



User Manual

DIR-605

D-Link® Fuzion™

Broadband Aggregation Router
with Fuzion™ Cloud Service

Business Class Networking

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
4.0	September 21, 2011	• Updated for revision D1 (Fuzion)

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Package Contents

DIR-605 Fuzion™ Broadband Aggregation Router	
Power Adapter	
Ethernet Cable	
Quick Install Guide	

Note: Using a power supply with a different voltage rating than the one included with the DIR-605 will cause damage and void the warranty for this product.

System Requirements

Network Requirements	<ul style="list-style-type: none">• Internet Connectivity (two to four broadband lines, operational and configured)• IEEE 802.11n/g wireless clients• 10/100 Ethernet
Web-based Configuration Utility Requirements	<p>Computer with the following:</p> <ul style="list-style-type: none">• Windows®, Macintosh®, or Linux-based operating system• An installed Ethernet adapter <p>Browser Requirements:</p> <ul style="list-style-type: none">• Internet Explorer 8.0 or higher• Chrome 5.0 or higher• Firefox 3.6 or higher• Safari 4.0 or higher <p>Windows® Users: Make sure you have the latest version of Java installed. Visit www.java.com to download the latest version.</p>

Features

Cloud Management

- Centrally manage your Broadband access anywhere through a secure Internet portal
- Live and historical reporting: network and user status, logs, usage graphs
- Cloud portal automatically monitors traffic and status to make flow enhancements for load balancing
- Cloud portal can detect Broadband provider problems and failover to other functioning Broadband connections

Broadband Aggregation and Failover Resiliency

- Aggregate bandwidth of two to four Broadband Internet connections for faster download and upload speeds and capacity
- Single or Multiple ISP providers and broadband types: DSL modem, cable modem, fiber-based Broadband services, even T1
- Resiliency when a Broadband line/service fails through fail over to remaining operating lines
- Application agnostic – supports common protocols

Real-time balancing and packet re-sequencing

- Fuzion automatically performs checks on the speed of the broadband connections and adaptively adjusts how much traffic each line uses
- Automatic packet re-sequencing on the downstream to improve the quality of sensitive applications like VoIP

Customer Alerts

- Fuzion allows Customers to define the Alerts they receive when certain events happen (for example when a router goes down). Customers may choose to receive an email or generate a HTTP post to be pro-actively notified of an event.

Internet Connectivity for Business Class Environments

- Increase speed using cost effective and accessible Broadband connections
- Increase performance and reliability with multi-WAN load balancing and failover
- Scalable to meet growing bandwidth requirements
- Great alternative to T1 and provides lower TCO with failover benefits
- Centrally accessible statistics and graphical reports

* 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 - LAN Ports (1-4)

Connect to your clients via Ethernet cable. See Connecting your Network.

2 - Internet Port

Connects to your broadband modem via Ethernet cable.

3 - Power Receptor

Receptor for the supplied power adapter.

4 - Reset

Pressing the Reset button restores the router to its original factory default settings.

Hardware Overview

LEDs



1 - Power LED

A solid light indicates a proper connection to the power supply.

2 - Internet LED

A solid light indicates connection on the Internet port. This LED blinks during data transmission.

3 - WLAN LED

A solid light indicates that the wireless segment is ready. This LED blinks during wireless data transmission.

4 - Local Network LEDs

A solid light indicates a connection to an Ethernet enabled computer on ports 1-4. This LED blinks during data transmission.

Installation

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

Before you Begin

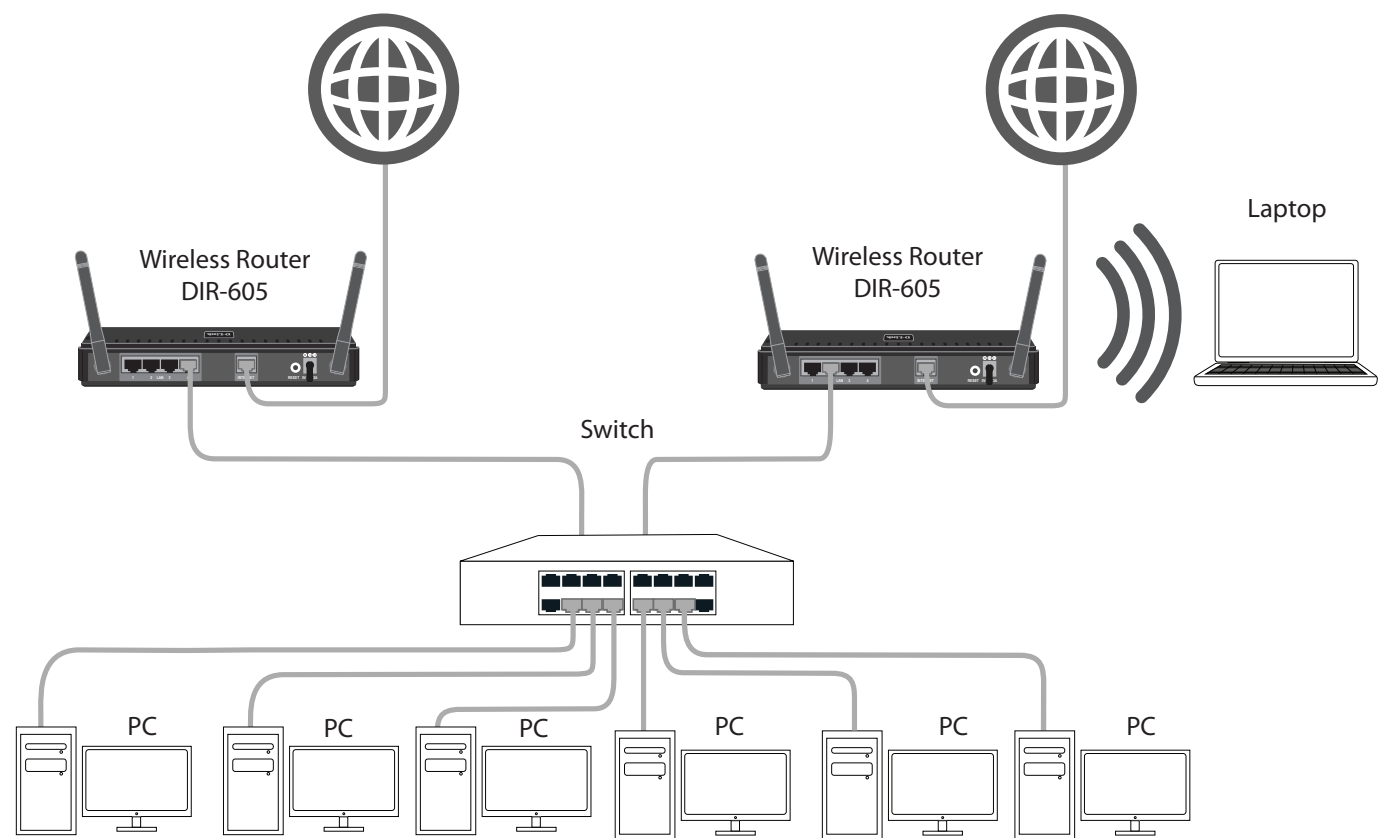
- You can only use the Ethernet connection on your modem to connect the router to your DSL or cable modem. If you were using a USB connection from your modem to your computer before using the router, then you must turn off your modem, disconnect the USB cable and connect an Ethernet cable from your modem to the Internet port on the router, and then turn the modem back on. In some cases, you may need to call your ISP to change the modem connection types (USB to Ethernet).
- If you have DSL and are connecting via PPPoE, make sure you disable or uninstall any PPPoE software such as WinPoet, Broadjump, or Enternet 300 from your computer or you will not be able to connect to the Internet.
- If your modem(s) are connected to other routers, gateways, or computers, you must turn off the modem(s) for at least 2 minutes to clear out the MAC address so the D-Link router can connect to the Internet.

Wireless Installation Considerations

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

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

Network Diagram



Connect to Cable/DSL/Satellite Modem

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

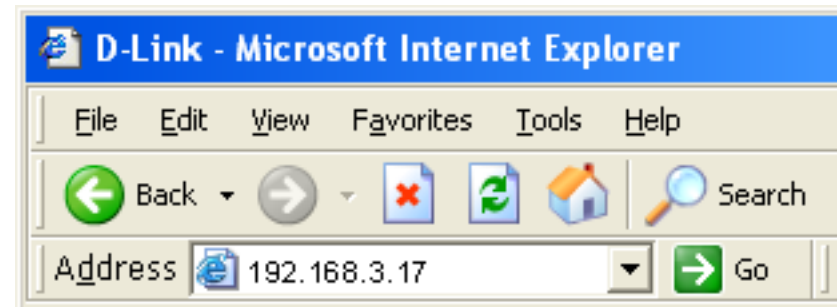
1. Place the router in an open and central location. Do not plug the power adapter into the router until instructed to do so in step 6.
2. Turn the power off on your modem. If there is no on/off switch, then unplug the modem's power adapter. Shut down your computer.
3. Unplug the Ethernet cable (that connects your computer to your modem) from your computer and place it into the Internet port on the router.
4. Plug an Ethernet cable into one of the four LAN ports on the router. Plug the other end into the Ethernet port on your computer.
5. Turn on or plug in your modem. Wait for the modem to boot (about 30 seconds).
6. Plug the power adapter to the router and connect to an outlet or power strip. Wait about 30 seconds for the router to boot.
7. Turn on your computer.
8. Verify the link lights on the router. The power light, Internet light, and the LAN light (the port that your computer is plugged into) should be lit. If not, make sure your computer, modem, and router are powered on and verify the cable connections are correct.
9. To configure your router, refer to the next page.

Configuration

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

Web-based Configuration Utility

To access the configuration utility, open a web-browser such as Internet Explorer and enter the IP address of the router (192.168.3.17).



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

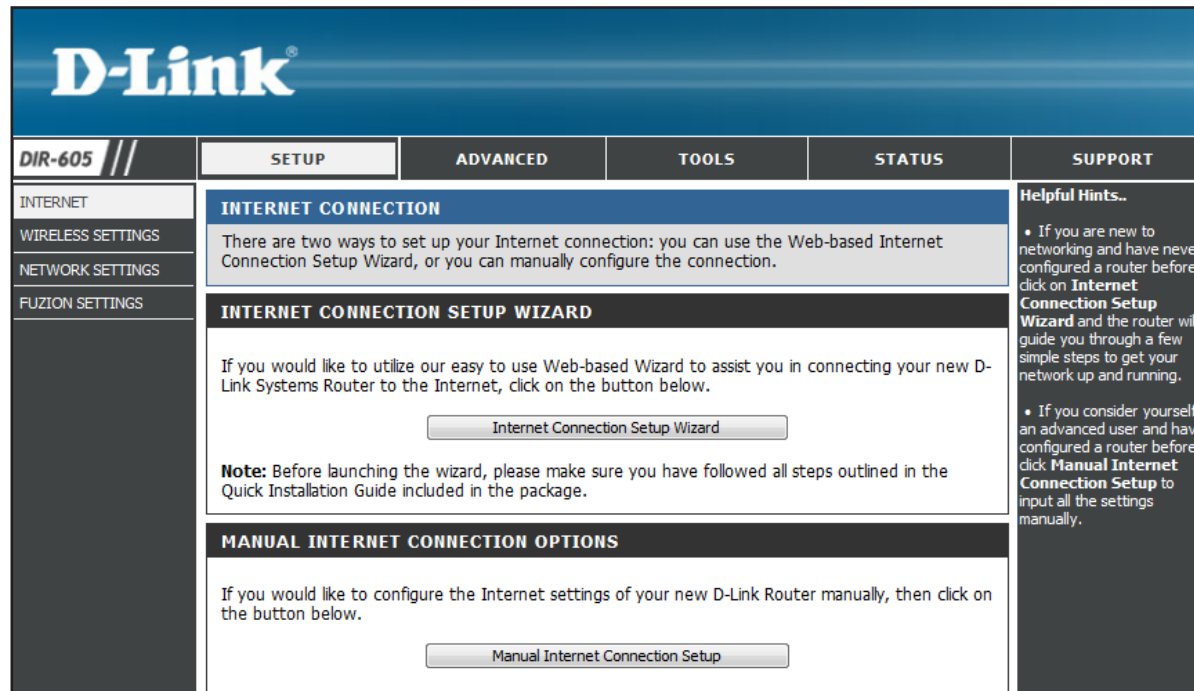
A screenshot of the D-Link router's login page. The page has a blue header with the word "LOGIN". Below the header, it says "Log in to the router:". There are two input fields: "User Name" with a dropdown menu showing "admin" and "Password" with a text box. A "Log In" button is located to the right of the password field.

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

Internet Connection Setup Wizard

Once logged into the web interface of the router, the **Setup > Internet** page will appear. Click the **Internet Connection Setup Wizard** button to quickly configure your router using the setup wizard.

If you want to enter your settings without running the wizard, click **Manual Internet Configuration Wizard** and skip to page 16.



Click **Next** to continue.

WELCOME TO THE D-LINK INTERNET CONNECTION SETUP WIZARD

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

- Step 1: Set your Password
- Step 2: Select your Time Zone
- Step 3: Configure your Internet Connection
- Step 4: Save Settings and Connect

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

STEP 1: SET YOUR PASSWORD

By default, your new D-Link Router does not have a password configured for administrator access to the Web-based configuration pages. To secure your new networking device, please set and verify a password below:

Password :

Verify Password:

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

STEP 2: SELECT YOUR TIME ZONE

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

Time Zone :

NTP Server Used :

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

STEP 3: CONFIGURE YOUR INTERNET CONNECTION

☒ **DHCP Connection (Dynamic IP Address)**

Choose this option 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)**

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 (L2TP)**

Choose this option if your Internet connection requires a username and password to get online. Most DSL modems use this type of connection.

☐ **Static IP Address Connection**

Choose this option if your Internet Setup Provider provided you with IP Address information that needs to be configured manually.

Prev Next Cancel

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

The Host Name is optional but may be required by some ISPs. The default host name is **DLink-DIR-605D1**.

DHCP CONNECTION (DYNAMIC IP ADDRESS)

To set up this connection, please make sure that you are connected to the D-Link Router using the PC that was originally connected to your broadband connection. If you are, then click the Clone MAC Address button to copy your computer's MAC Address to the D-Link Router.

MAC Address : - - - - - (Optional)

Clone MAC Address

Host Name : DLink-DIR-605D1

Note: You may also need to provide a Host Name. If you do not have or know this information, please contact your ISP.

Prev Next Cancel

If you selected PPPoE, enter your PPPoE username and password. Click **Next** to continue.

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

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

SET USERNAME AND PASSWORD CONNECTION (PPPOE)

To set up this connection you will need to have a Username and Password from your Internet Service Provider. If you do not have this information, please contact your ISP.

Address Mode : ☒ Dynamic IP ☐ Static IP

IP Address :

User Name :

Password :

Verify Password :

Service Name : (Optional)

Note: You may also need to provide a Service Name. If you do not have or know this information, please contact your ISP.

If you selected PPTP, enter your PPTP username and password. Click **Next** to continue.

SET USERNAME AND PASSWORD CONNECTION (PPTP)

To set up this connection you will need to have a Username and Password from your Internet Service Provider. You also need a PPTP IP address. If you do not have this information, please contact your ISP.

Address Mode : ☒ Dynamic IP ☐ Static IP

PPTP IP Address :

PPTP Subnet Mask :

PPTP Gateway IP Address :

PPTP Server IP Address/Name
(may be same as gateway) :

User Name :

Password :

Verify Password :

If you selected L2TP, enter your L2TP username and password. Click **Next** to continue.

SET USERNAME AND PASSWORD CONNECTION (L2TP)

To set up this connection you will need to have a Username and Password from your Internet Service Provider. You also need an L2TP IP address. If you do not have this information, please contact your ISP.

Address Mode : ☒ Dynamic IP ☐ Static IP

L2TP IP Address :

L2TP Subnet Mask :

L2TP Gateway IP Address :

L2TP Server IP Address/Name
(may be same as gateway) :

User Name :

Password :

Verify Password :

If you selected Static, enter your network settings supplied by your Internet provider. Click **Next** to continue.

SET STATIC IP ADDRESS CONNECTION

To set up this connection you will need to have a complete list of all the IP information provided by your Internet Service Provider. If you have a Static IP connection and do not have this information, please contact your ISP.

IP Address :

Subnet Mask :

Gateway Address :

Primary DNS Address :

Secondary DNS Address : (Optional)

Click **Connect** to save your settings. Once the router is finished rebooting, click **Continue**. Please allow 1-2 minutes to connect.

SETUP COMPLETE!

The Internet Connection Setup Wizard has completed. Click the Connect button to save your settings and reboot the router.

Manual Configuration

Dynamic IP Address (Cable)

If you opt to set up your Internet connection manually, you will be redirected to a WAN page that allows you to select your Internet type and enter the correct configuration parameters.

Select your Internet connection type using the “**My Internet Connection is**” drop-down menu.

Click the **Save Settings** button when you have configured the connection.

The screenshot displays the D-Link DIR-605 web interface. The top navigation bar includes the D-Link logo and tabs for SETUP, ADVANCED, TOOLS, STATUS, and SUPPORT. The left sidebar shows a menu with INTERNET, WIRELESS SETTINGS, NETWORK SETTINGS, and FUZION SETTINGS. The main content area is titled 'INTERNET CONNECTION' and contains the following sections:

- INTERNET CONNECTION**: A text block explaining the purpose of the section and a note about PPPoE. Below it are 'Save Settings' and 'Don't Save Settings' buttons.
- INTERNET CONNECTION TYPE**: A section with the instruction 'Choose the mode to be used by the router to connect to the Internet.' and a dropdown menu labeled 'My Internet Connection is : Dynamic IP (DHCP)'.
- DYNAMIC IP (DHCP) INTERNET CONNECTION TYPE**: A section with the instruction '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.' and several input fields: Host Name (DLink-DIR-605D1), Primary DNS Address, Secondary DNS Address (optional), MTU (1500 bytes, default 1500), and MAC Address (optional). A 'Clone Your PC's MAC Address' button is also present. 'Save Settings' and 'Don't Save Settings' buttons are at the bottom.

On the right side, under 'Helpful Hints..', there are two bullet points: 'Internet Connection' (advising to choose the correct option from the dropdown) and 'Support' (advising to double-check settings if having trouble).

Dynamic IP Address (DHCP)

My Internet Connection: Select **Dynamic IP (DHCP)** to obtain IP Address information automatically from your ISP. Select this option if your ISP does not give you any IP addresses 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.

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

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

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

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 :

Primary DNS Address :

Secondary DNS Address : (optional)

MTU : (bytes) MTU default = 1500

MAC Address : - - - - - (optional)

PPPoE (DSL)

Choose PPPoE (Point to Point Protocol over Ethernet) if your ISP uses a PPPoE connection. Your ISP will provide you with a username and password. This option is typically used for DSL services. Make sure to remove your PPPoE software from your computer. The software is no longer needed and will not work through a router.

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

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

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

User Name: Enter your PPPoE user name.

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

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

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

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

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

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

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

The screenshot shows the 'PPPOE' configuration window. At the top, it says 'Enter the information provided by your Internet Service Provider (ISP)'. The settings are as follows:

- Address Mode:** Radio buttons for 'Dynamic PPPoE' (selected) and 'Static PPPoE'.
- IP Address:** An empty text box.
- User Name:** An empty text box.
- Password:** A text box with 8 dots.
- Verify Password:** A text box with 8 dots.
- Service Name:** An empty text box with '(optional)' to its right.
- Reconnect Mode:** Radio buttons for 'Always' (selected), 'Manual', and 'Connect-on demand'. There is a 'New Schedule' button next to 'Always'.
- Maximum Idle Time:** A text box with '5' and 'Minutes' to its right.
- DNS:** Radio buttons for 'Receive DNS from ISP' (selected) and 'Enter DNS Manually'.
- Primary DNS Address:** An empty text box.
- Secondary DNS Address:** An empty text box with '(optional)' to its right.
- MTU:** A text box with '1492' and '(bytes) MTU default = 1492' to its right.
- MAC Address:** A text box with six segments separated by dashes, followed by '(optional)'. Below it is a button labeled 'Clone Your PC's MAC Address'.

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.

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 Mask: Enter the Primary and Secondary DNS Server Addresses (Static 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 Mode: Select either **Always-on** (recommended), **On-Demand**, or **Manual**.

Maximum Idle

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

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.

PPTP

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

Address Mode : ☒ Dynamic IP ☐ Static IP

PPTP IP Address : (assigned by your ISP)

PPTP Subnet Mask :

PPTP Gateway IP Address :

PPTP Server IP Address :

Username :

Password :

Verify Password :

Reconnect Mode : ☐ Always ☐ Manual ☒ Connect-on demand

Maximum Idle Time : Minutes

DNS :

MTU : (bytes) MTU default = 1400

MAC Address : - - - - - (optional)

L2TP

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

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

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

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

L2TP Gateway: 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 Mode: Select either **Always-on** (recommended), **On-Demand**, or **Manual**.

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

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

L2TP

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

Address Mode :

☒ Dynamic IP
 ☐ Static IP

L2TP IP Address :

(assigned by your ISP)

L2TP Subnet Mask :

L2TP Gateway IP Address :

L2TP Server IP Address :

Username :

Password :

L2TP Verify Password :

Reconnect Mode :

☐ Always
 ☐ Manual
 ☒ Connect-on demand

New Schedule

Maximum Idle Time :

5 Minutes

DNS :

MTU :

1400 (bytes) MTU default = 1400

MAC Address :

- - - - - (optional)

Clone Your PC's MAC Address

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 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.

Static IP Address

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

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

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

Default Gateway: Enter the Gateway assigned by your ISP.

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

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

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

STATIC IP ADDRESS INTERNET CONNECTION TYPE

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

IP Address : (assigned by your ISP)

Subnet Mask :

ISP Gateway Address :

MAC Address : - - - - - (optional)

Primary DNS Address :

Secondary DNS Address : (optional)

MTU :

Wireless Settings

If you want to configure the wireless settings on your router using the wizard, click **Wireless Connection Setup Wizard** and refer to page 43.

Click **Add Wireless Device with WPS** if you want to add a wireless device using Wi-Fi Protected Setup (WPS) and refer to page 46.

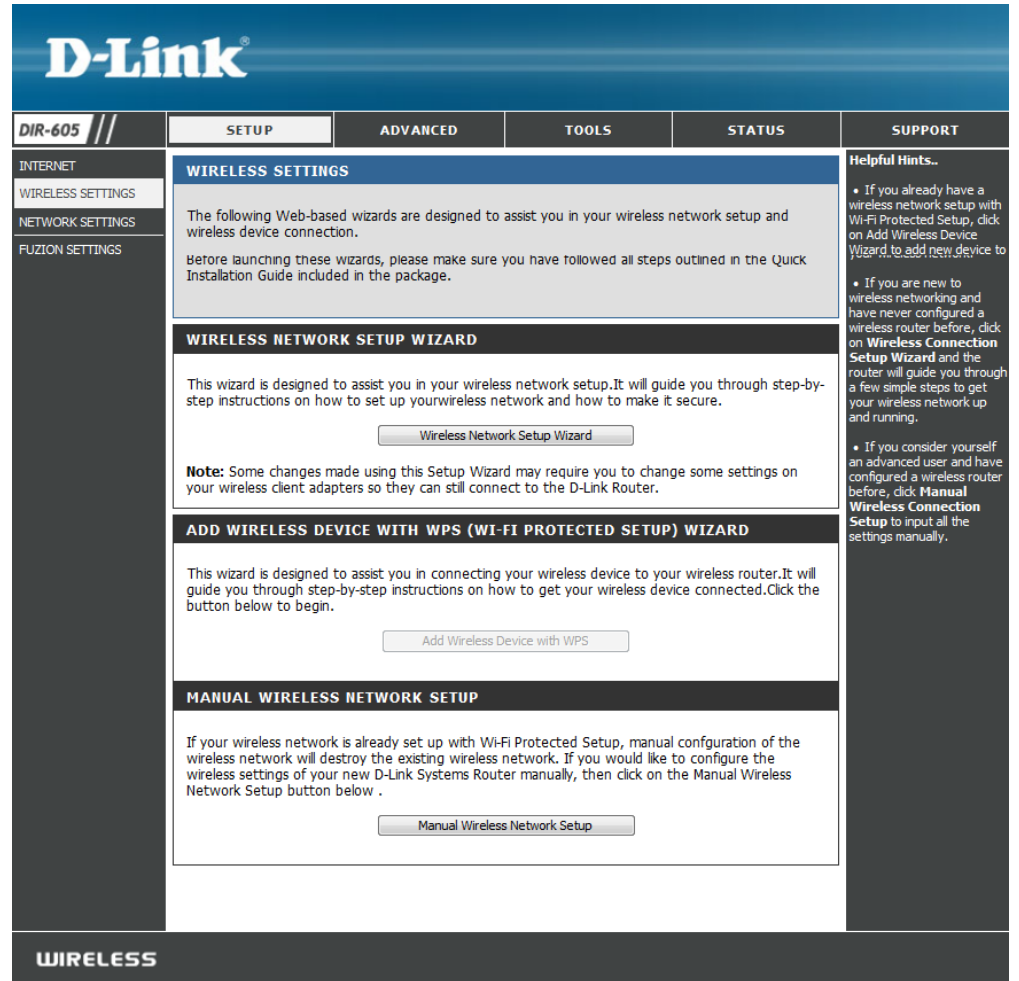
Note: This option is disabled by default. To use this option, you must enable the wireless function. Click **Manual Wireless Network Setup** and check the *Enable Wireless* box. Refer to the next page.

WLAN must be enabled in two places.

1. Enable it by going to **Setup>Fusion Settings>Wireless Mode** and select either **Multiple Routers** or **Single Router**.
2. Next, go to **Setup>Wireless Settings>Manual Wireless** and check **Enable**.

Note: You must enable both selections in order to turn the WLAN On. Enabling only one will not work and the WLAN will remain off.

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



Manual Wireless Network 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. Click **Add New** to create your own time schedule to enable the wireless function.

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

802.11 Mode: Select one of the following:

Mixed 802.11g and 802.11b - Select if you are using both 802.11b and 802.11g wireless clients.

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

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

Enable Auto Channel Scan: The **Auto Channel Scan** setting can be selected to allow the DIR-605 to choose the channel with the least amount of interference.

Wireless Channel: Indicates the channel setting for the DIR-605. 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.

D-Link

DIR-605

SETUP ADVANCED TOOLS STATUS SUPPORT

INTERNET WIRELESS SETTINGS NETWORK SETTINGS PORT SETTINGS

WIRELESS NETWORK

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

Wireless security modes including WEP, WPA and WPA2. This device supports three.

Save Settings Don't Save Settings

WIRELESS

Enable Wireless : ☒

Wireless Network Name : DLink (Also called the SSID)

802.11 Mode : 802.11 Mixed(n/g/b)

Enable Auto Channel Scan : ☒

Wireless Channel : 6

Transmission Rate : Best (automatic) (Mbit/s)

Channel Width : 20 MHz

Enable Hidden Wireless : ☐ (Also called the SSID Broadcast)

WIRELESS SECURITY MODE

To protect your privacy you can configure wireless security features. This device supports two wireless security modes, including WEP and WPA/WPA2. WEP is the original wireless encryption standard. WPA/WPA2 provides a higher level of security.

Security Mode : None

Save Settings Don't Save Settings

WIRELESS

Helpful Hints...

- Wi-Fi Protected Setup provides a more intuitive way of setting up wireless security between the router and the wireless client. Make sure the wireless client supports this feature or uses a certified Windows Vista driver in order to take advantage of this feature.
- Changing your Wireless Network Name is the first step in securing your wireless network. We recommend that you change it to a familiar name that does not contain any personal information.
- Enable Auto Channel Scan the router can select the best possible channel for your wireless network to operate on.
- Enabling Hidden Mode is another way to secure your network. With this option enabled, no wireless clients will be able to see your wireless network when they perform a scan to see what's available. In order for your wireless devices to connect to your router, you will need to manually enter the Wireless Network Name on each device.
- If you have enabled Wireless Security, make sure you write down the WEP Key or Passphrase that you have configured. You will need to enter this information on any wireless device that you connect to your wireless network.

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

Channel Width: Select the Channel Width:

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

20MHz - Select if you are not using any 802.11n wireless clients. This is the default setting.

Enable Hidden Wireless: Enabling Hidden Mode is another way to secure your network. With this option enabled, no wireless clients will be able to see your wireless network when they perform a scan to see what's available. In order for your wireless devices to connect to your router, you will need to manually enter the Wireless Network Name on each device.

Wireless Security: Refer to **Section 4 - Wireless Security** for more information regarding wireless security.

Network Settings

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

IP Address: Enter the IP address of the router. The default IP address is 192.168.3.17.

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

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

Local Domain: Enter the Domain name (Optional).

Device Name: Enter the Device name (set to **dlinkrouter** by default).

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

The screenshot displays the D-Link DIR-605 web-based configuration utility. The interface has a blue header with the D-Link logo. Below the header is a navigation bar with tabs: SETUP, ADVANCED, TOOLS, STATUS, and SUPPORT. The left sidebar shows a tree view with categories: INTERNET, WIRELESS SETTINGS, NETWORK SETTINGS (selected), and FUZION SETTINGS. The main content area is titled 'NETWORK SETTING' and contains the following sections:

- NETWORK SETTING:** A text block explaining the purpose of the section and a note that it is optional. It includes 'Save Settings' and 'Don't Save Settings' buttons.
- ROUTER SETTINGS:** Fields for Router IP Address (192.168.3.17), Default Subnet Mask (255.255.255.0), Local Domain Name, and Device Name (DLink).
- DHCP SERVER SETTINGS:** A section for configuring the built-in DHCP server, including an 'Enable DHCP Server' checkbox (checked) and a 'DHCP IP Address Range' field (100 to 199).
- NUMBER OF DYNAMIC DHCP CLIENTS:** A table with columns for Host Name, IP Address, MAC Address, and Expired Time.

At the bottom of the main content area are 'Save Settings' and 'Don't Save Settings' buttons. The footer of the page is labeled 'WIRELESS'.

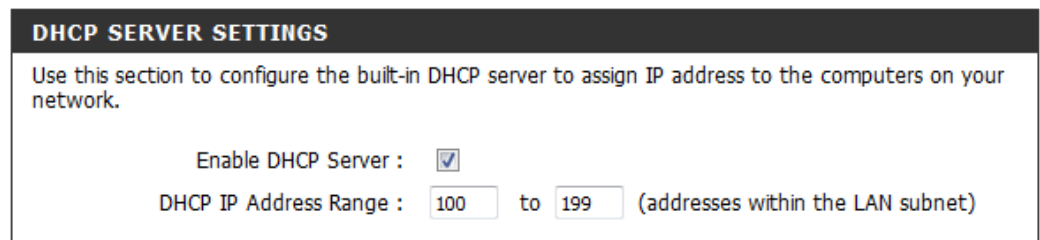
DHCP Server Settings

DHCP stands for Dynamic Host Control Protocol. The DIR-605 has a built-in DHCP server. The DHCP Server will automatically assign an IP address to the computers on the LAN/private network. Be sure to set your computers to be DHCP clients by setting their TCP/IP settings to "Obtain an IP Address Automatically." When you turn your computers on, they will automatically load the proper TCP/IP settings provided by the DIR-605. The DHCP Server will automatically allocate an unused IP address from the IP address pool to the requesting computer. You must specify the starting and ending address of the IP address pool.

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

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

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



The screenshot shows the 'DHCP SERVER SETTINGS' section of a router's web interface. It includes a header, a descriptive paragraph, and two configuration options: 'Enable DHCP Server' with a checked checkbox, and 'DHCP IP Address Range' with input fields for '100' and '199' separated by 'to', followed by the text '(addresses within the LAN subnet)'.

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

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

NetBIOS Announcement: The NetBIOS API allows applications on separate computers to communicate over LAN. The user can check this option to enable this function.

Learn NetBIOS from WAN: Each computers in the network have both NetBIOS name and IP address corresponding to the Host name. The user may simply use the NetBIOS name to log in router web interface. (The default is "dlinkrouter")

NetBIOS Scope (optional): The users may add some characters behind the NetBIOS name to differentiate it from other D-Link routers. It follows the naming rule for DNS names.

Primary/Secondary WINS IP Address: Use this function to allow the separate computers in a separate subnet to search the computers in the same workgroup.

Fuzion Settings

This section will allow you to change the Fuzion network settings of the router.

Aggregation Server IP: Enter the aggregation server IP address provided by your Fuzion service provider.

Community ID: Enter the community ID provided by your Fuzion service provider.

Node Index: Your first router should have node index 1, your second Fuzion router node index 2 and so on, up to a maximum of 4 nodes (routers)

Fuzion Username: Enter your Fuzion username provided by your Fuzion service provider.

Fuzion Password: Enter your Fuzion password provided by your Fuzion service provider.

VRRP IP/Netmask: Configure a virtual router IP address which can be operated by any of the Fuzion routers. Please ensure this IP address and subnet mask are the same across all Fuzion routers.

WAN MTU: Configure a consistent MTU (maximum packet size) across all routers. Normally 1492 will perform well, however some Broadband connections (particularly DSL) may require a lower MTU.

Wireless Mode: If a wireless access point has been configured on this router, Fuzion can use it in one of two modes. Multiple router mode enables wireless on all the routers at the same time and allows you to roam between them. When the Single mode follows the current gateway router (VRRP Master). Alternatively the wireless function can be turned off altogether. This mode is **Off** by default. To set **On**, select a mode other than **Off** and click **Save Settings**. Please see page 24 for instructions.

Failover Mode: Fuzion can be run in failover mode. When enabled the router's Internet connection will only be used to send / receive data (other than Fuzion heartbeats) when no other Internet connection is available. Failover mode is useful if you wish to use a 3g router or a connection with a low monthly data cap as a backup to your Fuzion bonded solution.

D-Link

DIR-605

SETUP ADVANCED TOOLS STATUS SUPPORT

INTERNET
WIRELESS SETTINGS
NETWORK SETTINGS
FUZION SETTINGS

FUZION SETTINGS

Use this section to configure the Fuzion setting's, your router will reboot if you change any setting's.

If any changes are made to the Virtual Router or Wireless Mode you will need to replicate on all Fuzion router's.

Save Settings Don't Save Settings

FUZION CONFIGURATION

Aggregation server IP: 208 . 89 . 242 . 254

Community ID: 108

Node Index: 1

Fuzion Username: dinksystem2

Fuzion Password:

VRRP IP: 192 . 168 . 3 . 250

VRRP netmask: 255.255.255.0

WAN MTU: 1492

Wireless Mode: Off

Failover Mode: No

Helpful Hints..

- Enter the aggregation server IP address, community ID, Fuzion username and password as provided by your Fuzion service provider
- Your first router should have node index 1, your second Fuzion router node index 2 and so on, up to a maximum of 4 nodes (routers)
- Configure a virtual router IP address which can be operated by any of the Fuzion routers. Please ensure this IP address and subnet mask are the same across all Fuzion routers.
- Configure a consistent MTU (maximum packet size) across all routers. Normally 1492 will perform well, however some Broadband connections (particularly DSL) may require a lower MTU.
- If a wireless access point has been configured on this router, Fuzion can

Advanced Wireless Settings

Transmit Power: Set the transmit power of the antennas.

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

RTS Threshold: This value should remain at its default setting of 2432. If inconsistent data flow is a problem, only a minor modification should be made.

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

DTIM Interval: (Delivery Traffic Indication Message) 3 is the default setting. A DTIM is a countdown informing clients of the next window for listening to broadcast and multicast messages.

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

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

Short 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.

D-Link

DIR-605

SETUP ADVANCED TOOLS STATUS SUPPORT

ADVANCED WIRELESS

WI-FI PROTECTED SETUP

ADVANCED NETWORK

ADVANCED WIRELESS SETTINGS

These options are for users that wish to change the behavior of their 802.11n wireless radio from the standard settings. We do not recommend changing these settings from the factory defaults. Incorrect settings may impact the performance of your wireless radio. The default settings should be used unless you are sure you need to change them.

Save Settings Don't Save Settings

ADVANCED WIRELESS SETTINGS

Transmit Power : 100%

Beacon interval : 100 (msec, range:20~1000, default:100)

RTS Threshold : 2346 (range: 256~2346, default:2346)

Fragmentation : 2346 (range: 1500~2346, default:2346, even number only)

DTIM interval : 1 (range: 1~255, default:1)

WMM Enable ☒ (Wireless QoS)

Short GI : ☒

Helpful Hints...

- It is recommended that you leave these parameters with their default values. Adjusting them could limit the performance of your wireless network.
- Use 802.11n only for countries where it is required.
- Enabling WMM can help control latency and jitter when transmitting multimedia content over a wireless connection.

Wi-Fi Protected Setup

Wi-Fi Protected Setup: Check this box to enable the function

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

Add Wireless Station: Press the button to start with the wizard to setup the WPA function. Please refer to Section 4 - Wireless security "Add wireless device with WPA wizard" for more information.

Note: WPS is disabled by default. To use WPS, you must enable the wireless function. Click on **Setup** > **Wireless Settings** > **Manual Wireless Network Setup** and check the *Enable Wireless* box.

The screenshot shows the D-Link DIR-605 Advanced Wireless Setup page. The left sidebar contains a navigation menu with 'ADVANCED WIRELESS' selected, and sub-items 'WI-FI PROTECTED SETUP' and 'ADVANCED NETWORK'. The main content area is titled 'WI-FI PROTECTED SETUP' and includes the following sections:

- WI-FI PROTECTED SETUP**: A text block explaining the function, followed by a warning about PIN changes and two buttons: 'Save Settings' and 'Don't Save Settings'.
- WI-FI PROTECTED SETUP**: A section with 'Enable : ☒' and 'Wi-Fi Protected Status : Enabled / Not Configured', with a 'Reset to Unconfigured' button.
- PIN SETTINGS**: A section showing 'Current PIN : 72378588' and two buttons: 'Generate New PIN' and 'Reset PIN to Default'.
- ADD WIRELESS STATION**: A section with a 'Connect your Wireless Device' button.

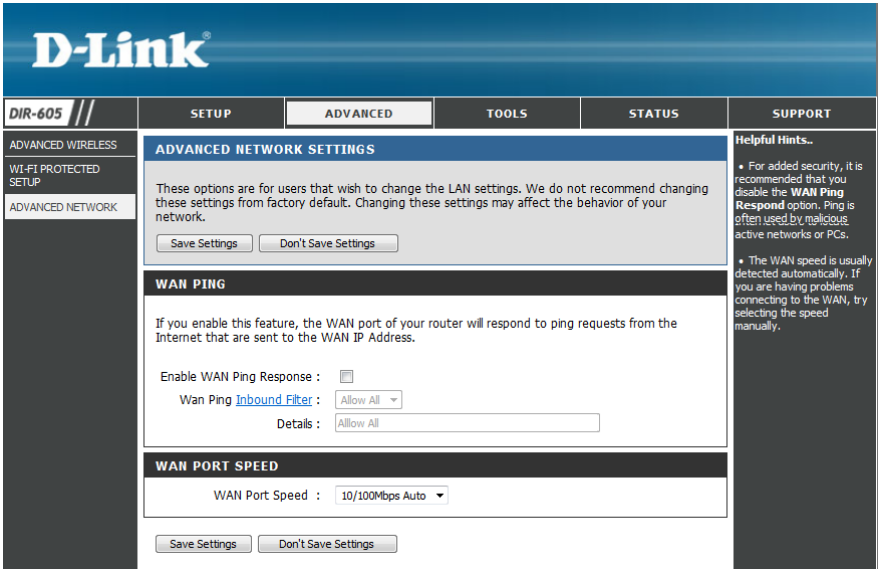
On the right side, there is a 'Helpful Hints..' section with three bullet points:

- Enable if other wireless devices you wish to include in the local network support Wi-Fi Protected Setup.
- Lock Wireless Security Settings after all wireless network devices have been configured.
- Click Add Wireless Device Wizard to use Wi-Fi Protected Setup to add wireless devices to the wireless network.

Advanced Network Settings

WAN Ping Response: Unchecking the box will not allow the DIR-605 to respond to pings. Blocking the Ping may provide some extra security from hackers. Check the box to allow the Internet port to be “pinged”.

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



Administrator Settings

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

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

Remote Management: Remote management allows the DIR-605 to be configured from the Internet by a web browser. A username and password is still required to access the Web-Management interface. In general, only a member of your network can browse the built-in web pages to perform Administrator tasks. This feature enables you to perform Administrator tasks from the remote (Internet) host.

Remote Admin Port: The port number used to access the DIR-605.

Example: `http://x.x.x.x:8080` whereas x.x.x.x is the Internet IP address of the DIR-605 and 8080 is the port used for the Web Management interface.

Inbound Filter: This section will list any rules that are created. You may click the **Edit** icon to change the settings or enable/disable the rule, or go to **Advanced > Inbound Filter** page to configure.

The screenshot displays the D-Link DIR-605 web management interface. The top navigation bar includes tabs for SETUP, ADVANCED, TOOLS, STATUS, and SUPPORT. The left sidebar shows a menu with ADMIN, TIME, SYSTEM, FIRMWARE, and SYSTEM CHECK. The main content area is titled 'ADMINISTRATOR SETTINGS' and contains the following sections:

- ADMINISTRATOR SETTINGS:** A text box explaining that the 'admin' and 'user' accounts can access the management interface. It states that the admin has read/write access and can change passwords, while the user has read-only access. It also notes that by default, there is no password configured, and it is highly recommended to create a password to keep the router secure. Below this text are two buttons: 'Save Settings' and 'Don't Save Settings'.
- ADMINISTRATOR (THE DEFAULT LOGIN NAME IS "admin"):** A section for setting the administrator password. It prompts the user to 'Please enter the same password into both boxes, for confirmation.' and provides input fields for 'New Password' and 'Verify Password'.
- USER (THE DEFAULT LOGIN NAME IS "user"):** A section for setting the user password. It also prompts the user to 'Please enter the same password into both boxes, for confirmation.' and provides input fields for 'New Password' and 'Verify Password'.
- ADMINISTRATION:** A section for enabling remote management. It includes a checkbox for 'Enable Remote Management', a 'Port' dropdown menu set to '8080', a 'Remote Admin Inbound Filter' dropdown menu set to 'Allow All', and a 'Details' input field set to 'Allow All'.

On the right side of the interface, there is a 'Helpful Hints...' section with the following text:

- For security reasons, it is recommended that you change the Login Name and Password for the Administrator accounts. Be Login Names and Passwords to avoid having to reset the router in the event that they are forgotten.
- When enabling Remote Management, you can specify the IP address of the computer on the Internet that you want to have access to your router, or leave it blank to allow access to any computer on the Internet.

The bottom of the interface features a 'WIRELESS' tab.

Time Settings

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

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

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

Sync your Computer's Time Settings: Press this button to set the device's time the same to local PC.

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

NTP Server Used: Enter the NTP server or select one from the drop-down menu, then the DIR-605 will sync the same time to D-Link Internet time server.

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

The screenshot displays the D-Link DIR-605 web interface for Time Settings. The top navigation bar includes 'DIR-605', 'SETUP', 'ADVANCED', 'TOOLS', 'STATUS', and 'SUPPORT'. The left sidebar lists 'ADMIN', 'TIME', 'SYSTEM', 'FIRMWARE', and 'SYSTEM CHECK'. The main content area is titled 'TIME AND DATE' and contains the following sections:

- TIME AND DATE:** A descriptive paragraph about the configuration options, followed by 'Save Settings' and 'Don't Save Settings' buttons.
- TIME AND DATE CONFIGURATION:**
 - Time: 06/20/2011 16:21:13
 - Time Zone: (GMT-08:00) Pacific Time (US & Canada); Tijuana (dropdown menu)
 - Enable Daylight Saving: ☐ (checkbox) and 'Sync. your computer's time settings' (button)
- AUTOMATIC TIME AND DATE CONFIGURATION:**
 - ☐ Automatically synchronize with D-Link's Internet time server
 - NTP Server Used: ntp1.dlink.com (dropdown menu) and 'Update Now' (button)
- SET THE TIME AND DATE MANUALLY:**
 - Year: 2011 (dropdown), Month: Jun (dropdown), Day: 20 (dropdown)
 - Hour: 17 (dropdown), Minute: 21 (dropdown), Second: 17 (dropdown)
 - 'Save Settings' and 'Don't Save Settings' buttons

A 'Helpful Hints..' sidebar on the right provides additional instructions: 'Either enter the time manually by clicking the Sync. Your Computers Time Settings button, or use the Automatic Time have your router synchronize with a time server on the Internet.'

System Settings

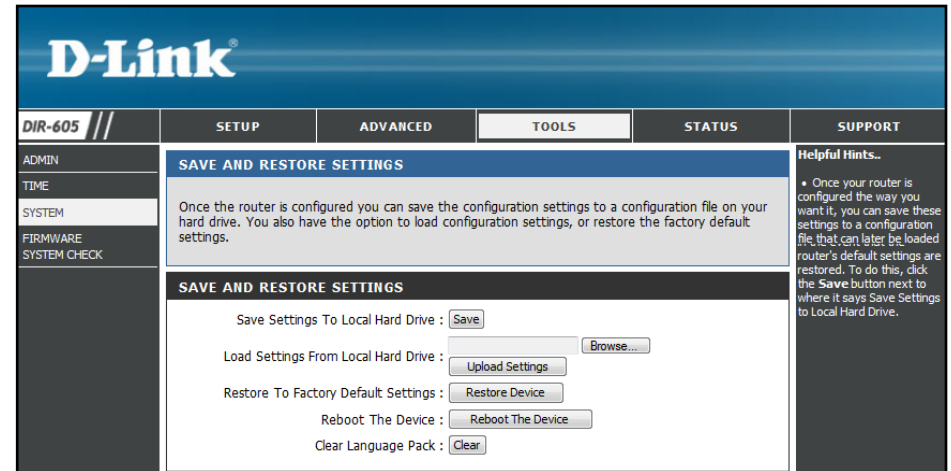
Save Settings to Local Hard Drive: Use this option to save the current router configuration settings to a file on the hard disk of the computer you are using. First, click the **Save** button. You will then see a file dialog, where you can select a location and file name for the settings.

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

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

Reboot Device: Click to reboot the router.

Clear Language Pack: This is to restore the device back to English version only. Remove other languages installed for the system web pages.



Update Firmware

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

Firmware Information: Displays the current firmware version and date. You can also check the availability of a new firmware version online. If so, download the new firmware to your hard drive.

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

Language Pack Upgrade: This function allows the user to transfer the language of GUI from English to theirs by upgrading the language pack.

The screenshot shows the D-Link DIR-605 web interface. The top navigation bar includes links for ADMIN, TIME, SYSTEM, FIRMWARE, and SYSTEM CHECK. The main content area is titled 'FIRMWARE UPDATE' and contains the following sections:

- FIRMWARE UPDATE:** A message stating 'There may be new firmware for your DIR-605 to improve functionality and performance. [Click here to check for an upgrade on our portal.](#)'
- FIRMWARE INFORMATION:** Displays 'Current Firmware Version : 4.2.32' and 'Current Firmware Date : Wed 15 Jun 2011'.
- FIRMWARE UPGRADE:** Includes a note: 'Note: Some firmware upgrades reset the configuration options to the factory defaults. Before performing an upgrade, be sure to save the current configuration.' It also states: 'To upgrade the firmware, your PC must have a wired connection to the router. Enter the name of the firmware upgrade file, and click on the Upload button.'

The 'Upload' section features a 'Choose File' button and an 'Upload' button. The status shows 'No file chosen'.

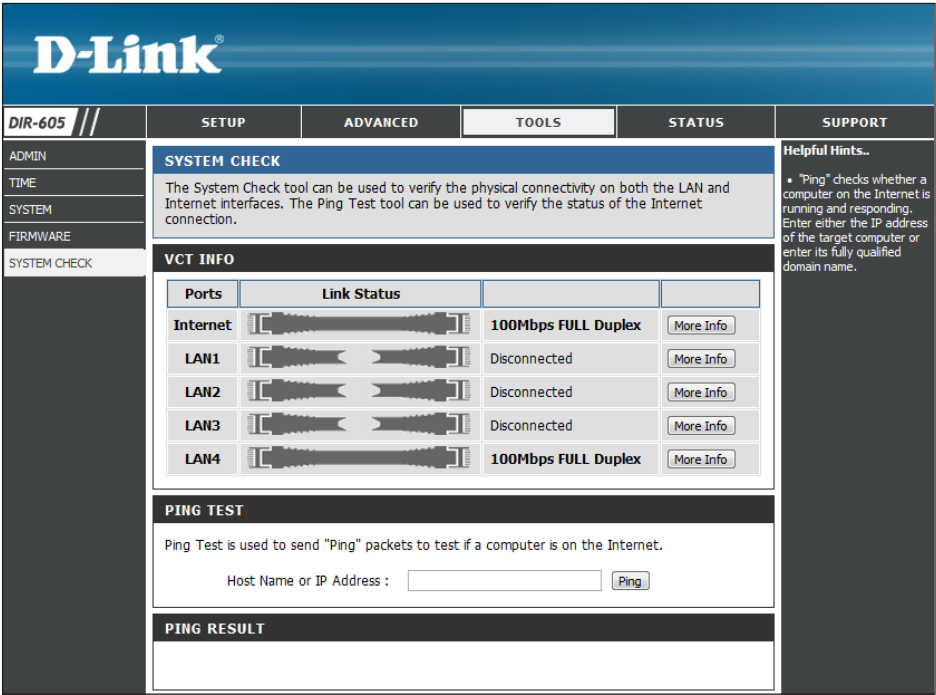
On the right side, there is a 'Helpful Hints...' section with a bullet point: 'Firmware Update are released periodically to improve the functionality of your router and also to add features. If you run into a problem with a specific feature of the router, check our support site.'

System Check

The System Check feature allows you to verify the physical connectivity on both LAN and Internet interface.

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.



Device Information

This page displays the current information for the DIR-605. 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.

See the following for more information.

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

Internet: 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 Computers: Displays computers and devices that are connected to the router via Ethernet and that are receiving an IP address assigned by the router (DHCP).

The screenshot shows the D-Link DIR-605 web interface. The top navigation bar includes tabs for SETUP, ADVANCED, TOOLS, STATUS, and SUPPORT. The left sidebar contains links for DEVICE INFO, STATISTICS, WIRELESS, and FUZION. The main content area is titled 'DEVICE INFORMATION' and displays the following details:

- General:** Firmware Version : 4.2.32 , Wed 15 Jun 2011
- INTERNET:**
 - Connection Type : Static IP
 - Cable Status : 100 Full
 - Network Status : Connected
 - Connection Up Time :
 - MAC Address : 1c:bd:b9:2c:b4:5f
 - Connection : Static IP Connected
 - IP Address : 67.130.140.91
 - Subnet Mask : 255.255.255.0
 - Default Gateway : 67.130.140.1
 - Primary DNS Server : 8.8.4.4
 - Secondary DNS Server : 8.8.8.8
- LAN:**
 - MAC Address : 1c:bd:b9:2c:b4:5e
 - IP Address : 192.168.3.1
 - Subnet Mask : 255.255.255.0
 - DHCP Server : Enabled
- WIRELESS 802.11N:**
 - Wireless Radio : Disable
 - 802.11 Mode : 802.11 Mixed(n/g/b)
 - Channel Width : 20 Mhz
 - MAC Address : 1c:bd:b9:2c:b4:5e
 - SSID :
 - Channel :
 - Encryption :
 - Wi-Fi Protected Setup : Enabled
- LAN COMPUTER:**
 - IP Address
 - Name (if any)
 - MAC

On the right side, there is a 'Helpful Hints...' section with a note: 'All of your LAN, Internet and WIRELESS 802.11N connection details are displayed here.'

Stats

The screen below displays the Traffic Statistics. Here you can view the amount of packets that pass through the DIR-605 on both the Internet and the LAN ports. The traffic counter will reset if the device is rebooted.

DIR-605

DEVICE INFO

STATISTICS

WIRELESS

FUZION

SETUP

ADVANCED

TOOLS

STATUS

SUPPORT

TRAFFIC STATISTICS

Traffic Statistics displays Receive and Transmit packets passing through the DIR-605.

TRAFFIC STATISTICS

Refresh

Reset

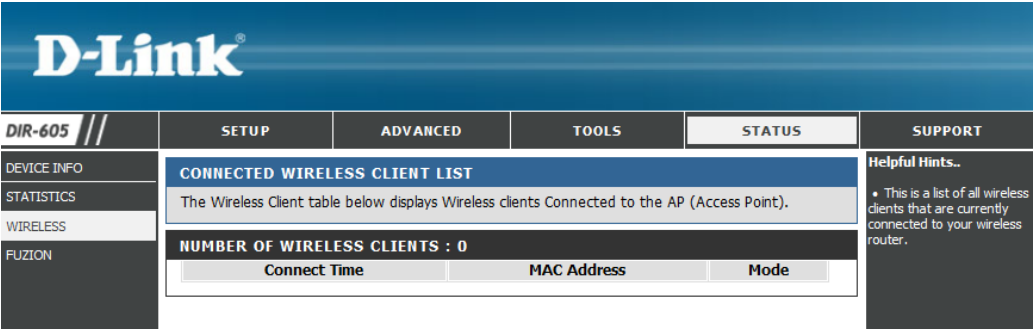
	Receive	Transmit
Internet	25331 Packets	10955 Packets
LAN	12503 Packets	10950 Packets
WIRELESS 11n	0 Packets	0 Packets

Helpful Hints..

- This is a summary displaying the number of packets that have passed between the Internet and the LAN since the router

Wireless

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



Fuzion

The Fuzion status screen displays your Fuzion settings and statistics.

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

Internet: 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 Computers: Displays computers and devices that are connected to the router via Ethernet and that are receiving an IP address assigned by the router (DHCP).

D-Link

DIR-605 // SETUP ADVANCED TOOLS STATUS SUPPORT

DEVICE INFO
STATISTICS
WIRELESS
FUZION

FUZION STATUS

Service Status

- Internet Status **Active**
- Service Status **Active**
- Routing Mode **Via WAN only**

Community

- Live Fuzion routers 2
- Accessible connections 1

Traffic Statistics (updated every minute)

	MBytes	Packets
Outgoing	10	52,105
Incoming	65	60,519
Total	75	112,624

n.b. traffic seen during past 41 days 1 hours 53 minutes 39 seconds

Setup Information

- Aggregation Server 208.89.242.254
- Community ID 108
- Local Index 1
- WAN IP Address 67.130.140.91
- WAN MAC Address 1C:BD:B9:2C:B4:5F

Helpful Hints..

- All Fuzion diagnostic information can be found on this page.
- Internet Status:** Checks if the router can ping the Fuzion Aggregation server.
- Service Status:** Check to see if the router can logon to the Fuzion Aggregation Server.
- Routing Mode:**

No network available . Router is not logged on to the Fuzion Aggregator and is unable to pass traffic.

WAN Only . This router is connected to the aggregation server.

Community Only . This router is not connected but at least 1 other Fuzion routers are connected.

WAN and Community . This router and at least 1 other Fuzion router are connected.

Support

DIR-605

//

MENU

SETUP

ADVANCED

TOOLS

STATUS

SUPPORT MENU

Setup

- Internet
- Wireless Settings
- Network Settings

Advanced

- Firewall Settings
- Routing
- Advanced Wireless
- Wi-Fi Protected Setup

Tools

- Admin
- Time
- System
- Firmware

Status

- Device Info
- Statistics
- Wireless
- Fusion

Helpful Hints..

Wireless Security

This section will show you the different levels of security you can use to protect your data from intruders. The DIR-605 offers the following types of security:

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

What is WPA?

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

The 2 major improvements over WEP:

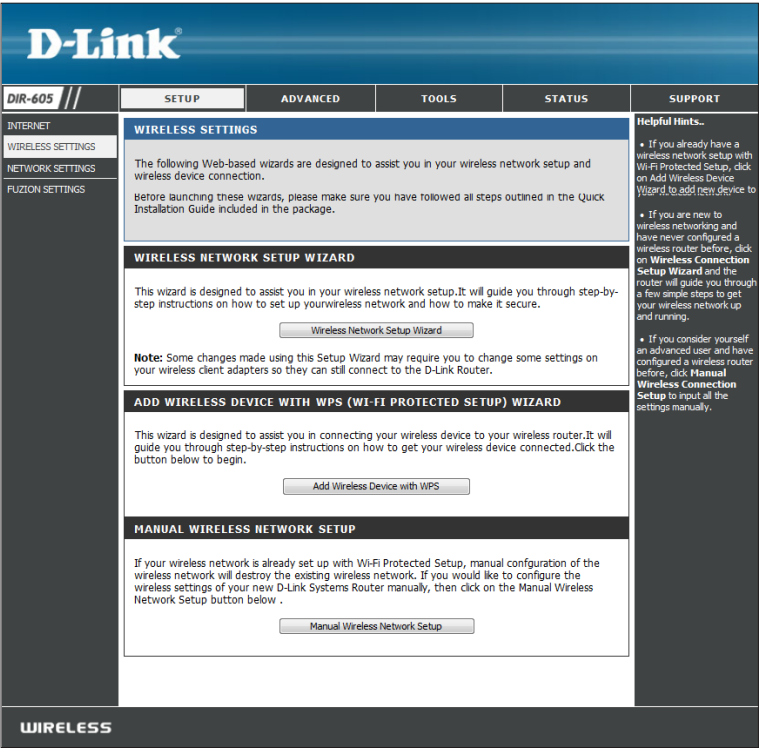
- Improved data encryption through the Temporal Key Integrity Protocol (TKIP). TKIP scrambles the keys using a hashing algorithm and, by adding an integrity-checking feature, ensures that the keys haven't been tampered with. WPA2 is based on 802.11i and uses Advanced Encryption Standard (AES) instead of TKIP.
- User authentication, which is generally missing in WEP, through the extensible authentication protocol (EAP). WEP regulates access to a wireless network based on a computer's hardware-specific MAC address, which is relatively simple to be sniffed out and stolen. EAP is built on a more secure public-key encryption system to ensure that only authorized network users can access the network.

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

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

Wireless Connection Setup Wizard

To run the security wizard, browse to the Setup page and then click the **Wireless Connection Setup Wizard** button.



Click **Next** to continue.



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

If you would like the router to automatically assign a network key to your network, you can click the “automatically assign a network key” button and click **Next** to continue.

Or if you would like to create the key by your own, please click the “Manual assign a Network key” button and click **Next** to continue.

Enter your security password (network key) in the box and click **Next** to continue.

STEP 1: SETUP YOUR WIRELESS NETWORK

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

Wireless Network Name (SSID)

☒ Automatically assign a network key (Recommended)

To prevent intruders from accessing your network, the router will automatically assign a security key (also called WEP or WPA key) to your network.

☐ Manually assign a network key

Use this option if you prefer to create your own key.

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

STEP 2: SET YOUR WIRELESS SECURITY PASSWORD

You have selected your wireless security level - you will need to set a wireless security password.

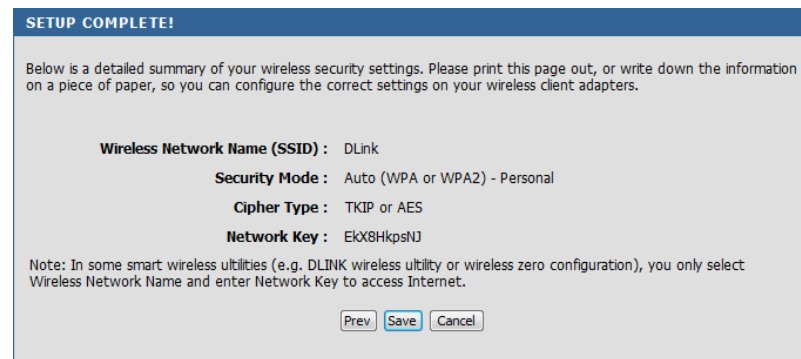
The WPA (Wi-Fi Protected Access) key must meet one of following guidelines:

- Between 8 to 63 characters (A longer WPA key is more secure than a short one)
- Exactly 64 characters using 0-9 and A-F

Network Key :

Note: You will need to enter the same password that you created in this step into your wireless clients in order to enable proper wireless communication.

Click **Save** to finish the Security Wizard.



If you selected WPA-Enterprise, the RADIUS information will be displayed. Click **Save** to finish the Security Wizard.

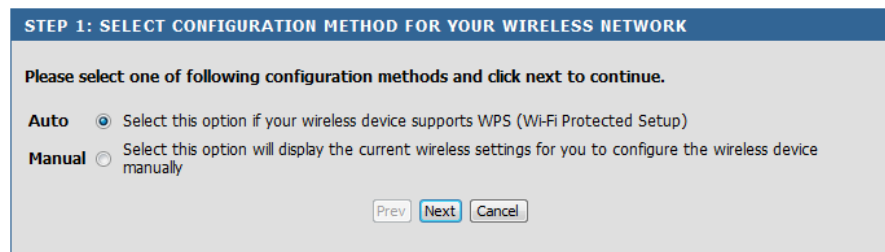
Add Wireless Device with WPS Wizard

From the **Setup > Wireless Settings** screen, click **Add Wireless Device with WPS**. If this option is greyed out, you must enable the wireless function under **Setup > Fusion Settings**.



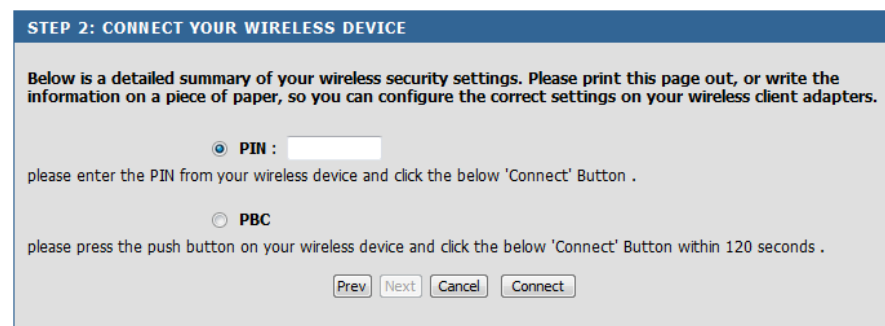
Select **Auto** to add a wireless client using WPS (Wi-Fi Protected Setup). Once you select **Auto** and click **Connect**, you will have a 120 second time limit to apply the settings to your wireless client(s) and successfully establish a connection.

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



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

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



Configure WPA-Personal (PSK)

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

1. Log into the web-based configuration by opening a web browser and entering the IP address of the router (192.168.3.17). Click on **Setup** and then click Wireless Settings on the left side and then click Manual Wireless Network Setup.
2. Next to *Security Mode*, select **WPA-Personal**.
3. Next to *WPA Mode*, select **Auto**, **WPA2 Only**, or **WPA Only**. Use **Auto** if you have wireless clients using both WPA and WPA2.
4. Next to *Cypher Type*, select **TKIP and AES**, **TKIP**, or **AES**. If you have wireless clients that use both types, use **TKIP and AES**.
5. Next to *Pre-Shared Key*, enter a key (passphrase). The key is entered as a pass-phrase in ASCII format at both ends of the wireless connection. The pass-phrase must be between 8-63 characters.
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 WPA-PSK on your adapter and enter the same passphrase as you did on the router.

The screenshot displays the WPA configuration section of a router's web interface. It includes a header 'WPA' and a detailed explanation of three security modes: **AUTO(TKIP/AES)**, **WPA2 Only**, and **WPA Only**. Below the text, there are two dropdown menus: 'WPA Mode' set to 'WPA Only' and 'Cipher Type' set to 'TKIP and AES'. A note suggests using 'WPA2 Only' for better performance. The 'PRE-SHARED KEY' section below it contains a text field with the example passphrase 'PlitYKQgMm'.

WPA

Use **AUTO(TKIP/AES)** 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 :

Cipher Type :

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 :

Configure WPA-Enterprise (RADIUS)

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

1. Log into the web-based configuration by opening a web browser and entering the IP address of the router (192.168.3.17). Click on **Setup** and then click **Wireless Settings** on the left side and then click "Manual Wireless Network Setup".
2. Next to *Security Mode*, select **WPA-Enterprise**.
3. Next to *WPA Mode*, select **Auto, WPA2 Only**, or **WPA Only**. Use **Auto** if you have wireless clients using both WPA and WPA2.
4. Next to *Cypher Type*, select **TKIP and AES, TKIP**, or **AES**. If you have wireless clients that use both types, use **TKIP and AES**.
5. Next to *RADIUS Server IP Address* enter the IP Address of your RADIUS server.
6. Next to *RADIUS Server Port*, enter the port you are using with your RADIUS server.
7. Next to *RADIUS Server Shared Secret*, enter the security key.

The screenshot shows the D-Link DIR-605 web-based configuration interface. The top navigation bar includes tabs for SETUP, ADVANCED, TOOLS, STATUS, and SUPPORT. The left sidebar shows a tree view with INTERNET, WIRELESS SETTINGS, NETWORK SETTINGS, and FUZION SETTINGS. The main content area is titled "WIRELESS NETWORK" and contains the following sections:

- WIRELESS NETWORK**: A section for configuring wireless settings. It includes a "Save Settings" button and a "Don't Save Settings" button. Below this, there are fields for "Wireless Network Name" (Dunk), "Wireless Channel" (6), "Transmission Rate" (Best (automatic)), and "Channel Width" (20 Mhz). There is also a checkbox for "Enable Auto Channel Scan" and a checkbox for "Enable Hidden Wireless".
- WIRELESS SECURITY MODE**: A section for selecting the security mode. It includes a "Security Mode" dropdown menu set to "WPA-Enterprise".
- WPA**: A section for configuring WPA settings. It includes a "WPA Mode" dropdown menu set to "Auto(WPA or WPA2)" and a "Cipher Type" dropdown menu set to "TKIP and AES".
- EAP (802.1X)**: A section for configuring EAP settings. It includes fields for "RADIUS Server IP Address", "RADIUS Server Port", and "RADIUS Server Shared Secret".

On the right side of the interface, there are "Helpful Hints..." which provide additional information about the settings.

Connect to a Wireless Network

Windows® 7

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

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



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

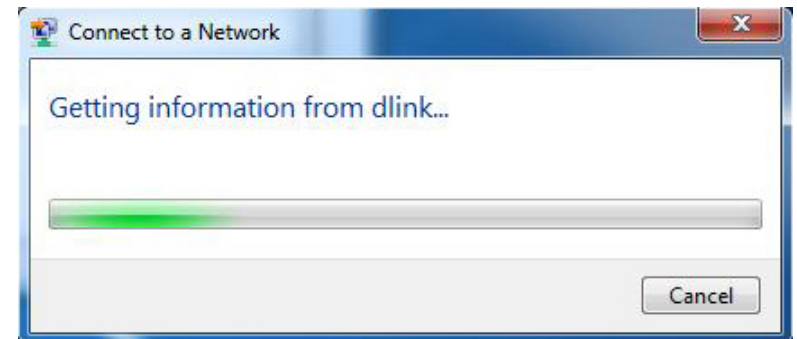


3. Highlight the wireless network (SSID) you would like to connect to and click the **Connect** button.

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

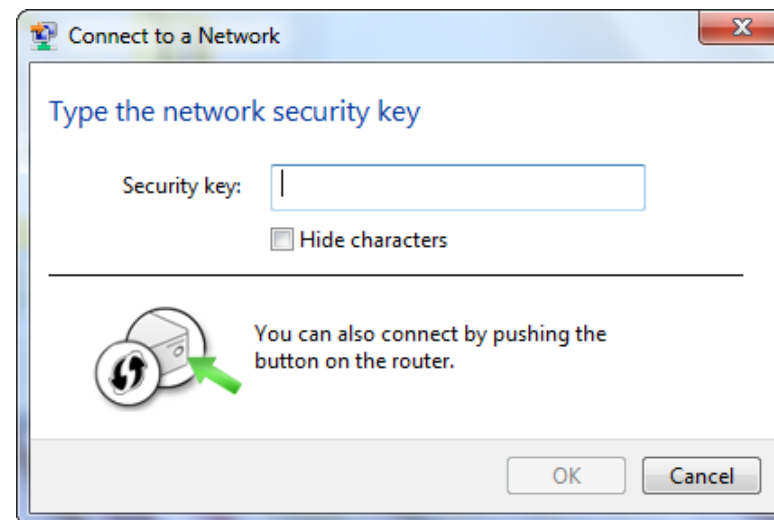


4. The following window appears while your computer tries to connect to the router.



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

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.



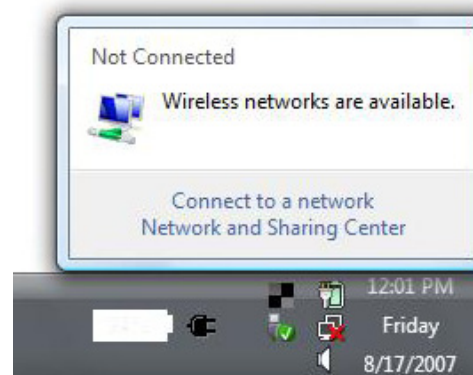
Windows Vista®

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

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

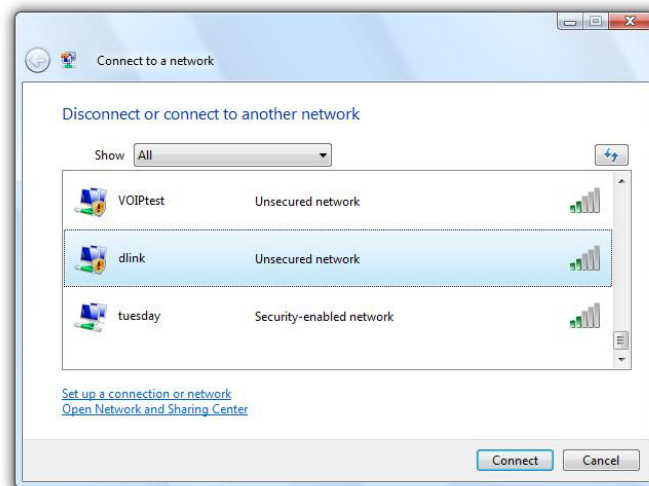
or

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



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

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



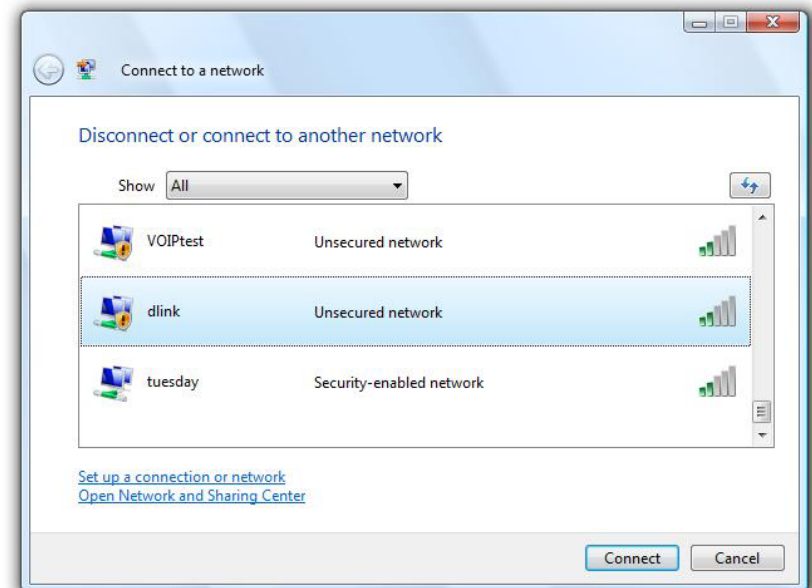
Configure WPA/WPA2

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**.

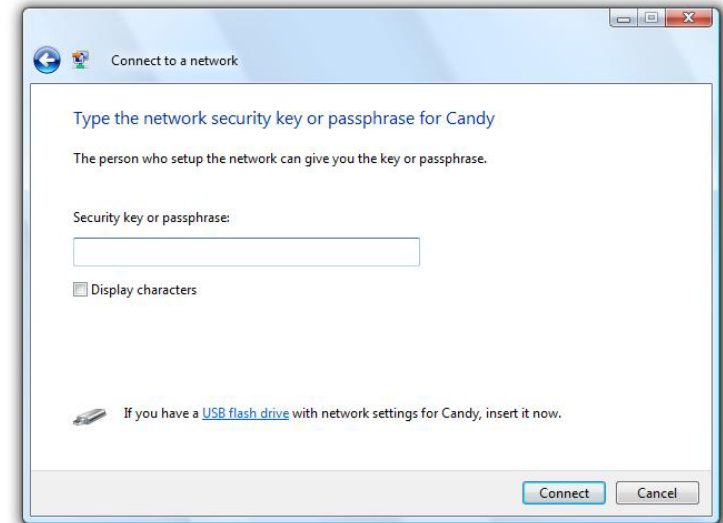


2. Highlight the wireless network (SSID) you would like to connect to and click **Connect**.



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.

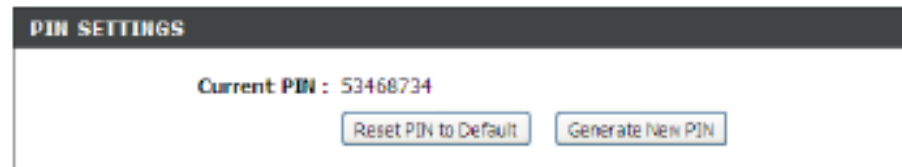


Connect Using WCN 2.0

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 **Setup > 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.

Using Windows® XP

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

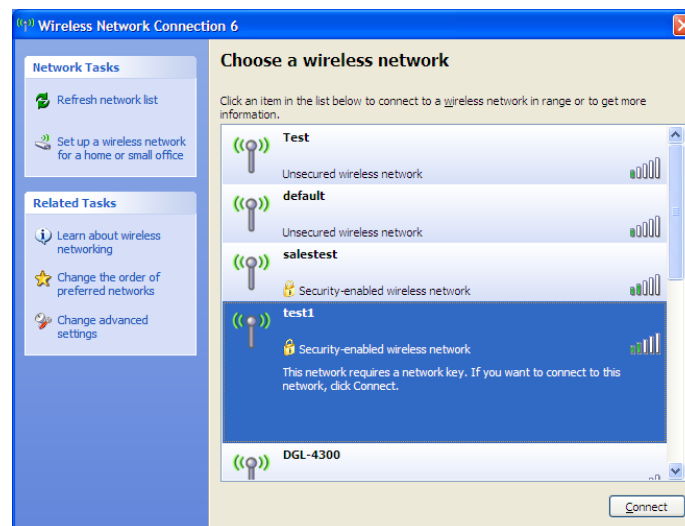
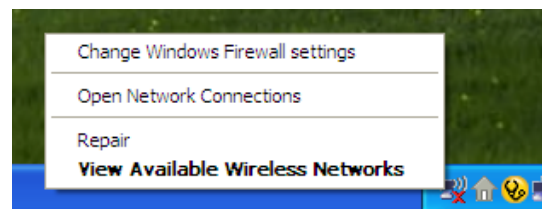
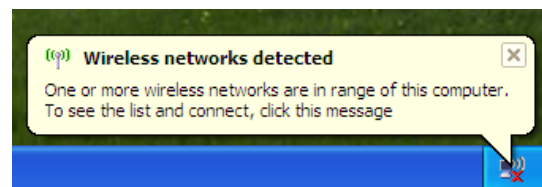
If you receive the **Wireless Networks Detected** bubble, click on the center of the bubble to access the utility.

or

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

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

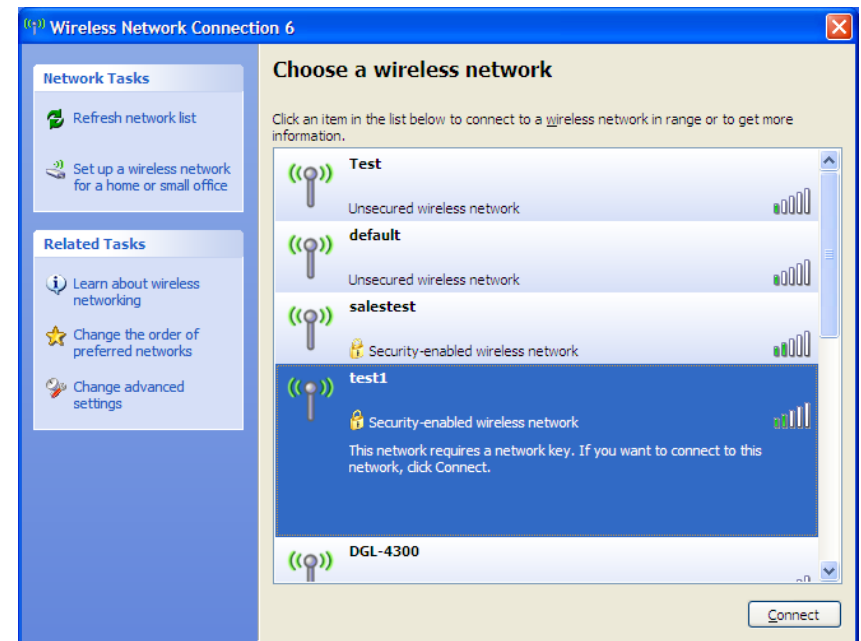
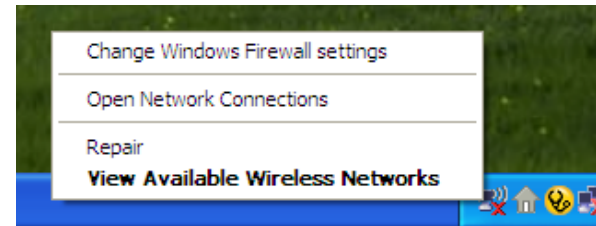
If you get a good signal but cannot access the Internet, check you TCP/IP settings for your wireless adapter. Refer to the **Networking Basics** section in this manual for more information.



Configure WPA-PSK

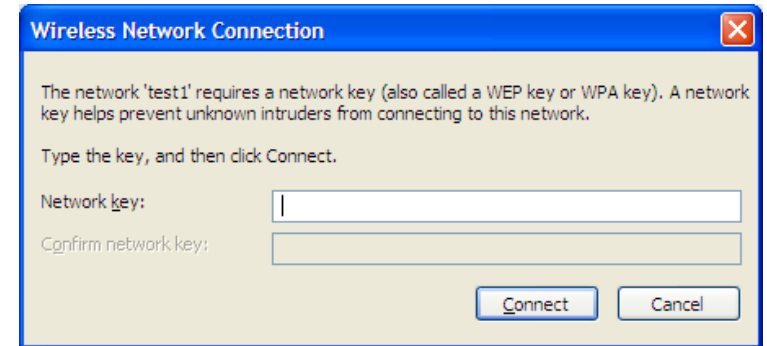
It is recommended to enable WPA on your wireless router or access point before configuring your wireless adapter. If you are joining an existing network, you will need to know the WPA key being used.

1. Open the Windows® XP Wireless Utility by right-clicking on the wireless computer icon in your system tray (lower-right corner of screen). Select **View Available Wireless Networks**.
2. Highlight the wireless network (SSID) you would like to connect to and click **Connect**.



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

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



Troubleshooting

This chapter provides solutions to problems that can occur during the installation and operation of the DIR-605. 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 screen shots 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 (192.168.3.17 for example), you are not connecting to a website on the Internet or 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:
 - Internet Explorer 8.0 or higher
 - Chrome 5.0 or higher
 - Safari 4.0 or higher
 - Firefox 3.6 or 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® firewall may block access to the configuration pages. Check the help files included with your firewall software for more information on disabling or configuring it.

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

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

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

To reset the router, locate the reset button (hole) on the 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 192.168.3.17. 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 e-mails when connecting through my router?

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

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

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

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

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

```
C:\>ping yahoo.com -f -l 1482
Pinging yahoo.com [66.94.234.13] with 1482 bytes of data:
Packet needs to be fragmented but DF set.
Packet needs to be fragmented but DF set.
Packet needs to be fragmented but DF set.
Packet needs to be fragmented but DF set.

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

C:\>ping yahoo.com -f -l 1472
Pinging yahoo.com [66.94.234.13] with 1472 bytes of data:
Reply from 66.94.234.13: bytes=1472 time=93ms TTL=52
Reply from 66.94.234.13: bytes=1472 time=109ms TTL=52
Reply from 66.94.234.13: bytes=1472 time=125ms TTL=52
Reply from 66.94.234.13: bytes=1472 time=203ms TTL=52

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

C:\>
```

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

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

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

- Open your browser, enter the IP address of your router (192.168.3.17) and click **OK**.
- Enter your username (admin) and password (blank by default). Click **OK** to enter the web configuration page for the device.
- Click on **Setup** and then click **Manual Configure**.
- To change the MTU enter the number in the MTU field and click **Save Settings** to save your settings.
- Test your e-mail. If changing the MTU does not resolve the problem, continue changing the MTU in increments of ten.

Wireless Basics

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

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

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

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

What is Wireless?

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

Why D-Link Wireless?

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

How does wireless work?

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

Wireless Local Area Network (WLAN)

In a wireless local area network, a device called an Access Point (AP) connects computers to the network. The access point has a small antenna attached to it, which allows it to transmit data back and forth over radio signals. With an indoor access point as seen in the picture, the signal can travel up to 300 feet.

Wireless Personal Area Network (WPAN)

Bluetooth is the industry standard wireless technology used for WPAN. Bluetooth devices in WPAN operate in a range up to 30 feet away.

Compared to WLAN the speed and wireless operation range are both less than WLAN, but in return it doesn't use nearly as much power which makes it ideal for personal devices, such as mobile phones, PDAs, headphones, laptops, speakers, and other devices that operate on batteries.

Who uses wireless?

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

Home

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

Small Office and Home Office

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

Where is wireless used?

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

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

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

Tips

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

Centralize your router or Access Point

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

Eliminate Interference

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

Security

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

Wireless Modes

There are basically two modes of networking:

- **Infrastructure** – All wireless clients will connect to an access point or wireless router.
- **Ad-Hoc** – Directly connecting to another computer, for peer-to-peer communication, using wireless network adapters on each computer, such as two or more DIR-605 wireless network Cardbus adapters.

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

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

Networking Basics

Check your IP address

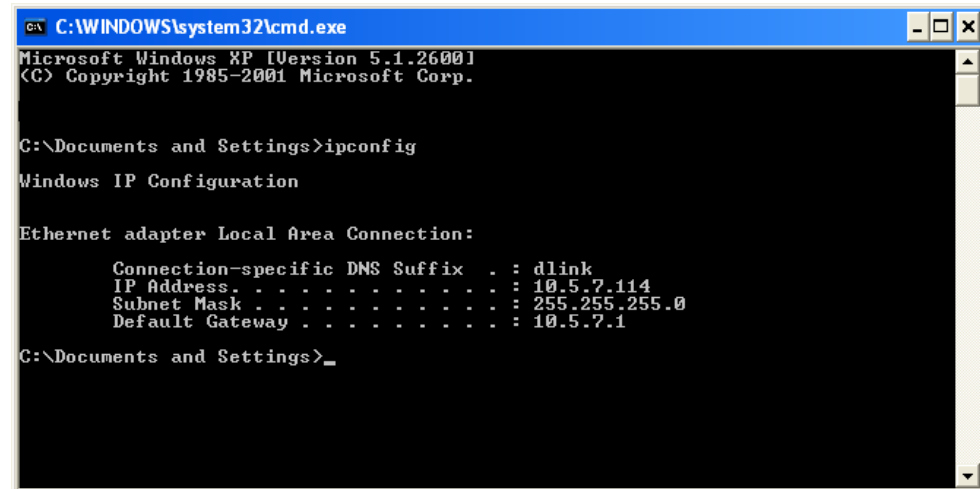
After you install your adapter, by default, the TCP/IP settings should be set to obtain an IP address from a DHCP server (i.e. wireless router) automatically. To verify your IP address, please follow the steps below.

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

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

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

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



```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600.1
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

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

C:\Documents and Settings>_
```

Statically Assign an IP address

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

Step 1

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

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

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

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

Step 2

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

Step 3

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

Step 4

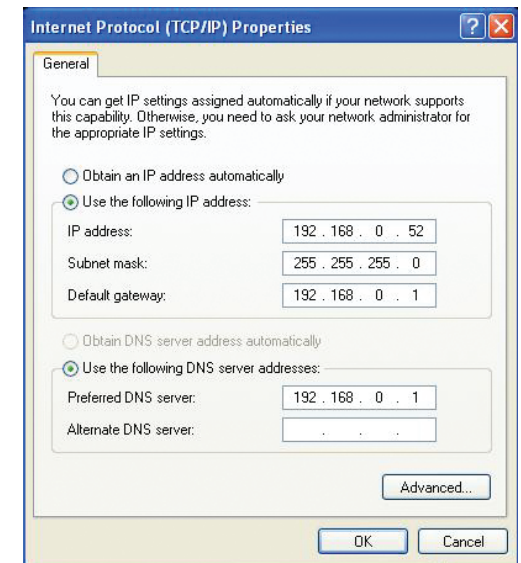
Click **Use the following IP address** and enter an IP address that is on the same subnet as your network or the LAN IP address on your router.

Example: If the router's LAN IP address is 192.168.3.17, make your IP address 192.168.3.X where X is a number between 2 and 99 (not 17). 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 (192.168.3.17).

Set Primary DNS the same as the LAN IP address of your router (192.168.3.17). 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 (draft 2.0)
- IEEE 802.11g
- IEEE 802.3
- IEEE 802.3u

Security

- WPA-Personal
- WPA2-Personal
- WPA-Enterprise
- WPA2-Enterprise

Wireless Signal Rates*

- 108Mbps
- 54Mbps
- 36Mbps
- 18Mbps
- 11Mbps
- 6Mbps
- 2Mbps
- 48Mbps
- 24Mbps
- 12Mbps
- 9Mbps
- 5.5Mbps
- 1Mbps

MSC (0-15)

- 130Mbps (270)
- 104Mbps (216)
- 66Mbps (135)
- 52Mbps (108)
- 26Mbps (54)
- 12Mbps (27)
- 117Mbps (243)
- 78Mbps (162)
- 58.5Mbps (121.5)
- 39Mbps (81)
- 19.5Mbps (40.5)
- 6.5Mbps (13.5)

Frequency Range

- 2.4GHz to 2.483GHz

Transmitter Output Power

- 17dBm \pm 2dB

LEDs

- Power
- Internet
- WLAN
- LAN (10/100)

Operating Temperature

- 32°F to 104°F (0°C to 40°C)

Operating Humidity

- 10%-90% non-condensing

Storage Humidity

- 5%-95% non-condensing

Safety & Emissions

- FCC
- IC
- CE
- C-tick

Dimensions

- L = 4.4 inches
- W = 5.8 inches
- H = 1.2 inches

Warranty

- 1 Year Limited

* 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.

Contacting Technical Support

U.S. 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-605)
- Hardware Revision (located on the label on the bottom of the Network Camera (e.g. rev A1))
- Serial Number (s/n number located on the label on the bottom of the Network Camera).

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)354-6555

Internet Support:

<http://support.dlink.com>

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:

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 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 1-877-453-5465, 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. DLink 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.

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.

Limitation of Liability:

TO THE MAXIMUM EXTENT PERMITTED BY LAW, D-LINK IS NOT LIABLE UNDER ANY CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER LEGAL OR EQUITABLE THEORY FOR ANY LOSS OF USE OF THE PRODUCT, INCONVENIENCE OR DAMAGES OF ANY CHARACTER, WHETHER DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL (INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF GOODWILL, LOSS OF REVENUE OR PROFIT, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, FAILURE OF OTHER EQUIPMENT OR COMPUTER PROGRAMS TO WHICH D-LINK'S PRODUCT IS CONNECTED WITH, LOSS OF INFORMATION OR DATA CONTAINED IN, STORED ON, OR INTEGRATED WITH ANY PRODUCT RETURNED TO D-LINK FOR WARRANTY SERVICE) RESULTING FROM THE USE OF THE PRODUCT, RELATING TO WARRANTY SERVICE, OR ARISING OUT OF ANY BREACH OF THIS LIMITED WARRANTY, EVEN IF D-LINK HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE SOLE REMEDY FOR A BREACH OF THE FOREGOING LIMITED WARRANTY IS REPAIR, REPLACEMENT OR REFUND OF THE DEFECTIVE OR NONCONFORMING PRODUCT. THE MAXIMUM LIABILITY OF D-LINK UNDER THIS WARRANTY IS LIMITED TO THE PURCHASE PRICE OF THE PRODUCT COVERED BY THE WARRANTY. THE FOREGOING EXPRESS WRITTEN WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ANY OTHER WARRANTIES OR REMEDIES, EXPRESS, IMPLIED OR STATUTORY.

Governing Law:

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 communication. 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 or more 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.

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.

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.

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. 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.

For detailed warranty information applicable to products purchased outside the United States, please contact the corresponding local D-Link office.

Industry Canada Statement:

This device complies with RSS-210 of the Industry Canada 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.

IMPORTANT NOTE:**Radiation Exposure Statement:**

This equipment complies with Canada 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.

This device has been designed to operate with an antenna having a maximum gain of 2dB. Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms.

Version 4.0
September 21, 2011