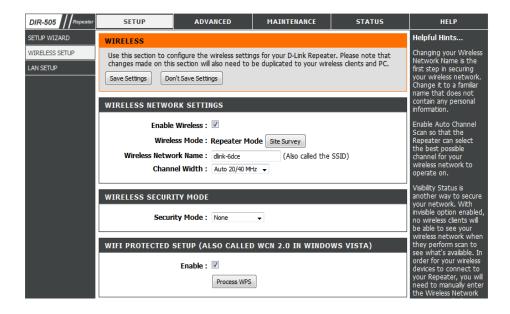


Select the network you would like your device to connect to and click **Connect** to continue.

SELECT WI-FI NETWORK					
ID	Wi-Fi Network Name	Encrypt	Channel	Signal(%)	Select
1	Linksys Staples	WPA2-PSK	3	94	0
2	00265a493e08	WPA2-PSK	1	94	0
3	Cisco Staples	WPA/WPA2-PSK(auto)	1	94	0
4	CAMERA432	WPA/WPA2-PSK(auto)	3	94	0
5	DSR-500N_1	WPA2-PSK	6	94	0
6	mywirelessnetwork	WPA/WPA2-PSK(auto)	11	94	0
7	00265a493e1e	WPA2-PSK	11	94	0
8	neopolitan	WPA/WPA2-PSK(auto)	6	94	0
9	Strawberry	WPA/WPA2-PSK(auto)	9	94	0
10	Firefly	WPA/WPA2-PSK(auto)	9	94	0
11	vanilla	WEP	1	94	0
12	vanilla	WEP	1	94	0
13	vanilla	WEP	1	94	0
14	7245 6100	WEP	6	94	0
15	vanilla	WEP	6	94	0

Manual Configuration Wireless Settings

Use this section to manually configure the wireless settings for your D-Link Repeater.



Repeater Mode

Enable Wireless: Check the box to enable the wireless function. If you do

not want to use wireless, uncheck the box to disable all the wireless functions. You may also set up a specific time range (schedule). Select a schedule from the drop-down

menu or click **Add New** to create a new schedule.

Wireless Mode: Select Repeater Mode from the drop-down menu.

Site Surveys: Scans for available Wi-Fi networks.

Wireless When you are browsing for available wireless networks,

Network Name: this is the name that will appear in the list (unless Visibility

Status is set to Invisible, see below). This name is also referred to as the SSID. For security purposes, it is highly

recommended to change from the default network name.

Channel Width: Select the appropriate channel width between 20MHz or

Auto 20/40MHz from the drop-down menu.

Security Mode: Select **WEP or WPA Personal**. Refer to page 88.



WIRELESS SECURITY MODE	RELESS SECURITY MODE	
Security Mode :	WPA-Personal ▼	

WPA

Use **WPA** or **WPA2** mode to achieve a balance of strong security and best compatibility. This mode uses WPA for legacy clients while maintaining higher security with stations that are WPA2 capable. Also the strongest cipher that the client supports will be used. For best security, use **WPA2 Only** mode. This mode uses AES(CCMP) cipher and legacy stations are not allowed access with WPA security. For maximum compatibility, use **WPA Only**. This mode uses TKIP cipher. Some gaming and legacy devices work only in this mode.

To achieve better wireless performance use WPA2 Only security mode (or in other words AES cipher).

WPA Mode : Auto (WPA or WPA2) ▼
Cipher Type : TKIP and AES ▼

PRE-SHARED KEY

Enter an 8 to 63 character alphanumeric pass-phrase. For good security it should be of ample length and should not be a commonly known phrase.

Pre-Shared Key:

WIFI PROTECTED SETUP (ALSO CALLED WCN 2.0 IN WINDOWS VISTA)

Enable : 🗵

Process WPS

LAN Setup

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

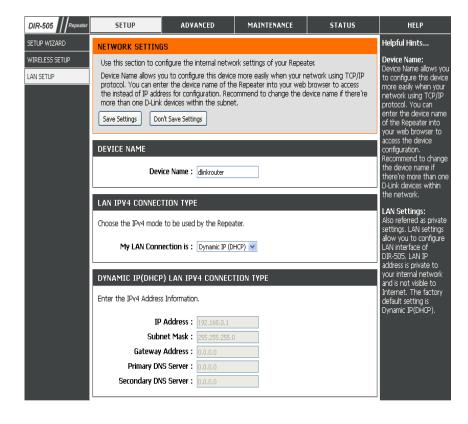
Device Name: Enter the Device Name of the AP. It is recommended to change the Device Name if there is more than one D-Link device within the subnet.

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

IP Address: Enter the IP address of the access point. The default IP address is 192.168.0.50. If you change the IP address, once you click **Apply**, you will need to enter the new IP address in your browser to get back into the configuration utility.

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

Gateway Enter the Gateway assigned by your ISP. **Address:**



Wireless Security

This section will show you the different levels of security you can use to protect your data from intruders. The DIR-505 offers the following types of security:

- WPA2 (Wi-Fi Protected Access 2)
- WPA2-PSK (Pre-Shared Key)
- WPA (Wi-Fi Protected Access)
- WPA-PSK (Pre-Shared Key)
- WEP (Wired Equivalent Privacy)

What is WEP?

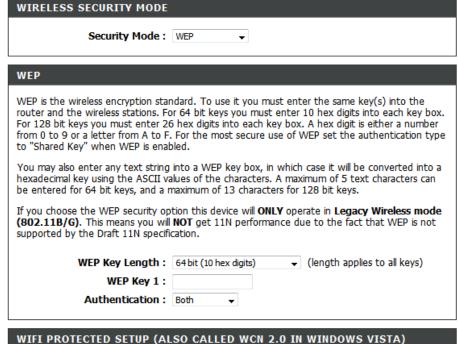
WEP stands for Wired Equivalent Privacy. It is based on the IEEE 802.11 standard and uses the RC4 encryption algorithm. WEP provides security by encrypting data over your wireless network so that it is protected as it is transmitted from one wireless device to another.

To gain access to a WEP network, you must know the key. The key is a string of characters that you create. When using WEP, you must determine the level of encryption. The type of encryption determines the key length. 128-bit encryption requires a longer key than 64-bit encryption. Keys are defined by entering in a string in HEX (hexadecimal - using characters 0-9, A-F) or ASCII (American Standard Code for Information Interchange – alphanumeric characters) format. ASCII format is provided so you can enter a string that is easier to remember. The ASCII string is converted to HEX for use over the network. Four keys can be defined so that you can change keys easily.

Configure WEP

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

- 1. Log into the web-based configuration by opening a web browser and entering the IP address of the router (192.168.0.1). Click on Wireless Setup on the left side.
- 2. In the **Security Mode section**, select **WEP** from the drop-down menu.
- 3. In **WEP Key Length**, select either 64Bit or 128Bit encryption from the drop-down menu.
- 5. Next to **WEP Key 1**, enter a WEP key that you create. Make sure you enter this key exactly on all your wireless devices. You may enter up to four different keys either using Hex or ASCII. Hex is recommended (letters A-F and numbers 0-9 are valid). In ASCII all numbers and letters are valid.



Enable:

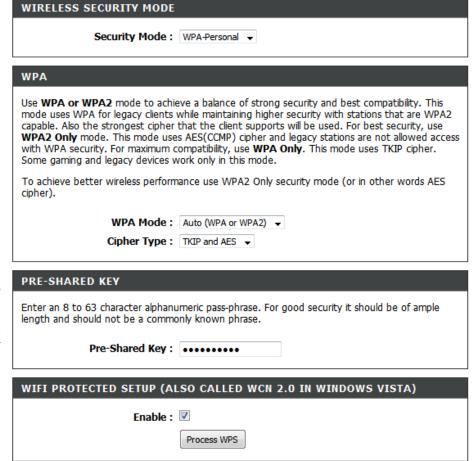
Process WPS

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

Configure WPA/WPA2 Personal

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

- 1. Log into the web-based configuration by opening a web browser and entering the IP address of the access point (192.168.0.50). Click on Setup and then click Wireless Settings on the left side.
- 2. Next to Security Mode, select WPA-Personal.
- 3. Next to Cipher Type, select **TKIP**, **AES**, or **Auto**.
- 4. Next to *Passphrase*, enter a key. The key is entered as a passphrase in ASCII format at both ends of the wireless connection. The passphrase must be between 8-63 characters.
- 6. Click **Save Settings** at the top of the window to save your settings. If you are configuring the access point with a wireless adapter, you will lose connectivity until you enable WPA-PSK on your adapter and enter the same passphrase as you did on the access point.



LAN Setup

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

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

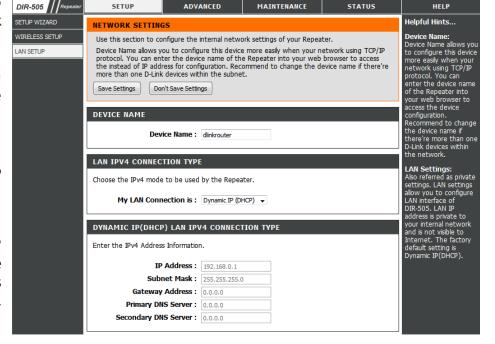
LAN Connection Use the drop-down menu to select Dynamic IP (DHCP) **Type:** to automatically obtain an IP address on the LAN/private network.

My IPv6 Select from the drop-down menu the type of IPv6 **Connection Type:** connection you would like to use.

IP Address: Enter the IP address of the access point. The default IP address is 192.168.0.50. If you change the IP address, once you click **Apply**, you will need to enter the new IP address in your browser to get back into the configuration utility.

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

Gateway Enter the Gateway assigned by your ISP. **Address:**



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.x). The Access point will not accept the IP address if it is not in this format.

Device Name: Enter the Device Name of the AP. It recommended to change the Device Name if there is more than one D-Link device within the subnet. You can enter the device name of the AP into your web browser to access the instead of IP address for configuration. If you are using the device name to connect, ensure that your PC and your DIR-505

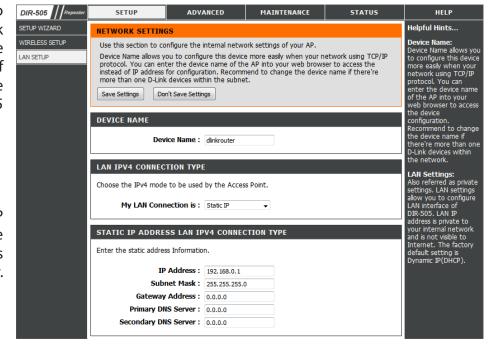
LAN Connection Select Static IP from the drop-down menu. **Type:**

are on the same network.

IP Address: Enter the IP address of the access point. The default IP address is 192.168.0.50. If you change the IP address, once you click **Apply**, you will need to enter the new IP address in your browser to get back into the configuration utility.

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

Default Gateway: Enter the Gateway assigned by your ISP.



Advanced Wireless

Transmit Power: Sets the transmit power of the antennas.

HT 20/40 Check to enable or disable this feature.

Coexistance:



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 depressing a button for the Push-Button Method or correctly entering the 8-digit code for the Pin-Code Method. The time reduction in setup and ease of use are quite beneficial, while the highest wireless Security setting of WPA2 is automatically used.

Enable: Check this box to enable the function

Lock Wireless Locking the wireless security settings prevents the Security Settings: settings from being changed by the Wi-Fi Protected Setup feature of the router. Devices can still be added to the network using Wi-Fi Protected Setup. However, the settings of the network will not change once this

option is checked.

Pin Settings: Press the button to generate a new PIN or Reset to

Default.

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

Reset PIN to Restore the default PIN of the access point.

Default:

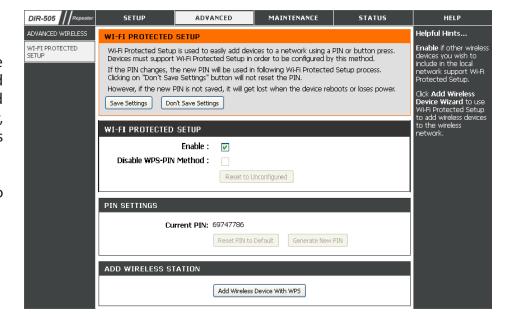
Generate New Create a random number that is a valid PIN. This becomes

PIN: the router's PIN. You can then copy this PIN to the user

interface of the registrar.

Add Wireless Press the button to start with the wizard to setup the

Station: WPS.



Maintenance Admin

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

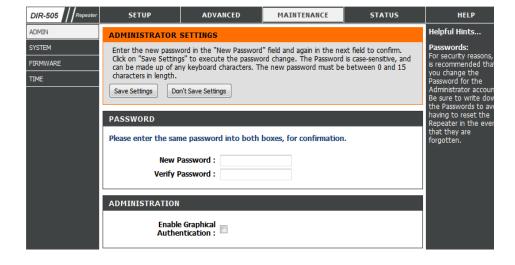
Password: Enter a new password for the Administrator Login Name. The administrator can make changes to the settings.

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

Enable Check to enable this feature.

Graphical

Authentication:



System

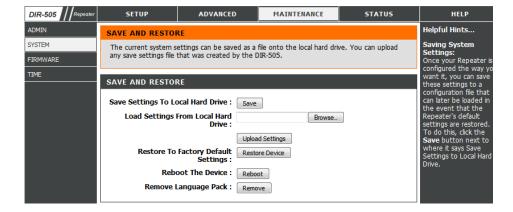
Save to Local Use this option to save the current repeater configuration Hard Drive: settings to a file on the hard disk of the computer you are using. Click the **Save** button. You will then see a file dialog where you can select a location and file name for the settings.

Upload from Use this option to load previously saved access point **Local Hard Drive:** configuration settings. Click **Browse** to find a previously saved configuration file. Then, click the **Upload Settings** button to transfer those settings to the repeater.

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

> **Note:** Restoring the factory default settings will not reset the Wi-Fi Protected Status to Not Configured.

Reboot the Click to reboot the repeater. **Device:**



Firmware

You can upgrade the firmware of the repeater 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.

Firmware Click on **Check Now to find out if there is an updated Upgrade:** firmware; if so, download the new firmware to your hard drive.

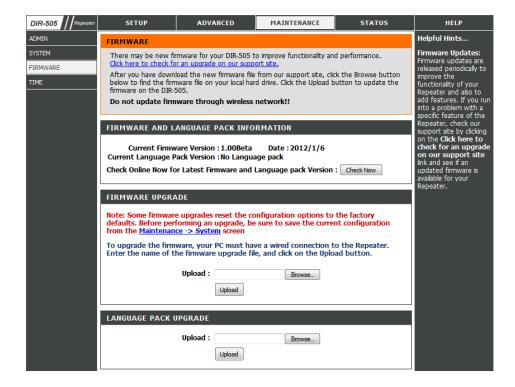
Browse: After you have downloaded the new firmware, click **Browse** to locate the firmware update on your hard drive. Click **Upload** to complete the firmware upgrade.

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.



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. Daylight Saving can also be configured to automatically adjust the time when needed.

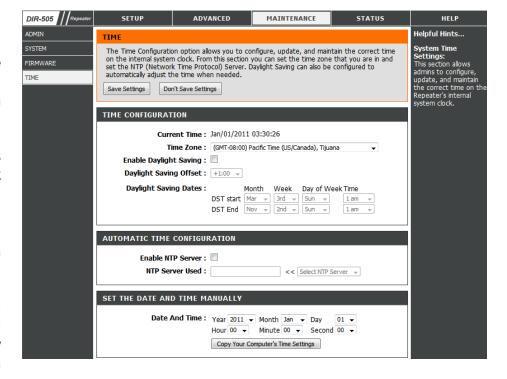
Time Zone: Select the Time Zone from the drop-down menu.

Daylight To select Daylight Saving time manually, click the Enable
 Saving: Daylight Saving check box. Next use the drop-down menu to select a Daylight Saving Offset and then enter a start date and an end date for daylight saving time.

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

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

Date and Time: To manually input the time, enter the values in these fields for the Year, Month, Day, Hour, Minute, and Second and then click **Save Settings**. You can also click the **Copy Your Computer's Time Settings** button at the bottom of the screen.



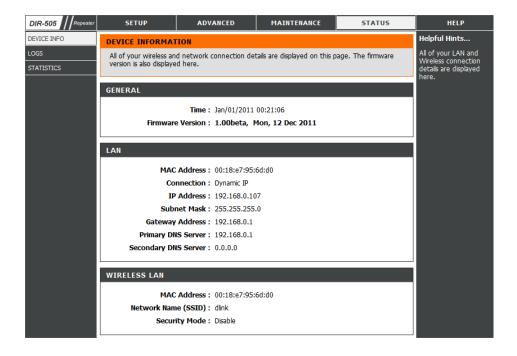
Status Device Info

This page displays the current information for the DIR-505. It will display the LAN and wireless LAN information.

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

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

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



Logs

The DIR-505 keeps a running log of events and activities occurring on the Repeater. If the Repeater is rebooted, the logs are automatically cleared. You can save the log files under Log Setting.

Log Options: There are several types of logs that can be viewed:

System Activity, Debug Information, Attacks,

Dropped Packets and **Notice**.

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

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

Previous Page: This button directs you to the previous page of

the log.

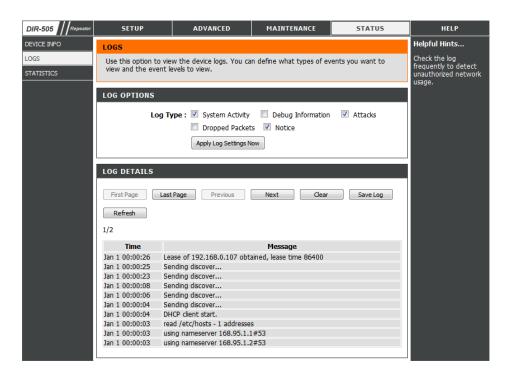
Next Page: This button directs you to the next page of the log.

Clear Log: This button clears all current log content.

Log Settings: This button opens a new menu where you can

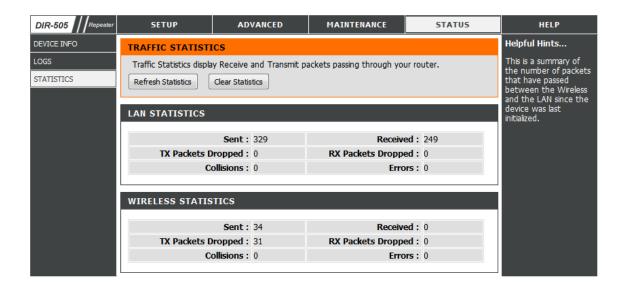
configure the log settings.

Refresh: This button refreshes the log.



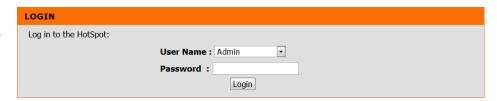
Statistics

The DIR-505 keeps statistics of the traffic that passes through it. You can view the amount of packets that pass through the LAN and wireless portions of the network. The traffic counter will reset if the access point is rebooted.



Wi-Fi Hot Spot Quick Setup Wizard

If this is your first time using this device, you will be directed to the Pre-Setup Wizard. If you have already completed the Pre-Setup Wizard, please continue to page 106.



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

Click **Next** to continue.



Please wait while your device scans for an available Wi-Fi Network.



Select the Network you would like your device to connect to and click **Connect**.



Enter the Wi-Fi password and click **Next** to continue.



Select Use the same Wi-Fi Network name for the extended Network and click Next.



Your setup is now complete. Click **Save** to finish.



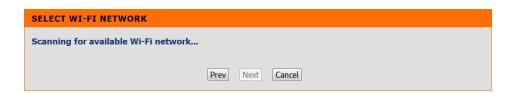
To start the Wizard, click **Next** to continue.

WI-FI CONNECTION SETUP WIZARD

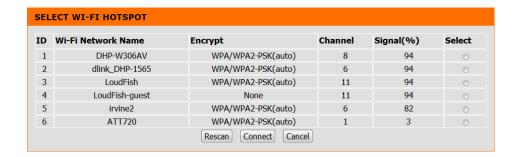
This Wizard is designed to assist you in your Wi-Fi network setup. It will guide you through step-by-step instructions on how to set up your Wi-Fi network and how to make it secure.

Next Cancel

Please wait while your device scans for an available Wi-Fi Network.



Select the Network you would like your device to connect to and click **Connect**.



Enter the Wi-Fi password and click **Next** to continue.



Select Use the same Wi-Fi Network name for the extended Network and click Next.



Your setup is now complete. Click **Save** to finish.



Setup Wi-Fi Hot Spot Setup

Enable Wireless: Check the box to enable the wireless function. If you do

not want to use wireless, uncheck the box to disable all

the wireless functions.

Wireless Mode: Displays the Wi-Fi Hot Spot Mode.

Wireless When you are browsing for available wireless networks,

Network Name: this is the name that will appear in the list (unless

Visibility Status is set to Invisible, see below). This name

is also referred to as the SSID.

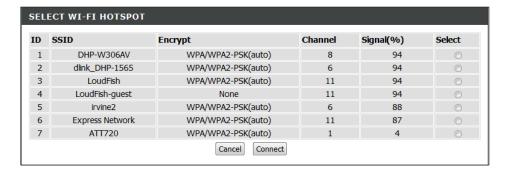
Channel Width: Select the appropriate channel width between 20MHz

or Auto 20/40MHz from the drop-down menu.

Security Mode: Select WEP or WPA Personal.



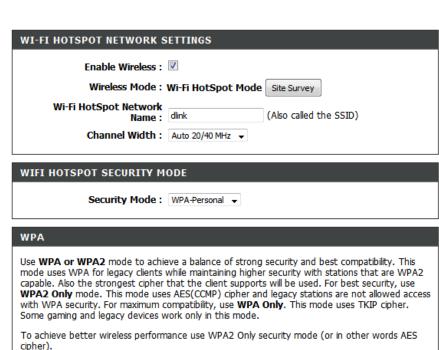
Please Select the Wi-Fi Hotspot you would like to connect to with your device.



Configure WPA/WPA2 Personal

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

- 1. Log into the web-based configuration by opening a web browser and entering the IP address of the access point (192.168.0.50). Click on Setup and then click Wireless Settings on the left side.
- 2. Next to Security Mode, select WPA-Personal.
- 3. Next to WPA Mode, select Auto (WPA or WPA2).
- 4. Next to Cipher Type, select **TKIP**, **AES**, or **Auto**.
- 5. Next to *Passphrase*, enter a key. The key is entered as a passphrase in ASCII format at both ends of the wireless connection. The passphrase must be between 8-63 characters.
- 7. Click **Save Settings** at the top of the window to save your settings. If you are configuring the access point with a wireless adapter, you will lose connectivity until you enable WPA-PSK on your adapter and enter the same passphrase as you did on the access point.



PRE-SHARED KEY Enter an 8 to 63 character alphanumeric pass-phrase. For good security it should be of ample length and should not be a commonly known phrase. Pre-Shared Key:

WPA Mode: Auto (WPA or WPA2) ▼

Cipher Type : TKIP and AES

Internet Settings

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

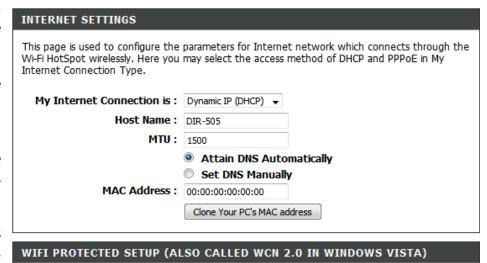
My Internet Use the drop-down menu to select Dynamic IP (DHCP) **Connection is:** to automatically obtain an IP address on the LAN/private network.

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

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

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

Wi-Fi Protected Select to enable this feature. **Setup:**

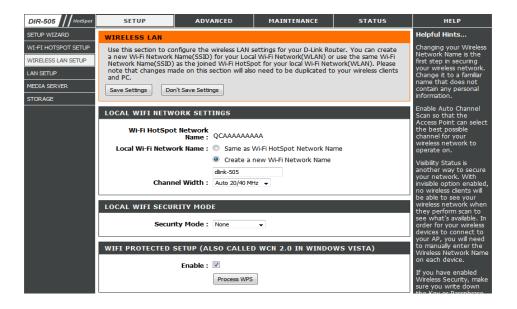


Enable: 🔽

Process WPS

Wireless LAN Setup

Use this section to configure the Wireless LAN settings for your D-Link Router. You can create a new Wi-Fi Network Name (SSID) for your local Wi-Fi Network (WLAN) or use the same Wi-Fi Network Names (SSID) as the joined Wi-Fi, HotSpot for your local Wi-Fi Network (WLAN).



Manual Wireless Settings

Extended SSID: Select Remain the same as SSID or Create Extended

SSID.

Channel Width: 20MHz - Select if you are not using any 802.11n wireless

clients.

40MHz - Select if you are using 802.11n wireless clients

only.

Security Mode: Select from the drop-down menu the type of security

mode you would like to use.

WPA Mode: Select Auto, WPA2 Only, or WPA Only. Use Auto if you

have wireless clients using both WPA and WPA2.

Cipher Type: Select **TKIP and AES**, **TKIP**, **or AES**.

Pre-Shared Key: Enter a key (passphrase). The key is entered as a passphrase

in ASCII format at both ends of the wireless connection.

The pass-phrase must be between 8-63 characters.

Wi-Fi Protected Select to Enable this feature.

Setup:

Wi-Fi HotSpot Network Name: QCAAAAAAAA Local Wi-Fi Network Name: Same as Wi-Fi HotSpot Network Name © Create a new Wi-Fi Network Name dlink-505 Channel Width: Auto 20/40 MHz

LOCAL WIFI SECURITY MODE Security Mode: WPA-Personal ▼

WPA

Use **WPA** or **WPA2** mode to achieve a balance of strong security and best compatibility. This mode uses WPA for legacy clients while maintaining higher security with stations that are WPA2 capable. Also the strongest cipher that the client supports will be used. For best security, use **WPA2 Only** mode. This mode uses AES(CCMP) cipher and legacy stations are not allowed access with WPA security. For maximum compatibility, use **WPA Only**. This mode uses TKIP cipher. Some gaming and legacy devices work only in this mode.

To achieve better wireless performance use WPA2 Only security mode (or in other words AES cipher).

WPA Mode : Auto (WPA or WPA2) ▼
Cipher Type : AES ▼

PRE-SHARED KEY

Enter an 8 to 63 character alphanumeric pass-phrase. For good security it should be of ample length and should not be a commonly known phrase.

WIFI PROTECTED SETUP (ALSO CALLED WCN 2.0 IN WINDOWS VISTA) Enable: Current PIN: 69747786 Reset PIN to Default Generate New PIN Process WPS

LAN Setup

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

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

LAN Connection Dynamic IP (DHCP) automatically obtains an IP address **Type:** on the LAN/private network.

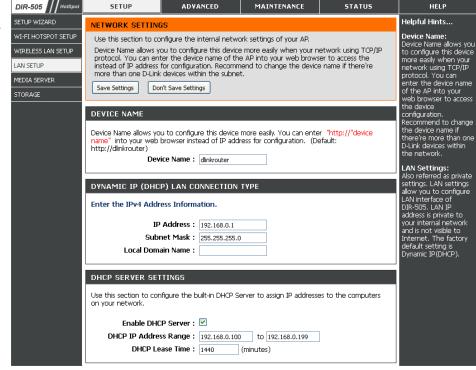
IP Address: Enter the IP address of the access point. The default IP address is 192.168.0.1. If you change the IP address, once you click **Save**, you will need to enter the new IP address in your browser to get back into the configuration utility.

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

Local Domain Enter the local domain Name. **Name:**

ivame

DHCP Server Configure the built-in DHCP server to assign IP addresses **Settings:** to the computer on your network.



Media Server

This feature allows you to share music, pictures and videos with any devices connected to your network.

Enable Media Check this box to enable the media server feature. **Server:**

Computer Enter the media server's name. **Name:**



Storage

This page will allow you to access files from a USB external hard drive or thumb drive that is plugged into the router from your local network or from the Internet using either a web browser or an app for your smartphone or tablet. You can create users to be allowed to access these files.

Enable Shareport Check to enable sharing files on your USB storage device **Web Access:** that is plugged in your router.

HTTP Access Port: Enter a port (8181 is default). You will have to enter this port in the URL when connecting to the shared files. For example:

(http://192.168.0.1:8181).

HTTPS Access Enter a port (4433 is default). You will have to enter this port

Port: in the URL when connecting to the shared files. For example:

(https://192.168.0.1:8181).

Allow Remote Check to enable access to your router's storage. You will have

Access: to type HTTPS in the URL.

User Name: To create a new user, enter a user name.

Password: Enter a password for this account.

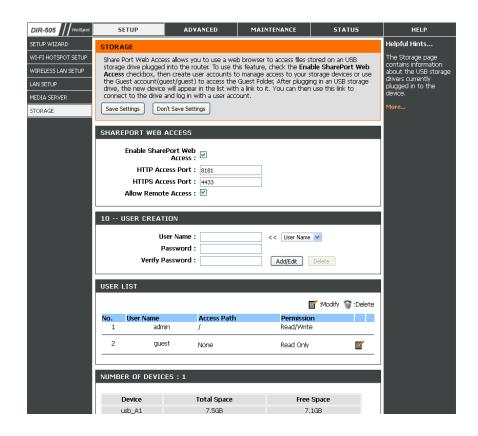
Verify Password: Re-enter the password. Click **Add/Edit** to create the user.

User List: Displays the accounts. The Admin and Guest accounts are

built-in to the router.

Number of Displays the USB device plugged into the router.

Devices:



Advanced **MAC Address Filter**

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

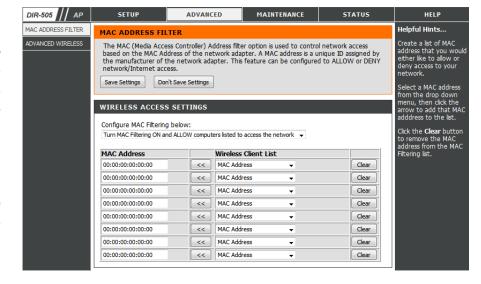
MAC Address When **Disable** is selected, MAC addresses are not Filter: used to control network access.

> When Turn MAC Filtering ON and ALLOW computers **listed...** is selected, only computers with MAC addresses listed in the MAC Address List are granted network access. When Turn MAC Filtering ON and DISALLOW computers **listed...** is selected, any computer with a MAC address listed in the MAC Address List is refused access to the network.

MAC Address: Enter the MAC address you would like to filter. You can select a client currently connected to your access point from the Wireless Client List drop-down menu and then click << to populate the MAC Address field.

Click Save Settings to activate and save.

Clear: Click to remove the client from the MAC address filter rule.



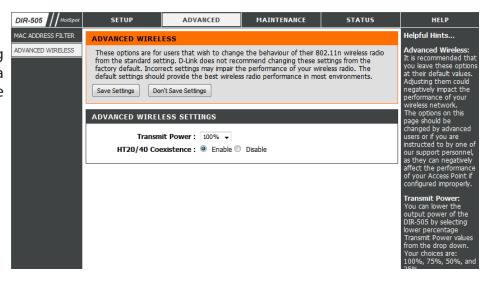
Advanced Wireless

Transmit Power: Sets the transmit power of the antennas.

HT 20/40 You may choose to Enable or Disable this feature. Enabling Coexistance: this feature allows two "channels" or paths on which data

can travel to be combined to increase performance in some

environments.



Maintenance Admin

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

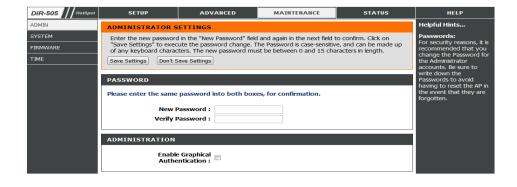
Password: Enter a new password for the Administrator Login Name. The administrator can make changes to the settings.

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

Enable Check to enable this feature.

Graphical

Authentication:



System

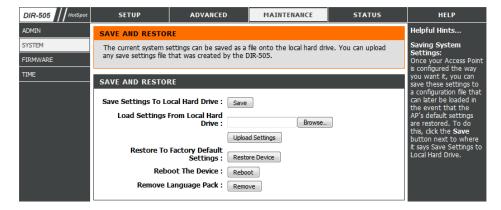
Save to Local Use this option to save the current access point Hard Drive: configuration settings to a file on the hard disk of the computer you are using. Click the Save button. You will then see a file dialog where you can select a location and file name for the settings.

Upload from Use this option to load previously saved access point Local Hard Drive: configuration settings. Click Browse to find a previously saved configuration file. Then, click the **Upload Settings** button to transfer those settings to the access point.

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

> **Note:** Restoring the factory default settings will not reset the Wi-Fi Protected Status to Not Configured.

Reboot the Click to reboot the access point. **Device:**



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.

Firmware Click on **Check Now to find out if there is an updated Upgrade:** firmware; if so, download the new firmware to your hard drive.

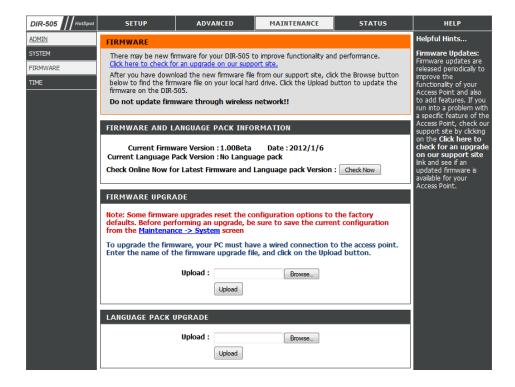
Browse: After you have downloaded the new firmware, click **Browse** to locate the firmware update on your hard drive. Click **Upload** to complete the firmware upgrade.

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.

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.



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. Daylight Saving can also be configured to automatically adjust the time when needed.

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

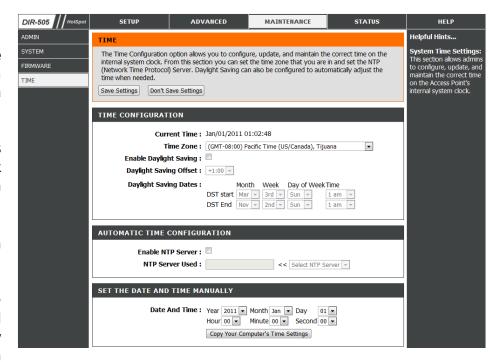
Daylight To select Daylight Saving time manually, click the Enable
 Saving: Daylight Saving check box. Next use the drop-down menu to select a Daylight Saving Offset and then enter a start date and an end date for daylight saving time.

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

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

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

of the screen.



Status Device Info

This page displays the current information for the DIR-505. It will display the LAN, WAN (Internet), and Wireless information. If your Internet connection is set up for a Dynamic IP address then a **Release** button and a **Renew** button will be displayed. Use **Release** to disconnect from your ISP and use **Renew** to connect to your ISP.

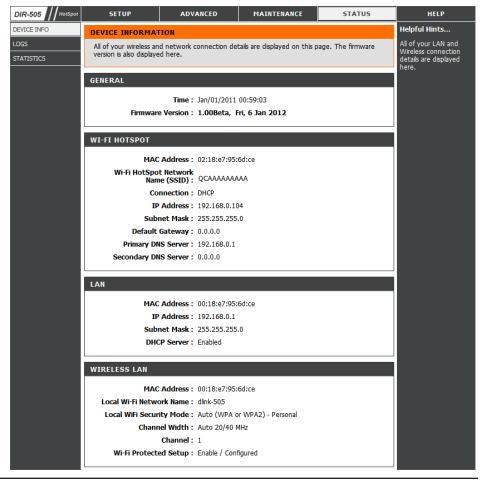
If your Internet connection is set up for PPPoE, a **Connect** button and a **Disconnect** button will be displayed. Use **Disconnect** to drop the PPPoE connection and use **Connect** to establish the PPPoE connection.

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

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

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

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



Logs

The DIR-505 keeps a running log of events and activities occurring on the AP. If the AP is rebooted, the logs are automatically cleared. You can save the log files under Log Setting.

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

Log Level: There are three levels of message importance: **Critical**, **Warning**, and **Information**. Select the levels that you want displayed in the log.

Log Files: Use this section to view and manage the Router's log entries.

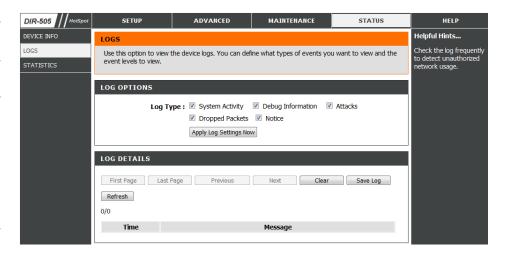
First Page: Click this button to view the first page of the Router logs.

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

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

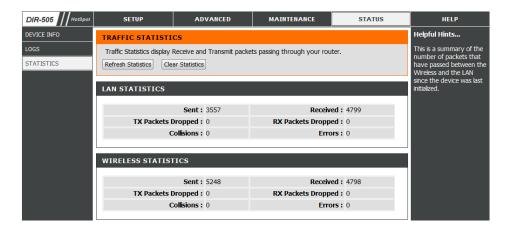
Next: Click this button to view the next page of the Router logs.

Clears all of the log contents.



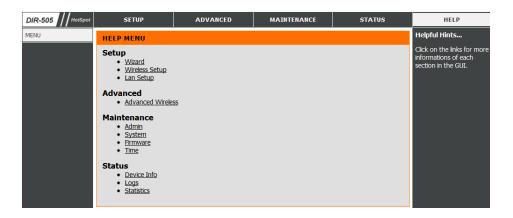
Statistics

The DAP-505 keeps statistics of the traffic that passes through it. You can view the amount of packets that pass through the LAN and wireless portions of the network.



Help

Click the desired hyperlink to get more information about how to use the Router.



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-505 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 the WPS button on the DIR-505 for about 1 second. The WPS button 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 WPS light stops blinking, you will be connected and your wireless connection will be secure with WPA2.

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).



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

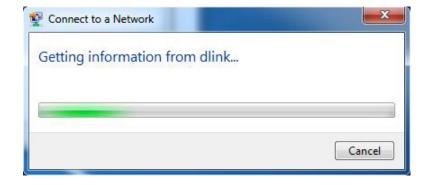


3. Highlight the wireless network (SSID) you would like to connect to and click the **Connect** button.

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



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



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

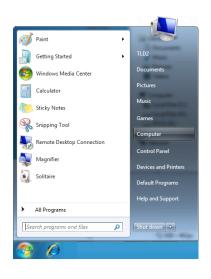
It may take 20-30 seconds to connect to the wireless network. If the connection fails, please verify that the security settings are correct. The key or passphrase must be exactly the same as on the wireless router.



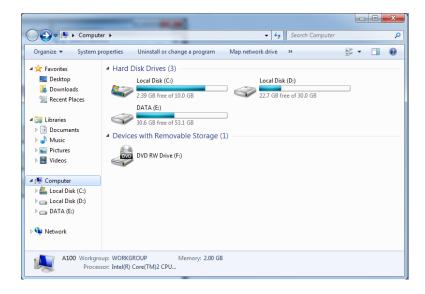
WPS

The WPS feature of the DIR-505 can be configured using Windows® 7. Carry out the following steps to use Windows® 7 to configure the WPS feature:

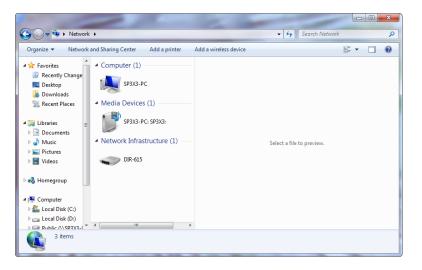
1. Click the **Start** button and select **Computer** from the Start menu.



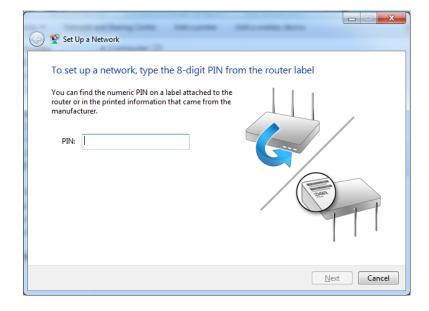
2. Click **Network** on the left side.



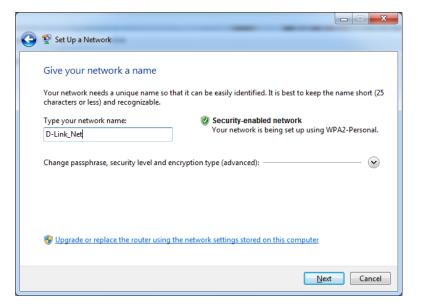
3. Double-click the DIR-505.



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

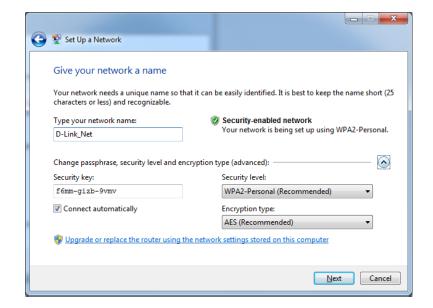


5. Type a name to identify the network.



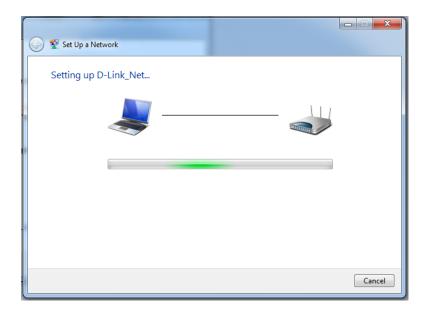
6. To configure advanced settings, click the vicon.

Click **Next** to continue.



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

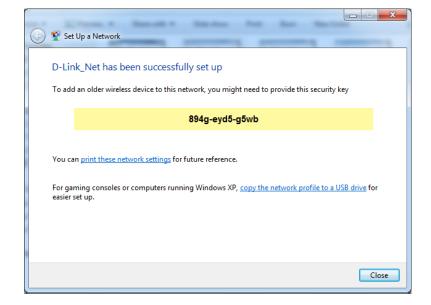
Wait for the configuration to complete.



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 or Windows® 2000, please refer to the user manual of your wireless adapter for help with connecting to a wireless network. Most utilities will have a "site survey" option similar to the Windows Vista® utility as seen below.

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

or

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



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

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



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



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

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



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

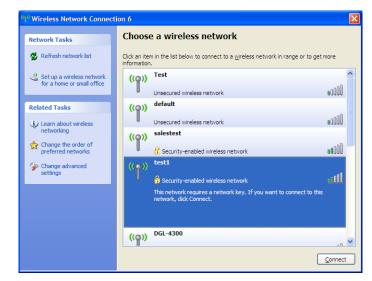
Right-click on the wireless computer icon in your system tray (lower-right corner next to the time). Select **View Available Wireless Networks**.

The utility will display any available wireless networks in your area. Click on a 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.







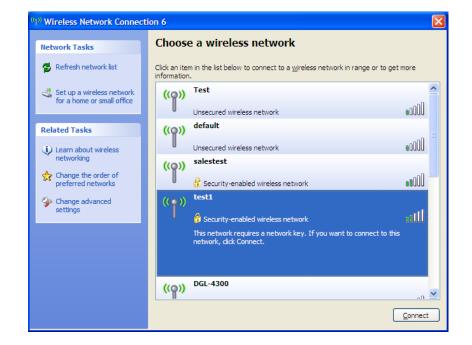
WPA/WPA2

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**.

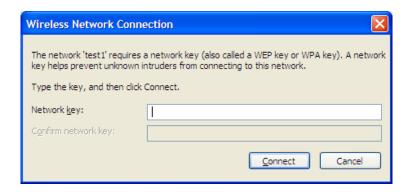


2. Highlight the wireless network (SSID) you would like to connect to and click **Connect**.



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

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



Troubleshooting

This chapter provides solutions to problems that can occur during the installation and operation of the DIR-505. Read the following descriptions if you are having problems. The examples below are illustrated in Windows® XP. If you have a different operating system, the screenshots on your computer will look similar to the following examples.

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

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

- Make sure you have an updated Java-enabled web browser. We recommend the following:
 - Microsoft Internet Explorer® 6.0 and higher
 - Mozilla Firefox 3.0 and higher
 - Google™ Chrome 2.0 and higher
 - Apple Safari 3.0 and higher
- Verify physical connectivity by checking for solid link lights on the device. If you do not get a solid link light, try using a different cable or connect to a different port on the device if possible. If the computer is turned off, the link light may not be on.
- Disable any Internet security software running on the computer. Software firewalls such as Zone Alarm, Black Ice, Sygate, Norton Personal Firewall, and Windows® XP firewall may block access to the configuration pages. Check the help files included with your firewall software for more information on disabling or configuring it.

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

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

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

To reset the router, locate the reset button (hole) on the rear panel of the unit. With the router powered on, use a paperclip to hold the button down for 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 -1 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 -1 1472

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

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

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

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

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

Ping statistics for 66.94.234.13:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 93ms, Maximum = 203ms, Average = 132ms

C:\>
```

You should start at 1472 and work your way down by 10 each time. Once you get a reply, go up by 2 until you get a fragmented packet. Take that value and add 28 to the value to account for the various TCP/IP headers. For example, lets say that 1452 was the proper value, the actual MTU size would be 1480, which is the optimum for the network we're working with (1452+28=1480).

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

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

- Open your browser, enter the IP address of your router (192.168.0.1) and click **OK**.
- Enter your username (admin) and password (blank by default). Click **OK** to enter the web configuration page for the device.
- Click on **Setup** and then click **Manual Configure**.
- To change the MTU enter the number in the MTU field and click **Save Settings** to save your settings.
- Test your 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 as become so popular in recent years that almost everyone is using it, whether it's for home, office, business, D-Link has a wireless solution for it.

Home

- Gives everyone at home broadband access
- Surf the web, check 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 you next-door neighbors or intruders connect to your wireless network. Secure your wireless network by turning on the WPA or WEP security feature on the router. Refer to product manual for detail information on how to set it up.

Networking Basics

Check your IP address

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

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

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

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

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

Statically Assign an IP address

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

Step 1

Windows® 7 - Click on Start > Control Panel > Network and Internet > Network and Sharing Center.

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

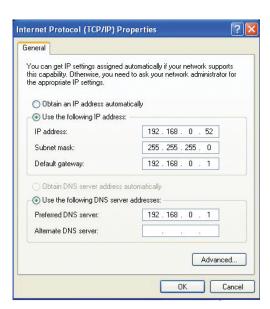
Click **Use the following IP address** and enter an IP address that is on the same subnet as your network or the LAN IP address on your router.

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

Standards

- IEEE 802.11n
- IEEE 802.11g
- IEEE 802.3
- IEEE 802.3u

Wireless Modes

- Router/AP Mode
- Repeater Mode
- Wi-Fi Hot Spot Mode

Wireless Frequency Range

• 2.4 GHz to 2.4835 GHz

Antennas

Internal Antenna

Security

- Wi-Fi Protected Access (WPA/WPA2)
- WPS™ (PBC)

Advanced Features

- SharePort[™] Mobile app for iOS
- Quick Router Setup app for iOS
- VPN pass through
- Guest Zone Support
- UPnP™ Support
- Web File Access Support
- Wi-Fi WMM Quality of Service

Advanced Firewall Features

- Network Address Translation (NAT)
- Stateful Packet Inspection (SPI)
- MAC Address Filtering
- DMZ Support

Device Management

Web UI

Diagnostic LEDs

Power/WPS

Operating Temperature

• 32 to 104 °F (0 to 40 °C)

Operating Humidity

• 0% to 90% non-condensing

Certifications

- CE
- Wi-Fi Certified
- FCC
- IC

Dimensions

• 2.68" x 1.65" x 2" (68 x 42 x 51 mm)

Weight

• 0.25 lb (113.4 grams)

Warranty

• 1-Year Limited Warranty

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

² Frequency Range varies depending on country's regulation

Contacting Technical Support

U.S. and Canadian customers can contact D-Link technical support through our web site or by phone.

Before you contact technical support, please have the following ready:

- Model number of the product (e.g. DIR-505)
- Hardware Revision (located on the label on the bottom of the router (e.g. rev A1))
- Serial Number (s/n number located on the label on the bottom of the router).

You can find software updates and user documentation on the D-Link website as well as frequently asked questions and answers to technical issues.

For customers within the United States:

Phone Support:

(877) 453-5465

Internet Support:

http://support.dlink.com

For customers within Canada:

Phone Support:

(800) 361-5265

Internet Support:

http://support.dlink.ca

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Please direct all inquiries to: Email: GPLCODE@DLink.com

Snail Mail:

Attn: GPLSOURCE REQUEST

D-Link Systems, Inc.

17595 Mt. Herrmann Street Fountain Valley, CA 92708

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If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

Warranty

Subject to the terms and conditions set forth herein, D-Link Systems, Inc. ("D-Link") provides this Limited Warranty:

- Only to the person or entity that originally purchased the product from D-Link or its authorized reseller or distributor, and
- Only for products purchased and delivered within the fifty states of the United States, the District of Columbia, U.S. Possessions or Protectorates, U.S. Military Installations, or addresses with an APO or FPO.

Limited Warranty:

D-Link warrants that the hardware portion of the D-Link product described below ("Hardware") will be free from material defects in workmanship and materials under normal use from the date of original retail purchase of the product, for the period set forth below ("Warranty Period"), except as otherwise stated herein.

- Hardware (excluding power supplies and fans): One (1) year
- Power supplies and fans: One (1) year
- Spare parts and spare kits: Ninety (90) days

The customer's sole and exclusive remedy and the entire liability of D-Link and its suppliers under this Limited Warranty will be, at D-Link's option, to repair or replace the defective Hardware during the Warranty Period at no charge to the original owner or to refund the actual purchase price paid. Any repair or replacement will be rendered by D-Link at an Authorized D-Link Service Office. The replacement hardware need not be new or have an identical make, model or part. D-Link may, at its option, replace the defective Hardware or any part thereof with any reconditioned product that D-Link reasonably determines is substantially equivalent (or superior) in all material respects to the defective Hardware. Repaired or replacement hardware will be warranted for the remainder of the original Warranty Period or ninety (90) days, whichever is longer, and is subject to the same limitations and exclusions. If a material defect is incapable of correction, or if D-Link determines that it is not practical to repair or replace the defective Hardware, the actual price paid by the original purchaser for the defective Hardware will be refunded by D-Link upon return to D-Link of the defective Hardware. All Hardware or part thereof that is replaced by D-Link, or for which the purchase price is refunded, shall become the property of D-Link upon replacement or refund.

Limited Software Warranty:

D-Link warrants that the software portion of the product ("Software") will substantially conform to D-Link's then current functional specifications for the Software, as set forth in the applicable documentation, from the date of original retail purchase of the Software for a period of ninety (90) days ("Software Warranty Period"), provided that the Software is properly installed on approved hardware and operated as contemplated in its documentation. D-Link further warrants that, during the Software Warranty Period, the magnetic media on which D-Link delivers the Software will be free of physical defects. The customer's sole and exclusive remedy and the entire liability of D-Link and its suppliers under this Limited Warranty will be, at D-Link's option, to replace the non-conforming Software (or defective media) with software that substantially conforms to D-Link's functional specifications for the Software or to refund the portion of the actual purchase price paid that is attributable to the Software. Except as otherwise agreed by D-Link in writing, the replacement Software is provided only to the original licensee, and is subject to the terms and conditions of the license granted by D-Link for the Software. Replacement Software will be warranted for the remainder of the original Warranty Period and is subject to the same limitations and exclusions. If a material non-conformance is incapable of correction, or if D-Link determines in its sole discretion that it is not practical to replace the non-conforming Software, the price paid by the original licensee for the non-conforming Software will be refunded by D-Link; provided that the non-conforming Software (and all copies thereof) is first returned to D-Link. The license granted respecting any Software for which a refund is given automatically terminates.

Non-Applicability of Warranty:

The Limited Warranty provided hereunder for Hardware and Software portions of D-Link's products will not be applied to and does not cover any refurbished product and any product purchased through the inventory clearance or liquidation sale or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product and in that case, the product is being sold "As-Is" without any warranty whatsoever including, without limitation, the Limited Warranty as described herein, notwithstanding anything stated herein to the contrary.

Submitting A Claim (USA):

The customer shall return the product to the original purchase point based on its return policy. In case the return policy period has expired and the product is within warranty, the customer shall submit a claim to D-Link as outlined below:

- The customer must submit with the product as part of the claim a written description of the Hardware defect or Software nonconformance in sufficient detail to allow DLink to confirm the same, along with proof of purchase of the product (such as a copy of the dated purchase invoice for the product) if the product is not registered.
- The customer must obtain a Case ID Number from D-Link Technical Support at 1-877-453-5465, who will attempt to assist the customer in resolving any suspected defects with the product. If the product is considered defective, the customer must obtain a Return Material Authorization ("RMA") number by completing the RMA form and entering the assigned Case ID Number at https://rma.dlink.com/.
- After an RMA number is issued, the defective product must be packaged securely in the original or other suitable shipping package

to ensure that it will not be damaged in transit, and the RMA number must be prominently marked on the outside of the package. Do not include any manuals or accessories in the shipping package. D-Link will only replace the defective portion of the product and will not ship back any accessories.

• The customer is responsible for all in-bound shipping charges to D-Link. No Cash on Delivery ("COD") is allowed. Products sent COD will either be rejected by D-Link or become the property of D-Link. Products shall be fully insured by the customer and shipped to D-Link Systems, Inc., 17595 Mt. Herrmann, Fountain Valley, CA 92708. D-Link will not be held responsible for any packages that are lost in transit to D-Link. The repaired or replaced packages will be shipped to the customer via UPS Ground or any common carrier selected by D-Link. Return shipping charges shall be prepaid by D-Link if you use an address in the United States, otherwise we will ship the product to you freight collect. Expedited shipping is available upon request and provided shipping charges are prepaid by the customer. D-Link may reject or return any product that is not packaged and shipped in strict compliance with the foregoing requirements, or for which an RMA number is not visible from the outside of the package. The product owner agrees to pay D-Link's reasonable handling and return shipping charges for any product that is not packaged and shipped in accordance with the foregoing requirements, or that is determined by D-Link not to be defective or non-conforming.

Submitting A Claim (Canada):

The customer shall return the product to the original purchase point based on its return policy. In case the return policy period has expired and the product is within warranty, the customer shall submit a claim to D-Link as outlined below:

- Customers need to provide their receipt (proof of purchase) even if the product is registered. Without a receipt, no warranty service will be done. The registration is not considered a proof of purchase.
- The customer must submit with the product as part of the claim a written description of the Hardware defect or Software nonconformance in sufficient detail to allow D-Link to confirm the same, along with proof of purchase of the product (such as a copy of the dated purchase invoice for the product) if the product is not registered.
- The customer must obtain a Case ID Number from D-Link Technical Support at 1-800-361-5265, who will attempt to assist the customer in resolving any suspected defects with the product. If the product is considered defective, the customer must obtain a Return Material Authorization ("RMA") number by completing the RMA form and entering the assigned Case ID Number at https://rma.dlink.ca/.
- After an RMA number is issued, the defective product must be packaged securely in the original or other suitable shipping package to
 ensure that it will not be damaged in transit, and the RMA number must be prominently marked on the outside of the package. Do not
 include any manuals or accessories in the shipping package. D-Link will only replace the defective portion of the product and will not ship
 back any accessories.
- The customer is responsible for all in-bound shipping charges to D-Link. No Cash on Delivery ("COD") is allowed. Products sent COD will

be rejected by D-Link. Products shall be fully insured by the customer and shipped to D-Link Networks, Inc., 2525 Meadowvale Boulevard Mississauga, Ontario, L5N 5S2 Canada. D-Link will not be held responsible for any packages that are lost in transit to D-Link. The repaired or replaced packages will be shipped to the customer via Purolator Canada or any common carrier selected by D-Link. Return shipping charges shall be prepaid by D-Link if you use an address in Canada, otherwise we will ship the product to you freight collect. Expedited shipping is available upon request and provided shipping charges are prepaid by the customer. D-Link may reject or return any product that is not packaged and shipped in strict compliance with the foregoing requirements, or for which an RMA number is not visible from the outside of the package. The product owner agrees to pay D-Link's reasonable handling and return shipping charges for any product that is not packaged and shipped in accordance with the foregoing requirements, or that is determined by D-Link not to be defective or non-conforming.

• RMA phone number: 1-800-361-5265 Hours of Operation: Monday-Friday, 9:00AM – 9:00PM EST

What Is Not Covered:

The Limited Warranty provided herein by D-Link does not cover:

Products that, in D-Link's judgment, have been subjected to abuse, accident, alteration, modification, tampering, negligence, misuse, faulty installation, lack of reasonable care, repair or service in any way that is not contemplated in the documentation for the product, or if the model or serial number has been altered, tampered with, defaced or removed; Initial installation, installation and removal of the product for repair, and shipping costs; Operational adjustments covered in the operating manual for the product, and normal maintenance; Damage that occurs in shipment, due to act of God, failures due to power surge, and cosmetic damage; Any hardware, software, firmware or other products or services provided by anyone other than D-Link; and Products that have been purchased from inventory clearance or liquidation sales or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product.

While necessary maintenance or repairs on your Product can be performed by any company, we recommend that you use only an Authorized D-Link Service Office. Improper or incorrectly performed maintenance or repair voids this Limited Warranty.

Disclaimer of Other Warranties:

EXCEPT FOR THE LIMITED WARRANTY SPECIFIED HEREIN, THE PRODUCT IS PROVIDED "AS-IS" WITHOUT ANY WARRANTY OF ANY KIND WHATSOEVER INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.

IF ANY IMPLIED WARRANTY CANNOT BE DISCLAIMED IN ANY TERRITORY WHERE A PRODUCT IS SOLD, THE DURATION OF SUCH IMPLIED WARRANTY SHALL BE LIMITED TO THE DURATION OF THE APPLICABLE WARRANTY PERIOD SET FORTH ABOVE. EXCEPT AS EXPRESSLY COVERED UNDER THE LIMITED WARRANTY PROVIDED HEREIN, THE ENTIRE RISK AS TO THE QUALITY, SELECTION AND PERFORMANCE OF THE PRODUCT IS WITH THE PURCHASER OF THE PRODUCT.

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This Limited Warranty shall be governed by the laws of the State of California. Some states do not allow exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the foregoing limitations and exclusions may not apply. This Limited Warranty provides specific legal rights and you may also have other rights which vary from state to state.

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CE Mark Warning:

This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

FCC Statement:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are

designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

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

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Operations in the 5.15-5.25GHz / $5.470 \sim 5.725$ GHz band are restricted to indoor usage only.

IMPORTANT NOTICE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body. To maintain compliance with FCC RF exposure compliance requirements, please avoid direct contact to the transmitting antenna during transmitting.

If this device is going to be operated in $5.15 \sim 5.25$ GHz frequency range, then it is restricted in indoor environment only. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

ICC Notice:

Operation is subject to the following two conditions:

- 1) This device may not cause interference and
- 2) This device must accept any interference, including interference that may cause undesired operation of the device.

IMPORTANT NOTE:

IC Radiation Exposure Statement:

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

- (i) The device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to co-channel mobile satellite systems;
- (ii) The maximum antenna gain (2dBi) permitted (for devices in the band 5725-5825 MHz) to comply with the e.i.r.p. limits specified for point-to-point and non point-to-point operation as appropriate, as stated in section A9.2(3).

In addition, users should also be cautioned to take note that high-power radars are allocated as primary users (meaning they have priority) of the bands 5250-5350 MHz and 5650-5850 MHz and these radars could cause interference and/or damage to LE-LAN devices.

Règlement d'Industry Canada

Les conditions de fonctionnement sont sujettes à deux conditions:

- (1) Ce périphérique ne doit pas causer d'interférence et.
- (2) Ce périphérique doit accepter toute interférence, y compris les interférences pouvant perturber le bon fonctionnement de ce périphérique.

Registration

Register your product online at registration.dlink.com



Product registration is entirely voluntary and failure to complete or return this form will not diminish your warranty rights.

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