



# User Manual

## Wireless N Gigabit Home Router

DIR-652

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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
2.01	October 24, 2011	• Initial release

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# Package Contents



DIR-652 Wireless N Gigabit Home Router



Ethernet Cable



Power Adapter



CD-ROM with Manual and Setup Wizard

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

**Note:** Using a power supply with a different voltage rating than the one included with the DIR-652 will cause damage and void the warranty.

# System Requirements

<b>Network Requirements</b>	<ul style="list-style-type: none"><li>• An Ethernet-based Cable or DSL modem</li><li>• IEEE 802.11n or 802.11g wireless clients</li><li>• 10/100/1000 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 6.0 or higher</li><li>• Chrome 2.0 or higher</li><li>• Firefox 3.0 or higher</li><li>• Safari 3.0 or higher (with Java 1.3.1 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>
<b>CD Installation Wizard Requirements</b>	<p><b>Computer with the following:</b></p> <ul style="list-style-type: none"><li>• Windows® 7, Vista®, or XP with Service Pack 2</li><li>• An installed Ethernet adapter</li><li>• CD-ROM drive</li></ul>

# Introduction

## **TOTAL PERFORMANCE**

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

## **TOTAL SECURITY**

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

## **TOTAL COVERAGE**

Provides greater wireless signal rates even at farther distances for best-in-class Whole Home Coverage.

## **ULTIMATE PERFORMANCE**

The D-Link Wireless N Gigabit Home Router (DIR-652) is a 802.11n compliant device that delivers real world performance of up to 650% faster than an 802.11g wireless connection (also faster than a 100Mbps wired Ethernet connection). Create a secure wireless network to share photos, files, music, video, printers, and network storage throughout your home. Connect the Wireless N Gigabit Home Router to a cable or DSL modem and share your high-speed Internet access with everyone on the network. In addition, this Router includes a Quality of Service (QoS) engine that keeps digital phone calls (VoIP) and online gaming smooth and responsive, providing a better Internet experience.

## **EXTENDED WHOLE HOME COVERAGE**

This high performance router provides superior Whole Home Coverage while reducing dead spots. The Wireless N Gigabit Home Router is designed for use in bigger homes and for users who demand higher performance networking. Add a notebook or desktop adapter and stay connected to your network from virtually anywhere in your home.

## **TOTAL NETWORK SECURITY**

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

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

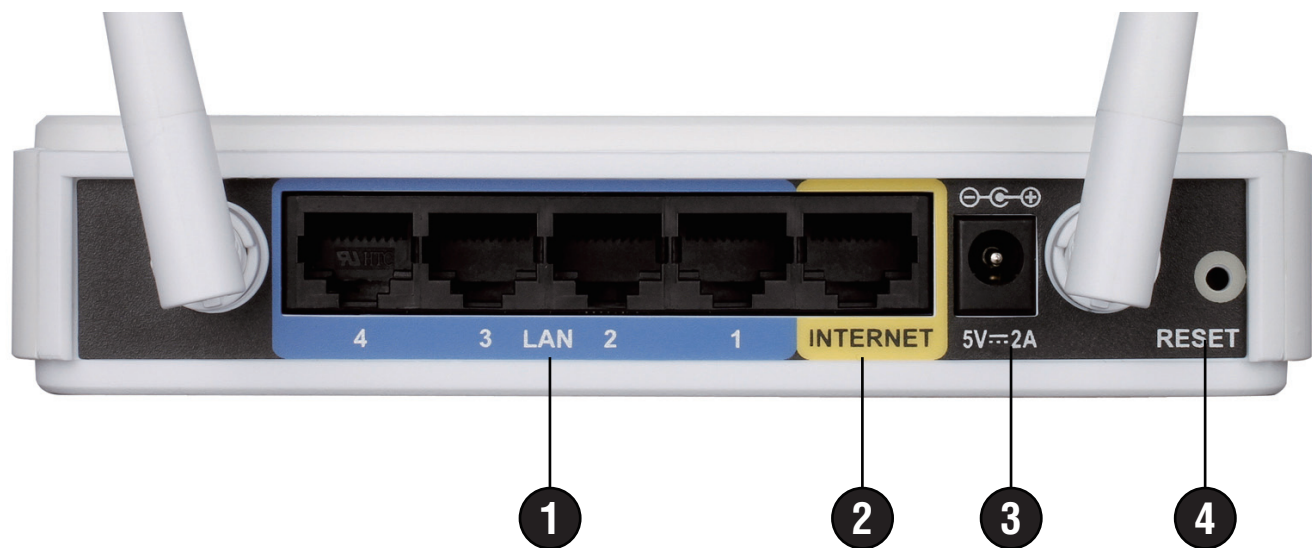
## Features

- **Faster Wireless Networking** - The DIR-652 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. The performance of this 802.11n wireless router gives you the freedom of wireless networking at speeds 650% faster than 802.11g.
- **Compatible with 802.11g Devices** - The DIR-652 is still fully compatible with the IEEE 802.11g standard, so it can connect with existing 802.11g PCI, USB and Cardbus adapters.
- **Advanced Firewall Features** - The Web-based user interface displays a number of advanced network management features including:
  - **Content Filtering** - Easily applied content filtering based on MAC Address, URL, and/or Domain Name.
  - **Filter Scheduling** - These filters can be scheduled to be active on certain days or for a duration of hours or minutes.
  - **Secure Multiple/Concurrent Sessions** - The DIR-652 can pass through VPN sessions. It supports multiple and concurrent IPSec and PPTP sessions, so users behind the DIR-652 can securely access corporate networks.
- **User-friendly Setup Wizard** - Through its easy-to-use Web-based user interface, the DIR-652 lets you control what information is accessible to those on the wireless network, whether from the Internet or from your company's server. Configure your router to your specific settings within minutes.

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

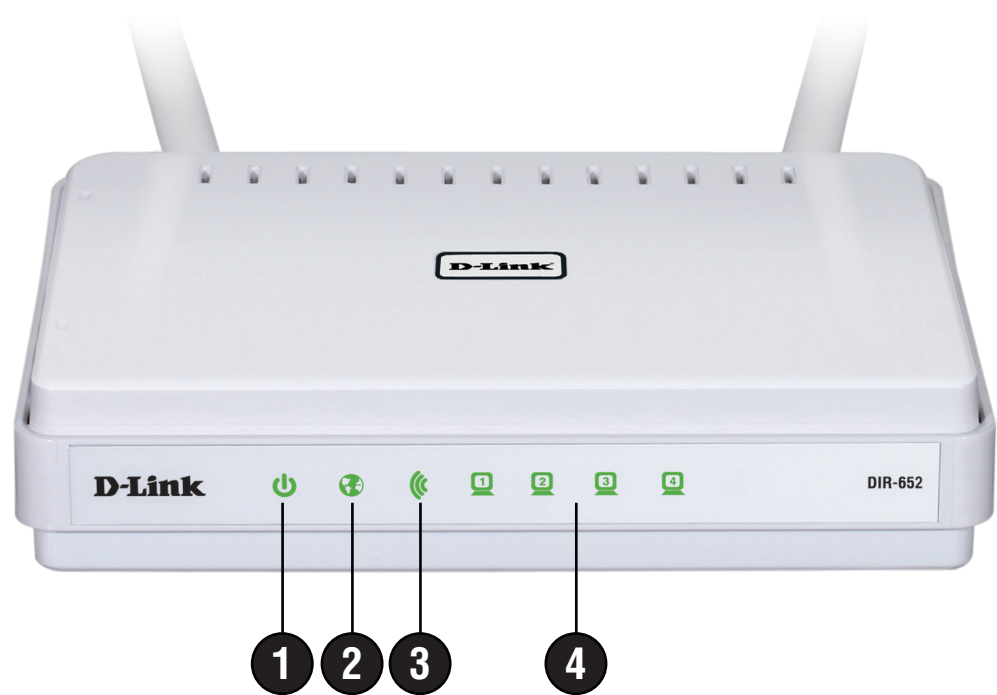
# Hardware Overview

## Connections



1	LAN Ports (1-4)	Connect Ethernet devices such as computers, switches, and hubs.
2	Internet Port	The auto MDI/MDIX Internet port is the connection for the Ethernet cable to the cable or DSL modem.
3	Power Receptor	Receptor for the supplied power adapter.
4	Reset	Press and hold the reset button to restore the router to its original factory settings.

# LEDs



1	Power LED	A solid light indicates a proper connection to the power supply.
2	Internet LED	A solid light indicates connection on the Internet port. This LED blinks during data transmission. A solid blue light indicates that there is an Internet connection, an orange light indicates that there is none.
3	WLAN LED	A solid light indicates that the wireless segment is ready. This LED blinks during wireless data transmission.
4	Local Network's LED	A solid light indicates a connection to an Ethernet-enabled computer on ports 1-4. This LED blinks during data transmission.

# Installation

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

## Before you Begin

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 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.



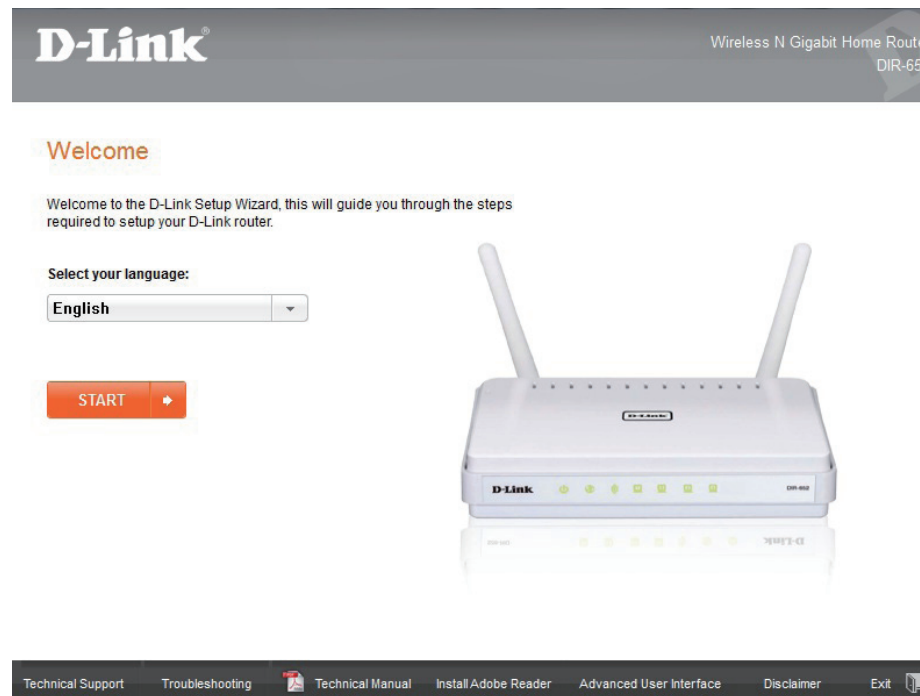
# Getting Started

The DIR-652 includes a Quick Router Setup Wizard CD. Follow the simple steps below to run the Setup Wizard to guide you quickly through the installation process.

Insert the **Wizard CD** in the CD-ROM drive. The step-by-step instructions that follow are shown in Windows® XP. The steps and screens are similar for the other Windows operating systems.

If the CD Autorun function does not automatically start on your computer, go to **Start > Run**. In the run box type "**D:\DWizard.exe**" (where **D:** represents the drive letter of your CD-ROM drive).

When the autorun screen appears, click **START**.



**Note:** It is recommended to write down the SSID and Security Key, followed by the login password on the provided CD holder.

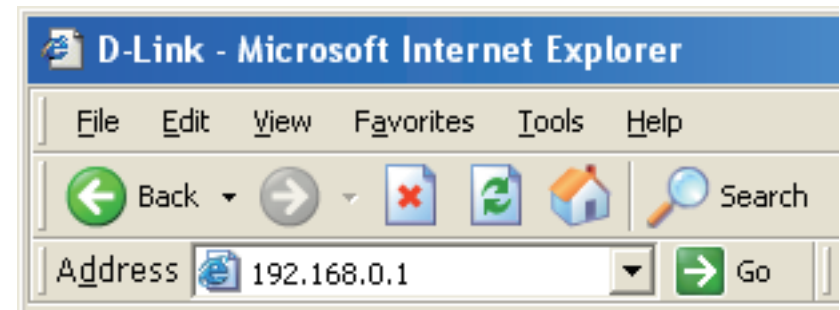
# Configuration

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

## Quick Setup Wizard

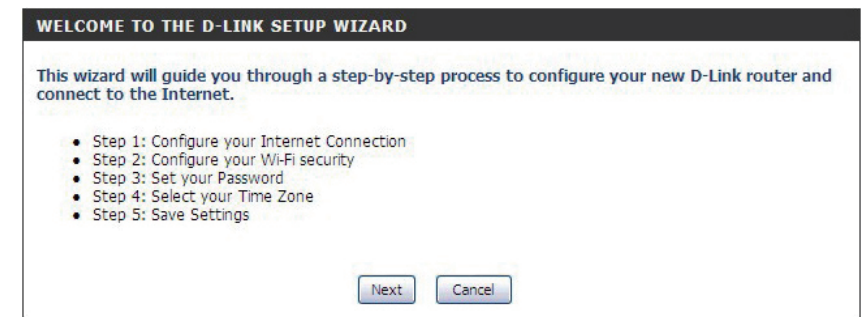
To access the configuration utility, open a web-browser such as Internet Explorer and enter the IP address of the router (192.168.0.1).

You may also connect using the NetBIOS name in the address bar (**http://dlinkrouter**).




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

Click **Next** to continue.



Please wait while your router detects your internet connection type.




**STEP 1: CONFIGURE YOUR INTERNET CONNECTION**

Router is detecting your Internet connection type, please wait ...

Please give your network a name using up to 32 characters.

Click **Next** to continue.



**STEP 2: CONFIGURE YOUR WI-FI SECURITY**

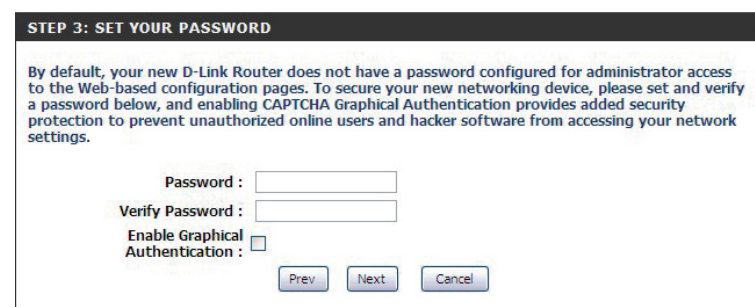
Give your Wi-Fi network a name.

**Wi-Fi Network Name (SSID) :**  
 (Using up to 32 characters)

Give your Wi-Fi network a password.

**Wi-Fi Password :**  
 (Between 8 and 63 characters)

In order to secure your new networking device, please enter a password and click **Next**.



**STEP 3: SET YOUR PASSWORD**

By default, your new D-Link Router does not have a password configured for administrator access to the Web-based configuration pages. To secure your new networking device, please set and verify a password below, and enabling CAPTCHA Graphical Authentication provides added security protection to prevent unauthorized online users and hacker software from accessing your network settings.

**Password :**

**Verify Password :**

**Enable Graphical Authentication :** ☐

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

STEP 4: 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), Tijuana

Prev

Next

Cancel

Once this screen appears, your setup is complete. Click **Save & Connect** to reboot the router.

SETUP COMPLETE!

Below is a detailed summary of your Wi-Fi 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 Wi-Fi devices.

Wi-Fi Network Name (SSID):

dlink

Wi-Fi Password :

12345678

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

Prev

Save

Cancel

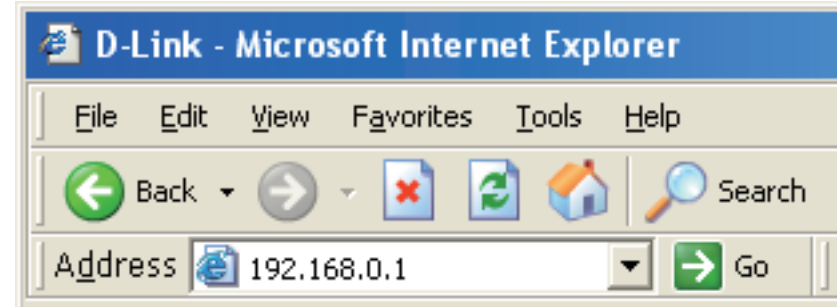
# Web-based Configuration Utility

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).

You may also connect using the NetBIOS name in the address bar (**http://dlinkrouter**).

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

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

A screenshot of the D-Link router's login page. The page has an orange header with the word "LOGIN". Below the header, it says "Log in to the router". There are two input fields: "User Name :" with a dropdown menu showing "Admin" and "Password :". Below these fields is a "Log In" button.

# Setup Wizard

## Internet Connection

Click **Internet Connection Setup Wizard** to quickly configure your router. Skip to the next page.

If you want to enter your settings without running the wizard, click **Manual Configuration** and skip to page 18.

## Wireless Settings

Click **Wireless Connection Setup Wizard** to begin.

If you want to add your wireless clients to your router using WPS, click **Add Wireless Device with WPS** and skip to page 86.

If you want to configure your wireless settings manually, click **Manual Wireless Connection Setup** and skip to page 25.

### INTERNET CONNECTION

There are two ways to set up your Internet connection: you can use the Web-based Internet Connection Setup Wizard, or you can manually configure the connection.

### INTERNET CONNECTION SETUP WIZARD

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

Internet Connection Setup Wizard

**Note:** Before launching these wizards, 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 new D-Link Systems Router manually, then click on the button below.

Manual Internet Connection Setup

### WIRELESS SETTINGS

The following Web-based wizards are designed to assist you in your wireless network setup and wireless device connection.

Before launching these wizards, please make sure you have followed all steps outlined in the Quick Installation Guide included in the package.

### WIRELESS NETWORK SETUP WIZARD

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

Wireless Connection Setup Wizard

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

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

This 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 NETWORK SETUP

If your wireless network is already set up with Wi-Fi Protected Setup, manual configuration of the wireless network will destroy the existing wireless network. If you would like to configure the wireless settings of your new D-Link Systems Router manually, then click on the Manual Wireless Network Setup button below.

Manual Wireless Connection Setup

Click **Next** to continue.

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

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

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

WELCOME TO THE D-LINK SETUP WIZARD

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

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

Prev

Next

Cancel

Connect

STEP 1: SET YOUR PASSWORD

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

Password :

Verify Password :

Prev

Next

Cancel

Connect

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.

Prev

Next

Cancel

Connect

STEP 3: CONFIGURE YOUR INTERNET CONNECTION

Your Internet Connection could not be detected, please select your Internet Service Provider (ISP) from the list below. If your ISP is not listed; select the "Not Listed or Don't Know" option to manually configure your connection.

If your Internet Service Provider was not listed or you don't know who it is, please select the Internet connection type below:

☐ DHCP Connection (Dynamic IP Address)  
Choose this if your Internet connection automatically provides you with an IP Address. Most Cable Modems use this type of connection.

☒ Username / Password Connection (PPPoE)  
Choose this option if your Internet connection requires a username and password to get online. Most DSL modems use this connection type of connection.

☐ Username / Password Connection (PPTP)  
PPTP client.

☐ Username / Password Connection (L2TP)  
L2TP client.

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

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Next

Cancel

Connect

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

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

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

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

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

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

### DHCP CONNECTION (DYNAMIC IP ADDRESS)

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

MAC Address : 00:00:00:00:00:00 (Optional)

Clone Your PC's MAC Address

Host Name : DIR-652

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

### DNS SETTINGS

Primary DNS Address : 0.0.0.0

Secondary DNS Address : 0.0.0.0

Prev Next Cancel Connect

### SET USERNAME AND PASSWORD CONNECTION (PPPOE)

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

Address Mode : ☒ Dynamic IP ☐ Static IP

IP Address & : 0.0.0.0

User Name : d-link@sbcglobal.net

Password :

Verify Password :

Service Name : (Optional)

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

### DNS SETTINGS

Primary DNS Address : 0.0.0.0

Secondary DNS Address : 0.0.0.0

Prev Next Cancel Connect

### SET USERNAME AND PASSWORD CONNECTION (PPTP)

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

Address Mode : ☒ Dynamic IP ☐ Static IP

PPTP IP Address : 0.0.0.0

PPTP Subnet Mask : 0.0.0.0

PPTP Gateway IP Address : 0.0.0.0

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

User Name :

Password :

Verify Password :

### DNS SETTINGS

Primary DNS Address : 0.0.0.0

Secondary DNS Address : 0.0.0.0

Prev Next Cancel Connect



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

**SET USERNAME AND PASSWORD CONNECTION (L2TP)**

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

Address Mode : ☒ Dynamic IP ☐ Static IP

L2TP IP Address :

L2TP Subnet Mask :

L2TP Gateway IP Address :

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

User Name :

Password :

Verify Password :

**DNS SETTINGS**

Primary DNS Address :

Secondary DNS Address :

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

**SET STATIC IP ADDRESS CONNECTION**

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

IP Address :

Subnet Mask :

Gateway Address :

**DNS SETTINGS**

Primary DNS Address :

Secondary DNS Address :

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

Close your browser window and reopen it to test your Internet connection. It may take a few tries to initially connect to the Internet.

**SETUP COMPLETE!**

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

# Manual Configuration

**My Internet Connection is:** Select the type of Internet connection you have. Select **Dynamic IP (DHCP)**, **PPPoE**, **PPTP**, **L2TP**, **Static**, or **DS-Lite**. Refer to the next few pages for more information.

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

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

**Enable True Gigabit Routing Connectivity:** When this option is enabled, the router will speed up NAT performance by hardware acceleration mechanism.

**Note:** SPI and the QoS engine will be disabled automatically when hardware NAT is enabled.

**WAN**

Use this section to configure your Internet Connection type. There are several connection types to choose from Static IP, DHCP, PPPoE, PPTP, L2TP, DS-Lite. If you are unsure of your connection method, please contact your Internet Service Provider.

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

Save Settings Don't Save Settings

**INTERNET CONNECTION TYPE**

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

My Internet Connection is : Dynamic IP (DHCP)

**ADVANCED DNS SERVICE**

Advanced DNS is a free security option that provides Anti-Phishing to protect your Internet connection from fraud and navigation improvements such as auto-correction of common URL typos.

Enable Advanced DNS Service : ☐

**TRUE GIGABIT ROUTING CONNECTIVITY SETTING**

Enable True Gigabit Routing Connectivity : ☒

## Dynamic (Cable)

**My Internet Connection:** Select **Dynamic IP (DHCP)** to obtain IP Address information automatically from your ISP. Select this option if your ISP does not give you any IP numbers to use. This option is commonly used for cable modem services such as Comcast and Cox.

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

**Use Unicasting:** Check the box if you are having problems obtaining an IP address from your ISP.

**Primary/Secondary DNS Server:** Enter the Primary and secondary DNS server IP addresses assigned by your ISP. These addresses are usually obtained automatically from your ISP. Leave at 0.0.0.0 if you did not specifically receive these from your ISP.

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

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

The screenshot shows the 'INTERNET CONNECTION TYPE' configuration page. At the top, it says 'Choose the mode to be used by the router to connect to the Internet.' Below this, 'My Internet Connection is:' is set to 'Dynamic IP (DHCP)'. The next section is titled 'DYNAMIC IP (DHCP) INTERNET CONNECTION TYPE :'. It includes instructions: '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 configuration fields are: 'Host Name' (DIR-652), 'DHCP routing option' (unchecked), 'Use Unicasting' (checked with a note '(compatibility for some DHCP Servers)'), 'Primary DNS Server' (0.0.0.0), 'Secondary DNS Server' (0.0.0.0), 'MTU' (1500 bytes, with a note 'MTU default =1500'), and 'MAC Address' (00:18:E7:96:61:BA). A button labeled 'Copy Your PC's MAC Address' is at the bottom.

INTERNET CONNECTION TYPE	
Choose the mode to be used by the router to connect to the Internet.	
My Internet Connection is :	Dynamic IP (DHCP)
DYNAMIC IP (DHCP) INTERNET CONNECTION TYPE :	
Use this Internet connection type if your Internet Service Provider (ISP) didn't provide you with IP Address information and/or a username and password.	
Host Name :	DIR-652
DHCP routing option :	<input type="checkbox"/>
Use Unicasting :	<input checked="" type="checkbox"/> (compatibility for some DHCP Servers)
Primary DNS Server :	0.0.0.0
Secondary DNS Server :	0.0.0.0
MTU	1500 (bytes)MTU default =1500
MAC Address :	00:18:E7:96:61:BA
<button>Copy Your PC's MAC Address</button>	

# Internet Setup

## PPPoE (DSL)

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

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

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

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

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

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

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

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

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

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

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

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

INTERNET CONNECTION TYPE

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

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

PPPOE :

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

Address Mode ☒ Dynamic IP ☐ Static IP

IP Address :

User Name :

Password :

Verify Password :

Service Name :  (optional)

Reconnect Mode : ☐ Always on ☒ On demand ☐ Manual

Maximum Idle Time :  (minutes, 0=infinite)

Primary DNS Address :  (optional)

Secondary DNS Address :  (optional)

MTU :  (bytes) MTU default = 1492

MAC Address :

Clone Your PC's MAC Address

## PPTP

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

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

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

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

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

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

**Username:** Enter your PPTP username.

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

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

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

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

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

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

INTERNET CONNECTION TYPE

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

My Internet Connection is : PPTP (Username / Password)

PPTP :

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

Address Mode
Dynamic IP
Static IP

PPTP IP Address : 0.0.0.0

PPTP Subnet Mask : 0.0.0.0

PPTP Gateway IP Address : 0.0.0.0

PPTP Server IP Address :

Username :

Password :

Verify Password :

Reconnect Mode :
Always on
On demand
Manual

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

Primary DNS Address : 0.0.0.0

Secondary DNS Address : 0.0.0.0

MTU : 1400 (bytes) MTU default = 1400

MAC Address : 00:18:e7:6a:38:47

Clone Your PC's MAC Address

## L2TP

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

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

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

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

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

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

**Username:** Enter your L2TP username.

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

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

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

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

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

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

The screenshot displays the 'INTERNET CONNECTION TYPE' configuration page. At the top, it instructs the user to 'Choose the mode to be used by the router to connect to the Internet.' Below this, a dropdown menu shows 'L2TP (Username / Password)' is selected. The main section, titled 'L2TP :', prompts the user to 'Enter the information provided by your Internet Service Provider (ISP)'. It includes fields for 'Address Mode' (Dynamic IP selected), 'L2TP IP Address', 'L2TP Subnet Mask', 'L2TP Gateway IP Address', 'L2TP Server IP Address', 'Username', 'Password', and 'Verify Password'. There are also radio buttons for 'Reconnect Mode' (On demand selected), a 'Maximum Idle Time' field (set to 5 minutes), and fields for 'Primary DNS Address' and 'Secondary DNS Address'. At the bottom, there are fields for 'MTU' (1400 bytes) and 'MAC Address' (00:18:e7:6a:38:47), along with a 'Clone Your PC's MAC Address' button.

## Static (assigned by ISP)

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

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

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

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

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

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

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

**INTERNET CONNECTION TYPE**

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

My Internet Connection is :

**STATIC IP ADDRESS INTERNET CONNECTION TYPE :**

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

IP Address :	<input type="text" value="0.0.0.0"/>
Subnet Mask :	<input type="text" value="0.0.0.0"/>
Default Gateway :	<input type="text" value="0.0.0.0"/>
Primary DNS Server :	<input type="text" value="0.0.0.0"/>
Secondary DNS Server :	<input type="text" value="0.0.0.0"/>
MTU :	<input type="text" value="1500"/> (bytes) MTU default = 1500
MAC Address :	<input type="text" value="00:18:e7:6a:38:47"/>
<input type="button" value="Clone Your PC's MAC Address"/>	

## DS-Lite

Another Internet Connection type is DS-Lite.

**DS-Lite Configuration:** Select the **DS-Lite DHCPv6 Option** to let the router allocate the AFTR IPv6 address automatically. Select the **Manual Configuration** to enter the AFTR IPv6 address in manually.

**AFTR IPv6 Address:** After selecting the Manual Configuration option above, the user can enter the AFTR IPv6 address used here.

**B4 IPv4 Address:** Enter the B4 IPv4 address value used here.

**WAN IPv6 Address:** Once connected, the WAN IPv6 address will be displayed here.

**IPv6 WAN Default Gateway:** Once connected, the IPv6 WAN Default Gateway address will be displayed here.

Click on the Save Settings button to accept the changes made.  
Click on the Don't Save Settings button to discard the changes made.

**INTERNET CONNECTION TYPE**  
  
Choose the mode to be used by the router to connect to the Internet.  
  
My Internet Connection is :

**AFTR ADDRESS INTERNET CONNECTION TYPE :**  
  
Enter the AFTR address information provided by your Internet Service Provider (ISP).  
  
DS-Lite Configuration : ☒ DS-Lite DHCPv6 Option ☐ Manual Configuration  
AFTR IPv6 Address :   
B4 IPv4 Address : 192.0.0.  (optional)  
WAN IPv6 Address :  
IPv6 WAN Default Gateway :



# Wireless Settings

**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.

**Schedule:** The schedule of time when the wireless settings rules 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.

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

**Enable Auto Channel Scan:** The **Auto Channel Scan** setting can be selected to allow the DIR-652 to choose the channel with the least amount of interference.

**Wireless Channel:** Indicates the channel setting for the DIR-652. 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.

**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.

**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.

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

**Visibility Status:** Select **Invisible** if you do not want the SSID of your wireless network to be broadcasted by the DIR-652. If Invisible is selected, the SSID of the DIR-652 will not be seen by Site Survey utilities so your wireless clients will have to know the SSID of your DIR-652

**WIRELESS SETTINGS**

The following Web-based wizards are designed to assist you in your wireless network setup and wireless device connection.

Before launching these wizards, please make sure you have followed all steps outlined in the Quick Installation Guide included in the package.

**WIRELESS NETWORK SETUP WIZARD**

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

Wireless Connection Setup Wizard

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

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

This 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 NETWORK SETUP**

If your wireless network is already set up with Wi-Fi Protected Setup, manual configuration of the wireless network will destroy the existing wireless network. If you would like to configure the wireless settings of your new D-Link Systems Router manually, then click on the Manual Wireless Network Setup button below.

Manual Wireless Connection Setup

# Network Settings

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

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

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

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

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

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

**NETWORK SETTINGS**

Use this section to configure the internal network settings of your router and also to configure the built-in DHCP Server to assign IP addresses to the computers on your network. 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 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 :**

**Subnet Mask :**

**Device Name :**

**Local Domain Name :**

**Enable DNS Relay :** ☒

## DHCP Server Settings

DHCP stands for Dynamic Host Control Protocol. The DIR-652 has a built-in DHCP server. The DHCP Server will automatically assign an IP address to the computers on the LAN/private network. Be sure to set your computers to be DHCP clients by setting their TCP/IP settings to "Obtain an IP Address Automatically." When you turn your computers on, they will automatically load the proper TCP/IP settings provided by the DIR-652. The DHCP Server will automatically allocate an unused IP address from the IP address pool to the requesting computer. You must specify the starting and ending address of the IP address pool.

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

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

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

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

**Always Broadcast:** Enable this feature to broadcast your networks DHCP server to LAN/WLAN clients.

**NetBIOS Announcement:** NetBIOS allows LAN hosts to discover all other computers within the network, enable this feature to allow the DHCP Server to offer NetBIOS configuration settings.

**Learn NetBIOS from WAN:** Enable this feature to allow WINS information to be learned from the WAN side, disable to allow manual configuration.

**NetBIOS Scope:** This feature allows the configuration of a NetBIOS 'domain' name under which network hosts operates. This setting has no effect if the 'Learn NetBIOS information from WAN' is activated."

**NetBIOS Mode Type:** Select the different type of NetBIOS node: **Broadcast only**, **Point-to-Point**, **Mixed-mode**, and **Hybrid**.

**Primary/Secondary WINS IP Address:** Enter your Primary (and Secondary) WINS IP address(es).

### DHCP SERVER SETTINGS

Use this section to configure the built-in DHCP Server to assign IP addresses to the computers on your network.

**Enable DHCP Server :** ☒

**DHCP IP Address Range :** 192.168.0.100 to 192.168.0.199

**DHCP Lease Time :** 1440 (minutes)

**Always broadcast :** ☒ (compatibility for some DHCP Clients)

**NetBIOS announcement :** ☐

**Learn NetBIOS from WAN :** ☐

**NetBIOS Scope :** (optional)

**NetBIOS node type :** ☒ Broadcast only (use when no WINS servers configured)

☐ Point-to-Point (no broadcast)

☒ Mixed-mode (Broadcast then Point-to-Point)

☐ Hybrid (Point-to-Point then Broadcast)

**Primary WINS IP Address :**

**Secondary WINS IP Address :**

## DHCP Reservation

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

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

**Enable:** Check this box to enable the reservation.

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

**IP Address:** Enter the IP address you want to assign to the computer or device. This IP Address must be within the DHCP IP Address Range.

**MAC Address:** Enter the MAC address of the computer or device.

**Copy Your PC's MAC Address:** If you want to assign an IP address to the computer you are currently on, click this button to populate the fields.

**Save:** Click **Save** to save your entry. You must click **Save Settings** at the top to activate your reservations.

**Number of Dynamic DHCP Clients:** In this section you can see what LAN devices are currently leasing IP addresses.

**Revoke:** Click **Revoke** to cancel the lease for a specific LAN device and free an entry in the lease table. Do this only if the device no longer needs the leased IP address, because, for example, it has been removed from the network.

**Note:** The Revoke option will not disconnect a PC with a current network session from the network; you would need to use MAC Address Filter to do that. Revoke will only free up a DHCP Address for the very next requester. If the previous owner is still available, those two devices may both receive an IP Address Conflict error, or the second device may still not receive an IP Address; in that case, you may still need to extend the "DHCP IP Address Range" to address the issue, it is located in the DHCP Server section.

**Reserve:** The Reserve option converts this dynamic IP allocation into a DHCP Reservation and adds the corresponding entry to the DHCP Reservations List.

### ADD DHCP RESERVATION

**Enable :** ☐

**Computer Name :**  << Computer Name

**IP Address :**

**MAC Address :**

### DHCP RESERVATIONS LIST :

Enable	Host Name	MAC Address	IP Address
--------	-----------	-------------	------------

### NUMBER OF DYNAMIC DHCP CLIENTS : 4

Hardware Address	Assigned IP	Hostname	Expires		
00:1b:63:ce:3a:d8	192.168.0.100	UNKNOWN	Fri Dec 31 14:58:13 2010	<a href="#">Revoke</a>	<a href="#">Reserve</a>
00:26:b0:ce:46:9c	192.168.0.102	UNKNOWN	Fri Dec 31 15:11:29 2010	<a href="#">Revoke</a>	<a href="#">Reserve</a>
cc:55:ad:34:fc:91	192.168.0.103	BLACKBERRY-8720	Fri Dec 31 16:35:54 2010	<a href="#">Revoke</a>	<a href="#">Reserve</a>
38:e7:d8:67:86:f7	192.168.0.104	UNKNOWN	Fri Dec 31 17:00:53 2010	<a href="#">Revoke</a>	<a href="#">Reserve</a>

# IPv6 Internet Connection

Click **IPv6 Internet Connection Setup Wizard** to begin.

If you want to configure your IPv6 Internet Connection manually, click **Manual IPv6 Internet Connection Setup** and skip to page 35.

IPv6 INTERNET CONNECTION

There are two ways to set up your IPv6 internet connection. You can use the Web-based IPv6 Internet Connection Setup Wizard, or you can manually configure the connection.

IPv6 INTERNET CONNECTION SETUP WIZARD

If you would like to utilize our easy to use Web-based Wizard to assist you in connecting your new D-Link Systems Router to the IPv6 Internet, click on the button below.

IPv6 Internet Connection Setup Wizard

MANUAL IPV6 INTERNET CONNECTION SETUP

If you would like to configure the IPv6 Internet settings of your new D-Link Systems Router manually, then click on the button below.

Manual IPv6 Internet Connection Setup

# IPv6 Internet Connection Setup Wizard

On this page, the user can configure the IPv6 Connection type. There are two ways to set up the IPv6 Internet connection. You can use the Web-based IPv6 Internet Connection Setup Wizard, or you can manually configure the connection.

## IPv6 Internet Connection Setup Wizard

For the beginner user that have not configured a router before, click on the **IPv6 Internet Connection Setup Wizard** button and the router will guide you through a few simple steps to get your network up and running.

After clicking on the IPv6 Internet Connection Setup Wizard button, this page will appear.

### IPv6 INTERNET CONNECTION

There are two ways to set up your IPv6 Internet connection. You can use the Web-based IPv6 Internet Connection Setup Wizard, or you can manually configure the connection.

### IPv6 INTERNET CONNECTION SETUP WIZARD

If you would like to utilize our easy to use Web-based Wizard to assist you in connecting your new D-Link Systems Router to the IPv6 Internet, click on the button below.

IPv6 Internet Connection Setup Wizard

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

## Welcome to the D-Link IPv6 Internet Connection Setup Wizard

This wizard will guide you through a step-by-step process to configure your new D-Link router and connect to the IPv6 Internet.

Click **Next** to continue to the next page. Click **Cancel** to discard the changes made and return to the main page.

### WELCOME TO THE D-LINK IPv6 INTERNET CONNECTION SETUP WIZARD

This wizard will guide you through a step-by-step process to configure your new D-Link router and connect to the IPv6 Internet.

- Step 1: Configure your IPv6 Internet Connection
- Step 2: Save Settings and Connect

Prev

Next

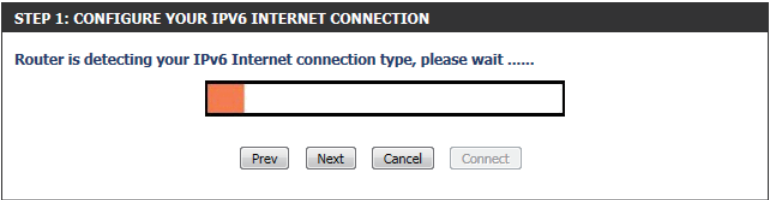
Cancel

Connect

## Step 1: Configure Your IPv6 Internet Connection

The router will try and detect whether its possible to obtain the IPv6 Internet Connection type automatically. If this succeeds then the user will be guided through the input of the appropriate parameters for the connection type found.

However, if the automatic detection fails, the user will be prompt to either **Try again** or to click on the **Guide me through the IPv6 settings** button to initiate the manual continual of the wizard.



### Step 1: Configure Your IPv6 Internet Connection

There are several connection types to choose from. If you are unsure of your connection method, please contact your IPv6 Internet Service Provider.

**Note:** If using the PPPoE option, you will need to ensure that any PPPoE client software on your computers has been removed or disabled. The 3 options available on this page is **IPv6 over PPPoE**, **Static IPv6 address and Route**, and **Tunneling Connection**.

Choose the required IPv6 Internet Connection type and click on the **Next** button to continue. Click on the **Prev** button to return to the previous page. Click on the **Cancel** button to discard all the changes made and return to the main page.

#### Set Username and Password Connection (PPPoE)

After selecting the IPv6 over PPPoE option, the user will be able to configure the IPv6 Internet connection that requires a username and password to get online. Most DSL modems use this type of connection.

The following parameters will be available for configuration:

**PPPoE Session:** Select the PPPoE Session value used here. This option will state that this connection shares it's information with the already configured IPv6 PPPoE connection, or the user can create a new PPPoE connection here.

**User Name:** Enter the PPPoE username used here. This information is obtainable from the ISP.

**Password:** Enter the PPPoE password used here. This information is obtainable from the ISP.

**Verify Password:** Re-enter the PPPoE password used here.

**Service Name:** Enter the service name for this connection here. This option is optional.

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

STEP 1: CONFIGURE YOUR IPV6 INTERNET CONNECTION

Please select your IPv6 Internet Connection type:

- ☒ **IPv6 over PPPoE**  
Choose this option if your IPv6 Internet connection requires a username and password to get online. Most DSL modems use this type of connection.
- ☐ **Static IPv6 address and Route**  
Choose this option if your Internet Setup Provider (ISP) provided you with IPv6 Address information that has to be manually configured.
- ☐ **Tunneling Connection (6rd)**  
Choose this option if your Internet Setup Provider (ISP) provided you a IPv6 Internet Connection by using 6rd automatic tunneling mechanism.

Prev

Next

Cancel

Connect

SET USERNAME AND PASSWORD CONNECTION (PPPOE)

To set up this connection you will need to have a Username and Password from your IPv6 Internet Service Provider. If you do not have this information, please contact your ISP.

PPPoE Session :

☒ Share with IPv4
☐ Create a new session

User Name :

Password :

Verify Password :

Service Name :

(optional)

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

Prev

Next

Cancel

Connect



### Set Static IPv6 Address Connection

This mode is used when your ISP provides you with a set IPv6 addresses that does not change. The IPv6 information is manually entered in your IPv6 configuration settings. You must enter the IPv6 address, Subnet Prefix Length, Default Gateway, Primary DNS Server, and Secondary DNS Server. Your ISP provides you with all this information.

**Use Link-Local Address:** The Link-local address is used by nodes and routers when communicating with neighboring nodes on the same link. This mode enables IPv6-capable devices to communicate with each other on the LAN side.

**IPv6 Address:** Enter the WAN IPv6 address for the router here.

**Subnet Prefix Length:** Enter the WAN subnet prefix length value used here.

**Default Gateway:** Enter the WAN default gateway IPv6 address used here.

**Primary IPv6 DNS Address:** Enter the WAN primary DNS Server address used here.

**Secondary IPv6 DNS Address:** Enter the WAN secondary DNS Server address used here.

**LAN IPv6 Address:** These are the settings of the LAN (Local Area Network) IPv6 interface for the router. The router's LAN IPv6 Address configuration is based on the IPv6 Address and Subnet assigned by your ISP. (A subnet with prefix /64 is supported in LAN.)

SET STATIC IPV6 ADDRESS CONNECTION

To set up this connection you will need to have a complete list of IPv6 information provided by your IPv6 Internet Service Provider. If you have a Static IPv6 connection and do not have this information, please contact your ISP.

Use Link-Local Address : ☒

IPv6 Address :

Subnet Prefix Length :

Default Gateway :

Primary IPv6 DNS Address :

Secondary IPv6 DNS Address :

LAN IPv6 Address :  /64

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

### Tunneling Connection (6rd)

After selecting the Tunneling Connection (6rd) option, the user can configure the IPv6 6rd connection settings.

The following parameters will be available for configuration:

**6rd IPv6 Prefix:** Enter the 6rd IPv6 address and prefix value used here.

**IPv4 Address:** Enter the IPv4 address used here.

**Mask Length:** Enter the IPv4 mask length used here.

**Assigned IPv6 Prefix:** Displays the IPv6 assigned prefix value here.

**6rd Border Relay IPv4 Address:** Enter the 6rd border relay IPv4 address used here.

**IPv6 DNS Server:** Enter the primary DNS Server address used here.

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

### Setup Complete

The IPv6 Internet Connection Setup Wizard was completed.

Click on the **Connect** button to continue. Click on the **Prev** button to return to the previous page. Click on the **Cancel** button to discard all the changes made and return to the main page.

**SET UP 6RD TUNNELING CONNECTION**

To set up this 6rd tunneling connection you will need to have the following information from your IPv6 Internet Service Provider. If you do not have this information, please contact your ISP.

6rd IPv6 Prefix :  /

IPv4 Address : 192.168.69.191 Mask Length :

Assigned IPv6 Prefix :

6rd Border Relay IPv4 Address :

IPv6 DNS Server :

**SETUP COMPLETE!**

The IPv6 Internet Connection Setup Wizard has completed. Click the Connect button to save your settings and reboot the router.

# IPv6 Manual Setup

There are several connection types to choose from: Auto Detection, Static IPv6, Autoconfiguration (SLAAC/DHCPv6), PPPoE, IPv6 in IPv4 Tunnel, 6to4, 6rd, and Link-local. If you are unsure of your connection method, please contact your IPv6 Internet Service Provider.

Note: If using the PPPoE option, you will need to ensure that any PPPoE client software on your computers has been removed or disabled.

## Auto Detection

Select Auto Detection to have the router detect and automatically configure your IPv6 setting from your ISP.

<b>IPv6 CONNECTION TYPE</b>
Choose the mode to be used by the router to the IPv6 Internet.
My IPv6 Connection is : <input type="text" value="Auto Detection"/>
<b>IPv6 DNS SETTINGS</b>
Obtain a DNS server address automatically or enter a specific DNS server address.
<input checked="" type="radio"/> Obtain a DNS server address automatically
<input type="radio"/> Use the following DNS address
Primary IPv6 DNS Server : <input type="text"/>
Secondary IPv6 DNS Server : <input type="text"/>
<b>LAN IPv6 ADDRESS SETTINGS</b>
Use this section to configure the internal network settings of your router. If you change the LAN IPv6 Address here, you may need to adjust your PC network settings to access the network again.
Enable DHCP-PD : <input checked="" type="checkbox"/>
LAN IPv6 Address : <input type="text"/> /64
LAN IPv6 Link-Local Address : FE80::218:E7FF:FE6A:3B54/64
<b>ADDRESS AUTOCONFIGURATION SETTINGS</b>
Use this section to setup IPv6 Autoconfiguration to assign IP addresses to the computers on your network.
Enable automatic IPv6 address assignment : <input checked="" type="checkbox"/>
Enable Automatic DHCP-PD in LAN : <input checked="" type="checkbox"/>
Autoconfiguration Type : <input type="text" value="SLAAC + Stateless DHCPv6"/>
Router Advertisement Lifetime: <input type="text" value="1440"/> (minutes)

## Static IPv6

**My IPv6 Connection:** Select **Static IPv6** from the drop-down menu.

**WAN IPv6 Address Settings:** Enter the address settings supplied by your Internet provider (ISP).

**LAN IPv6 Address:** Enter the LAN (local) IPv6 address for the router.

**LAN Link-Local Address:** Displays the Router's LAN Link-Local Address.

**Enable Autoconfiguration:** Check to enable the Autoconfiguration feature.

**Autoconfiguration Type:** Select **Stateful (DHCPv6)**, **SLAAC + RDNSS** or **SLAAC + Stateless DHCPv6**.

**IPv6 Address Range Start:** Enter the start IPv6 Address for the DHCPv6 range for your local computers.

**IPv6 Address Range End:** Enter the end IPv6 Address for the DHCPv6 range for your local computers.

**IPv6 Address Lifetime:** Enter the IPv6 Address Lifetime (in minutes).

IPv6 CONNECTION TYPE	
Choose the mode to be used by the router to the IPv6 Internet.	
My IPv6 Connection is :	Static IPv6
WAN IPv6 ADDRESS SETTINGS :	
Enter the IPv6 address information provided by your Internet Service Provider (ISP).	
Use Link-Local Address :	<input checked="" type="checkbox"/>
IPv6 Address :	FE80::218:E7FF:FE6A:3847
Subnet Prefix Length :	64
Default Gateway :	
Primary DNS Address :	
Secondary DNS Address :	
LAN IPv6 ADDRESS SETTINGS :	
Use this section to configure the internal network settings of your router. If you change the LAN IPv6 Address here, you may need to adjust your PC network settings to access the network again.	
LAN IPv6 Address :	/64
LAN IPv6 Link-Local Address :	FE80::218:E7FF:FE6A:3846/64
ADDRESS AUTOCONFIGURATION SETTINGS	
Use this section to setup IPv6 Autoconfiguration to assign IP addresses to the computers on your network.	
Enable automatic IPv6 address assignment :	<input checked="" type="checkbox"/>
Autoconfiguration Type :	Stateful DHCPv6
IPv6 Address Range (Start) :	:: /64
IPv6 Address Range (End) :	:: /64
IPv6 Address Lifetime :	1440 (minutes)

## Autoconfiguration

**My IPv6 Connection:** Select **Autoconfiguration (Stateless/DHCPv6)** from the drop-down menu.

**IPv6 DNS Settings:** Select either **Obtain DNS server address automatically** or **Use the following DNS Address**.

**Primary/Secondary DNS Address:** Enter the primary and secondary DNS server addresses.

**LAN IPv6 Address:** Enter the LAN (local) IPv6 address for the router.

**LAN Link-Local Address:** Displays the Router's LAN Link-Local Address.

**Enable Autoconfiguration:** Check to enable the Autoconfiguration feature.

**Autoconfiguration Type:** Select **Stateful (DHCPv6)**, **SLAAC + RDNSS** or **SLAAC + Stateless DHCPv6**.

**IPv6 Address Range Start:** Enter the start IPv6 Address for the DHCPv6 range for your local computers.

**IPv6 Address Range End:** Enter the end IPv6 Address for the DHCPv6 range for your local computers.

**IPv6 Address Lifetime:** Enter the IPv6 Address Lifetime (in minutes).

IPv6 CONNECTION TYPE
<p>Choose the mode to be used by the router to the IPv6 Internet.</p> <p>My IPv6 Connection is : <span>Autoconfiguration (Stateless/DHCPv6)</span></p>
IPv6 DNS SETTINGS :
<p>Obtain a DNS server address automatically or enter a specific DNS server address.</p> <p> <input checked="" type="radio"/> Obtain a DNS server address automatically  <input type="radio"/> Use the following DNS address         </p> <p>Primary DNS Address : <input type="text"/></p> <p>Secondary DNS Address : <input type="text"/></p>
LAN IPv6 ADDRESS SETTINGS :
<p>Use this section to configure the internal network settings of your router. If you change the LAN IPv6 Address here, you may need to adjust your PC network settings to access the network again.</p> <p>Enable DHCP-PD : <input checked="" type="checkbox"/></p> <p>LAN IPv6 Address : <input type="text"/> /64</p> <p>LAN IPv6 Link-Local Address : FE80::218:E7FF:FE6A:3846/64</p>
ADDRESS AUTOCONFIGURATION SETTINGS
<p>Use this section to setup IPv6 Autoconfiguration to assign IP addresses to the computers on your network.</p> <p>Enable automatic IPv6 address assignment : <input checked="" type="checkbox"/></p> <p>Autoconfiguration Type : <span>Stateful DHCPv6</span></p> <p>IPv6 Address Range (Start): <input type="text"/> :: <input type="text"/></p> <p>IPv6 Address Range (End): <input type="text"/> :: <input type="text"/></p> <p>IPv6 Address Lifetime: <input type="text"/> 1440 (minutes)</p>

## PPPoE

**My IPv6 Connection:** Select **PPPoE** from the drop-down menu.

**PPPoE:** Enter the PPPoE account settings supplied by your Internet provider (ISP).

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

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

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

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

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

**Reconnection Mode:** Select either **Always-on**, **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.

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

**IPv6 DNS Settings:** Select either **Obtain DNS server address automatically** or **Use the following DNS Address**.

**Primary/Secondary DNS Address:** Enter the primary and secondary DNS server addresses.

**LAN IPv6 Address:** Enter the LAN (local) IPv6 address for the router.

**LAN Link-Local Address:** Displays the Router's LAN Link-Local Address.

**Enable Autoconfiguration:** Check to enable the Autoconfiguration feature.

### IPv6 CONNECTION TYPE

Choose the mode to be used by the router to the IPv6 Internet.

My IPv6 Connection is : PPPoE

### PPPOE :

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

**PPPoE Session:** ☒ Share with IPv4 ☐ Create a new session  
**Address Mode:** ☒ Dynamic IP ☐ Static IP  
**IP Address :**   
**User Name :**   
**Password :**   
**Verify Password :**   
**Service Name :**  (optional)  
**Reconnect Mode :** ☐ Always on ☒ On demand ☐ Manual  
**Maximum Idle Time :**  (minutes, 0=infinite)  
**MTU :**  (bytes) MTU default = 1492

### IPv6 DNS SETTINGS :

Enter a specific DNS server address.

☒ Obtain a DNS server address automatically  
☐ Use the following DNS address  
**Primary DNS Address :**   
**Secondary DNS Address :**

### LAN IPv6 ADDRESS SETTINGS :

Use this section to configure the internal network settings of your router. If you change the LAN IPv6 Address here, you may need to adjust your PC network settings to access the network again.

**Enable DHCP-PD :** ☒  
**LAN IPv6 Address :**  /64  
**LAN IPv6 Link-Local Address :** FE80::218:E7FF:FE6A:3846/64

### ADDRESS AUTOCONFIGURATION SETTINGS

Use this section to setup IPv6 Autoconfiguration to assign IP addresses to the computers on your network.

**Enable Autoconfiguration :** ☒  
**Autoconfiguration Type :** Stateful (DHCPv6)  
**IPv6 Address Range(Start):**  :   
**IPv6 Address Range(End):**  :   
**IPv6 Address Lifetime:**  (minutes)

**Autoconfiguration Type:** Select **Stateful (DHCPv6)**, **SLAAC + RDNSS** or **SLAAC + Stateless DHCPv6**.

**IPv6 Address Range Start:** Enter the start IPv6 Address for the DHCPv6 range for your local computers.

**IPv6 Address Range End:** Enter the end IPv6 Address for the DHCPv6 range for your local computers.

**IPv6 Address Lifetime:** Enter the IPv6 Address Lifetime (in minutes).

## IPv6 in IPv4 Tunneling

**My IPv6 Connection:** Select **IPv6 in IPv4 Tunnel** from the drop-down menu.

**IPv6 in IPv4 Tunnel Settings:** Enter the settings supplied by your Internet provider (ISP).

**LAN IPv6 Address:** Enter the LAN (local) IPv6 address for the router.

**LAN Link-Local Address:** Displays the Router's LAN Link-Local Address.

**Enable Autoconfiguration:** Check to enable the Autoconfiguration feature.

**Autoconfiguration Type:** Select **Stateful (DHCPv6)**, **SLAAC + RDNSS** or **SLAAC + Stateless DHCPv6**.

**IPv6 Address Range Start:** Enter the start IPv6 Address for the DHCPv6 range for your local computers.

**IPv6 Address Range End:** Enter the end IPv6 Address for the DHCPv6 range for your local computers.

**Pv6 Address Lifetime:** Enter the Router Advertisement Lifetime (in minutes).

IPv6 CONNECTION TYPE	
Choose the mode to be used by the router to the IPv6 Internet.	
My IPv6 Connection is :	IPv6 in IPv4 Tunnel ▾
IPv6 in IPv4 TUNNEL SETTINGS :	
Enter the IPv6 in IPv4 Tunnel information provided by your Tunnel Broker.	
Remote IPv4 Address :	<input type="text"/>
Remote IPv6 Address :	<input type="text"/>
Local IPv4 Address :	<input type="text"/>
Local IPv6 Address :	<input type="text"/>
Primary DNS Address :	<input type="text"/>
Secondary DNS Address :	<input type="text"/>
LAN IPv6 ADDRESS SETTINGS :	
Use this section to configure the internal network settings of your router. If you change the LAN IPv6 Address here, you may need to adjust your PC's network settings to access the network again.	
LAN IPv6 Address :	<input type="text"/> /64
LAN IPv6 Link-Local Address : FE80::240:F4FF:FE03:1A9C/64	
ADDRESS AUTOCONFIGURATION SETTINGS	
Use this section to setup IPv6 Autoconfiguration to assign IP addresses to the computers on your network.	
Enable Autoconfiguration :	<input checked="" type="checkbox"/>
Autoconfiguration Type :	Stateful (DHCPv6) ▾
IPv6 Address Range(Start):	<input type="text"/> :
IPv6 Address Range(End):	<input type="text"/> :
IPv6 Address Lifetime:	30 (minutes)



## 6 to 4 Tunneling

**My IPv6 Connection:** Select **6 to 4** from the drop-down menu.

**6 to 4 Settings:** Enter the IPv6 settings supplied by your Internet provider (ISP).

**Primary/Secondary DNS Address:** Enter the primary and secondary DNS server addresses.

**LAN IPv6 Address:** Enter the LAN (local) IPv6 address for the router.

**LAN Link-Local Address:** Displays the Router's LAN Link-Local Address.

**Enable Autoconfiguration:** Check to enable the Autoconfiguration feature.

**Autoconfiguration Type:** Select **Stateful (DHCPv6)**, **SLAAC + RDNSS** or **SLAAC + Stateless DHCPv6**.

**IPv6 Address Range Start:** Enter the start IPv6 Address for the DHCPv6 range for your local computers.

**IPv6 Address Range End:** Enter the end IPv6 Address for the DHCPv6 range for your local computers.

**IPv6 Address Lifetime:** Enter the IPv6 Address Lifetime (in minutes).

IPv6 CONNECTION TYPE	
Choose the mode to be used by the router to the IPv6 Internet.	
My IPv6 Connection is :	6 to 4 Tunnel
IPv6 in IPv4 TUNNEL SETTINGS :	
Enter the IPv6 in IPv4 Tunnel information provided by your Tunnel Broker.	
Remote IPv4 Address :	
Remote IPv6 Address :	
Local IPv4 Address :	0.0.0.0
Local IPv6 Address :	
IPv6 DNS SETTINGS :	
Obtain a DNS server address automatically or enter a specific DNS server address.	
<input checked="" type="radio"/> Obtain a DNS server address automatically <input type="radio"/> Use the following DNS address	
Primary DNS Address :	
Secondary DNS Address :	
LAN IPv6 ADDRESS SETTINGS :	
Use this section to configure the internal network settings of your router. If you change the LAN IPv6 Address here, you may need to adjust your PC network settings to access the network again.	
Enable DHCP-PD :	<input checked="" type="checkbox"/>
LAN IPv6 Address :	/64
LAN IPv6 Link-Local Address : FE80::218:E7FF:FE6A:3846/64	
ADDRESS AUTOCONFIGURATION SETTINGS	
Use this section to setup IPv6 Autoconfiguration to assign IP addresses to the computers on your network.	
Enable automatic IPv6 address assignment :	<input checked="" type="checkbox"/>
Autoconfiguration Type :	Stateful DHCPv6
IPv6 Address Range (Start) :	::
Stateful DHCPv6 :	::
IPv6 Address Lifetime:	1440 (minutes)

## 6rd

**My IPv6 Connection:** Select **6rd** from the drop-down menu.

**6RD Settings:** Enter the address settings supplied by your Internet provider (ISP).

**LAN IPv6 Address:** Enter the LAN (local) IPv6 address for the router.

**LAN Link-Local Address:** Displays the Router's LAN Link-Local Address.

**Enable Autoconfiguration:** Check to enable the Autoconfiguration feature.

**Autoconfiguration Type:** Select **Stateful (DHCPv6)**, **SLAAC+RDNSS** or **SLAAC + Stateless DHCPv6**.

**Router Advertisement Lifetime:** Enter the Router Advertisement Lifetime (in minutes).

IPv6 CONNECTION TYPE	
Choose the mode to be used by the router to the IPv6 Internet.	
My IPv6 Connection is :	6rd
6RD SETTINGS :	
Enter the IPv6 address information provided by your Internet Service Provider (ISP).	
6rd IPv6 Prefix :	/ 32
IPv4 Address	0.0.0.0 Mask Length : 0
Assign IPv6 Prefix :	None
Tunnel Link-Local Address :	FE80::0000:0000/64
6rd Border Relay IPv4 Address :	
Primary DNS Address :	
Secondary DNS Address :	
LAN IPv6 ADDRESS SETTINGS :	
Use this section to configure the internal network settings of your router. If you change the LAN IPv6 Address here, you may need to adjust your PC's network settings to access the network again.	
LAN IPv6 Address :	None
LAN IPv6 Link-Local Address :	FE80::218:E7FF:FE6A:3846/64
ADDRESS AUTOCONFIGURATION SETTINGS	
Use this section to setup IPv6 Autoconfiguration to assign IP addresses to the computers on your network.	
Enable automatic IPv6 address assignment :	<input checked="" type="checkbox"/>
Autoconfiguration Type :	Stateless
Router Advertisement Lifetime:	1440 (minutes)

# Link-Local Connectivity

**My IPv6 Connection:** Select **Link-Local Only** from the drop-down menu.

**LAN IPv6 Address Settings:** Displays the IPv6 address of the router.

IPv6

Use this section to configure your IPv6 Connection type. If you are unsure of your connection method, please contact your Internet Service Provider.

Save Settings

Don't Save Settings

IPv6 CONNECTION TYPE

Choose the mode to be used by the router to the IPv6 Internet.

My IPv6 Connection is : 

Link-local only

LAN IPv6 ADDRESS SETTINGS :

Use this section to configure the internal network settings of your router. The LAN IPv6 Link-Local Address is the IPv6 Address that you use to access the Web-based management interface

LAN IPv6 Link-Local Address : FE80::218:E7FF:FE6A:3846/64

## Virtual Server

The DIR-652 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-652 firewall feature filters out unrecognized packets to protect your LAN network so all computers networked with the DIR-652 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-652 redirects the external service request to the appropriate server within the LAN network.

The DIR-652 is also capable of port-redirection 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. There are pre-defined virtual services already 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 [http://support.dlink.com/faq/view.asp?prod\\_id=1191](http://support.dlink.com/faq/view.asp?prod_id=1191).

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

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

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

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

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

**Inbound Filter:** Select **Allow All** (most common) or a created Inbound filter. You may create your own inbound filters in the **Advanced > Inbound Filter** page.

**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.

**D-Link**

DIR-652

SETUP ADVANCED TOOLS STATUS SUPPORT

**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.

Save Settings Don't Save Settings

**24 -- VIRTUAL SERVERS LIST**

	Name	IP Address	Application Name	Computer Name	Public Port	Private Port	Protocol	Schedule	Inbound Filter
<input type="checkbox"/>		0.0.0.0	<< Application Nam	<< Computer Name	0	0	TCP	Always	Allow All
<input type="checkbox"/>		0.0.0.0	<< Application Nam	<< Computer Name	0	0	TCP	Always	Allow All
<input type="checkbox"/>		0.0.0.0	<< Application Nam	<< Computer Name	0	0	TCP	Always	Allow All
<input type="checkbox"/>		0.0.0.0	<< Application Nam	<< Computer Name	0	0	TCP	Always	Allow All

**Helpful Hints...**

Check the **Application Name** drop down menu for a list of predefined server types. If you select one of the predefined server types, click the arrow button next to the drop down menu to fill out the corresponding field.

You can select a computer from the list of DHCP clients in the **Computer Name** drop down menu, or you can manually enter the IP address of the computer at which you would like to open the specified port.

Select a schedule for when the virtual server 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.

Select a filter that restricts the Internet hosts that can access the virtual server to hosts that you trust. If

# Port Forwarding

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

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

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

**TCP/UDP:** Enter the TCP and/or UDP port or ports that you want to open. You can enter a single port or a range of ports. Separate ports with a common.

Example: 24,1009,3000-4000

**Inbound Filter:** Select **Allow All** (most common) or a created Inbound filter. You may create your own inbound filters in the **Advanced > Inbound Filter** page.

**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.

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SETUP ADVANCED TOOLS STATUS SUPPORT

**PORT FORWARDING RULES :**

This option is used to open multiple ports or a range of ports in your router and redirect data through those ports to a single PC on your network. This feature allows you to enter ports in various formats including, Port Ranges (100-150), Individual Ports (80, 68, 888), or Mixed (1020-5000, 689).

Save Settings Don't Save Settings

**24 --- PORT FORWARDING RULES**

	Name	IP Address	Application Name	Computer Name	Ports to Open	Schedule	Inbound Filter
<input type="checkbox"/>		0.0.0.0	<< Application Name	<< Computer Name	TCP 0	Always	Allow All
<input type="checkbox"/>		0.0.0.0	<< Application Name	<< Computer Name	UDP 0	Always	Allow All
<input type="checkbox"/>		0.0.0.0	<< Application Name	<< Computer Name	TCP 0	Always	Allow All
<input type="checkbox"/>		0.0.0.0	<< Application Name	<< Computer Name	UDP 0	Always	Allow All
<input type="checkbox"/>		0.0.0.0	<< Application Name	<< Computer Name	TCP 0	Always	Allow All
<input type="checkbox"/>		0.0.0.0	<< Application Name	<< Computer Name	UDP 0	Always	Allow All
<input type="checkbox"/>		0.0.0.0	<< Application Name	<< Computer Name	TCP 0	Always	Allow All
<input type="checkbox"/>		0.0.0.0	<< Application Name	<< Computer Name	UDP 0	Always	Allow All

**Helpful Hints...**

Check the **Application Name** drop down menu for a list of predefined applications. If you select one of the predefined applications, click the arrow button next to the drop down menu to fill out the corresponding field.

You can select a computer from the list of DHCP clients in the **Computer Name** drop down menu, or you can manually enter the IP address of the LAN computer to which you would like to open the specified port.

Select a schedule for when the 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.

You can enter ports in various formats:

Range (50-100)  
Individual (80, 68, 888)  
Mixed (1020-5000, 689)



# 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-652. 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-652 provides some predefined applications in the table on the bottom of the web page. Select the application you want to use and enable it.

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

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

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

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

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

**Schedule:** The schedule of time when the Application 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.

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SETUP ADVANCED TOOLS STATUS SUPPORT

**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.

Save Settings Don't Save Settings

**21 — APPLICATION RULES**

	Name	Application	Trigger Port	Traffic Type	Schedule
<input type="checkbox"/>		<< Application Name	0	TCP	Always
<input type="checkbox"/>		<< Application Name	0	TCP	Always
<input type="checkbox"/>		<< Application Name	0	TCP	Always

**Helpful Hints...**

Use this feature if you are trying to execute one of the listed network applications and it is not communicating as expected.

Check the Application Name drop down menu for a list of predefined applications. If you select one of the predefined applications, click the arrow button next to the drop down menu to fill out the corresponding field.

Select a schedule for when the service will be enabled. If you do not see the schedule you need in the list of schedules, go to the [Tools > Schedules](#)

# QoS Engine

The QoS Engine option helps improve your network gaming performance by prioritizing applications. By default the QoS Engine settings are disabled and application priority is not classified automatically.

**Enable Traffic Shaping:** This option is disabled by default. Enable this option for better performance and experience with online games and other interactive applications, such as VoIP.

**Automatic Uplink Speed:** This option is enabled by default when the QoS Engine option is enabled. This option will allow your router to automatically determine the uplink speed of your Internet connection.

**Measured Uplink Speed:** This displays the detected uplink speed.

**Manual Uplink Speed:** The speed at which data can be transferred from the router to your ISP. This is determined by your ISP.

**Enabled QoS Engine:** This option is enabled by default. This will allow your router to automatically determine the network priority of running programs.

**Automatic Classification:** This option is enabled by default so that your router will automatically determine which programs should have network priority. For best performance, use the Automatic Classification option to automatically set the priority for your applications.

**Dynamic Fragmentation:** This option should be enabled when you have a slow Internet uplink. It helps to reduce the impact that large low priority network packets can have on more urgent ones.

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DIR-652

SETUP ADVANCED TOOLS STATUS SUPPORT

**QOS ENGINE**

Use this section to configure D-Link's QoS Engine powered by QoS Engine™ Technology. This 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.

Save Settings Don't Save Settings

**WAN TRAFFIC SHAPING**

Enable Traffic Shaping : ☒

Automatic Uplink Speed : ☒

Measured Uplink Speed : Not Estimated

Manual Uplink Speed : 128 kbps << Select Transmission Rate

**QOS ENGINE SETUP**

Enable QoS Engine : ☒

Automatic Classification : ☒

Dynamic Fragmentation : ☒

**10 -- QOS ENGINE RULES**

Name	Priority	Protocol
Local IP Range	1 (1..8)	6 << TCP
0.0.0.0 to 255.255.255.255		0 to 65535
Remote IP Range		Remote Port Range
0.0.0.0 to 255.255.255.255		0 to 65535
Name	Priority	Protocol
Local IP Range	1 (1..8)	6 << TCP
0.0.0.0 to 255.255.255.255		0 to 65535
Remote IP Range		Remote Port Range

**Helpful Hints ...**

If the **Measured Uplink Speed** is known to be incorrect (that is, it produces suboptimal performance), disable **Automatic Uplink Speed** and enter the **Manual Uplink Speed**. Some experimentation and performance measurement may be required to converge on the optimal value.

[More...](#)



**QoS Engine Rules:** A QoS Engine Rule identifies a specific message flow and assigns a priority to that flow. For most applications, automatic classification will be adequate, and specific QoS Engine Rules will not be required.

The QoS Engine supports overlaps between rules, where more than one rule can match for a specific message flow. If more than one rule is found to match the rule with the highest priority will be used.

**Name:** Create a name for the rule that is meaningful to you.

**Priority:** The priority of the message flow is entered here -- 1 receives the highest priority (most urgent) and 255 receives the lowest priority (least urgent).

**Protocol:** The protocol used by the messages.

**Local IP Range:** The rule applies to a flow of messages whose LAN-side IP address falls within the range set here.

**Local Port Range:** The rule applies to a flow of messages whose LAN-side port number is within the range set here.

**Remote IP Range:** The rule applies to a flow of messages whose WAN-side IP address falls within the range set here.

**Remote Port Range:** The rule applies to a flow of messages whose WAN-side port number is within the range set here.

The screenshot shows a configuration window titled "10 -- QOS ENGINE RULES". It contains several input fields and a checkbox. On the left, there is a vertical sidebar with a checkbox that is currently unchecked. The main area has the following fields:

Name	Priority	Protocol
<input type="text"/>	<input type="text" value="1"/> (1..255)	<input type="text" value="6"/> << TCP <input type="button" value="v"/>
Local IP Range		Local Port Range
<input type="text" value="0.0.0.0"/> to <input type="text" value="255.255.255.255"/>		<input type="text" value="0"/> to <input type="text" value="65535"/>
Remote IP Range		Remote Port Range
<input type="text" value="0.0.0.0"/> to <input type="text" value="255.255.255.255"/>		<input type="text" value="0"/> to <input type="text" value="65535"/>

# 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**, **Turn MAC Filtering ON and ALLOW** computers listed to access the network, or **Turn MAC Filtering ON and DENY** computers listed to access the network 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 that MAC Address.

**Clear:** Click to remove the MAC address.

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SETUP ADVANCED TOOLS STATUS SUPPORT

**MAC ADDRESS 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.

Save Settings Don't Save Settings

**24 -- MAC FILTERING RULES**

Configure MAC Filtering below:

Turn MAC Filtering OFF

MAC Address		DHCP Client List	
	<<	Computer Name	Clear
	<<	Computer Name	Clear
	<<	Computer Name	Clear
	<<	Computer Name	Clear
	<<	Computer Name	Clear
	<<	Computer Name	Clear
	<<	Computer Name	Clear
	<<	Computer Name	Clear
	<<	Computer Name	Clear
	<<	Computer Name	Clear
	<<	Computer Name	Clear
	<<	Computer Name	Clear
	<<	Computer Name	Clear
	<<	Computer Name	Clear
	<<	Computer Name	Clear
	<<	Computer Name	Clear
	<<	Computer Name	Clear
	<<	Computer Name	Clear
	<<	Computer Name	Clear
	<<	Computer Name	Clear
	<<	Computer Name	Clear
	<<	Computer Name	Clear
	<<	Computer Name	Clear

**Helpful Hints...**

Create a list of MAC addresses that you would either like to allow or deny access to your network.

Computers that have obtained an IP address from the router's DHCP server will be in the DHCP Client List. Select a device from the drop down menu, then click the arrow to add that device's MAC address to the list.

Click the **Clear** button to remove the MAC address from the MAC Filtering list.

**More...**

## Access Control

The Access Control section allows you to control access in and out of your network. Use this feature as Parental Controls to only grant access to approved sites, limit web access based on time or dates, and/or block access from applications like P2P utilities or games.

**Add Policy:** Click the **Add Policy** button to start the Access Control Wizard.



## Access Control Wizard

Click **Next** to continue with the wizard.

ADD NEW POLICY

This wizard will guide you through the following steps to add a new policy for Access Control.

- Step 1 - Choose a unique name for your policy
- Step 2 - Select a schedule
- Step 3 - Select the machine to which this policy applies
- Step 4 - Select filtering method
- Step 5 - Select filters
- Step 6 - Configure Web Access Logging

Prev

Next

Save

Cancel

Enter a name for the policy and then click **Next** to continue.

**STEP 1: CHOOSE POLICY NAME**

Choose a unique name for your policy.

Policy Name :

Select a schedule (I.E. Always) from the drop-down menu and then click **Next** to continue.

**STEP 2: SELECT SCHEDULE**

Choose a schedule to apply to this policy.

Details :

Enter the following information and then click **Next** to continue.

- **Address Type** - Select IP address, MAC address, or Other Machines.
- **IP Address** - Enter the IP address of the computer you want to apply the rule to.

**STEP 3: SELECT MACHINE**

Select the machine to which this policy applies.

Specify a machine with its IP or MAC address, or select "Other Machines" for machines that do not have a policy.

Address Type : ☒ IP ☐ MAC ☐ Other Machines

IP Address :  <<

Machine Address :  <<

Machine

Select the filtering method and then click **Next** to continue.

**STEP 4: SELECT FILTERING METHOD**

Select the method for filtering.

Method : ☐ Log Web Access Only ☐ Block All Access ☒ Block Some Access

Apply Web Filter : ☐

Apply Advanced Port Filters : ☐

Prev Next Save Cancel

If you selected **Apply Advanced Port Filters**, then enter the rule:

**Enable** - Check to enable the rule.

**Name** - Enter a name for your rule.

**Dest IP Start** - Enter the starting IP address.

**Dest IP End** - Enter the ending IP address.

**Protocol** - Select the protocol.

**Dest Port Start** - Enter the starting port number.

**Dest Port End** - Enter the ending port number.

**STEP 5: PORT FILTER**

Add Port Filters Rules.

Specify rules to prohibit access to specific IP addresses and ports.

Enable	Name	Dest IP Start	Dest IP End	Protocol	Dest Port Start	Dest Port End
<input type="checkbox"/>		0.0.0.0	255.255.255.255	Any	0	65535
<input type="checkbox"/>		0.0.0.0	255.255.255.255	Any	0	65535
<input type="checkbox"/>		0.0.0.0	255.255.255.255	Any	0	65535
<input type="checkbox"/>		0.0.0.0	255.255.255.255	Any	0	65535
<input type="checkbox"/>		0.0.0.0	255.255.255.255	Any	0	65535
<input type="checkbox"/>		0.0.0.0	255.255.255.255	Any	0	65535
<input type="checkbox"/>		0.0.0.0	255.255.255.255	Any	0	65535
<input type="checkbox"/>		0.0.0.0	255.255.255.255	Any	0	65535

Prev Next Save Cancel

To enable web logging, click **Enable**.

Click **Save** to save the access control rule.

**STEP 4: SELECT FILTERING METHOD**

Select the method for filtering.

Method : ☒ Log Web Access Only ☐ Block All Access ☐ Block Some Access

Prev Next Save Cancel

# Website Filters

Website Filters are used to deny LAN computers from accessing specific web sites by the URL or domain. A URL is a specially formatted text string that defines a location on the Internet. If any part of the URL contains the blocked word, the site will not be accessible and the web page will not display. To use this feature, enter the text string to be blocked and click **Save Settings**. The text to be blocked will appear in the list. To delete the text, click **Clear the List Below**.

**Configure Website Filter Below:** Select **Allow** or **Deny**.

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

The screenshot shows the D-Link DIR-652 Advanced Setup interface. The top navigation bar includes tabs for SETUP, ADVANCED, TOOLS, STATUS, and SUPPORT. The left sidebar lists various configuration options, with 'WEBSITE FILTER' selected. The main content area is titled 'WEBSITE FILTER' and contains the following elements:

- WEBSITE FILTER** (Section Header)
- Instructional text: "The Website Filter option allows you to set up a list of Web sites you would like to allow or deny through your network. To us this feature, you must also select the 'Apply Web Filter' checkbox in the Access Control section."
- Buttons: "Save Settings" and "Don't Save Settings"
- 40 - WEBSITE FILTERING RULES** (Section Header)
- Configuration options: "Configure Website Filter below:" and a dropdown menu set to "DENY computers access to ONLY these sites".
- Button: "Clear the list below..."
- Website URL/Domain** (Table Header)
- Table with 2 columns and 5 rows of input fields for entering website URLs or domains.

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

Create a list of Web Sites to which you would like to deny or allow through the network.

Use with Advanced → Access Control.

More...

# Inbound Filters

The Inbound Filter option is an advanced method of controlling data received from the Internet. With this feature you can configure inbound data filtering rules that control data based on an IP address range. Inbound Filters can be used with Virtual Server, Port Forwarding, or Remote Administration features.

**Name:** Enter a name for the inbound filter rule.

**Action:** Select **Allow** or **Deny**.

**Enable:** Check to enable rule.

**Source IP Start:** Enter the starting IP address. Enter 0.0.0.0 if you do not want to specify an IP range.

**Source IP End:** Enter the ending IP address. Enter 255.255.255.255 if you do not want to specify an IP range.

**Add:** Click the **Add** button to add the rule. You must click **Save Settings** at the top to save the settings.

**Inbound Filter Rules List:** This section will list any rules that are created. You may click the **Edit** icon to change the settings or enable/disable the rule, or click the **Delete** icon to remove the rule.

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SETUP ADVANCED TOOLS STATUS SUPPORT

**INBOUND FILTER**

The Inbound Filter option is an advanced method of controlling data received from the Internet. With this feature you can configure inbound data filtering rules that control data based on an IP address range.

Inbound Filters can be used for limiting access to a server on your network to a system or group of systems. Filter rules can be used with Virtual Server, Port Forwarding, or Remote Administration features.

**ADD INBOUND FILTER RULE**

Name:

Action:

Remote IP Range	Enable	Remote IP Start	Remote IP End
<input type="checkbox"/>	<input type="text" value="0.0.0.0"/>	<input type="text" value="255.255.255.255"/>	
<input type="checkbox"/>	<input type="text" value="0.0.0.0"/>	<input type="text" value="255.255.255.255"/>	
<input type="checkbox"/>	<input type="text" value="0.0.0.0"/>	<input type="text" value="255.255.255.255"/>	
<input type="checkbox"/>	<input type="text" value="0.0.0.0"/>	<input type="text" value="255.255.255.255"/>	
<input type="checkbox"/>	<input type="text" value="0.0.0.0"/>	<input type="text" value="255.255.255.255"/>	
<input type="checkbox"/>	<input type="text" value="0.0.0.0"/>	<input type="text" value="255.255.255.255"/>	
<input type="checkbox"/>	<input type="text" value="0.0.0.0"/>	<input type="text" value="255.255.255.255"/>	
<input type="checkbox"/>	<input type="text" value="0.0.0.0"/>	<input type="text" value="255.255.255.255"/>	

**INBOUND FILTER RULES LIST**

Name	Action	Remote IP Range

**Helpful Hints...**

Give each rule a **Name** that is meaningful to you.

Each rule can either **Allow** or **Deny** access from the WAN.

Up to eight ranges of WAN IP addresses can be controlled by each rule. The checkbox by each IP range can be used to disable ranges already defined.

The starting and ending IP addresses are WAN-side address.

Click the **Add** or **Update** button to store a finished rule in the Rules List below.

Click the **Edit** icon in the Rules List to change a rule.

Click the **Delete** icon in the Rules List to permanently remove a rule.



# Firewall Settings

A firewall protects your network from the outside world. The D-Link DIR-652 offers a firewall type functionality. The SPI feature helps prevent cyber attacks. Sometimes you may want a computer exposed to the outside world for certain types of applications. If you choose to expose a computer, you can enable DMZ. DMZ is short for Demilitarized Zone. This option will expose the chosen computer completely to the outside world.

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

**NAT Endpoint Filtering:** Select one of the following for TCP and UDP ports:  
**Endpoint Independent** - Any incoming traffic sent to an open port will be forwarded to the application that opened the port. The port will close if idle for 5 minutes.

**Address Restricted** - Incoming traffic must match the IP address of the outgoing connection.

**Address + Port Restriction** - Incoming traffic must match the IP address and port of the outgoing connection.

**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.

**IP Address:** Specify the IP address of the computer on the LAN that you want to have unrestricted Internet communication. If this computer obtains its IP address automatically using DHCP, be sure to make a static reservation on the **Basic > DHCP** page so that the IP address of the DMZ machine does not change.

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SETUP ADVANCED TOOLS STATUS SUPPORT

**FIREWALL SETTINGS**

The Firewall Settings allow you to set a single computer on your network outside of the router.

Save Settings Don't Save Settings

**FIREWALL SETTINGS**

Enable SPI: ☒

**NAT ENDPOINT FILTERING**

**UDP Endpoint Filtering:**

- ☐ Endpoint Independent
- ☒ Address Restricted
- ☐ Port And Address Restricted

**TCP Endpoint Filtering:**

- ☐ Endpoint Independent
- ☐ Address Restricted
- ☒ Port And Address Restricted

**ANTI-SPOOF CHECKING**

Enable anti-spoof checking: ☐

**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 Host: ☐

DMZ IP Address: 0.0.0.0 << Computer Name

**Helpful Hints...**

Enable the DMZ option only as a last resort. If you are having trouble using an application from a computer behind the router, first try opening ports associated with the application in the Virtual Server or Port Forwarding sections.

More...



## Application Level Gateway Configuration

Here you can enable or disable ALG's. Some protocols and applications require special handling of the IP payload to make them work with network address translation (NAT). Each ALG provides special handling for a specific protocol or application. A number of ALGs for common applications are enabled by default.

**PPTP:** Allows multiple machines on the LAN to connect to their corporate network using PPTP protocol.

**IPSEC (VPN):** Allows multiple VPN clients to connect to their corporate network using IPsec. Some VPN clients support traversal of IPsec through NAT. This ALG may interfere with the operation of such VPN clients. If you are having trouble connecting with your corporate network, try turning this ALG off. Please check with the system administrator of your corporate network whether your VPN client supports NAT traversal.

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

**SIP:** Allows devices and applications using VoIP (Voice over IP) to communicate across NAT. Some VoIP applications and devices have the ability to discover NAT devices and work around them. This ALG may interfere with the operation of such devices. If you are having trouble making VoIP calls, try turning this ALG off.

# Routing

The Routing option is an advanced method of customizing specific routes of data through your network.

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

**Netmask:** Enter the netmask of the route, please note that the octets must match your destination IP address.

**Gateway:** Enter your next hop gateway to be taken if this route is used.

**Metric:** The route metric is a value from 1 to 16 that indicates the cost of using this route. A value 1 is the lowest cost and 15 is the highest cost.

**Interface:** Select the interface that the IP packet must use to transit out of the router when this route is used.

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**ROUTING :**

This Routing page allows you to specify custom routes that determine how data is moved around your network.

Save Settings Don't Save Settings

**32 -- ROUTE LIST**

	Name	Destination IP	Metric	Interface
<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Netmask	Gateway		
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Netmask	Gateway		
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Netmask	Gateway		
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Netmask	Gateway		
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Netmask	Gateway		
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Netmask	Gateway		
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

**Helpful Hints...**

Each route has a check box next to it, check this box if you want the route to be enabled.

The name field allows you to specify a name for identification of this route, e.g. "Network 2".

The destination IP address is the address of the host or network you wish to reach.

The netmask field identifies the portion of the destination IP in use.

The gateway IP address is the IP address of the router, if any, used to reach the specified destination.

More...

# Advanced Wireless Settings

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

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

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

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

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

**WMM Function:** 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.

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SETUP ADVANCED TOOLS STATUS SUPPORT

**ADVANCED WIRELESS**

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

Save Settings Don't Save Settings

**ADVANCED WIRELESS SETTINGS**

Transmit Power : High

Beacon Period : 100 (20..1000)

RTS Threshold : 2347 (0..2347)

Fragmentation : 2346 (256..2346)

DTIM Interval : 1 (1..255)

WLAN Partition : ☐

WMM Enable : ☒

Short GI : ☒

**WIRELESS**

**Helpful Hints...**

It is recommended that you leave these parameters at their default values. Adjusting them could limit the performance of your wireless network.

Use 802.11d only for countries where it is required.

Enabling WMM can help control latency and jitter when transmitting multimedia content over a wireless connection.

[More...](#)

## Wi-Fi Protected Setup (WPS)

Wi-Fi Protected Setup (WPS) System is a simplified method for securing your wireless network during the “Initial setup” as well as the “Add New Device” processes. The Wi-Fi Alliance (WFA) has certified it across different products as well as manufactures. The process is just as easy, as depressing a button for the Push-Button Method or correctly entering the 8-digit code for the Pin-Code Method. The time reduction in setup and ease of use are quite beneficial, while the highest wireless Security setting of WPA2 is automatically used.

**Enable:** Enable the Wi-Fi Protected Setup feature.

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

**PIN Settings:** A PIN is a unique number that can be used to add the router to an existing network or to create a new network. The default PIN may be printed on the bottom of the router. For extra security, a new PIN can be generated. You can restore the default PIN at any time. Only the Administrator (“admin” account) can change or reset the PIN.

**Current PIN:** Shows the current value of the router’s PIN.

**Reset PIN to Default:** Restore the default PIN of the router.

**Generate New PIN:** Create a random number that is a valid PIN. This becomes the router’s PIN. You can then copy this PIN to the user interface of the registrar.  
This Wizard helps you add wireless devices to the wireless network.

**Add Wireless Station:** The wizard will either display the wireless network settings to guide you through manual configuration, prompt you to enter the PIN for the device, or ask you to press the configuration button on the device. If the device supports Wi-Fi Protected Setup and has a configuration button, you can add it to the network by pressing the configuration button on the device and then the on the router within 60 seconds. The status LED on the router will flash three times if the device has been successfully added to the network.

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

**Add Wireless Device Wizard:** Start the wizard.

# Advanced Network Settings

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

**PPPoE Pass Through:** Check **PPPoE Pass Through** to allow PPPoE authentication to the LAN Clients as an authenticating point.

**WAN Ping:** Unchecking the box will not allow the DIR-652 to respond to pings. Blocking the Ping may provide some extra security from hackers. Check the box to allow the Internet port to be “pinged”.

**WAN Port Speed:** You may set the port speed of the Internet port to **10Mbps, 100Mbps, 1000Mbps, or 10/100/1000Mbps Auto**. Some older cable or DSL modems may require you to set the port speed to 10Mbps.

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

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DIR-652

SETUP ADVANCED TOOLS STATUS SUPPORT

**ADVANCED NETWORK**

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

Save Settings Don't Save Settings

**UPnP**

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

Enable UPnP : ☒

**PPPOE PASS THROUGH**

Enable PPPoE Pass Through : ☒

**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 : ☒

WAN Ping Inbound Filter :

Details :

**WAN PORT SPEED**

WAN Port Speed :

**MULTICAST STREAMS**

Enable Multicast Streams : ☐

**WIRELESS**

**Helpful Hints...**

UPnP helps other UPnP LAN hosts interoperate with the router. Leave the UPnP option enabled as long as the LAN has other UPnP applications.

For added security, it is recommended that you disable the WAN Ping Respond option. Ping is often used by malicious Internet users to locate active networks or PCs.

The WAN speed is usually detected automatically. If you are having problems connecting to the WAN, try selecting the speed manually.

If you are having trouble receiving multicast streams from the Internet, make sure the Multicast Streams option is enabled.

More...



# Guest Zone

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

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

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

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

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

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

The screenshot shows the D-Link DIR-652 web interface. The top navigation bar includes tabs for SETUP, ADVANCED, TOOLS, STATUS, and SUPPORT. The left sidebar lists various configuration options, with 'GUEST ZONE' highlighted. The main content area is titled 'GUEST ZONE' and contains the following settings:

- Enable Guest Zone:** A checkbox that is currently unchecked. Next to it are buttons for 'Always' and 'New Schedule'.
- Wireless Band:** A dropdown menu set to '2.4GHz Band'.
- Wireless Network Name:** A text input field containing 'dlink\_guest', with a note '(Also called the SSID)'.
- Enable Routing Between Zones:** A checkbox that is currently unchecked.
- Security Mode:** A dropdown menu set to 'None'.

At the bottom of the interface, there is a 'WIRELESS' section header. On the right side of the interface, there is a 'Helpful Hints...' section with additional information and a 'More...' link.

# IPv6 Firewall

This section may be used to allow or deny traffic from passing through the device. It works the same way as IP Filters with additional settings. Users can create more detailed rules for the device.

DIR-652

VIRTUAL SERVER

PORT FORWARDING

APPLICATION RULES

QOS ENGINE

NETWORK FILTER

ACCESS CONTROL

WEBSITE FILTER

INBOUND FILTER

FIREWALL SETTINGS

ROUTING

ADVANCED WIRELESS

WISH

WI-FI PROTECTED SETUP

ADVANCED NETWORK

GUEST ZONE

IPv6

IPv6 FIREWALL

IPv6 ROUTING

SETUP

ADVANCED

TOOLS

STATUS

SUPPORT

IPv6 FIREWALL RULES :

The Firewall settings section is an advance feature used to allow or deny traffic from passing through the device. It works in the same way as IP Filters with additional settings. You can create more detailed rules for the device.

Save Settings

Don't Save Settings

20 -- IPv6 FIREWALL RULES

Configure IPv6 Firewall below:

Turn IPv6 Firewall OFF

Remaining number of firewall rules that can be configured:

1.

Name

Schedule

Interface

IP Address Range

Protocol

Source

Dest

Port Range

2.

Name

Schedule

Interface

IP Address Range

Protocol

Source

Dest

Port Range

3.

Name

Schedule

Interface

IP Address Range

Protocol

Source

Dest

Port Range

Helpful Hints...

For each rule you can create a name and control the direction of traffic. You can also allow or deny a range of IP Addresses, the protocol and a port range.

In order to apply a schedule to a firewall rule, your must first define a schedule on the [Tools -> Schedules](#) page


More...

D-Link DIR-652 User Manual

63

# IPv6 Routing

This page allows you to specify custom routes that determine how data is moved around your network.



DIR-652

VIRTUAL SERVER

PORT FORWARDING

APPLICATION RULES

QOS ENGINE

NETWORK FILTER

ACCESS CONTROL

WEBSITE FILTER

INBOUND FILTER

FIREWALL SETTINGS

ROUTING

ADVANCED WIRELESS

WISH

WI-FI PROTECTED SETUP

ADVANCED NETWORK

GUEST ZONE

IPv6

IPv6 FIREWALL

IPv6 ROUTING

SETUP

ADVANCED

TOOLS

STATUS

SUPPORT

ROUTING :

This Routing page allows you to specify custom routes that determine how data is moved around your network.

Save Settings

Don't Save Settings

10 --ROUTE LIST

<input type="checkbox"/>	<div>Name</div> <div></div>	<div>Destination IP/Prefix Length</div> <div></div> <div>/64</div>
<input type="checkbox"/>	<div>metric</div> <div></div>	<div>Interface</div> <div>NULL</div>
	<div>Gateway</div> <div></div>	
<input type="checkbox"/>	<div>Name</div> <div></div>	<div>Destination IP/Prefix Length</div> <div></div> <div>/64</div>
<input type="checkbox"/>	<div>metric</div> <div></div>	<div>Interface</div> <div>NULL</div>
	<div>Gateway</div> <div></div>	
<input type="checkbox"/>	<div>Name</div> <div></div>	<div>Destination IP/Prefix Length</div> <div></div> <div>/64</div>
<input type="checkbox"/>	<div>metric</div> <div></div>	<div>Interface</div> <div>NULL</div>
	<div>Gateway</div> <div></div>	
<input type="checkbox"/>	<div>Name</div> <div></div>	<div>Destination IP/Prefix Length</div> <div></div> <div>/64</div>
<input type="checkbox"/>	<div>metric</div> <div></div>	<div>Interface</div> <div>NULL</div>
	<div>Gateway</div> <div></div>	

Helpful Hints...

Each route has a check box next to it, check this box if you want the route to be enabled.

The name field allows you to specify a name for identification of this route, e.g. "Network 2"

The destination IP address is the address of the host or network you wish to reach.

The netmask field identifies the portion of the destination IP in use.

The gateway IP address is the IP address of the router, if any, used to reach the specified destination.

More...



# Administrator Settings

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

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

**User Password:** Enter the new password for the User login. If you login as the User, you cannot change the settings (you can only view them). Enter a name for the DIR-652 router.

**Gateway Name:** Enter a name for the router.

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

**Enable HTTPS Server:** Check to enable HTTPS to connect to the router securely.

**Enable Remote Management:** Remote management allows the DIR-652 to be configured from the Internet by a web browser. A username and password is still required to access the Web-Management interface. In general, only a member of your network can browse the built-in web pages to perform Administrator tasks. This feature enables you to perform Administrator tasks from the remote (Internet) host. The port number used to access the DIR-652.

Example: `http://x.x.x.x:8080` whereas x.x.x.x is the Internet IP address of the DIR-652 and 8080 is the port used for the Web Management interface.

**Remote Admin Inbound Filter:** If you have enabled **HTTPS Server** and checked **Use HTTPS**, you must enter **https://** as part of the URL to access the router remotely.

**Details:** This section will list any rules that are created. You may click the **Edit** icon to change the settings or enable/disable the rule, or click the **Delete** icon to remove the rule.

## ADMINISTRATOR SETTINGS

The 'admin' and 'user' accounts can access the management interface. The admin has read/write access and can change passwords, while the user has read-only access.

By default there is no password configured. It is highly recommended that you create a password to keep your router secure.

Save Settings

Don't Save Settings

## ADMIN PASSWORD

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

Password :

Verify Password :

## USER PASSWORD

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

Password :

Verify Password :

## SYSTEM NAME

Gateway Name : D-Link Systems DIR-825

## ADMINISTRATION

Enable Graphical Authentication : ☒

Enable HTTPS Server : ☐

Enable Remote Management : ☐

Remote Admin Port : 8080 Use HTTPS : ☐

Remote Admin Inbound Filter : Allow All

Details : Allow All

# Time Settings

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

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

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

**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**.

The screenshot shows the D-Link DIR-652 web interface. The top navigation bar includes 'SETUP', 'ADVANCED', 'TOOLS', 'STATUS', and 'SUPPORT'. The left sidebar lists various configuration options: ADMIN, TIME (selected), SYSLOG, EMAIL SETTINGS, SYSTEM, FIRMWARE, DYNAMIC DNS, SYSTEM CHECK, and SCHEDULES. The main content area is titled 'TIME' and contains the following sections:

- TIME**: A summary box stating that the Time Configuration option allows you to configure, update, and maintain the correct time on the internal system clock. It includes buttons for 'Save Settings' and 'Don't Save Settings'.
- TIME CONFIGURATION**:
  - Current Router Time**: Thursday, December 03, 2009 4:17:58 PM
  - Time Zone**: (GMT-08:00) Pacific Time (US/Canada), Tijuana
  - Enable Daylight Saving**: ☐
  - Daylight Saving Offset**: +1:00
  - Daylight Saving Dates**:
 

	Month	Week	Day of Week	Time
DST Start	Mar	3rd	Sun	1:00 AM
DST End	Nov	2nd	Sun	1:00 AM
- AUTOMATIC TIME CONFIGURATION**:
  - Enable NTP Server**: ☐
  - NTP Server Used**: << Select NTP Server
- SET THE DATE A.D TIME MANUALLY**:
  - Date And Time**:
 

Year	2009	Month	Dec	Day	3
Hour	04	Minute	17	Second	54 PM
  - Copy Your Computer's Time Settings** button

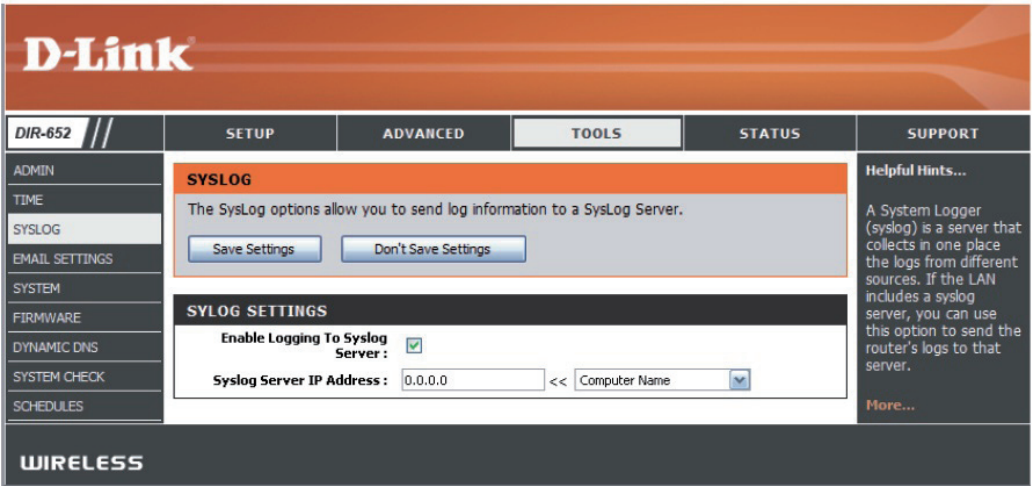
On the right side of the interface, there is a 'Helpful Hints ...' section with the text: 'Good timekeeping is important for accurate logs and scheduled firewall rules.' and a 'More...' link.

# SysLog

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

**Enable Logging to SysLog Server:** Check this box to send the router logs to a SysLog Server.

**SysLog Server IP Address:** The address of the SysLog server that will be used to send the logs. You may also select your computer from the drop-down menu (only if receiving an IP address from the router via DHCP).



# Email Settings

The Email feature can be used to send the system log files, router alert messages, and firmware update notification to your email 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 email. 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 email.

**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**.

The screenshot shows the D-Link DIR-652 web interface. The top navigation bar includes links for ADMIN, TIME, SYSLOG, EMAIL SETTINGS (selected), SYSTEM, FIRMWARE, DYNAMIC DNS, SYSTEM CHECK, and SCHEDULES. The main content area is titled "EMAIL SETTINGS" and contains the following sections:

- EMAIL SETTINGS:** A message stating "The Email feature can be used to send the system log files, router alert messages, and firmware update notification to your email address." Below this are two buttons: "Save Settings" and "Don't Save Settings".
- EMAIL NOTIFICATION:** A section with the label "Enable Email Notification:" followed by an unchecked checkbox.
- EMAIL SETTINGS:** A section with the following fields:
  - From Email Address: [text input]
  - To Email Address: [text input]
  - SMTP Server Address: [text input]
  - Enable Authentication: [unchecked checkbox]
  - Account Name: [text input with "user" entered]
  - Password: [password input with "\*\*\*\*" entered]
  - Verify Password: [password input with "\*\*\*\*" entered]
- EMAIL LOG WHEN FULL OR ON SCHEDULE:** A section with the following fields:
  - On Log Full: [unchecked checkbox]
  - On Schedule: [unchecked checkbox]
  - Schedule: [dropdown menu with "Never" selected]
  - Detail: [text input with "undefined" entered]

On the right side of the interface, there is a "Helpful Hints..." section with a "More..." link.

# 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, click the **Browse** button to locate a previously saved configuration file and then click the **Load** button to transfer those settings to the router.

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

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

The screenshot shows the D-Link DIR-652 web interface. The top navigation bar includes tabs for SETUP, ADVANCED, TOOLS, STATUS, and SUPPORT. The left sidebar lists various configuration options: ADMIN, TIME, SYSLOG, EMAIL SETTINGS, SYSTEM (selected), FIRMWARE, DYNAMIC DNS, SYSTEM CHECK, and SCHEDULES. The main content area is titled 'SYSTEM SETTINGS' and contains the following sections:

- Save To Local Hard Drive:** A button labeled 'Save Configuration'.
- Load From Local Hard Driver:** A text input field followed by a 'Browse...' button, and a button labeled 'Restore Configuration from File'.
- Restore To Factory Default:** A button labeled 'Restore Factory Defaults' with the text 'Restore all settings to the factory defaults.' below it.
- Reboots the Device:** A button labeled 'Reboot the Device'.

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

Once your router is configured the way you want it, you can save the configuration settings to a configuration file.

You might need this file so that you can load your configuration later in the event that the router's default settings are restored.

To save the configuration, click the **Save Configuration** button.

[More...](#)

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



# Update Firmware

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

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

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

**Notifications Options:** Check **Automatically Check Online for Latest Firmware Version** to have the router check automatically to see if there is a new firmware upgrade.

Check **Email Notification of Newer Firmware Version** to have the router send an email when there is a new firmware available.

The screenshot shows the D-Link DIR-652 web interface. The top navigation bar includes links for ADMIN, TIME, SYSLOG, EMAIL SETTINGS, SYSTEM, FIRMWARE (selected), DYNAMIC DNS, SYSTEM CHECK, and SCHEDULES. The main content area is titled 'FIRMWARE' and contains the following information:

- FIRMWARE INFORMATION:**
  - Current Firmware Version : 1.00
  - Current Firmware Date : Thu, 3, Dec, 2009
  - Check Online Now for Latest Firmware Version : [Check Now](#)
- FIRMWARE UPGRADE:**
  - Note:** Some firmware upgrades reset the configuration options to the factory defaults. Before performing an upgrade, be sure to save the current configuration from the [Tools](#) → [System](#) screen.
  - 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.
  - Input field:
  - Buttons: [Upload](#) and [Browse...](#)

On the right side, there is a 'Helpful Hints...' section stating that firmware updates are released periodically to improve functionality and that users should check for updates if they encounter problems. A 'More...' link is also present.

# DDNS

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

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

**Server Address:** Choose your DDNS provider from the drop-down menu.

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

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

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

**Timeout:** Enter a time (in hours).

**Status:** Displays the status of your DDNS connection.

## DDNS for IPv6 Hosts

**Enable:** Check the box to enable DDNS for IPv6 Hosts.

**IPv6 Address:** Enter the IPv6 address of your computer/server in your local network. You can click the << button and select a computer/server from the drop-down list.

**Host Name:** Enter the IPv6 Host Name that you registered with your DDNS service provider.

**IPv6 DDNS List:** Once you save your entry, the IPv6 DDNS host information will be displayed here.

**Enable:** Check to enable the entry.

**Host Name:** Displays the name of your IPv6 DDNS host.

**IPv6 Address:** Displays the IPv6 address of your computer/server associated with the IPv6 DDNS host.

**Edit/Delete:** Click the edit icon to make changes to the entry or click the delete icon to remove the entry.

**D-Link**

DIR-652

SETUP ADVANCED **TOOLS** STATUS SUPPORT

ADMIN  
TIME  
SYSLOG  
EMAIL SETTINGS  
SYSTEM  
FIRMWARE  
DYNAMIC DNS  
SYSTEM CHECK  
SCHEDULES

### DYNAMIC DNS

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

Sign up for D-Link's Free DDNS service at [www.dlinkddns.com](http://www.dlinkddns.com).

Save Settings Don't Save Settings

### DYNAMIC DNS SETTINGS

Enable Dynamic DNS : ☐

Server Address :  << Select Dynamic DNS Server

Host Name :

Username or Key :

Password or Key :

Verify Password or Key :

Timeout :  (hours)

Status : Dynamic DNS service is not enabled.

### DYNAMIC DNS FOR IPV6 HOSTS

Enable: ☐

IPv6 Address:  << Computer Name

Host Name:  (e.g.: ipv6.mydomain.net)

Save Clear

### IPV6 DYNAMIC DNS LIST

Enable	Host Name	IPv6 Address
--------	-----------	--------------

WIRELESS

**Helpful Hints...**  
To use this feature, you must first have a Dynamic DNS account from one of the providers in the drop down menu.  
[More...](#)

# System Check

- Ping Test:** The Ping Test is used to send Ping packets to test if a computer is on the Internet. Enter the IP Address that you wish to Ping, and click **Ping**.
- Ping Results:** The results of your ping attempts will be displayed here.

DIR-652

ADMIN

TIME

SYSLOG

EMAIL SETTINGS

SYSTEM

FIRMWARE

DYNAMIC DNS

SYSTEM CHECK

SCHEDULES

SETUP

ADVANCED

TOOLS

STATUS

SUPPORT

PING TEST

Ping Test sends "ping" packets to test a computer on the Internet.

PING TEST

Host Name or IP Address :

IPv6 Pings lost

Host Name or IPv6 Address :

PING RESULT

Enter a host name or IP address above and click 'Ping'

Helpful Hints...

"Ping" checks whether a computer on the Internet is running and responding. Enter either the IP address of the target computer or enter its fully qualified domain name.

More...

WIRELESS



# Schedules

**Name:** Enter a name for your new schedule.

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

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

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

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

**D-Link**

DIR-652 //

SETUP ADVANCED **TOOLS** STATUS SUPPORT

ADMIN  
TIME  
SYSLOG  
EMAIL SETTINGS  
SYSTEM  
FIRMWARE  
DYNAMIC DNS  
SYSTEM CHECK  
**SCHEDULES**

**SCHEDULES**

The Schedule configuration option is used to manage schedule rules for various firewall and parental control features.

**ADD SCHEDULE RULE**

Name :

Day(s) : ☐ All Week ☒ Select Day(s)

☐ Sun ☐ Mon ☐ Tue ☐ Wed ☐ Thu ☐ Fri ☐ Sat

All Day - 24 hrs : ☐

Start Time :  :  :  AM (hour:minute, 12 hour time)

End Time :  :  :  AM (hour:minute, 12 hour time)

**SCHEDULE RULES LIST :**

Name :	Day(s) :	Time Frame :

**Helpful Hints...**

Schedules are used with a number of other features to define when those features are in effect.

Give each schedule a name that is meaningful to you. For example, a schedule for Monday through Friday from 3:00pm to 9:00pm, might be called "After School".

Click **Save** to add a completed schedule to the list below.

Click **Edit** icon to change an existing schedule.

Click **Delete** icon to permanently delete a schedule.

[More...](#)

**WIRELESS**

# Device Information

This page displays the current information for the DIR-652. It will display the LAN, WAN (Internet), and Wireless information.

If your Internet connection is set up for a Dynamic IP address then a **Release** button and a **Renew** button will be displayed. Use **Release** to disconnect from your ISP and use **Renew** to connect to your ISP.

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

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

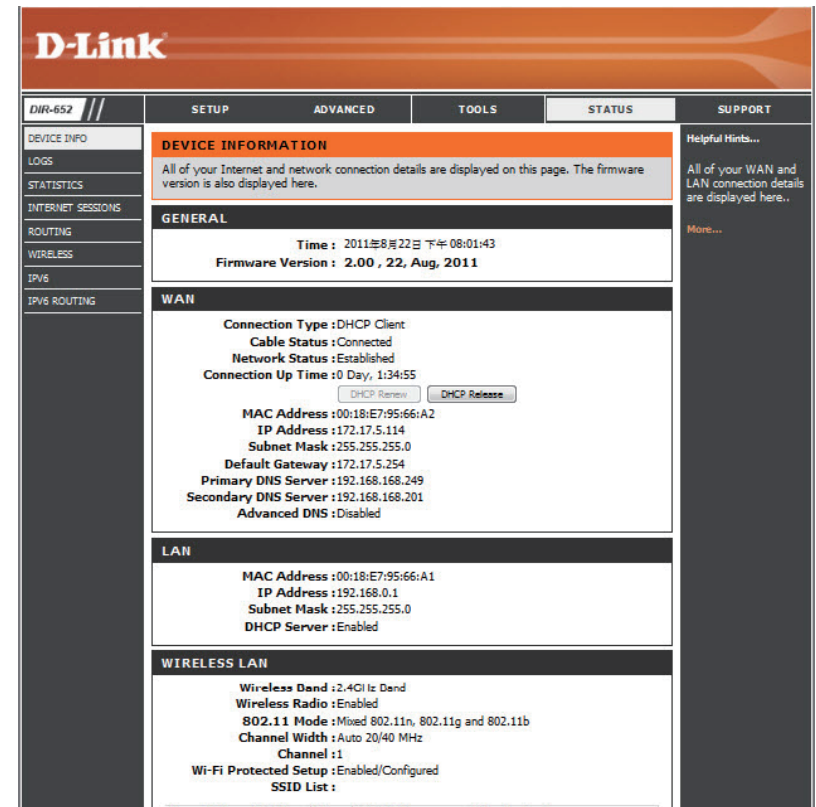
**WAN:** Displays the MAC address and the public IP settings for the router.

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

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

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

**IGMP Multicast Memberships:** Displays the Multicast Group IP Address.



# Log

The router automatically logs (records) events of possible interest in its internal memory. If there isn't enough internal memory for all events, logs of older events are deleted but logs of the latest events are retained. The Logs option allows you to view the router logs. You can define what types of events you want to view and the level of the events to view. This router also has external Syslog Server support so you can send the log files to a computer on your network that is running a Syslog utility.

**What to View:** You can select the types of messages that you want to display from the log. Firewall & Security, System, and Router Status messages can be selected.

**View Levels:** There are three levels of message importance: **Informational**, **Warning**, and **Critical**. Select the levels that you want displayed in the log.

**Apply Log Settings:** Will filter the log results so that only the selected options appear.

**Refresh:** Updates the log details on the screen so it displays any recent activity.

**Clear:** Clears all of the log contents.

**Email Now:** This option will send a copy of the router log to the email address configured in the Tools > Email screen.

**Save Log:** This option will save the router to a log file on your computer.

**D-Link**

DIR-652 // SETUP ADVANCED TOOLS STATUS SUPPORT

**LOGS**

Use this option to view the router logs. You can define what types of events you want to view and the event levels to view. This router also has internal syslog server support so you can send the log files to a computer on your network that is running a syslog utility.

**LOG OPTIONS**

Log Type : ☒ System Activity  
☐ Debug Information  
☒ Attacks  
☐ Dropped Packets  
☒ Notice

Apply Log Settings Now

**LOG DETAILS**

First Page Last Page Previous Next  
 Refresh Clear Email Now Save Log

1 / 12

Priority	Time	Message
info	Dec 3 16:17:59	UDHCPD Inform: add_lease 192.168.0.101
info	Dec 3 16:17:56	UDHCPD Inform: add_lease 192.168.0.101
info	Dec 3 16:15:07	UDHCPD Inform: add_lease 192.168.0.101
info	Dec 3 16:15:04	UDHCPD Inform: add_lease 192.168.0.101
info	Dec 3 16:13:02	UDHCPD Inform: add_lease 192.168.0.101
info	Dec 3 16:12:57	UDHCPD Inform: add_lease 192.168.0.101
info	Dec 3 16:11:48	UDHCPD Inform: add_lease 192.168.0.101
info	Dec 3 16:11:44	UDHCPD Inform: add_lease 192.168.0.101
info	Dec 3 16:11:15	[ 26.460000] br0: port 2(ath0) entering forwarding state
info	Dec 3 16:11:15	[ 26.460000] br0: topology change detected, propagating

**Helpful Hints...**

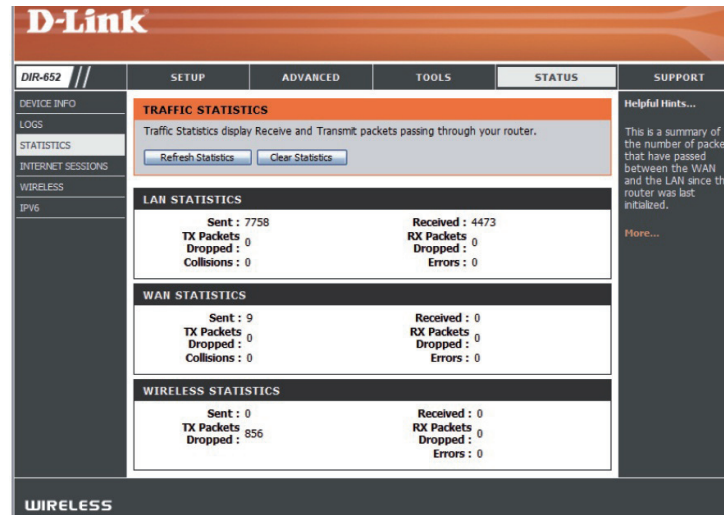
Check the log frequently to detect unauthorized network usage.

You can also have the log mailed to you periodically. Refer to Tools → Email.

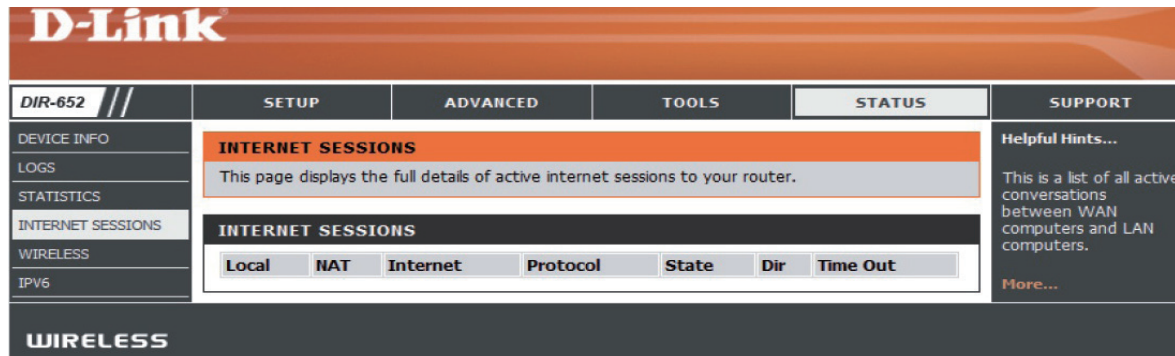
More...

## Stats

The screen below displays the Traffic Statistics. Here you can view the amount of packets that pass through the DIR-652 on both the Internet and the LAN ports. The traffic counter will reset if the device is rebooted.

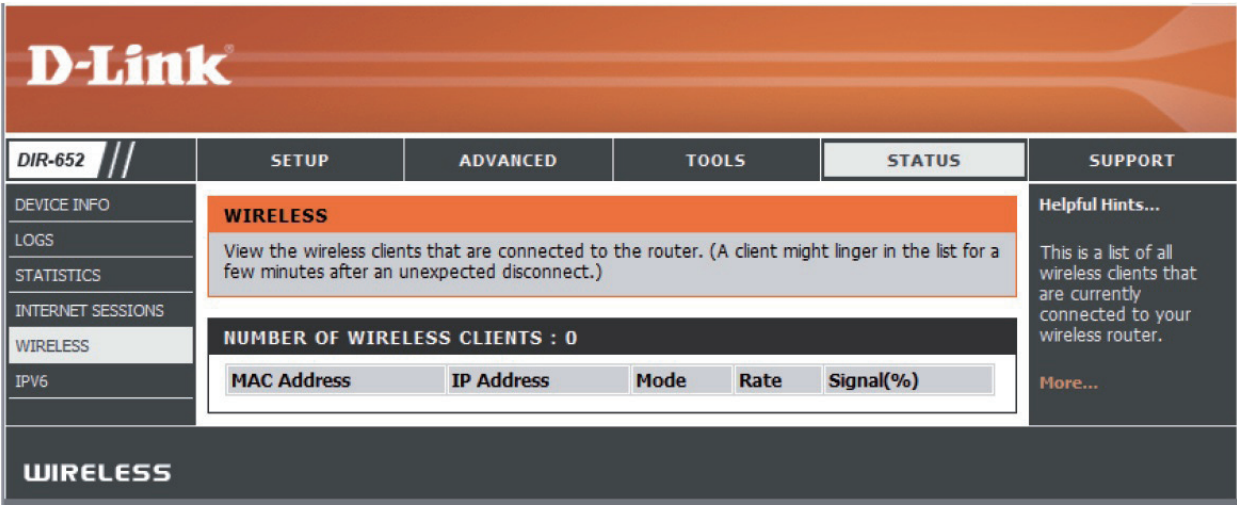


## Active Sessions



# Wireless

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

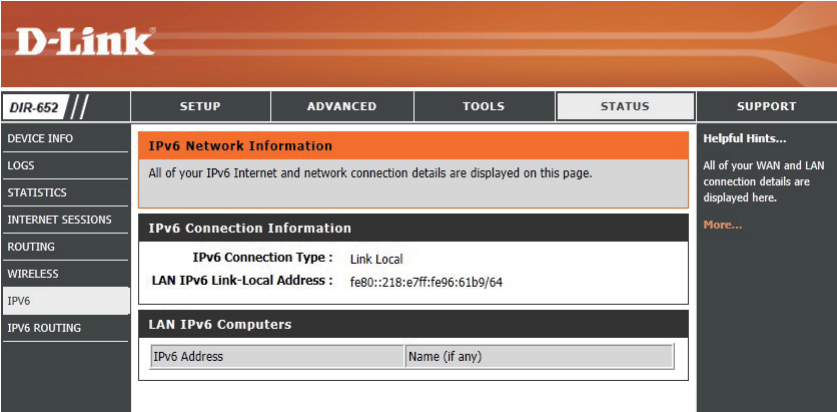


# IPv6

The IPv6 page displays a summary of the Router’s IPv6 settings and lists the IPv6 address and host name of any IPv6 clients.

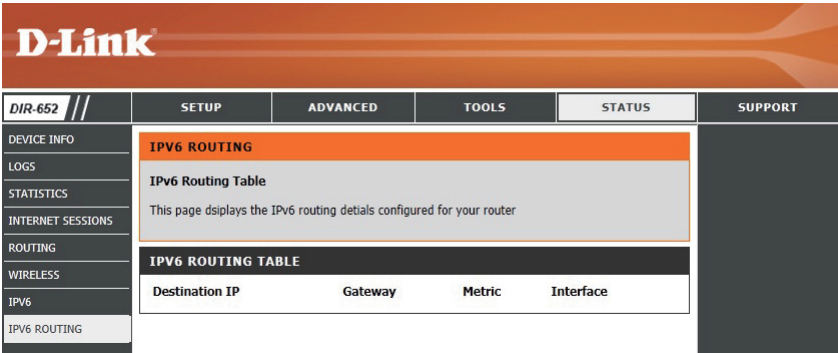
In the **IPv6 Connection Information** section, more information about the IPv6 connection will be displayed. Information like the connection type, gateway address, Link-Local address, DNS Servers, and more.

In the **LAN IPv6 Computers** section, a list of actively connected LAN IPv6 computers will be displayed.

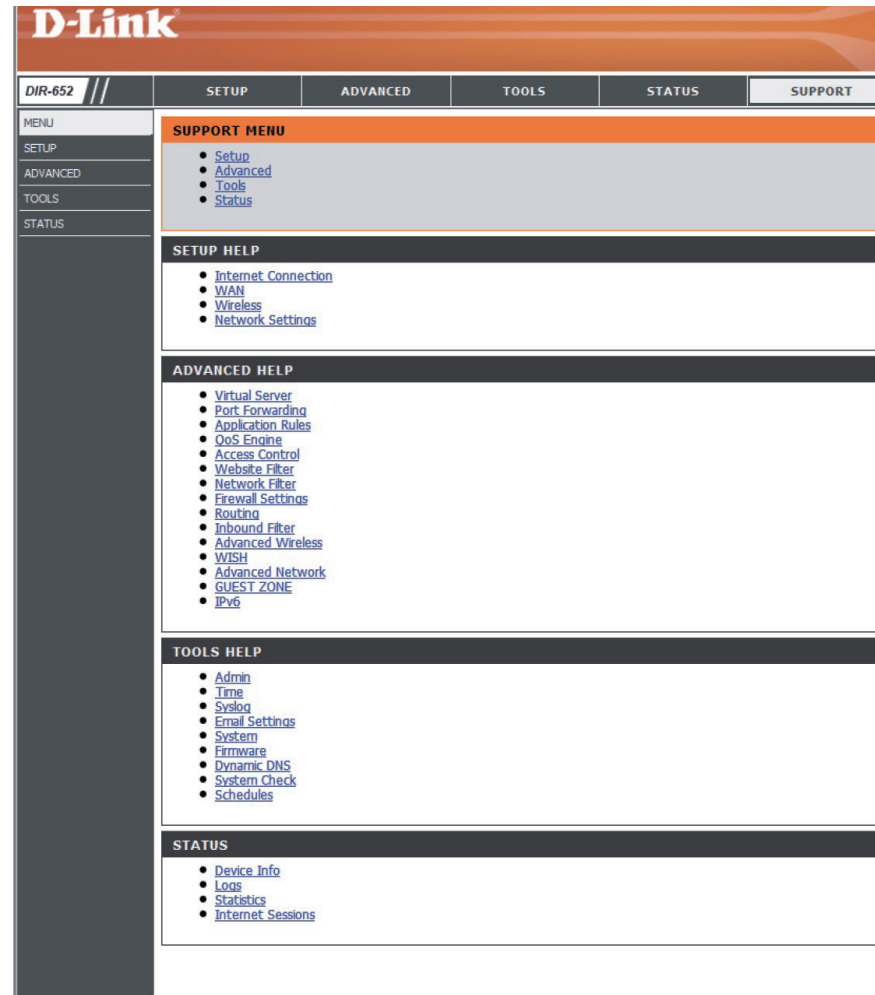


# IPv6 Routing

This page displays IPv6 routing details configured for your router.



## Support





# Wireless Security

This section will show you the different levels of security you can use to protect your data from intruders. The DIR-652 offers the following types of security:

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

## What is WPA?

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

The 2 major improvements over WEP:

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

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

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



# Wireless Security Setup Wizard

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

Click **Next** to continue.

## WIRELESS SETTINGS

The following Web-based wizards are designed to assist you in your wireless network setup and wireless device connection.

Before launching these wizards, please make sure you have followed all steps outlined in the Quick Installation Guide included in the package.

## WIRELESS NETWORK SETUP WIZARD

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

Wireless Network Setup Wizard

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

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

This wizard is designed to assist you in connecting your wireless device to your wireless 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 NETWORK SETUP

If your wireless network is already set up with Wi-Fi Protected Setup, manual configuration of the wireless network will destroy the existing wireless network. If you would like to configure the wireless settings of your new D-Link Systems Router manually, then click on the Manual Wireless Network Setup button below.

Manual Wireless Network Setup

## 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 (also called WEP or WPA key) 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.

Prev

Next

Cancel

Save

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

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

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) :

Security Mode :

Cipher Type :

Pre-Shared Key :

dlink

Auto (WPA or WPA2) - Personal

TKIP and AES

9fa2e46b5e9e860843fe7d22398faf16fab24d64d60eb406b0829101495d4939

Prev

Save

Cancel

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

# Configure WPA-Personal (PSK)

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

1. Log into the web-based configuration by opening a web browser and entering the IP address of the router (192.168.0.1). Click on **Setup** and then click **Wireless Settings** on the left side.
2. Next to *Security Mode*, select **WPA-Personal**.
3. Next to *WPA Mode*, select **Auto**, **WPA2 Only**, or **WPA Only**. Use **Auto** if you have wireless clients using both WPA and WPA2.
4. Next to *Group Key Update Interval*, enter the amount of time before the group key used for broadcast and multicast data is changed (3600 is default).
5. Next to *Pre-Shared Key*, enter a key (passphrase). The key is entered as a pass-phrase in ASCII format at both ends of the wireless connection. The pass-phrase must be between 8-63 characters.
6. Click **Save Settings** to save your settings. If you are configuring the router with a wireless adapter, you will lose connectivity until you enable WPA-PSK on your adapter and enter the same passphrase as you did on the router.

The screenshot shows the D-Link DIR-657 web-based configuration interface. The top navigation bar includes tabs for SETUP, ADVANCED, TOOLS, STATUS, and HELP. The left sidebar lists various configuration sections: INTERNET, WIRELESS SETTINGS, NETWORK SETTINGS, USB STORAGE, and MEDIA SERVER. The main content area is titled "WIRELESS" and contains the following sections:

- WIRELESS :** A summary section with a "Save Settings" button and a "Don't Save Settings" button.
- WIRELESS NETWORK SETTINGS:**
  - Enable Wireless :** A checkbox that is checked, with a dropdown menu set to "Always" and a "New Schedule" button.
  - Wireless Network Name :** A text field containing "dlink" (Also called the SSID).
  - 802.11 Mode :** A dropdown menu set to "Mixed 802.11n, 802.11g and 802.11b".
  - Enable Auto Channel Scan :** A checkbox that is checked.
  - Wireless Channel :** A dropdown menu set to "2.437 GHz - CH 6".
  - Transmission Rate :** A dropdown menu set to "Best (automatic)".
  - Channel Width :** A dropdown menu set to "20 MHz".
  - Visibility Status :** Radio buttons for "Visible" (selected) and "Invisible".
- WIRELESS SECURITY MODE:**
  - A text block explaining wireless security features and supported modes (WEP, WPA-Personal, WPA-Enterprise).
  - Security Mode :** A dropdown menu set to "WPA-Personal".
- WPA:**
  - A text block explaining WPA and WPA2 modes and their security features.
  - WPA Mode :** A dropdown menu set to "Auto (WPA or WPA2)".
  - Cipher Type :** A dropdown menu set to "TKIP and AES".
  - Group Key Update Interval :** A text field containing "3600" (seconds).
- PRE-SHARED KEY:**
  - A text block explaining the requirement for an 8- to 63-character alphanumeric pass-phrase.
  - Pre-Shared Key :** A text field containing "\*\*\*\*\*".

On the right side of the interface, there is a "Helpful Hints..." section with additional information about wireless security and network settings.

# Configure WPA-Enterprise (RADIUS)

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

1. Log into the web-based configuration by opening a web browser and entering the IP address of the router (192.168.0.1). Click on **Setup** and then click **Wireless Settings** on the left side.
2. Next to *Security Mode*, select **WPA-Enterprise**.
3. Next to *WPA Mode*, select **Auto**, **WPA2 Only**, or **WPA Only**. Use **Auto** if you have wireless clients using both WPA and WPA2.
4. Next to *Group Key Update Interval*, enter the amount of time before the group key used for broadcast and multicast data is changed (3600 is default).
5. Next to *Authentication Timeout*, enter the amount of time before a client is required to re-authenticate (60 minutes is default).
6. Next to *RADIUS Server IP Address* enter the IP Address of your RADIUS server.
7. Next to *RADIUS Server Port*, enter the port you are using with your RADIUS server. 1812 is the default port.
8. Next to *RADIUS Server Shared Secret*, enter the security key.
9. If the *MAC Address Authentication* box is selected then the user will need to connect from the same computer whenever logging into the wireless network.

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 :**

**Group Key Update Interval :**  (seconds)

EAP (802.1X)

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

**Authentication Timeout :**  (minutes)

**RADIUS server IP Address :**

**RADIUS server Port :**

**RADIUS server Shared Secret :**

**MAC Address Authentication :** ☒

Advanced >>

10. Click **Advanced** to enter settings for a secondary RADIUS Server.
11. Click **Apply Settings** to save your settings.

**EAP (802.1X)**

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

Authentication Timeout :  (minutes)

RADIUS server IP Address :

RADIUS server Port :

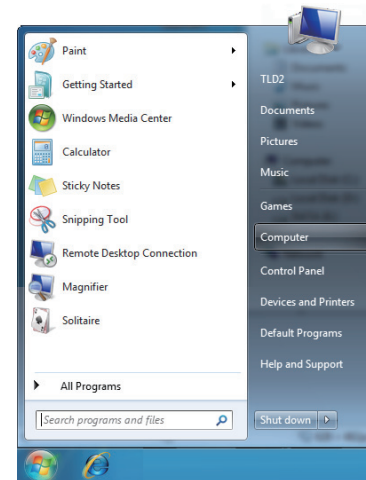
RADIUS server Shared Secret :

MAC Address Authentication : ☒

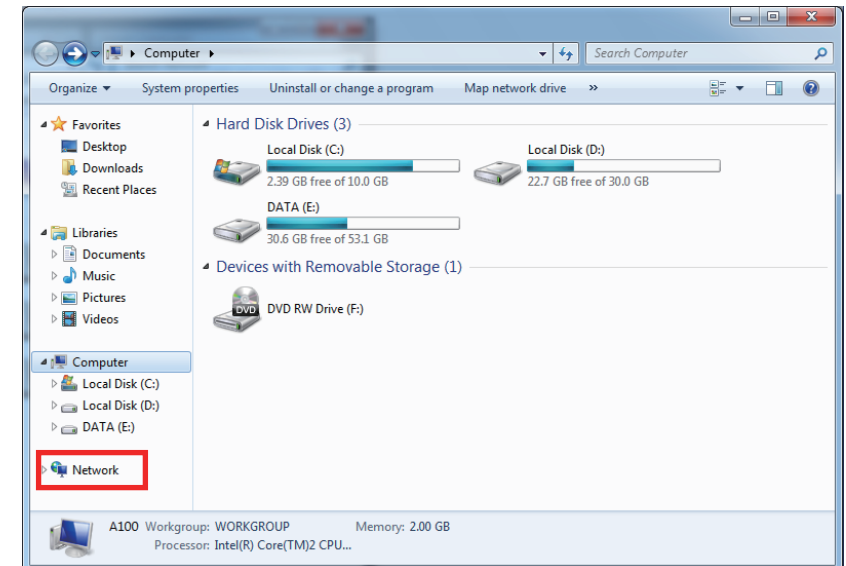
# Using Windows® 7 and WPS for Wireless Configuration

The following steps allow you to configure your DIR-652 wireless network settings using Windows® 7 through WPS.

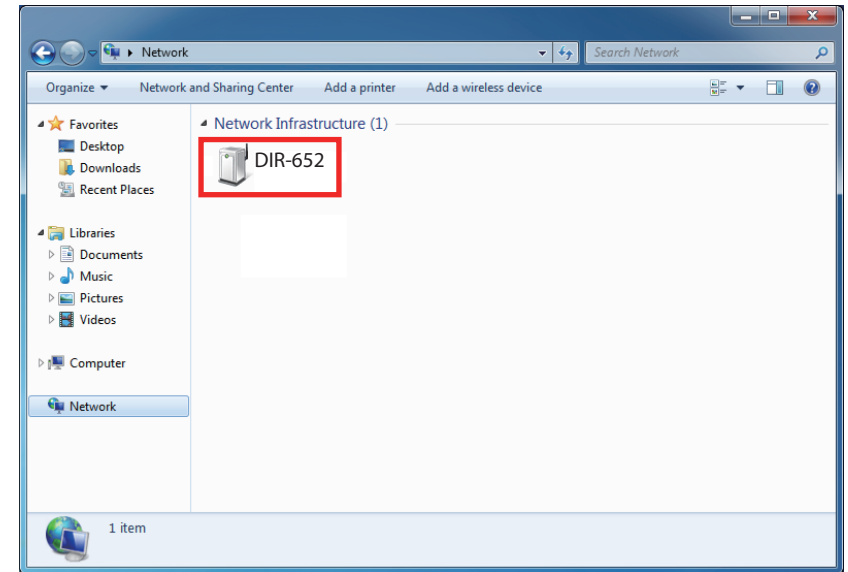
1. Click the **Start** button and select **Computer** from the Start menu.



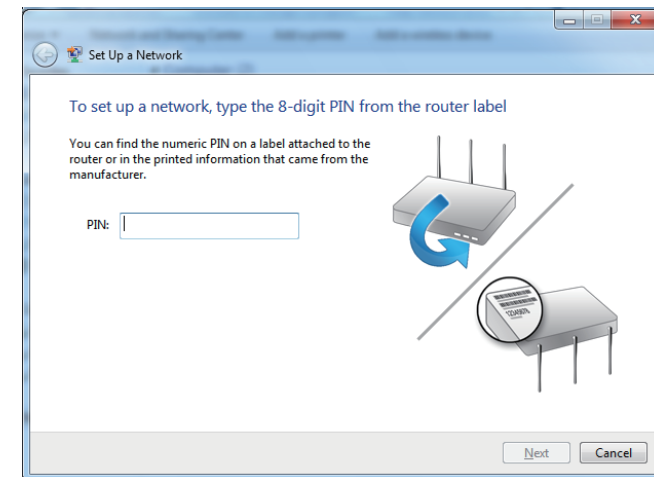
2. Click the **Network** option.



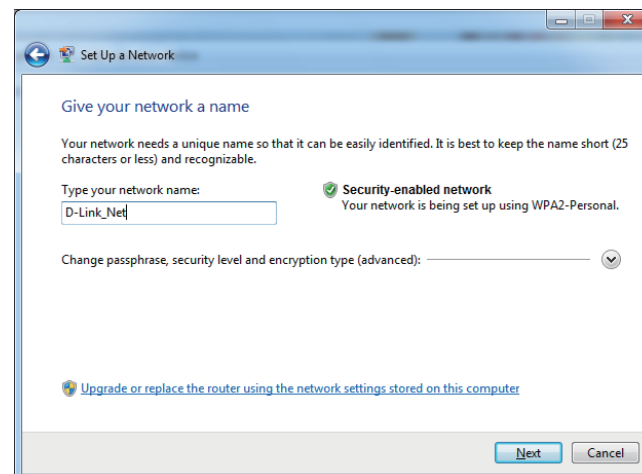
3. Double-click the DIR-652 router.




4. Input the WPS PIN number (displayed in the **Advanced > Wi-Fi Protected Setup** section in the Router's Web UI) and click **Next**.

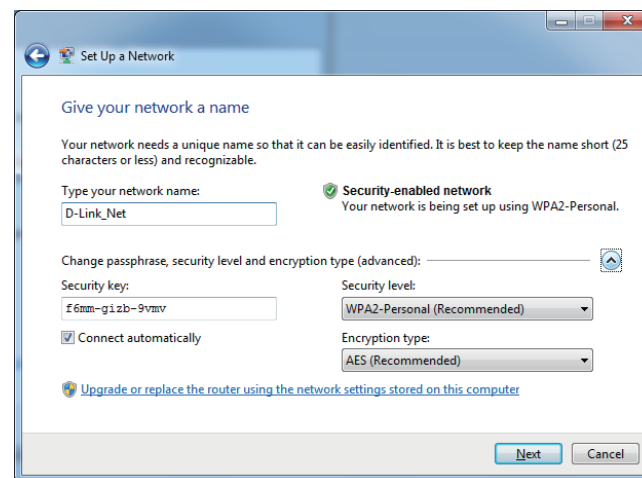


5. Type a name for your wireless network.



6. To configure advanced settings, click the  icon.

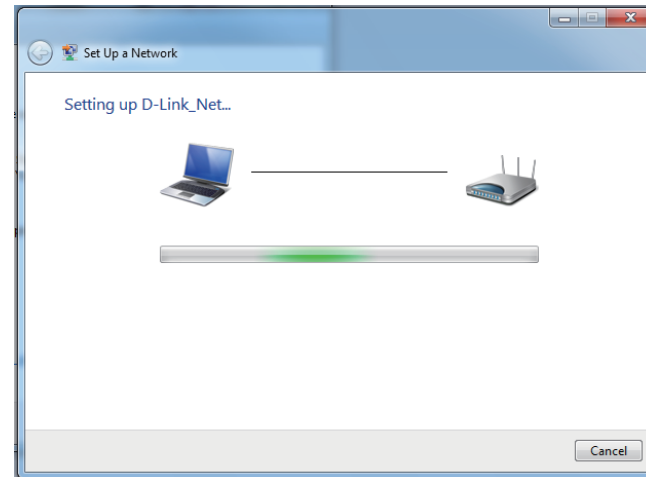
Click **Next** to continue.





7. The following window will appear while the Router is being configured.

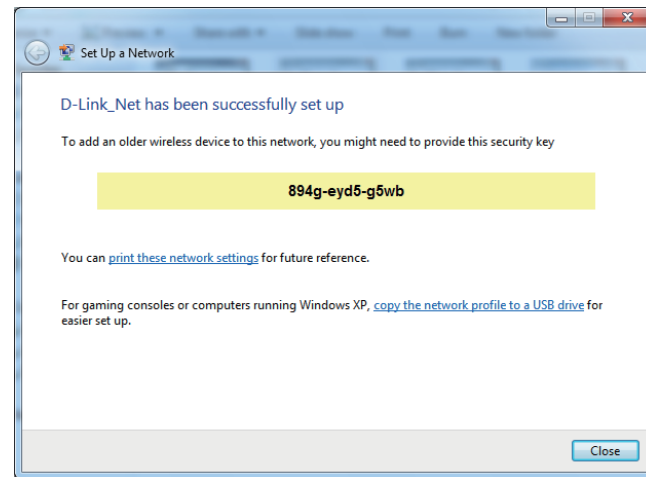
Wait for the configuration to complete.



8. After configuration is complete, a window will appear that your wireless network has been set up successfully.

Make a note of the security key as you may need to provide this security key when adding an older wireless device to the network in the future.

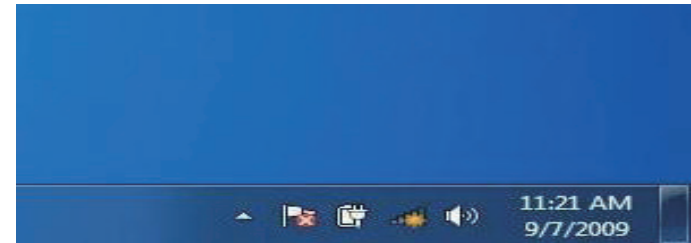
Click **Close** to complete WPS setup.



# Connect to a Wireless Network Using Windows® 7

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

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



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

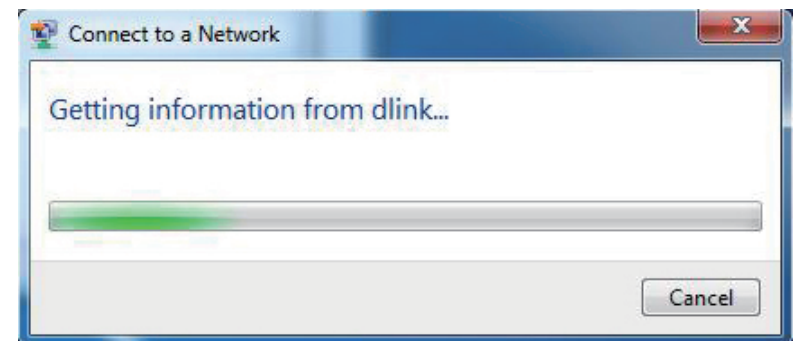


3. Highlight the wireless network (SSID) you would like to connect to and click the Connect button.

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

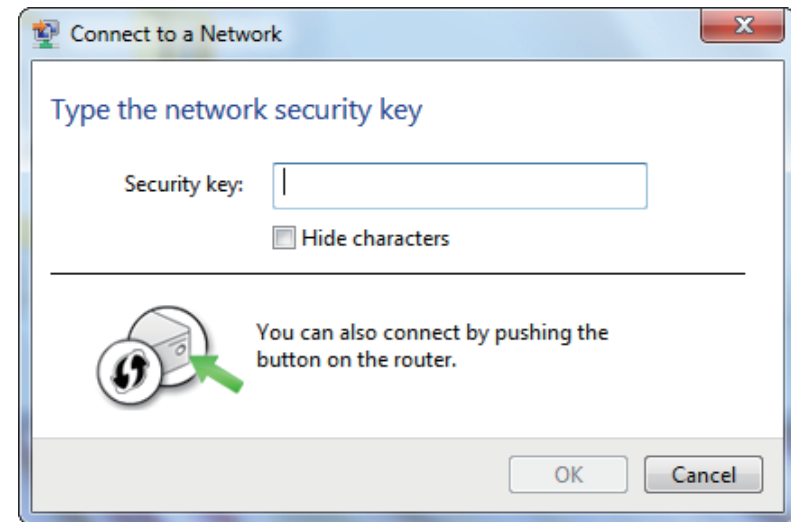


4. The following window appears while your computer tries to connect to the router.



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

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



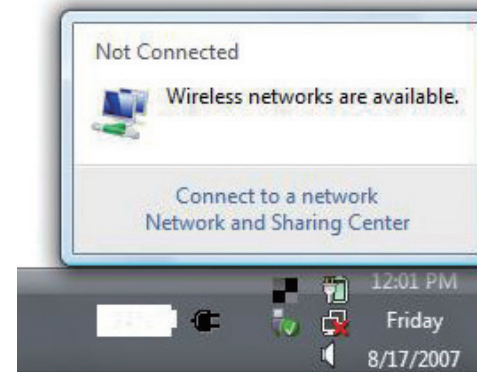
# Using Windows Vista®

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

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

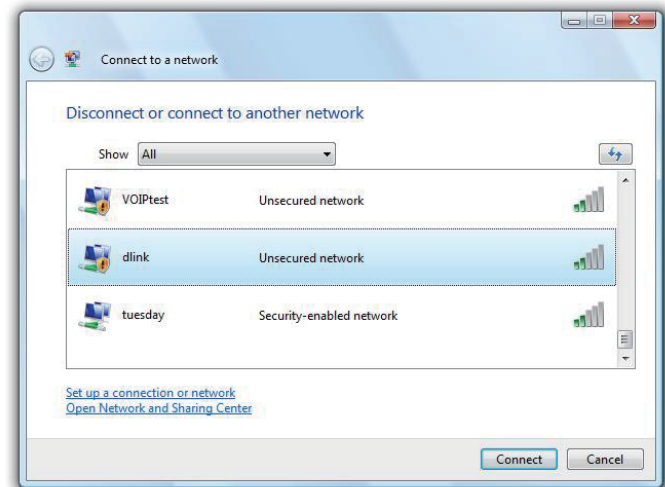
or

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



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

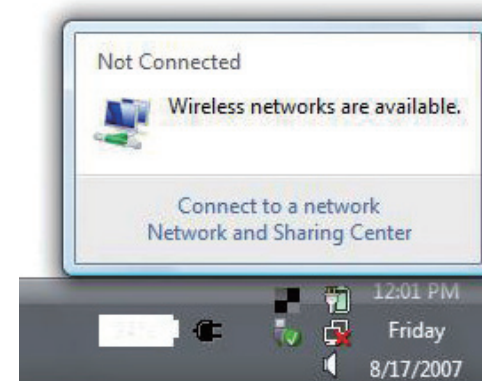
If you get a good signal but cannot access the Internet, check you TCP/IP settings for your wireless adapter. Refer to the **Networking Basics** section in this manual for more information.



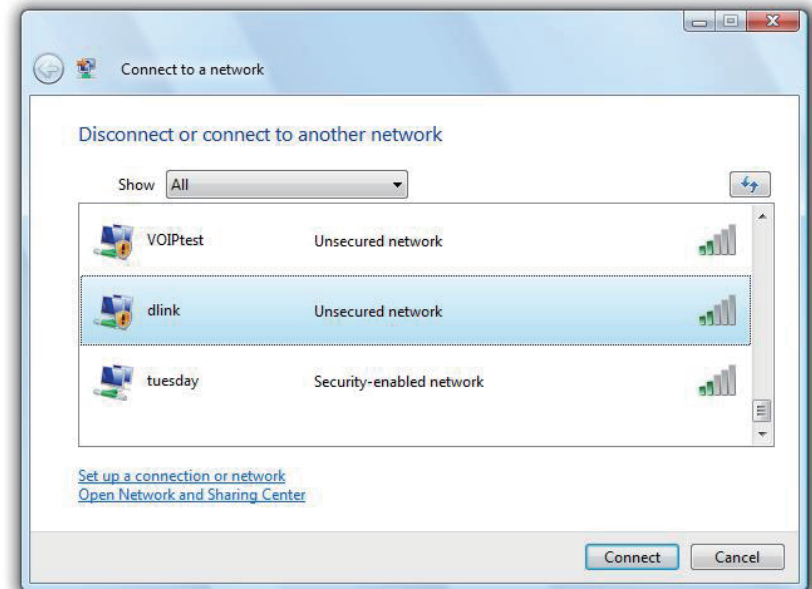
## Configure Wireless Security

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

1. Open the Windows Vista® Wireless Utility by right-clicking on the wireless computer icon in your system tray (lower right corner of screen). Select **Connect to a network**.



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



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

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



# Using Windows® XP

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

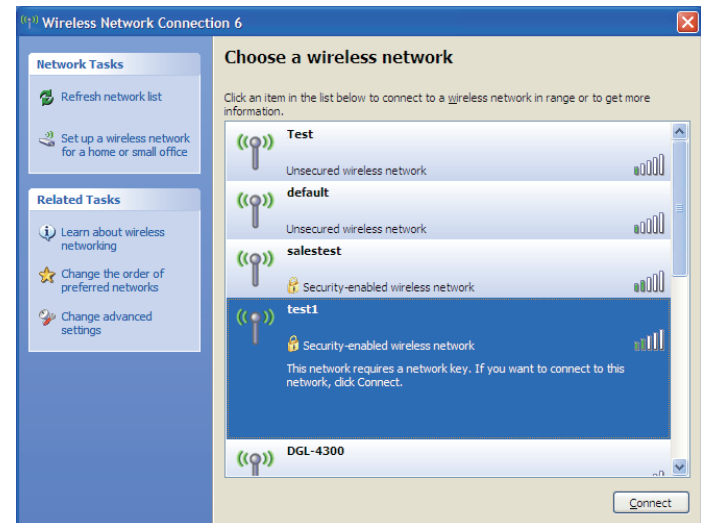
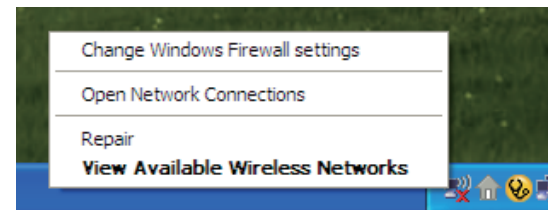
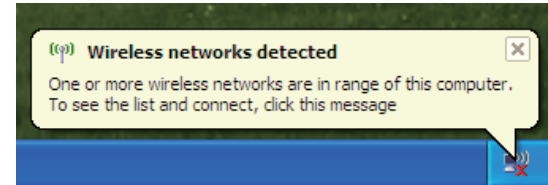
If you receive the **Wireless Networks Detected** bubble, click on the center of the bubble to access the utility.

or

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

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

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

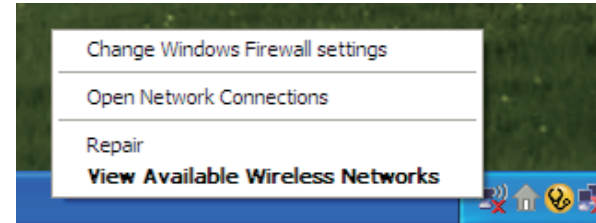




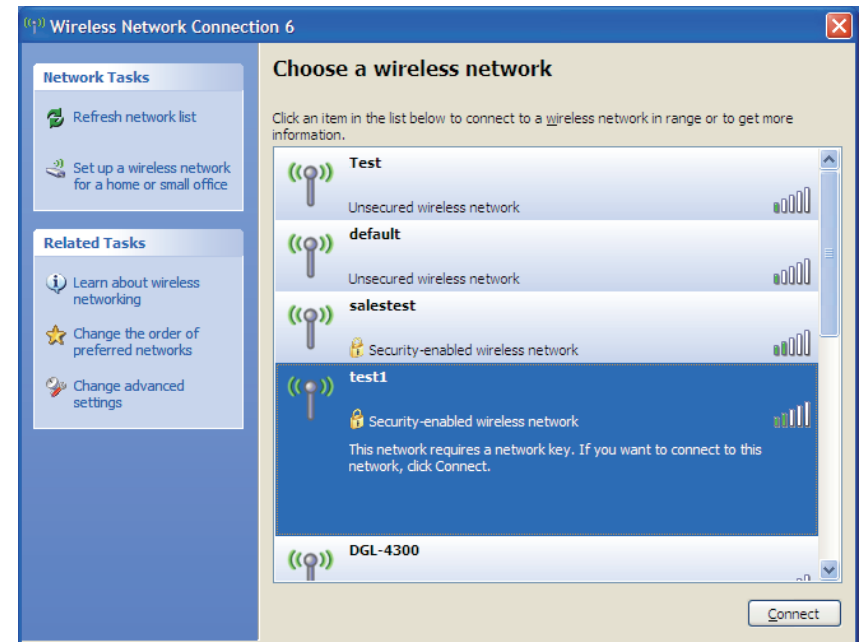
## Configure WPA-PSK

It is recommended to enable encryption 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 passphrase 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**.

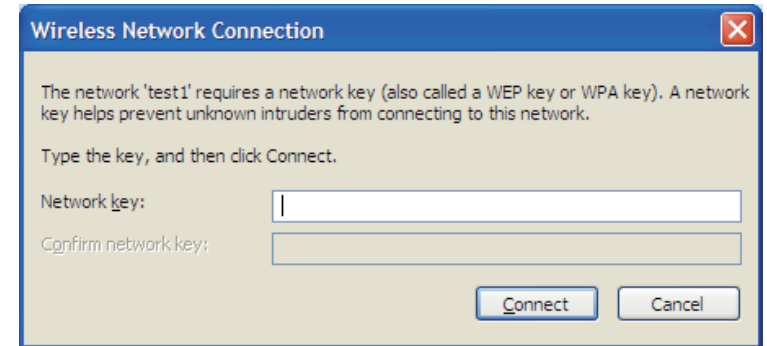


2. Highlight the wireless network (SSID) you would like to connect to and click **Connect**.



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-652. 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 6.0 or higher
  - Chrome 2.0 or higher
  - Safari 3.0 or higher
  - Firefox 3.0 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 emails when connecting through my router?

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

**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, XP, Vista® and 7 users type in **cmd**) and press **Enter** (or click **OK**).
- Once the window opens, you'll need to do a special ping. Use the following syntax:

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

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

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

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

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

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

C:\>
```

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

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

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

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

# Wireless Basics

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

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

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

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

## What is Wireless?

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

## Why D-Link Wireless?

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

## How does wireless work?

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

### Wireless Local Area Network (WLAN)

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

### Wireless Personal Area Network (WPAN)

Bluetooth is the industry standard wireless technology used for WPAN. Bluetooth devices in WPAN operate in a range up to 30 feet away. Compared to WLAN the speed and wireless operation range are both less than WLAN, but in return it doesn't use nearly as much power which makes it ideal for personal devices, such as mobile phones, PDAs, headphones, laptops, speakers, and other devices that operate on batteries.

## Who uses wireless?

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

### Home

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

### Small Office and Home Office

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



## **Where is wireless used?**

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

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

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

## **Tips**

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

### **Centralize your router or Access Point**

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

### **Eliminate Interference**

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

### **Security**

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

# Wireless Modes

There are basically two modes of networking:

- **Infrastructure** – All wireless clients will connect to an access point or wireless router.
- **Ad-Hoc** – Directly connecting to another computer, for peer-to-peer communication, using wireless network adapters on each computer, such as two or more DIR-652 wireless network Cardbus adapters.

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

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

# Networking Basics

## Check your IP address

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

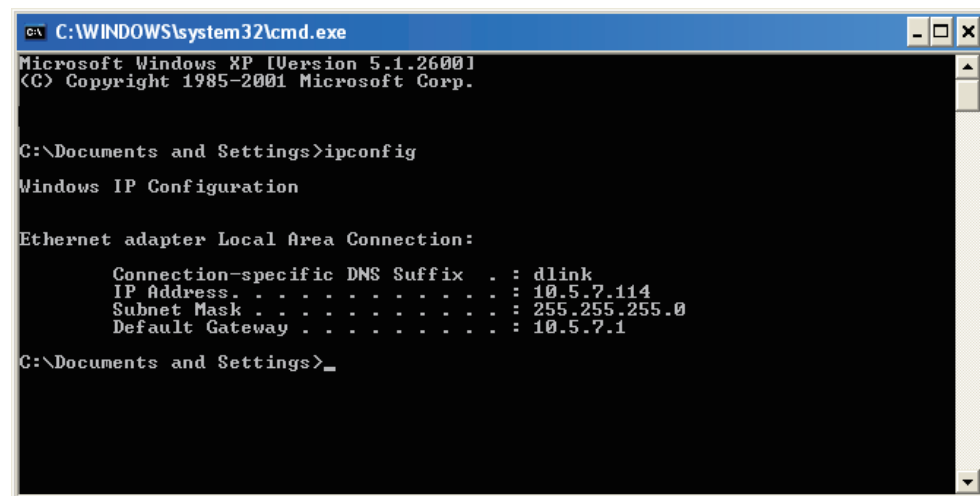
Click on **Start > Run**. In the run box type **cmd** and click **OK**. (Windows Vista® users type *cmd* in the **Start Search** box.)

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.

If you are connecting to a wireless network at a hotspot (e.g. hotel, coffee shop, airport), please contact an employee or administrator to verify their wireless network settings.



```
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 D-Link network adapter and select **Properties**.

### Step 3

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

### Step 4

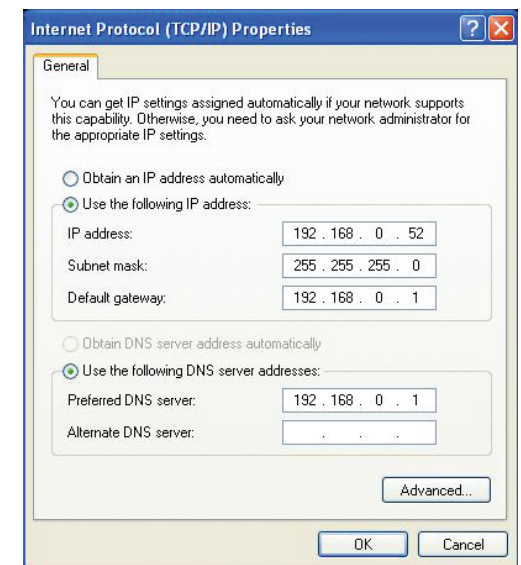
Click **Use the following IP address** and enter an IP address that is on the same subnet as your network or the LAN IP address on your router.

**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
- IEEE 802.11g
- IEEE 802.3
- IEEE 802.3u
- IEEE 802.3ab

## Security

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

## Wireless Signal Rates\*

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

- |                   |                  |
|-------------------|------------------|
| • 144.4Mbps (300) | • 130Mbps (270)  |
| • 115.6Mbps (240) | • 86.7Mbps (180) |
| • 72.2Mbps (150)  | • 65Mbps (135)   |
| • 57.8Mbps (120)  | • 43.3Mbps (90)  |
| • 28.9Mbps (60)   | • 21.7Mbps (45)  |
| • 14.4Mbps (30)   | • 7.2Mbps (15)   |

### IEEE 802.11g:

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

## Frequency Range

- 2.4GHz to 2.483GHz

## External Antenna Type

- Two (2) Fixed Antennas

## Operating Temperature

- 32°F to 104°F ( 0°C to 40°C)

## Humidity

- 95% maximum (non-condensing)

## Safety & Emissions

- FCC
- CE

## Dimensions

- L = 5.81 Inches
- W = 4.45 Inches
- H = 1.2 Inches

## Warranty

- 2 Year

\* 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.

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**CE Mark Warning:**

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

**FCC Statement:**

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

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

**FCC Caution:**

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

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

**IMPORTANT NOTICE:**

**FCC Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

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

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

**Industry Canada Statement:**

This device complies with RSS-210 of the Industry Canada Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

**IMPORTANT NOTE:**

**Radiation Exposure Statement:**

This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

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.