

# USER MANUAL

DIR-514

VERSION 1.2



**D-Link**<sup>®</sup>

**WIRELESS**

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# Preface

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

## Manual Revisions

Revision	Date	Description
1.1	August 24, 2012	First Release

## Trademarks

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# Package Contents



D-Link DIR-514 Wireless N300 3G Router



Ethernet cable



Power Adapter

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

# System Requirements

<b>Network Requirements</b>	<ul style="list-style-type: none"><li>• An Ethernet-based Cable or DSL modem</li><li>• IEEE 802.11 n/g wireless clients</li><li>• 10/100 Ethernet</li></ul>
<b>Web-based Configuration Utility Requirements</b>	<p><b>Computer with the following:</b></p> <ul style="list-style-type: none"><li>• Windows®, Macintosh, or Linux-based operating system</li><li>• An installed Ethernet adapter</li></ul> <p><b>Browser Requirements:</b></p> <ul style="list-style-type: none"><li>• Internet Explorer 6 or higher</li><li>• Opera 10.6 or higher</li><li>• Safari 3.2.1 or higher (with Java 1.3.1 or higher)</li><li>• Chrome 1.0.154.43 or higher</li><li>• Firefox 3.03 or higher</li></ul> <p><b>Windows® Users:</b> Make sure you have the latest version of Java installed. Visit <a href="http://www.java.com">www.java.com</a> to download the latest version.</p>

# Features

- **Faster Wireless Networking** - The DIR-514 provides up to 300Mbps\* wireless connection with other 802.11n wireless clients. This capability allows users to participate in real-time activities online, such as video streaming, online gaming, and real-time audio.
- **Compatible with 802.11g Devices** - The DIR-514 is still fully compatible with the IEEE 802.11g standard, so it can connect with existing 802.11g PCI, USB and FireWire adapters.
- **3G Internet Connection Support** - Connect a 3G USB dongle to the DIR-514 to access 3G Internet Services.
- **Advanced Firewall Features** - The Web-based user interface displays a number of advanced network management features including:
  - **Content Filtering** - Easily applied content filtering based on MAC Address, URL, and/or Domain Name.
  - **Filter Scheduling** - These filters can be scheduled to be active on certain days or for a duration of hours or minutes.
  - **Secure Multiple/Concurrent Sessions** - The DIR-514 can pass through VPN sessions. It supports multiple and concurrent IPSec, PPTP, and L2TP sessions, so users behind the DIR-514 can securely access corporate networks.
- **User-friendly Setup Wizard** - Through its easy-to-use Web-based user interface, the DIR-514 lets you control what information is accessible to those on the wireless network, whether from the Internet or from your company's server. Configure your router to your specific settings within minutes.

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

# Installation

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

## Before you Begin

Please configure the router with the computer that was last connected directly to your modem. Also, you can only use the Ethernet port on your modem. If you were using the USB connection before using the router, then you must turn off your modem, disconnect the USB cable and connect an Ethernet cable to the Internet port on the router, and then turn the modem back on. In some cases, you may need to call your ISP to change connection types (USB to Ethernet).

If you have DSL and are connecting via PPPoE, make sure you disable or uninstall any PPPoE software such as WinPoet, Broadjump, or Enternet 300 from your computer or you will not be able to connect to the Internet.

# Wireless Installation Considerations

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

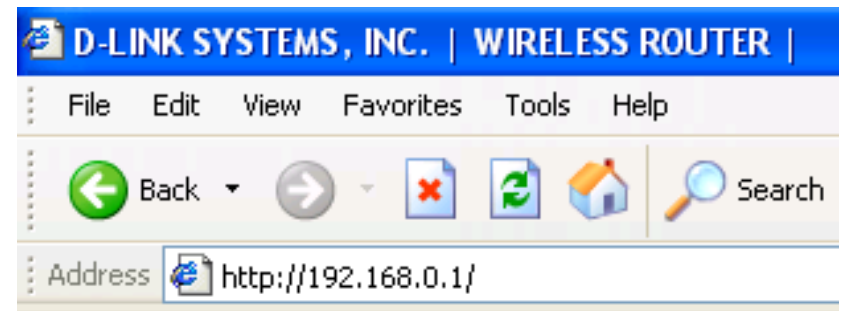
1. Keep the number of walls and ceilings between the D-Link router and other network devices to a minimum - each wall or ceiling can reduce your adapter's range from 3-90 feet (1-30 meters.) Position your devices so that the number of walls or ceilings is minimized.
2. Be aware of the direct line between network devices. A wall that is 1.5 feet thick (.5 meters), at a 45-degree angle appears to be almost 3 feet (1 meter) thick. At a 2-degree angle it looks over 42 feet (14 meters) thick! Position devices so that the signal will travel straight through a wall or ceiling (instead of at an angle) for better reception.
3. Building Materials make a difference. A solid metal door or aluminum studs may have a negative effect on range. Try to position access points, wireless routers, and computers so that the signal passes through drywall or open doorways. Materials and objects such as glass, steel, metal, walls with insulation, water (fish tanks), mirrors, file cabinets, brick, and concrete will degrade your wireless signal.
4. Keep your product away (at least 3-6 feet or 1-2 meters) from electrical devices or appliances that generate RF noise.
5. If you are using 2.4GHz 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.

# Configuration

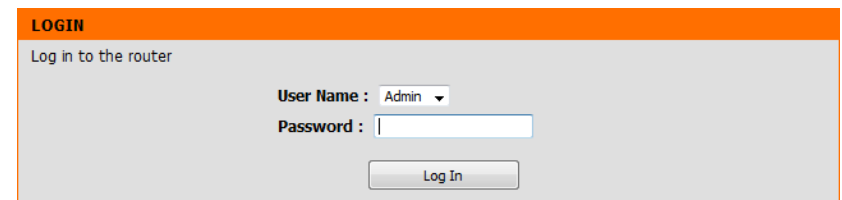
This section will show you how to configure your new D-Link wireless router using the web-based configuration utility.

## 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 (192.168.0.1).



Type **Admin** in the **User Name** field and then enter your password. Leave the password blank by default.



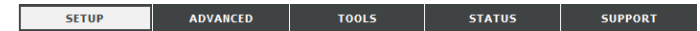
Click the **Login** button to log in to the router.

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



# Setup

The **SETUP** pages allow you to configure your Internet and wireless settings, as well as manage your SMS inbox. To view the Setup configuration pages, click on **SETUP** at the top of the screen.

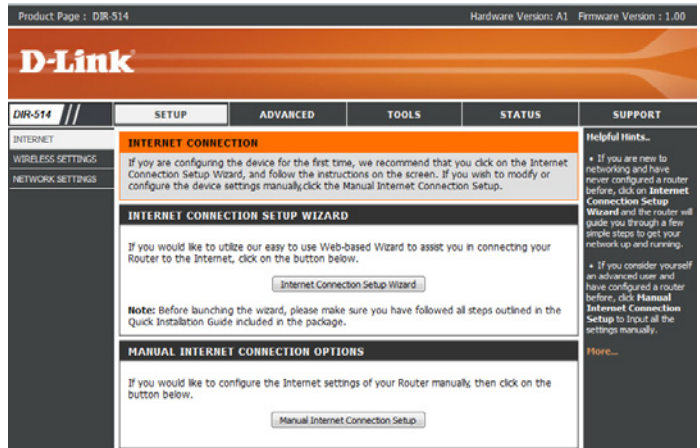


# Internet

The Internet page allows you to configure how your router connects to the Internet. There are two ways to set up your Internet connection.

You can click on the **Internet Connection Setup Wizard** button to start a wizard that will guide you through setting up your Internet settings.

If you want to manually configure your settings, click **Manual Internet Connection Setup**.

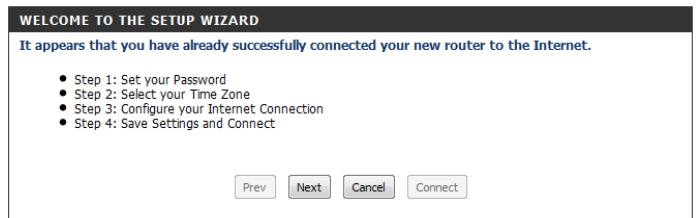


# Internet Connection Setup Wizard

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

Click **Next** to continue.

**Note:** While using the wizard, you can click **Prev** to go back to the previous page or you can click **Cancel** to close the wizard.



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

**STEP 1: SET YOUR PASSWORD**

To secure your new networking device, please set and verify a password below:

Password :

Verify Password :

Prev Next Cancel Connect

Select your time zone from the drop-down box 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.

(GMT-08:00) Pacific Time (US & Canada) ▼

Prev Next Cancel Connect

Select the Internet connection type you use. The connection types are explained on the following page. If you are unsure which connection type you should use, contact your Internet Service Provider (ISP).

Click **Prev** to go back to the previous page or click **Cancel** to close the wizard.

**Note:** The DIR-514 has a WAN Failover feature that allows the router to switch to a 3G connection if the WAN connection is down or unavailable.

**STEP 3: CONFIGURE YOUR INTERNET CONNECTION**

Please select the Internet connection type below:

- DHCP Connection (Dynamic IP Address)**  
Choose this if your Internet connection automatically provides you with an IP Address. Most Cable Modems use this type of connection.
- Username / Password Connection (PPPoE)**  
Choose this option if your Internet connection requires a username and password to get online. Most DSL modems use this type of connection.
- Username / Password Connection (PPTP)**  
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.
- 3G Connection**  
Choose this option if your internet is 3G Service.
- Wi-Fi HotSpot**  
Choose this if your Internet connection is Public Wi-Fi HotSpot.
- Static IP Address Connection**  
Choose this option if your Internet Setup Provider provided you with IP Address information that has to be manually configured.

Prev Next Cancel Connect

The subsequent configuration pages will differ depending on the selection you make on this page.

**DHCP Connection (Dynamic IP Address):** Choose this if your Internet connection automatically provides you with an IP Address. Most cable modems use this type of connection.

**Username / Password Connection (PPPoE):** Choose this option if your Internet connection requires a username and password to connect. Most DSL modems use this style of connection.

**Username / Password Connection (PPTP):** Choose this option if your Internet connection requires Point-to-Point Tunneling Protocol (PPTP).

**Username / Password Connection (L2TP):** Choose this option if your Internet connection requires Layer 2 Tunneling Protocol (L2TP).

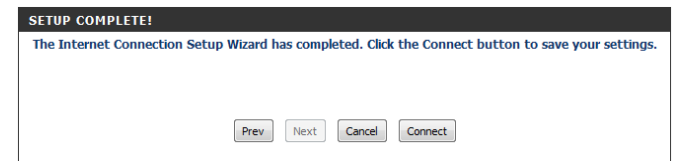
**3G Connection:** Choose this connection if you have installed a 3G wireless card or smartphone into the DIR-514.

**WiFi HotSpot:** Choose this if your Internet connection is Public Wi-Fi HotSpot.

**Static IP Address Connection:** Choose this option if your Internet Setup Provider provided you with IP Address information that has to be manually configured.

After entering the requested information,click **Next** to continue.

This completes the Internet Connection Setup Wizard. Click **Connect** to save your changes and reboot the router.



# Manual Internet Connection Setup

To set up your Internet connection manually, click **Manual Internet Connection Setup**.

**INTERNET CONNECTION**

If you are configuring the device for the first time, we recommend that you click on the Internet Connection Setup Wizard, and follow the instructions on the screen. If you wish to modify or configure the device settings manually, click the Manual Internet Connection Setup.

**INTERNET CONNECTION SETUP WIZARD**

If you would like to utilize our easy to use Web-based Wizard to assist you in connecting your Router to the Internet, click on the button below.

**Note:** Before launching the wizard, please make sure you have followed all steps outlined in the Quick Installation Guide included in the package.

**MANUAL INTERNET CONNECTION OPTIONS**

If you would like to configure the Internet settings of your Router manually, then click on the button below.

## Internet Connection

Several different Internet Connection types can be selected depending upon the specifications of your Internet Service Provider (ISP). You can also set up the WAN Failover feature, which allows you to use a 3G connection for your Internet connection if your main connection fails.

**My Internet Connection is:** Select the Internet Connection type specified by your Internet Service Provider (ISP). The corresponding settings will be displayed below. Please see the following pages for details on how to configure these different connection types.

**WAN Failover:** When this box is checked, the router will switch over to a 3G connection if the Internet Host (specified below) is unreachable.

**Internet Host:** Enter an IP address for the router to use to check if it is connected to the Internet. If WAN Failover is enabled and the IP address cannot be reached, the router will switch over to a 3G connection.

**3G Internet Connection:** Configure your 3G connection when WAN Failover feature is enabled.

**INTERNET CONNECTION TYPE**

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

**My Internet Connection is:**    
**Enable WAN Failover:**  Enable checking wired-WAN alive

**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 Server:**   
**Secondary DNS Server:**   
**MTU:**  (bytes) MTU default = 1500  
**MAC Address:**

**3G INTERNET CONNECTION TYPE**

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

**Dial-Up Profile:**  Auto-Detection  Manual  
**Country:**    
**Telecom:**   
**3G Network:**   
**Username:**  (optional)  
**Password:**  (optional)  
**Verify Password:**  (optional)  
**Dialed Number:**   
**Authentication:**   
**APN:**  (optional)  
**Reconnect Mode:**  Always on  On demand  Manual  
**Maximum Idle Time:**  (minutes, 0=infinite)  
**Primary DNS Server:**   
**Secondary DNS Server:**   
**Keep Alive:**  Disable  Use LCP Echo Request

## Static IP

Choose this Internet connection if your ISP assigns you a static IP address. After modifying any settings, click **Save Settings** to save your changes.

**IP Address:** Enter the IP address assigned to your network connection.

**Subnet Mask:** Enter the subnet mask.

**Default Gateway:** Enter the default gateway.

**Primary DNS Server:** Enter the primary DNS server.

**Secondary DNS Server:** Enter the secondary DNS server.

**MTU:** You may need to change the Maximum Transmission Unit (MTU) for optimal performance. The default value is 1500.

**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 a configuration window titled "STATIC IP ADDRESS INTERNET CONNECTION TYPE". Below the title is a subtitle: "Enter the static address information provided by your Internet Service Provider (ISP)". The form contains several input fields and a button:

- IP Address :
- Subnet Mask :
- Default Gateway :
- Primary DNS Server :
- Secondary DNS Server :
- MTU :  (bytes)
- MAC Address :
- A button labeled "Clone Your PC's MAC Address" is positioned below the MAC Address input field.

## Dynamic IP (DHCP)

This section will help you to obtain IP Address information automatically from your ISP. Use this option if your ISP didn't provide you with IP Address information and/or a username and password. After modifying any settings, click **Save Settings** to save your changes.

**Host Name:** (Optional) Required by some ISPs.

**Primary DNS Server:** (Optional) Fill in with IP address of primary DNS server.

**Secondary DNS Server:** (Optional) Fill in with IP address of secondary DNS server.

**MTU (Maximum Transmission Unit):** You may need to change the Maximum Transmission Unit (MTU) for optimal performance. The default value is 1500.

**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 PC.

The screenshot shows a configuration window titled "DYNAMIC IP (DHCP) INTERNET CONNECTION TYPE". Below the title is a blue instruction box: "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." The form contains the following fields and controls:

- Host Name:** A text input field containing "DIR-514".
- Primary DNS Server:** An empty text input field.
- Secondary DNS Server:** An empty text input field.
- MTU:** A numeric input field set to "1500", with the text "(bytes) MTU default = 1500" to its right.
- MAC Address:** An empty text input field with a button labeled "Clone Your PC's MAC Address" positioned to its right.

## PPPoE (Username/Password)

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

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

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

**User Name:** Enter your PPPoE user name.

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

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

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

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

**PPPOE INTERNET CONNECTION TYPE**

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

**Address Mode :**  Dynamic IP  Static IP

**IP Address :**

**Username :**

**Password :**

**Verify Password :**

**Service Name :**  (optional)

**Reconnect Mode :**  Always on  On demand  Manual

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

**Primary DNS Server :**  (optional)

**Secondary DNS Server :**  (optional)

**MTU :**  (bytes) MTU default = 1492

**MAC Address :**

**DNS Mode:** Click the **Receive DNS from ISP** radio button if you want to dynamically receive the DNS Server IP addresses from your ISP. To manually enter the DNS Server IP addresses, click the **Enter DNS Manually** radio button and enter the DNS Server IP addresses in the **Primary DNS Server** and **Secondary DNS Server** fields.

**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.



## PPTP (Username/Password)

Choose **PPTP (Username/Password)** from the **My Internet Connection is** drop-down menu if your ISP uses a PPTP connection. Your ISP will provide you with a username and password. This option is typically used for DSL services.

**Address Mode:** Select **Static** 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 Subnet Mask (Static PPTP only).

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

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

**Username:** Enter your PPTP username.

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

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

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

**PPTP INTERNET CONNECTION TYPE**

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

**Address Mode :**  Dynamic IP  Static IP

**PPTP IP Address :**

**PPTP Subnet Mask :**

**PPTP Gateway IP Address :**

**PPTP Server IP Address :**

**Username :**

**Password :**

**Verify Password :**

**Reconnect Mode :**  Always on  On demand  Manual

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

**Primary DNS Address :**

**Secondary DNS Address :**

**MTU :**  (bytes) MTU default = 1400

**MAC Address :**

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

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

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

## L2TP (Username/Password)

Choose **L2TP (Username/Password)** from the **My Internet Connection is** drop-down menu if your ISP uses an L2TP connection. Your ISP will provide you with a username and password. This option is typically used for DSL services.

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

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

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

**L2TP Gateway IP Address:** Enter the Gateway IP address provided by your ISP (Static L2TP only).

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

**User Name:** Enter your L2TP user name.

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

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

**L2TP INTERNET CONNECTION TYPE**

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

**Address Mode :**  Dynamic IP  Static IP

**L2TP IP Address :**

**L2TP Subnet Mask :**

**L2TP Gateway IP Address :**

**L2TP Server IP Address :**

**Username :**

**Password :**

**Verify Password :**

**Reconnect Mode :**  Always on  On demand  Manual

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

**Primary DNS Address :**

**Secondary DNS Address :**

**MTU :**  (bytes) MTU default = 1400

**MAC Address :**

**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).

**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.

## 3G Internet Connection

Choose this Internet connection if you already use a SIM card for 3G Internet service from your Telecom company. The fields here may not be necessary for your connection. The information on this page should only be used if required by your service provider. After modifying any settings, click **Save Settings** to save your changes.

**Dial-Up Profile:** Set 3G connection automatically or manually

**Username:** (Optional) Fill in only if requested by ISP.

**Password:** (Optional) Fill in only if requested by ISP.

**Dialed Number:** Enter the number to be dialed.

**Authentication:** Select PAP, CHAP, or Auto detection. The default authentication method is Auto.

**APN:** (Optional) Enter the APN information.

**Reconnect Mode:** Select Auto or Manual to decide whether the router should reconnect to your 3G network automatically or manually.

**Maximum Idle Time:** Set the maximum time your connection can be idle before disconnecting. Set it to 0 or choose Auto in Reconnect Mode to disable this feature.

**Keep Alive:** Use LCP Echo-Request/Response to check link status

**3G INTERNET CONNECTION TYPE**

Enter the information provided by your Internet Service Provider (ISP).  
NOTE: If your SIM card is protected by personal identification number (PIN), please unlock and remove the PIN first.

**Dial-Up Profile :**  Auto-Detection  Manual

**Username :**  (optional)

**Password :**  (optional)

**Verify Password :**  (optional)

**Dialed Number :**

**Authentication :**

**APN :**  (optional)

**Reconnect Mode :**  Always on  On demand  Manual

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

**Keep Alive :**  Disable  Use LCP Echo Request

## WiFi Hotspot

Choose this Internet connection if you already use a WiFi HotSpot to access the Internet in public locations.

- WiFi Network Name:** public location router SSID
- Encrypt:** wireless security mode for public location router
- Channel:** wireless channel used for public location router
- Single(%):** wireless signal strength
- Select:** join the public location router

INTERNET CONNECTION TYPE					
Choose the mode to be used by the router to connect to the Internet.					
<b>My Internet Connection is</b> <input type="text" value="Wi-Fi HotSpot"/>					
WI-FI NETWORK LIST					
ID	Wi-Fi Network Name	Encrypt	Channel	Single(%)	Select
1	D-Link	OPEN(None)	1	39%	<input type="radio"/>
2	D-Link	OPEN(None)	1	100%	<input type="radio"/>

# Wireless Settings

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

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

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

## WIRELESS CONNECTION

There are 2 ways to setup your wireless connection. You can use the Wireless Connection Setup wizard or you can manually configure the connection.

**Please note that changes made on this section will also need to be duplicated to your wireless clients and PC.**

## WIRELESS CONNECTION SETUP WIZARD

If you would like to utilize our easy to use Web-based Wizard to assist you in connecting your Wireless Router to the Internet, click on the button below.

[Wireless Connection Setup Wizard](#)

**Note:** Before launching the wizard, please make sure you have followed all steps outlined in the Quick Installation Guide included in the package.

## ADD WIRELESS DEVICE WITH WPS(WI-FI PROTECTED SETUP) WIZARD

The wizard is designed to assist you in connecting your wireless device to your router. It will guide you through step-by-step instructions on how to get your wireless device connected. Click the button below to begin.

[Add Wireless Device with WPS](#)

## MANUAL WIRELESS CONNECTION OPTIONS

If you would like to configure the Internet settings of your Router manually, then click on the button below.

[Manual Wireless Connection Setup](#)

# Wireless Security Setup Wizard

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

Click **Next** to continue.

The following screen will show you your Pre-Shared Key to enter on your wireless clients.

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

**WIRELESS CONNECTION SETUP WIZARD**

If you would like to utilize our easy to use Web-based Wizard to assist you in connecting your Wireless Router to the Internet, click on the button below.

**Note:** Before launching the wizard, please make sure you have followed all steps outlined in the Quick Installation Guide included in the package.

**STEP 1: WELCOME TO THE D-LINK WIRELESS SECURITY SETUP WIZARD**

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

**Network Name (SSID) :**

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

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

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

**SETUP COMPLETE!**

Below is a detailed summary of your wireless security settings. Please print this page out, or write the information on a piece of paper, so you can configure the correct settings on your wireless client adapters.

**Wireless Network Name (SSID) :** dlink

**Security Mode 2 :** Auto (WPA or WPA2) - Personal

**Cipher Type :** TKIP and AES

**Pre-Shared Key :**



## 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.

**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:

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

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

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

**Enable Auto Channel Scan:** The **Auto Channel Scan** setting can be selected to allow the DIR-514 to choose the channel with the least amount of interference.

**Wireless Channel:** Indicates the channel setting for the DIR-514. 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.

**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** - This is the default setting. Select if you are using both 802.11n and non-802.11n wireless devices.

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

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

**Visibility Status:** Select **Invisible** if you do not want the SSID of your wireless network to be broadcasted by the DIR-514. If Invisible is selected, the SSID of the DIR-514 will not be seen

**WIRELESS NETWORK**

Use this section to configure the wireless settings for this device. Please note that changes made on this section may also need to be duplicated on your wireless client.

To protect your privacy you can configure wireless security features. This device supports three wireless security modes including: WEP, WPA and WPA2.

---

**WIRELESS NETWORK SETTINGS**

**Enable Wireless :**  Always  New Schedule

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

**802.11 Mode :**

**Enable Auto Channel Scan :**

**Wireless Channel :**

**Transmission Rate :**

**Channel Width :**

**Visibility Status :**  Visible  Invisible

---

**WIRELESS SECURITY MODE**

To protect your privacy you can configure wireless security features. This device supports three wireless security modes, including WEP, WPA-Personal, and WPA-Enterprise. WEP is the original wireless encryption standard. WPA provides a higher level of security. WPA-Personal does not require an authentication server. The WPA-Enterprise option requires an external RADIUS server.

**Security Mode :**

## Wireless Security Mode

You can choose from several different wireless security modes. After selecting a mode, the settings for that mode will appear. After modifying any settings, click **Save Settings** to save your changes.

**Security Mode:** You can choose from 4 different security modes.

- **None:** No security will be used. This setting is not recommended.
- **WEP:** WEP encryption will be used. This setting is only recommended if your wireless devices cannot support WPA or WPA2.
- **WPA-Personal:** WPA-PSK encryption will be used. This setting is recommended for most users.
- **WPA-Enterprise:** WPA-EAP encryption will be used. This setting is only recommended if you have a RADIUS authentication server. Otherwise, **WPA-Personal** should be used.

**WIRELESS SECURITY MODE**

To protect your privacy you can configure wireless security features. This device supports three wireless security modes, including WEP, WPA-Personal, and WPA-Enterprise. WEP is the original wireless encryption standard. WPA provides a higher level of security. WPA-Personal does not require an authentication server. The WPA-Enterprise option requires an external RADIUS server.

Security Mode :

If you choose **WEP**, the following options will appear:

- Authentication:** Select whether to use Open or Shared authentication.
- WEP Encryption:** Select whether to use **64-bit** or **128-bit** encryption.
- Default WEP Key:** Select which WEP key (1-4) to use as the default key. This will also change the WEP Key text box to that WEP key for your to configure(1-4).
- WEP Key:** Set the WEP key/password for your wireless network. Based on whether you are using 64 or 128-bit encryption, and whether you are using a HEX or ASCII key, you will need to enter different numbers of characters for your key, as indicated below the WEP Key text box. ASCII keys may use letters and numbers only, and HEX keys may use numbers 0-9 and letters A-F only.

**WIRELESS SECURITY MODE**

**Security Mode :** WEP

---

**WEP**

WEP is the wireless encryption standard. To use it you must enter the same key(s) into the router and the wireless stations. For 64 bit keys you must enter 10 hex digits into each key box. For 128 bit keys you must enter 26 hex digits into each key box. A hex digit is either a number from 0 to 9 or a letter from A to F. For the most secure use of WEP set the authentication type to "Shared Key" when WEP is enabled.

You may also enter any text string into a WEP key box, in which case it will be converted into a hexadecimal key using the ASCII values of the characters. A maximum of 5 text characters can be entered for 64 bit keys, and a maximum of 13 characters for 128 bit keys.

**Authentication :** Open

**WEP Encryption :** 64bit

**Default WEP Key :** WEP Key 1

**WEP Key :** HEX 1234567890  
(5 ASCII or 10 HEX)

Save Settings
Don't Save Settings

If you choose **WPA-Personal**, the following options will appear:

- WPA Mode:** Select whether to use **WPA2 only** or **WPA only**. **WPA2 only** is the most secure, provided that all of your clients can support it.
- Cipher Type:** Select whether to use the **TKIP** or **AES** cipher. The **AES** cipher is the most secure, provided that all of your clients can support it.
- Network Key:** Enter the key/password you want to use for your wireless network. The key must be 8 to 63 characters long, and may only contain letters and numbers.

**WIRELESS SECURITY MODE**

**Security Mode :** WPA-Personal

---

**WPA**

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

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

**WPA Mode :** WPA2 only

**Cipher Type :** TKIP

---

**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.

**Network Key :** 1234567890  
(8~63 ASCII or 64 HEX)

Save Settings
Don't Save Settings

If you choose **WPA-Enterprise**, the following options will appear:

**WPA Mode:** Select whether to use **WPA2 only** or **WPA only**. **WPA2 only** is the most secure, provided that all of your clients can support it.

**Cipher Type:** Select whether to use the **TKIP** or **AES** cipher. The **AES** cipher is the most secure, provided that all of your clients can support it.

**RADIUS Server IP Address:** Enter the IP address of your RADIUS server.

**RADIUS Server Port:** Enter the port used for your RADIUS server.

**RADIUS Server Shared Secret:** Enter the Shared Secret/password for your RADIUS server.

**WIRELESS SECURITY MODE**

**Security Mode :**

**WPA**

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

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

**WPA Mode :**

**Cipher Type :**

**EAP (802.1X)**

When WPA enterprise is enabled, the router uses EAP (802.1x) to authenticate clients via a remote RADIUS server.

**RADIUS Server IP Address :**

**RADIUS server Port :**

**RADIUS server Shared Secret :**

# Wi-Fi Protected Setup

To open the Wi-Fi Protected Setup page, click **Wi-Fi Protected Setup**.

**ADD WIRELESS DEVICE WITH WPS(WI-FI PROTECTED SETUP) WIZARD**

The wizard is designed to assist you in connecting your wireless device to your router. It will guide you through step-by-step instructions on how to get your wireless device connected. Click the button below to begin.

[Add Wireless Device with WPS](#)

The Wi-Fi Protected Setup page allows you to create a wireless connection between your router and a device automatically by simply pushing a button or entering a PIN code.

You can also use Windows 7 to do initial configuration of your router by using the **Connect to a network** wizard in Windows, and entering the WPS PIN/AP PIN of the router when prompted. After modifying any settings, click **Save Settings** to save your changes.

**WI-FI PROTECTED SETUP**

Wi-Fi Protected Setup is used to easily add devices to a network using a PIN or button press. Devices must support Wi-Fi Protected Setup in order to be configured by this method.

[Save Settings](#) [Don't Save Settings](#) [Reboot Now](#)

---

**WI-FI PROTECTED SETUP**

WPS :  Enable  Disable

AP PIN : 63572568 [Generate New PIN](#)

Config Mode : Registrar

Config Status : UNCONFIGURED [Set](#)

Config Method : Push Button

WPS status : IDLE [Trigger](#)

**WPS:** Select whether you would like to enable or disable WPS features.

**AP PIN (also known as WPS PIN):** If you use Windows 7's **Connect to a network** wizard to do initial configuration of the router, you will need to enter the WPS PIN/AP PIN into the wizard when prompted. The factory default WPS PIN/AP PIN is printed on a label located on the bottom of the router. You can click the **Generate New PIN** button to change it to a randomly generated PIN.

**Config Mode:** Select whether the WPS config mode should be set to **Registrar** or **Enrollee**. In most cases, this should be set to **Registrar** so that you can use WPS to connect new wireless clients.

**Config Status:** If this is set to **CONFIGURED**, the router will be marked as “already configured” to computers that try to use WPS configuration, such as Windows 7's **Connect to a network** wizard. You can click the **Release** button to change the status to **UNCONFIGURED** to allow for WPS configuration of the router.

If this is set to **UNCONFIGURED**, you can click the **Set** button to change the status to **CONFIGURED** to block WPS configuration of the router.

**Config Method:** This lets you choose whether to use the **Push Button** connection method (PBC) or **PIN** method to connect to a wireless client when the **Trigger** button is clicked. If you choose the **PIN** method, you will need to enter a 8-digit PIN number that the wireless client need to use to connect to your router.

**WPS Status:** This will show the current WPS connection process status. Click the **Trigger** button to initiate a WPS connection.

## Network Settings

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

**Router IP Address:** Enter the IP address you want to use for the router. The default IP address is **192.168.0.1**.

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

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

**ROUTER SETTINGS**

Use this section to configure the internal network settings of your router. The IP address that is configured here is the IP address that you use to access the Web-based management interface. If you change the IP address here, you may need to adjust your PC's network settings to access the network again.

**Router IP Address :**

**Default Subnet Mask :**

## DHCP Server Settings

The DIR-514 has a built-in DHCP (Dynamic Host Control Protocol) server. The DHCP server assigns IP addresses to devices on the network that request them. By default, the DHCP Server is enabled on the device. The DHCP address pool contains a range of IP addresses, which is automatically assigned to the clients on the network. After modifying any settings, click **Save Settings** to save your changes.

**Enable DHCP Server:** Select this box to enable the DHCP server on your router.

**DHCP IP Address Range:** Enter the range of IPs for the DHCP server to use to assign IP addresses to devices on your network.

**DHCP Lease Time:** Enter lease time for IP address assignments.

**Primary WINS IP Address:** Enter the primary WINS IP Address that will be assigned to DHCP clients.

**Secondary WINS IP Address:** Enter the secondary WINS IP Address that will be assigned to DHCP clients.

**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 :**

**DHCP IP Address Range :**  to  (addresses within the LAN subnet)

**DHCP Lease Time :**  (minutes)

**Primary WINS IP Address :**

**Secondary WINS IP Address :**

# Virtual Server

The DIR-514 can be configured as a virtual server so that remote users accessing Web or FTP services via the public IP address can be automatically redirected to local servers in the LAN (Local Area Network).

The DIR-514 firewall feature filters out unrecognized packets to protect your LAN network so all computers networked with the DIR-514 are invisible to the outside world. If you wish, you can make some of the LAN computers accessible from the Internet by enabling Virtual Server. Depending on the requested service, the DIR-514 redirects the external service request to the appropriate server within the LAN network.

The DIR-514 is also capable of port-redirectation meaning incoming traffic to a particular port may be redirected to a different port on the server computer.

Each virtual service that is created will be listed at the bottom of the screen in the Virtual Servers List. Pre-defined virtual services are already listed in the table. You may use them by enabling them and assigning the server IP to use that particular virtual service.

For a list of ports for common applications, please visit the **Support** section for more information.

**VIRTUAL SERVER**

The Virtual Server option allows you to define a single public port on your router for redirection to an internal LAN IP Address and Private LAN port if required. This feature is useful for hosting online services such as FTP or Web Servers.

---

24 -- VIRTUAL SERVERS LIST

	Name	Application Name	Port	Protocol	Traffic Type
<input type="checkbox"/>	<input type="text"/>	<< Application Name	Public 0	TCP	Schedule Always
	<input type="text"/>	<< Computer Name	Private 0	6	
<input type="checkbox"/>	<input type="text"/>	<< Application Name	Public 0	TCP	Schedule Always
	<input type="text"/>	<< Computer Name	Private 0	6	
<input type="checkbox"/>	<input type="text"/>	<< Application Name	Public 0	TCP	Schedule Always
	<input type="text"/>	<< Computer Name	Private 0	6	
<input type="checkbox"/>	<input type="text"/>	<< Application Name	Public 0	TCP	Schedule Always
	<input type="text"/>	<< Computer Name	Private 0	6	



The Virtual Server feature allows you to open a single port. If you would like to open a range of ports, refer to the next page. Configure the parameters, as described below, to create a new Virtual Server entry.

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

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

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

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

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

24 -- VIRTUAL SERVERS LIST					
			Port	Traffic Type	
<input type="checkbox"/>	Name [ ] << Application Name ▾	Public 0	Protocol TCP ▾	Schedule Always ▾	
	IP Address [ ] << Computer Name ▾	Private 0	6		
<input type="checkbox"/>	Name [ ] << Application Name ▾	Public 0	Protocol TCP ▾	Schedule Always ▾	
	IP Address [ ] << Computer Name ▾	Private 0	6		
<input type="checkbox"/>	Name [ ] << Application Name ▾	Public 0	Protocol TCP ▾	Schedule Always ▾	
	IP Address [ ] << Computer Name ▾	Private 0	6		

# Application Rules

Some applications require multiple connections, such as Internet gaming, video conferencing, Internet telephony and others. These applications have difficulties working through NAT (Network Address Translation). Special Applications makes some of these applications work with the DIR-514. If you need to run applications that require multiple connections, specify the port normally associated with an application in the “Trigger Port” field, select the protocol type as TCP or UDP, then enter the firewall (public) ports associated with the trigger port to open them for inbound traffic.

The DIR-514 provides some predefined applications in the table on the bottom of the web page. Select the application you want to use and enable it.

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

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

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

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

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

**Schedule:** Select a schedule for when the Application Rule will be enabled. If you do not see the schedule you need in the list of schedules, go to the Tools -> Schedules screen and create a new schedule.

**APPLICATION RULES**

This option is used to open single or multiple ports on your router when the router senses data sent to the Internet on a 'trigger' port or port range. Special Applications rules apply to all computers on your internal network.

**12 -- APPLICATION RULES**

			Port	Traffic Type	Schedule
<input type="checkbox"/>	Name <input style="width: 100%;" type="text"/>	<< Application Name	Trigger 0 Firewall 0	Protocol Any	Always
<input type="checkbox"/>	Name <input style="width: 100%;" type="text"/>	<< Application Name	Trigger 0 Firewall 0	Protocol Any	Always
<input type="checkbox"/>	Name <input style="width: 100%;" type="text"/>	<< Application Name	Trigger 0 Firewall 0	Protocol Any	Always
<input type="checkbox"/>	Name <input style="width: 100%;" type="text"/>	<< Application Name	Trigger 0 Firewall 0	Protocol Any	Always
<input type="checkbox"/>	Name <input style="width: 100%;" type="text"/>	<< Application Name	Trigger 0 Firewall 0	Protocol Any	Always

# QoS Engine

The **QoS Engine** improves your online gaming or streaming media experience by ensuring that your game or media traffic is prioritized over other network traffic, such as FTP or Web. For best performance, use the Automatic Classification option to automatically set the priority for your applications. After modifying any settings, click **Save Settings** to save your changes.

## QOS ENGINE SETUP

### Enable QoS Packet Filter:

Select this box to enable the QoS feature.

### Upstream Bandwidth:

Specify the maximum upstream bandwidth here (e.g. 400 kbps).

### Local IP : Ports:

## QOS RULES

Specify the local IP address(es) and port(s) for the rule to affect.

### Remote IP : Ports:

Specify the remote IP address(es) and port(s) for the rule to affect.

### QoS Priority:

Select what priority level to use for traffic affected by the rule: **Low, Normal, or High**.

### Schedule:

Select a schedule for when the Application Rule will be enabled. If you do not see the schedule you need in the list of schedules, go to the Tools -> Schedules screen and create a new schedule.

**QOS ENGINE**

Use this section to configure QoS Engine. The QoS Engine improves your online gaming experience by ensuring that your game traffic is prioritized over other network traffic, such as FTP or Web. For best performance, use the Automatic Classification option to automatically set the priority for your applications.

**QOS ENGINE SETUP**

QoS Packet Filter :  Enable

Upstream bandwidth :  kbps

**QOS RULES**

	Local IP : Ports	Remote IP : Ports	QoS Priority	Schedule
<input type="checkbox"/>	<input type="text"/> : <input type="text"/>	<input type="text"/> : <input type="text"/>	High	Always
<input type="checkbox"/>	<input type="text"/> : <input type="text"/>	<input type="text"/> : <input type="text"/>	High	Always
<input type="checkbox"/>	<input type="text"/> : <input type="text"/>	<input type="text"/> : <input type="text"/>	High	Always
<input type="checkbox"/>	<input type="text"/> : <input type="text"/>	<input type="text"/> : <input type="text"/>	High	Always
<input type="checkbox"/>	<input type="text"/> : <input type="text"/>	<input type="text"/> : <input type="text"/>	High	Always
<input type="checkbox"/>	<input type="text"/> : <input type="text"/>	<input type="text"/> : <input type="text"/>	High	Always
<input type="checkbox"/>	<input type="text"/> : <input type="text"/>	<input type="text"/> : <input type="text"/>	High	Always
<input type="checkbox"/>	<input type="text"/> : <input type="text"/>	<input type="text"/> : <input type="text"/>	High	Always

# Network Filters

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

**Configure MAC Filtering:** Select Turn MAC Filtering Off, allow MAC addresses listed below, or deny MAC addresses listed below from the drop-down menu.

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

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

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

## NETWORK FILTER

The MAC (Media Access Controller) Address filter option is used to control network access based on the MAC Address of the network adapter. A MAC address is a unique ID assigned by the manufacturer of the network adapter. This feature can be configured to ALLOW or DENY network/Internet access.

## 25 -- MAC FILTERING RULES

Configure MAC Filtering below :

Turn MAC Filtering OFF

MAC Address		DHCP clients	
<input type="text"/>	<<	Computer Name	Clear
<input type="text"/>	<<	Computer Name	Clear
<input type="text"/>	<<	Computer Name	Clear
<input type="text"/>	<<	Computer Name	Clear
<input type="text"/>	<<	Computer Name	Clear
<input type="text"/>	<<	Computer Name	Clear
<input type="text"/>	<<	Computer Name	Clear
<input type="text"/>	<<	Computer Name	Clear
<input type="text"/>	<<	Computer Name	Clear
<input type="text"/>	<<	Computer Name	Clear

# Web Filters

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

**URL Filtering:** Select this box to enable URL Filtering.

## URL FILTERING RULES

**URL:** Enter URL that you would like to block. All URLs that begin with this URL will be blocked.

**Schedule:** Use the drop-down menu to select the schedule for the Network Filter rule. Click the **New Schedule** button to bring up the “Schedule Webpage” to configure the new schedule.

**WEB FILTER**

URL Blocking will block LAN computers to connect to pre-defined Websites.

**WEBSITE FILTERING SETTING**

**URL Filtering :**  Enable

**WEBSITE FILTERING RULES**

	URL	Schedule
<input type="checkbox"/>	<input type="text"/>	Always ▾
<input type="checkbox"/>	<input type="text"/>	Always ▾
<input type="checkbox"/>	<input type="text"/>	Always ▾
<input type="checkbox"/>	<input type="text"/>	Always ▾
<input type="checkbox"/>	<input type="text"/>	Always ▾

# Outbound Filter

**Outbound Filter** enables you to control what packets are allowed to be sent out to the Internet. The outbound filter applies to all outbound packets. After modifying any settings, click **Save Settings** to save your changes.

## OUTBOUND FILTER SETTING

**Outbound Filter:** Select this box to **Enable** outbound filtering.

**Source IP : Ports:** Specify the local IP address and then specify the port after the colon.

**Destination IP : Ports:** Specify the remote IP address and then the port after the colon.

**Schedule:** Select a schedule for when the Application Rule will be enabled if you do not see the schedule you need in the list of schedules, go to the Tools -> Schedules screen and create a new schedule

**OUTBOUND FILTER**

Packet Filter enables you to control what packets are allowed to pass the router. Outbound filter applies on all outbound packets.

**OUTBOUND FILTER SETTING**

**Outbound Filter :**  Enable

**OUTBOUND FILTER RULES LIST**

Allow all to pass except those match the following rules.  
 Deny all to pass except those match the following rules.

	Source IP:Ports	Destination IP:Ports	Schedule
<input type="checkbox"/>	:	:	Always ▾
<input type="checkbox"/>	:	:	Always ▾
<input type="checkbox"/>	:	:	Always ▾
<input type="checkbox"/>	:	:	Always ▾
<input type="checkbox"/>	:	:	Always ▾
<input type="checkbox"/>	:	:	Always ▾
<input type="checkbox"/>	:	:	Always ▾
<input type="checkbox"/>	:	:	Always ▾
<input type="checkbox"/>	:	:	Always ▾
<input type="checkbox"/>	:	:	Always ▾

# Inbound Filter

**Inbound Filter** enables you to control what packets are allowed to come in to your network from the Internet. The inbound filter only applies to packets that are destined for Virtual Servers or DMZ hosts. After modifying any settings, click **Save Settings** to save your changes.

## INBOUND FILTER SETTING

**Inbound Filter:** Select this box to **Enable** the filter.

**Source IP : Ports:** Specify the local IP address and then specify the port after the colon.

**Destination IP : Ports:** Specify the remote IP address and then the port after the colon.

**Schedule:** Select a schedule for when the Application Rule will be enabled if you do not see the schedule you need in the list of schedules, go to the Tools -> Schedules screen and create a new schedule

**INBOUND FILTER**

Packet Filter enables you to control what packets are allowed to pass the router. Inbound filter applies on packets that destined to Virtual Servers or DMZ host only.

**INBOUND FILTER SETTING**

**Inbound Filter :**  Enable

**INBOUND FILTER RULES LIST**

Allow all to pass except those match the following rules.  
 Deny all to pass except those match the following rules.

	Source IP:Ports	Destination IP:Ports	Schedule
<input type="checkbox"/>	_____ : _____	_____ : _____	Always ▾
<input type="checkbox"/>	_____ : _____	_____ : _____	Always ▾
<input type="checkbox"/>	_____ : _____	_____ : _____	Always ▾
<input type="checkbox"/>	_____ : _____	_____ : _____	Always ▾
<input type="checkbox"/>	_____ : _____	_____ : _____	Always ▾
<input type="checkbox"/>	_____ : _____	_____ : _____	Always ▾
<input type="checkbox"/>	_____ : _____	_____ : _____	Always ▾
<input type="checkbox"/>	_____ : _____	_____ : _____	Always ▾
<input type="checkbox"/>	_____ : _____	_____ : _____	Always ▾
<input type="checkbox"/>	_____ : _____	_____ : _____	Always ▾

# Advanced Wireless Settings

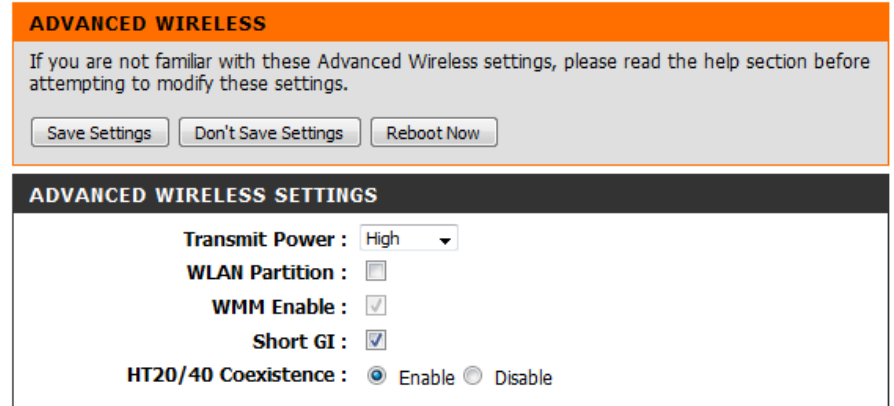
**Transmit Power:** Set the transmit power of the antennas.

**WLAN Partition:** Enable this option to prevent associated wireless clients from communicating with each other.

**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.

**HT20 / 40 Mhz Coexistence:** Select to Enable or Disable this feature.





# Advanced Network Settings

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

**WAN Ping:** Unchecking the box will not allow the DIR-514 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”.

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

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

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

Check the **Wireless Enhance Mode** box to enable the router to forward all multicast streams from the Internet to the wireless station using a unicast stream. This feature helps improve the quality of multimedia applications for wireless users.

**ADVANCED NETWORK**

If you are not familiar with these Advanced Network settings, please read the help section before attempting to modify these settings.

**UPNP**

Universal Plug and Play (UPnP) supports peer-to-peer Plug and Play functionality for network devices.

**Enable UPnP :**

**WAN PING**

If you enable this feature, the WAN port of your router will respond to ping requests from the Internet that are sent to the WAN IP Address.

**Enable WAN Ping Respond :**

**DMZ HOST**

The DMZ (Demilitarized Zone) option lets you set a single computer on your network outside of the router. If you have a computer that cannot run Internet applications successfully from behind the router, then you can place the computer into the DMZ for unrestricted Internet access.

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

**Enable DMZ :**

**DMZ IP Address :**

Computer Name

**MULTICAST STREAMS**

**Enable Multicast Streams :**

# Admin

The **Admin** page allows you to change the Administrator password and enable Remote Management. The admin has read/write access while users only have read-only access. Only the admin has the ability to change both admin and user account passwords. After modifying any settings, click **Save Settings** to save your changes.

## ADMINISTRATOR

**Admin Password:** Enter and confirm the password that the admin account will use to access the router's management interface.

## REMOTE MANAGEMENT

**Remote Management:** Tick this check box to enable remote management. Remote management allows the DIR-514 to be configured over the Internet through a web browser. A username and password will still be required to access the Web-Management interface.

**IP Allowed to Access:** Enter the Internet IP address of the PC that has access to the Broadband Router. If you enter an asterisk (\*) in this field, then anyone will be able to access the Router. Adding an asterisk (\*) into this field could present a security risk and is not recommended.

**Port:** This is the port number used to access the router. 8080 is the port usually used for the Web-Management interface.

**ADMINISTRATOR SETTINGS**

The 'admin' account can access the management interface. The admin has read/write access and can change password.  
By default there is no password configured. It is highly recommended that you create a password to keep your router secure.

**ADMIN PASSWORD**

Please enter the same password into both boxes, for confirmation.

**New Password :**   
**Confirm Password :**

**ADMINISTRATION**

**Enable Remote Management :**  Enabled

**IP Allowed to Access :**

**Remote Admin Port :**

# 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 **enable** or **disable**, and enter a start date and an end date for daylight saving time.

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

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

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

**TIME AND DATE**

The Time and Date 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 NTP (Network Time Protocol) Server. Daylight Saving can also be configured to adjust the time when needed

---

**TIME CONFIGURATION**

**Current Router Time :** Sat Jan 01, 2000 10:57:18

**Time Zone :** (GMT -08:00) Pacific Time (US & Canada) ▼

**Enable Daylight Saving :**

**Daylight Saving Dates :**

	DTS Start	Month	Week	Day of Week	Time
	Jan	1st	Sun	1am	
DTS End	Dec	1st	Sun	12pm	

---

**AUTOMATIC TIME CONFIGURATION**

**Enable NTP Server :**

**NTP Server Used :** ntp1.dlink.com << Select NTP Server ▼

---

**SET THE DATE AND TIME MANUALLY**

**Date And Time :**

Year	2010	Month	Jan	Day	01
Hour	10	Minute	57	Second	16

# Syslog

The DIR-514 keeps a running log of events and activities occurring on the router. You may send these logs to a syslog server on your network. After modifying any settings, click **Save Settings** to save your changes.

**Enable Logging to Syslog Server:** Tick this checkbox to send the router logs to a syslog server.

**Syslog Server IP Address:** Enter the IP address of the syslog server that the router will send the logs to.

The screenshot shows the configuration page for Syslog. It is divided into two main sections: 'SYSLOG' and 'LOG FILES'. The 'SYSLOG' section has an orange header and contains a grey box with the text 'The SysLog options allow you to send log information to a SysLog Server.' Below this text are three buttons: 'Save Settings', 'Don't Save Settings', and 'Reboot Now'. The 'LOG FILES' section has a dark grey header and is divided into two sub-sections: 'Local' and 'Remote'. The 'Local' section has a horizontal line and a label 'Save Log File To Local Drive :' followed by a 'Save' button. The 'Remote' section has a horizontal line and a label 'Enable Logging To Syslog Server' followed by a checkbox. Below this is a label 'Syslog Server IP Address :' followed by a text input field.

# E-mail Settings

The E-mail feature can be used to send the system log files, router alert messages, and firmware update notifications to your e-mail address.

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

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

**To Email Address:** Enter the email address where you want the email sent.

**SMTP Server Address:** Enter the SMTP server address for sending emails. If your SMTP server requires authentication, select this option.

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

**Account Name:** Enter your account for sending emails.

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

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

**On Schedule:** Selecting this option will send the logs via email according to schedule.

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

**EMAIL SETTINGS**

Send system log to a dedicated host or email to specific receipts

Save Settings
Don't Save Settings
Reboot Now

**ENABLE**

**Enable Email Notification :**

**EMAIL SETTINGS**

**To E-mail Address :**  Send Mail Now

**E-mail Subject :**

**SMTP Server / IP Address :**

**SMTP Server Port :**

**Account Name :**

**Password :**

**Verity Password :**

**EMAIL LOG WHEN FULL OR ON SCHEDULE**

**On Log Full :**

**On Schedule :**

**Schedule :** Always ▾ New Schedule

# 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:** Click the **Restore** button to 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 the Device:** Click to reboot the router.

## SYSTEM SETTINGS

The System Settings section allows you to restore the router to the factory default settings. Restoring the unit to the factory default settings will erase all settings, including any rules that you have created.

The current system settings can be saved as a file onto the local hard drive. The saved file or any other saved setting file created by device can be uploaded into the unit.

## SAVE AND RESTORE SETTINGS

Save Settings To Local Hard Drive :

Load Settings From Local Hard Drive :

Restore To Factory Default Settings :

Reboots the Device :

# Firmware

Here, you can upgrade the firmware of your router. Make sure the firmware you want to use is on the local hard drive of the computer and then click **Browse** to upload the file. You can check for and download firmware updates from your local D-Link Support site. After modifying any settings, click **Save Settings** to save your changes.

**Current Firmware Version:** Displays your current firmware's version.

**Current Firmware Date:** Displays your current firmware's release date.

**Browse:** After you have downloaded a new firmware, click **Browse** to locate the firmware on your computer, then click **Upload** to start the firmware upgrade.

**Warning:** You must use a wired computer to upload the firmware file; do not use a wireless computer. During the upgrade process, do not power off your computer or router, and do not refresh the browser window until the upgrade is complete.

**FIRMWARE UPGRADE**

There may be new firmware for your DIR-514 to improve functionality and performance.

To upgrade the firmware, locate the upgrade file on the local hard drive with the Browse button. Once you have found the file to be used, click the Save Settings below to start the firmware upgrade.

**FIRMWARE INFORMATION**

Current Firmware Version : 1.00  
Current Firmware Date : 2011/11/18

**FIRMWARE UPGRADE**

**Note! Do not power off the unit when it is being upgraded. When the upgrade is done successfully, the unit will be restarted automatically.**

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.

Upload :

# Dynamic DNS

The DDNS feature allows you to host a server (Web, FTP, or Game Server) using a domain name that you have purchased (such as [www.exampledomain.com](http://www.exampledomain.com)) with your dynamically assigned IP address. You can use one of the listed DDNS service, or you can sign up for D-Link's free DDNS service at [www.dlinkddns.com](http://www.dlinkddns.com). After modifying any settings, click **Save Settings** to save your changes.

**Enable Dynamic DNS:** Tick this checkbox to enable the DDNS feature.

**Provider:** Select a DDNS service provider to use.

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

**Username / E-mail:** Enter the **Username** for your DDNS account.

**Password / Key:** Enter the **Password** for your DDNS account.

**DYNAMIC DNS**

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

**DYNAMIC DNS**

Enable Dynamic DNS :

Server Address :  <<  
Select Dynamic DNS Server

Host Name :

Username or Key :

Password or Key :

Verify Password or Key :



# System Check

This useful diagnostic utility can be used to check if a computer is connected to the network. It sends ping packets and listens for responses from the specific host. After modifying any settings, click **Save Settings** to save your changes.

**Host Name or IP Address:** Enter a host name or the IP address that you want to ping and click the **Ping** button. The results of the ping attempt will be displayed in the **PING RESULT** section below.

The screenshot shows a web-based utility interface for a ping test. It is divided into three main sections:

- PING TEST (Header):** An orange header bar.
- DESCRIPTION:** A grey box containing the text "Ping Test sends 'ping' packets to test a computer on the Internet." Below this text are two buttons: "Save Settings" and "Don't Save Settings".
- PING TEST (Section Header):** A dark grey header bar.
- INSTRUCTIONS:** A white box containing the text "Ping Test is used to send 'Ping' packets to test if a computer is on the Internet." Below this is a label "Host Name or IP address :" followed by a text input field and a "Ping" button.
- PING RESULT (Section Header):** A dark grey header bar.
- RESULTS:** A white box, currently empty, intended for displaying the results of the ping test.

# Schedules

This section allows you to manage schedule rules for various firewall and parental control features. After modifying any settings, click **Save Settings** to save your changes.

**Enable Schedule:** Tick this checkbox to enable schedules.

**Edit:** Click this button to edit the selected rule. (see below)

**Delete:** Click this button to delete the selected rule.

**Previous Page:** Click this button to go to the previous page of rules.

**Next Page:** Click this button to go to the next page of rules.  
Click this button to specify the start time, end time, and name of the rule.

**Add New Rule...:** Click this button to create a new rule. (see below)

**Name of Rule #:** Enter a name for your new schedule.

**Policy:** Select Activate or Inactivate to decide whether features that use the schedule should be active or inactive except during the times specified.

**Week Day:** Select a day of the week for the start time and end time.

**Start Time (hh:mm):** Enter the time at which you would like the schedule to become active.

**End Time (hh:mm):** Select the time at which you would like the schedule to become inactive.

After making your changes, click **Save Settings** to save the schedule.

**SCHEDULES**

The Schedule configuration option is used to manage schedule rules for "Virtual Server", "Outbound Filter" and "Inbound Filter".

---

**SCHEDULE RULE**

Enable Schedule :

Rule#	Rule Name	Action
1	11	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

**SCHEDULES**

The Schedule configuration option is used to manage schedule rules for "Virtual Server", "Outbound Filter" and "Inbound Filter".

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**SCHEDULE RULE SETTING**

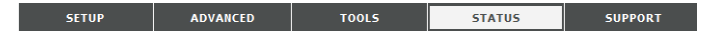
Name of Rule 2 :

Policy : Inactivate  except the selected days and hours below.

ID	Week Day	Start Time (hh:mm)	End Time (hh:mm)
1	-- choose one --	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>
2	-- choose one --	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>
3	-- choose one --	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>
4	-- choose one --	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>
5	-- choose one --	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>
6	-- choose one --	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>
7	-- choose one --	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>
8	-- choose one --	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>
9	-- choose one --	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>
10	-- choose one --	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>
11	-- choose one --	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>
12	-- choose one --	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>
13	-- choose one --	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>
14	-- choose one --	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>

# Status

The **STATUS** pages allow you to see the current status of the router for various categories, including WAN, 3G, network, and wireless. To view the Status pages, click on **STATUS** at the top of the screen.



## Device Info

All of your Internet and network connection details are displayed on this page. The firmware version is also displayed here.

**General:** Displays the current time and firmware version.

**WAN:** Displays the WAN connection details of the router.

**3G Card:** Displays the 3G connection details of the router.

**LAN:** Displays the LAN connection details of the router.

**Wireless LAN:** Displays the wireless LAN connection details of the router.

**LAN Computers:** Displays the list of clients connected to the router.

The screenshot shows the 'DEVICE INFORMATION' page with the following sections:

- DEVICE INFORMATION:** A summary box stating 'All of your Internet and network connection details are displayed on this page. The firmware version is also displayed here.' with a 'Refresh' button.
- GENERAL:**
  - Time: Wed Feb 29, 2012 13:52:53 +0800
  - Firmware Version: 1.00, 2012/02/17
- WAN:**
  - Connection Type: DHCP Client
  - Network Status: Disconnecting...
  - Remaining Lease Time: N/A (with a 'Release' button)
  - MAC Address: 1C:AF:F7:5D:84:43
  - IP Address: 0.0.0.0
  - Subnet Mask: 0.0.0.0
  - Default Gateway: 0.0.0.0
  - DNS Server: 0.0.0.0, 0.0.0.0
- 3G CARD:**
  - Card Info: MTK2
  - Link Status: Connecting...
  - Network Name: N/A
- LAN:**
  - MAC Address: 1C:AF:F7:5D:84:44
  - IP Address: 192.168.0.1
  - Subnet Mask: 255.255.255.0
  - DHCP Server: Enabled
- WIRELESS LAN:**
  - MAC Address: 1C:AF:F7:5D:84:44
  - Wireless: Enabled
  - SSID: dlink
  - Security: WPA-PSK / WPA2-PSK(TKIP/AES)
  - Channel: Auto
  - 802.11 Mode: B/G/N Mixed
  - Wi-Fi Protected Setup: Enabled
- LAN COMPUTERS:**

IP Address	Name	MAC
192.168.0.100	07640NBWIN7	00-1C-23-0D-3D-AF

# Log

Here, you can view and download the system log.

**Previous:** Click this button to go to the previous page of the log.

**Next:** Click this button to go to the next page of the log.

**First Page:** Click this button to skip to the first page of the log.

**Last Page:** Click this button to skip to the last page of the log.

**Refresh:** Click this button to refresh the system log.

**Download:** Click this button to download the current system log to your computer.

**Clear Logs:** Click this button to clear the system log.

**Link to Log Settings:** The user can click the button to “link to log settings” and save the logs to a local hard drive or to a Syslog server.

**VIEW LOG**

View Log displays the activities occurring on the DIR-514.

**Page: 1/1 (Log Number: 8)**

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**SYSTEM LOG**

Time	Message
Dec 31 16:00:03	kernel: klogd started: BusyBox v1.3.2 (2011-10-17 09:39:33 CST)
Dec 31 16:00:05	BEID: BEID STATUS : 1 , BEID_STATUS_START_MAC_ERROR
Dec 31 16:00:15	commander: Init NAT Server ...
Dec 31 16:00:20	syslog: Unable to open /var/run/udhcpd.leases for reading
Dec 31 16:00:21	commander: Start UPNP Daemon !!
Dec 31 16:00:24	commander: STOP WANTYPE Dynamic IP Address
Dec 31 16:00:25	commander: Watchdog Disable..
Dec 31 16:00:26	commander: Start/Restart httpd !

# Statistics

Here you can view the packets transmitted and received passing through your router on both WAN and LAN ports. The traffic counter will reset if the device is rebooted. Click the **Refresh** button to refresh the WAN statistics.

### TRAFFIC STATISTICS

Traffic Statistics display Receive and Transmit packets passing through you router.

### STATISTICS

	Received	Transmitted
<b>WAN</b>	0 Packets	0 Packets
<b>LAN</b>	32562 Packets	31529 Packets
<b>Wireless</b>	868358 Packets	15731 Packets

# Wireless

This table displays a list of wireless clients that are connected to your wireless router. It also displays the connection time and MAC address of the connected wireless clients. Click **Refresh** to refresh the list.

**WIRELESS CLIENT LIST**

View the wireless clients that are connected to the router. (A client might linger in the list for a few minutes after an unexpected disconnect.)

**WIRELESS CLIENT TABLE**

ID	MAC Address
----	-------------

# Support

The **SUPPORT** pages provide help information for each section of the device's interface. To view the Support pages, click on **SUPPORT** at the top of the screen.

**HELP MENU**

- [Setup](#)
- [Advanced](#)
- [Tools](#)
- [Status](#)

**SETUP HELP**

- [Internet](#)
- [Wireless Settings](#)
- [Network Settings](#)

**ADVANCED HELP**

- [VIRTUAL SERVER](#)
- [Application Rules](#)
- [QOS Engine](#)
- [Network Filter](#)
- [Website Filter](#)
- [Outbound Filter](#)
- [Inbound Filter](#)
- [Advanced Wireless](#)
- [Advanced Network](#)

**TOOLS HELP**

- [Admin](#)
- [Time](#)
- [System](#)
- [Firmware](#)
- [Dynamic DNS](#)
- [System Check](#)
- [Schedules](#)
- [Email & SysLog](#)

**STATUS HELP**

- [Device Info](#)
- [Log](#)
- [Statistics](#)
- [Wireless](#)

# Connecting to a Wireless Network Using Windows 7

Windows 7 users may use the built-in wireless utility to connect to a wireless network. 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 7 utility as seen below.

If you receive the Wireless Networks Detected bubble, click on the center of the bubble to access the utility. You can also click on the wireless icon in your system tray (lower-right corner).



Wireless

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





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

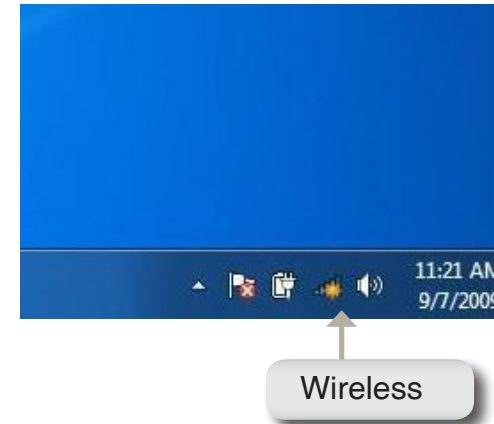
If you get a good signal but cannot access the Internet, check your TCP/IP settings for your wireless adapter. Refer to the Networking Basics section in this manual for more information.



# Configuring Wireless Security

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

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



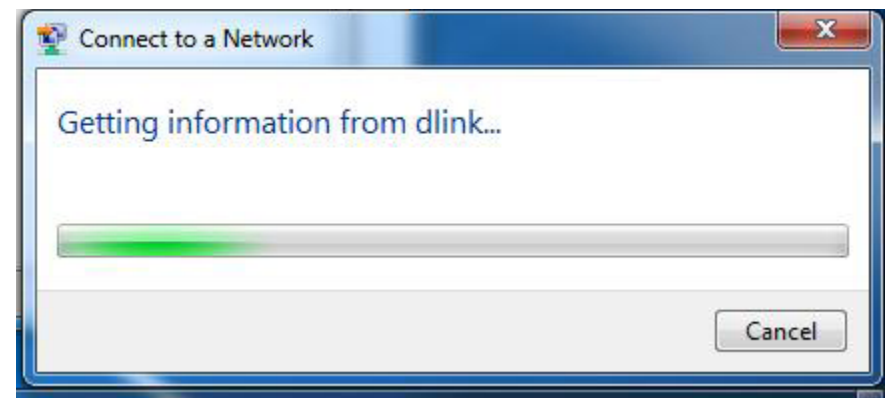
2. The utility will display any available wireless networks in your area.



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

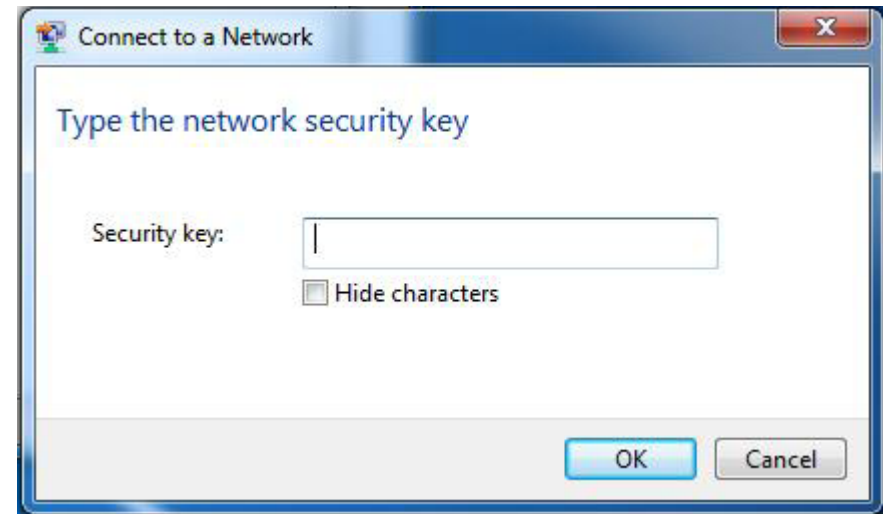


4. The following window appears while your computer tries to connect to the router.



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

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



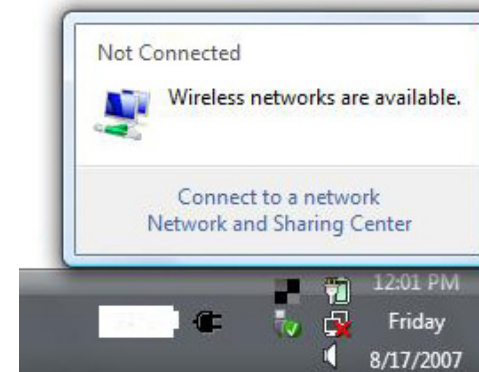
# Using Windows Vista™

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

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

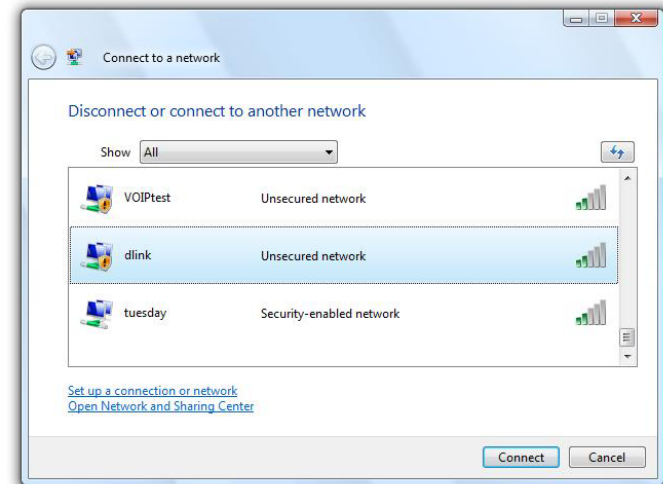
or

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



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

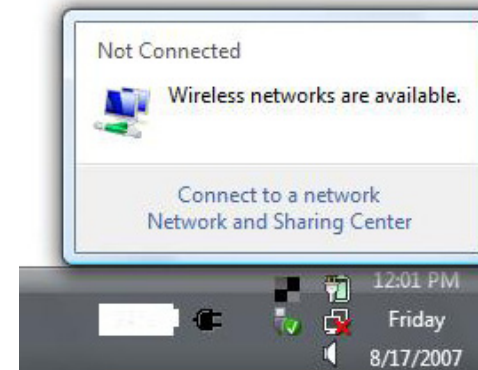
If you get a good signal but cannot access the Internet, check the TCP/IP settings for your wireless adapter. Refer to the **Networking Basics** section in this manual for more information.



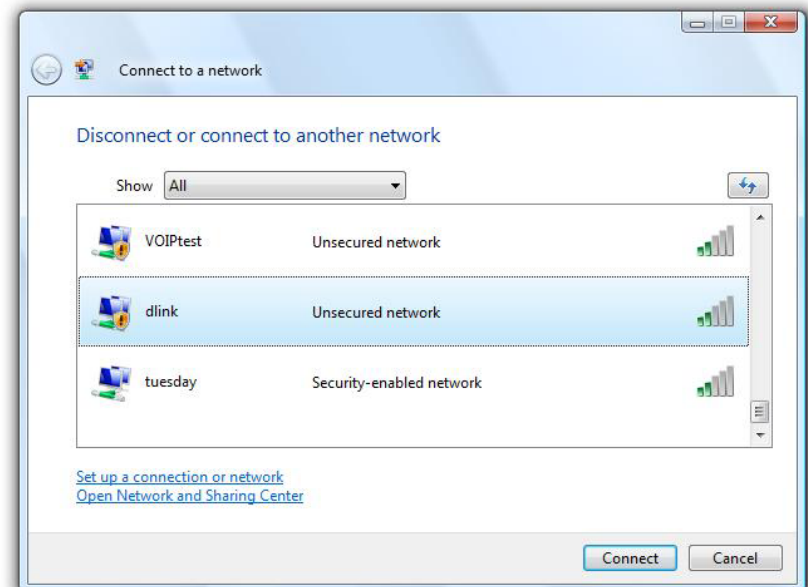
## Configuring Wireless Security

It is recommended to enable wireless security (WEP/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**.

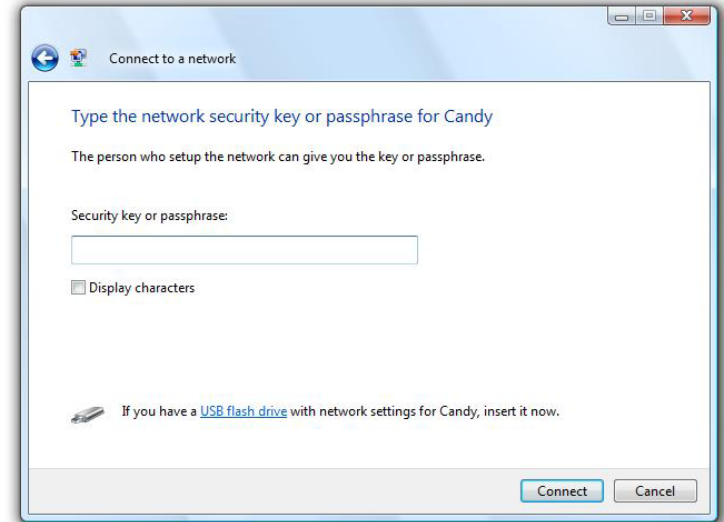


2. Highlight the wireless network (SSID) you would like to connect to and click **Connect**.



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 to a Wireless Network 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.

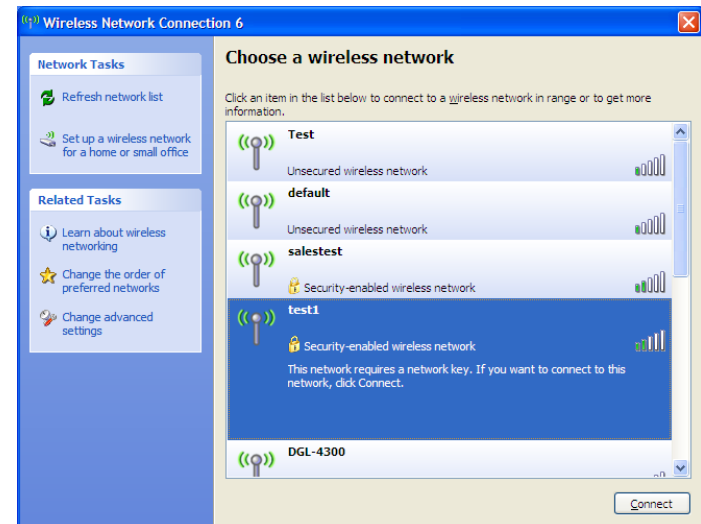
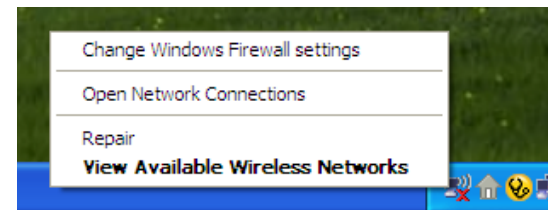
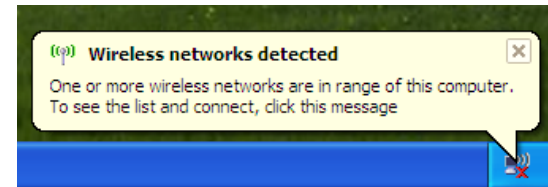
If you receive the **Wireless Networks Detected** bubble, click on the center of the bubble to access the utility.

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 the TCP/IP settings for your wireless adapter. Refer to the **Networking Basics** section in this manual for more information.

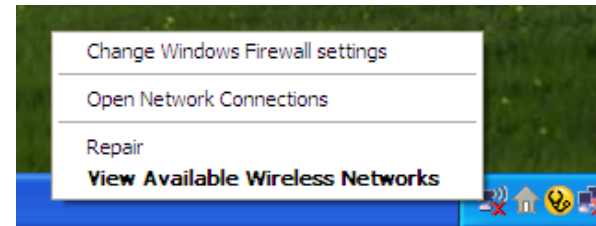




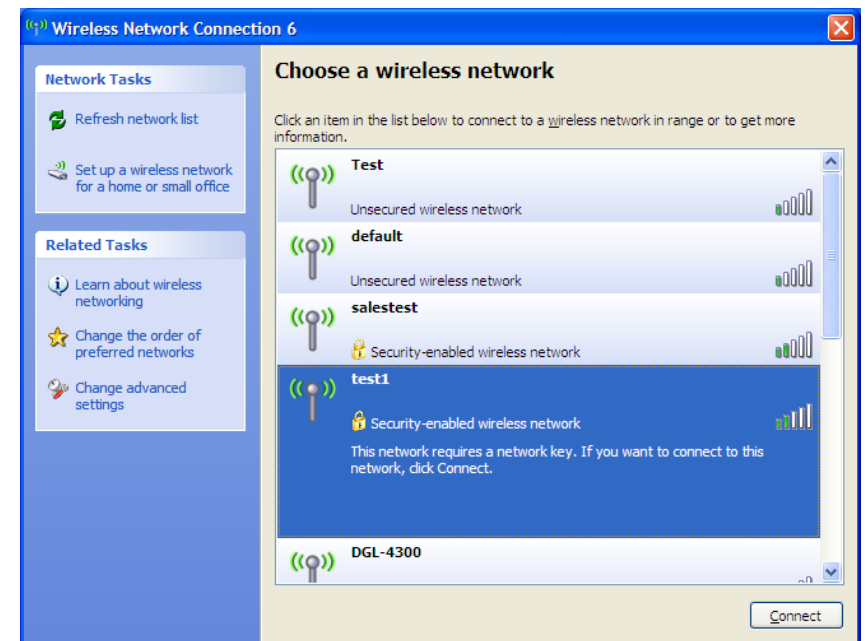
# Configure WEP

It is recommended to enable WEP 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 WEP 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**.

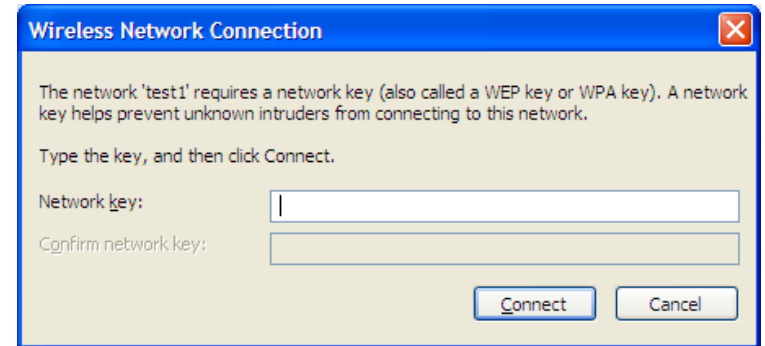


2. Highlight the wireless network (SSID) you would like to connect to and click **Connect**.



3. The **Wireless Network Connection** box will appear. Enter the same WEP key that is on your router and click **Connect**.

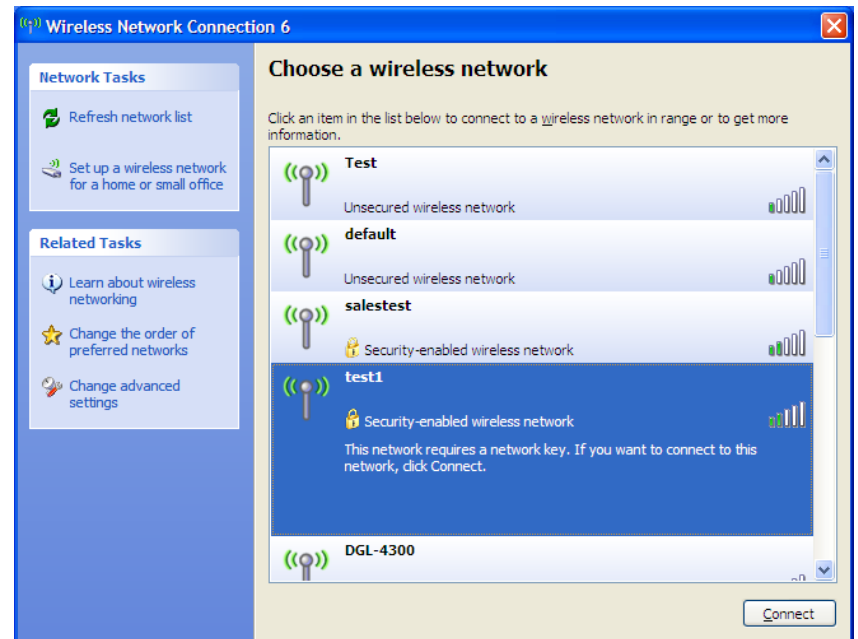
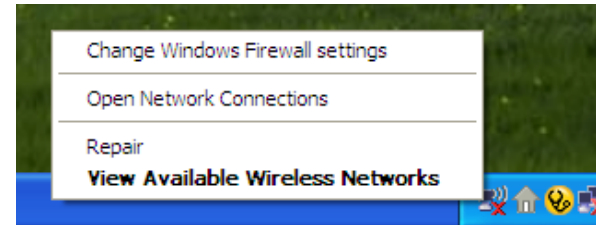
It may take 20-30 seconds to connect to the wireless network. If the connection fails, please verify that the WEP settings are correct. The WEP key must be exactly the same as on the wireless router.



# Configure WPA-PSK

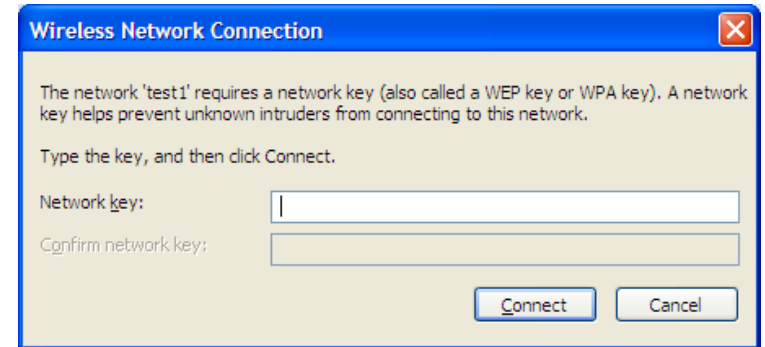
It is recommended to enable WPA on your wireless router or access point before configuring your wireless adapter. If you are joining an existing network, you will need to know the WPA key being used.

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



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

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



# Troubleshooting

This chapter provides solutions to problems that can occur during the installation and operation of the DIR-514. Read the following descriptions if you are having problems. (The examples below are illustrated in Windows® XP. If you have a different operating system, the screenshots on your computer will look similar to the following examples.)

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

When entering the IP address of the D-Link router (192.168.0.1 for example), you are not connecting to a website 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 6 or higher
  - Opera 10.6 or higher
  - Safari 3.2.1 or higher (with Java 1.3.1 or higher)
  - Chrome 1.0.154.43 or higher
  - Firefox 3.03 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® XP firewall may block access to the configuration pages. Check the help files included with your firewall software for more information on disabling or configuring it.

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

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

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

To reset the router, locate the reset button (hole) on the rear panel of the unit. With the router powered on, use a paperclip to hold the button down for 10 seconds. Release the button and the router will go through its reboot process. Wait about 30 seconds to access the router. The default IP address is 192.168.0.1. When logging in, the username is **admin** and leave the password box empty.

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

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

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

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

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

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

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

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

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

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

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

C:\>
```

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

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

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

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



# Wireless Basics

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

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

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

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

## **What is Wireless?**

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

## **Why D-Link Wireless?**

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

## **How does wireless work?**

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

## **Wireless Local Area Network (WLAN)**

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

## **Wireless Personal Area Network (WPAN)**

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

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

## **Who uses wireless?**

Wireless technology 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 you next-door neighbors or intruders connect to your wireless network. Secure your wireless network by turning on the WPA or WEP security feature on the router. Refer to product manual for detail information on how to set it up.

# Wireless Modes

There are basically two modes of networking:

- • **Infrastructure** – All wireless clients will connect to an access point or wireless router.
- • **Ad-Hoc** – Directly connecting to another computer, for peer-to-peer communication, using wireless network adapters on each computer, such as two or more WNA-2330 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

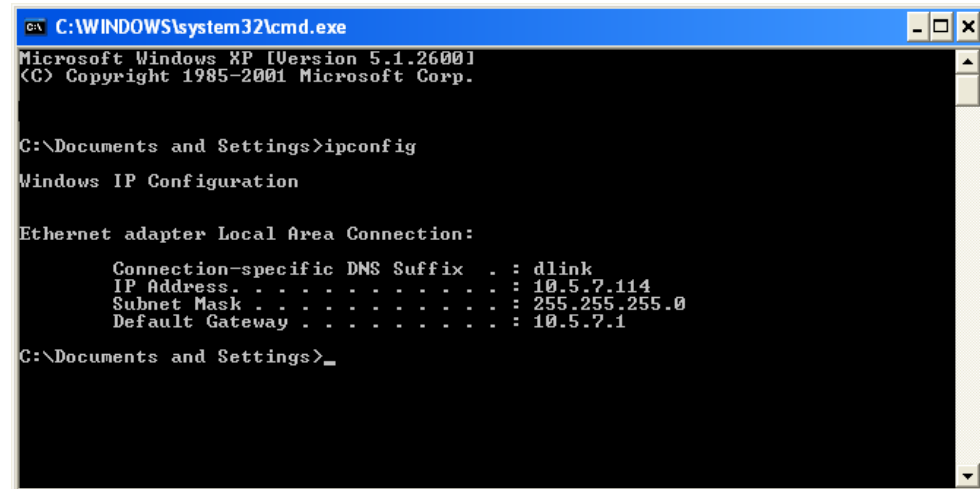
After you install your adapter, by default, the TCP/IP settings should be set to obtain an IP address from a DHCP server (i.e. wireless router) automatically. To verify your IP address, please follow the steps below.

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

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

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

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



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

C:\Documents and Settings>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

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

C:\Documents and Settings>_
```

## Statically Assign an IP address

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

### Step 1

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

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

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

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

### Step 2

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

### Step 3

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

### Step 4

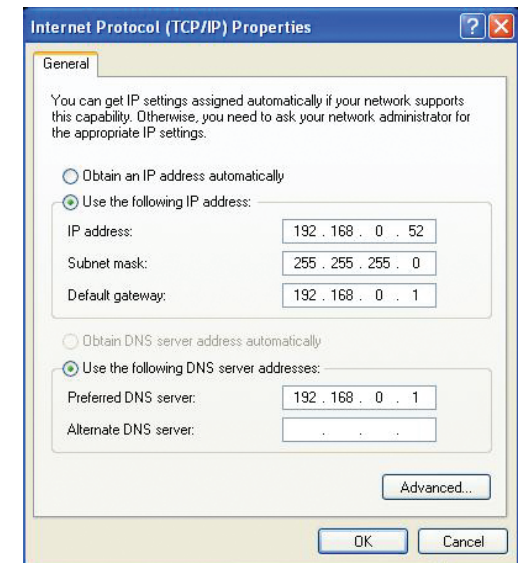
Click **Use the following IP address** and enter an IP address that is on the same subnet as your network or the LAN IP address on your router.

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

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

### Step 5

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



# Technical Specifications

## Standards

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

## Security

- WEP (64/128 bit)
- WPA-PSK/WPA2-PSK
- WPS (PIN/PBC)
- 802.1X

## Wireless Signal Rates\*

### IEEE 802.11n 2.4 GHz (HT20/40):

- 144.4 Mbps (300) • 130 Mbps (270)
- 115.6 Mbps (240) • 86.7 Mbps (180)
- 72.2 Mbps (150) • 65 Mbps (135)
- 57.8 Mbps (120) • 45.3 Mbps (90)
- 28.9 Mbps (60) • 21.7 Mbps (45)
- 14.4 Mbps (30) • 7.2 Mbps (15)

### IEEE 802.11g:

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

## Frequency Range

- 2.4GHz to 2.483GHz

## Transmitter Output Power

- 17dBm (+/- 2dB) at 11Mbps, 5.5Mbps, 2Mbps, and 1Mbps at 77°F (25°C)

## LEDs

- Power
- Internet

## Operating Temperature

- 32°F to 104°F (0°C to 40°C)

## Operating Humidity

- 10%-95% non-condensing

## Storage Humidity

- 5%-95% non-condensing

## Safety & Emissions

- IC
- FCC Class B
- CE Class B

## Dimensions

- Width = 3.50 inches (89 mm)
- Height = 0.78 inches (20 mm)
- Depth = 2.20 inches (56 mm)

\* 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.



### **Federal Communication Commission Interference Statement**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

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

**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 NOTE:**

#### **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.

#### **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 IC 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 [2] dB. Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

This radio transmitter (IC: 4216A-IR514A1 / Model: DIR-514 A1) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Ce dispositif est conforme à la norme CNR-210 d'Industrie Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes: (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

### **NOTE IMPORTANTE:**

Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

Ce dispositif a été conçu pour fonctionner avec une antenne ayant un gain maximal de dB [2]. Une antenne à gain plus élevé est strictement interdite par les règlements d'Industrie Canada. L'impédance d'antenne requise est de 50 ohms.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

Le présent émetteur radio (IC: 4216A-IR514A1 / Model: DIR-514A1) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

### **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.