

D-Link[®]

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User Manual

Wireless N 8-Port Router

DIR-632

Preface

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

Manual Revisions

Revision	Date	Description
1.0	February 22, 2010	DIR-632 Revision A1 with firmware version 1.00

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Package Contents



DIR-632 Wireless N 8-Port Router



Ethernet Cable



Two Detachable Antennas



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-632 will cause damage and void the warranty for this product.

System Requirements

Network Requirements	<ul style="list-style-type: none">• An Ethernet-based Cable or DSL modem• IEEE 802.11n or 802.11g wireless clients• 10/100 Ethernet
Web-based Configuration Utility Requirements	<p>Computer with the following:</p> <ul style="list-style-type: none">• Windows®, Macintosh, or Linux-based operating system• An installed Ethernet adapter <p>Browser Requirements:</p> <ul style="list-style-type: none">• Internet Explorer 6.0 or higher• Mozilla Firefox 3.0 or higher• Safari 3.0 or higher• Google Chrome 2.0 or higher <p>Windows® Users: Make sure you have the latest version of Java installed. Visit www.java.com to download the latest version.</p>
CD Installation Wizard Requirements	<p>Computer with the following:</p> <ul style="list-style-type: none">• Windows® 7/Vista®/XP (Service Pack 2 or higher)• An installed Ethernet adapter• CD-ROM drive

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 8-Port Router (DIR-632) 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 8-Port 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

Powered by Wireless N technology, this high performance router provides superior Whole Home Coverage while reducing dead spots. The Wireless N 8-Port Router is designed for use in bigger homes and for users who demand higher performance networking. Add a Wireless N notebook or desktop adapter and stay connected to your network from virtually anywhere in your home.

TOTAL NETWORK SECURITY

The Wireless N 8-Port 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 and WPA2 standards ensure that you'll be able to use the best possible encryption method, regardless of your client devices. In addition, this Wireless N 8-Port 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-632 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 14x faster than 802.11g.
- **Compatible with 802.11g Devices** - The DIR-632 is still fully compatible with the IEEE 802.11g standard, so it can connect with existing 802.11g PCI, USB and FireWire 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-632 can pass through VPN sessions. It supports multiple and concurrent IPSec and PPTP sessions, so users behind the DIR-632 can securely access corporate networks.
- **User-friendly Setup Wizard** - Through its easy-to-use Web-based user interface, the DIR-632 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.

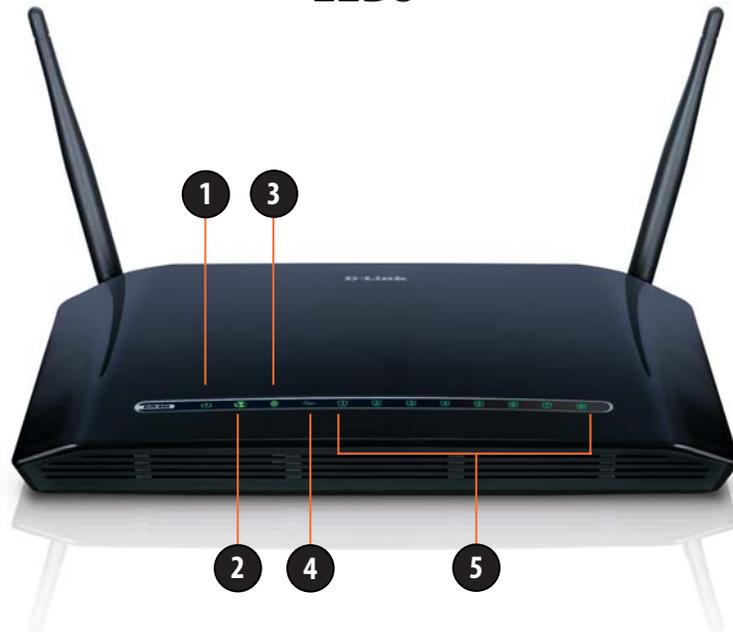
Hardware Overview Connections



1	LAN Ports (1-8)	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	USB	USB 1.1/2.0 port for SharePort™ Network and WCN support.
4	Reset	Pressing the Reset button restores the router to its original factory default settings.
5	Power Receptor	Receptor for the supplied power adapter.

Hardware Overview

LEDs



1	Power LED	A solid light indicates a proper connection to the power supply.
2	Internet LED	A solid light indicates connection on the Internet port. This LED blinks during data transmission.
3	WLAN LED	A solid light indicates that the wireless segment is ready. This LED blinks during wireless data transmission.
4	USB LED	A solid light indicated that the USB device is ready. This LED blinks during data transmission.
5	Local Network's LED	A solid light indicates a connection to an Ethernet-enabled computer on ports 1-8. 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.
- 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 Eternet 300 from your computer or you will not be able to connect to the Internet.
- When running the Setup Wizard from the D-Link CD, make sure the computer you are running the CD from is connected to the Internet and online or the wizard will not work. If you have disconnected any hardware, re-connect your computer back to the modem and make sure you are online.

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.

Connect to Cable/DSL/Satellite Modem

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

1. Place the router in an open and central location. Do not plug the power adapter into the router.
2. Turn the power off on your modem. If there is no on/off switch, then unplug the modem's power adapter. Shut down your computer.
3. Unplug the Ethernet cable (that connects your computer to your modem) from your computer and place it into the Internet port on the router.
4. Plug an Ethernet cable into one of the four LAN ports on the router. Plug the other end into the Ethernet port on your computer.
5. Turn on or plug in your modem. Wait for the modem to boot (about 30 seconds).
6. Plug the power adapter to the router and connect to an outlet or power strip. Wait about 30 seconds for the router to boot.
7. Turn on your computer.
8. Verify the link lights on the router. The power light, Internet light, and the LAN light (the port that your computer is plugged into) should be lit. If not, make sure your computer, modem, and router are powered on and verify the cable connections are correct.
9. Skip to page 13 to configure your router.

Connect to Another Router

If you are connecting the D-Link router to another router to use as a wireless access point and/or switch, you will have to do the following before connecting the router to your network:

- Disable UPnP™
- Disable DHCP
- Change the LAN IP address to an available address on your network. The LAN ports on the router cannot accept a DHCP address from your other router.

To connect to another router, please follow the steps below:

1. Plug the power into the router. Connect one of your computers to the router (LAN port) using an Ethernet cable. Make sure your IP address on the computer is 192.168.0.xxx (where xxx is between 2 and 254). Please see the **Networking Basics** section for more information. If you need to change the settings, write down your existing settings before making any changes. In most cases, your computer should be set to receive an IP address automatically in which case you will not have to do anything to your computer.
2. Open a web browser and enter **http://192.168.0.1** and press **Enter**. When the login window appears, set the user name to **Admin** and leave the password box empty. Click **Log In** to continue.
3. Click on **Advanced** and then click **Advanced Network**. Uncheck the Enable UPnP checkbox. Click **Save Settings** to continue.
4. Click **Setup** and then click **Network Settings**. Uncheck the Enable DHCP Server server checkbox. Click **Save Settings** to continue.
5. Under Router Settings, enter an available IP address and the subnet mask of your network. Click **Save Settings** to save your settings. Use this new IP address to access the configuration utility of the router in the future. Close the browser and change your computer's IP settings back to the original values as in Step 1.

Section 2 - Installation

6. Disconnect the Ethernet cable from the router and reconnect your computer to your network.
7. Connect an Ethernet cable in one of the LAN ports of the router and connect it to your other router. Do not plug anything into the Internet port of the D-Link router.
8. You may now use the other 3 LAN ports to connect other Ethernet devices and computers. To configure your wireless network, open a web browser and enter the IP address you assigned to the router. Refer to the **Configuration** and **Wireless Security** sections for more information on setting up your wireless network.

Getting Started

The DIR-632 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 **Quick Router Setup 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:\autorun.exe**" (where **D:** represents the drive letter of your CD-ROM drive).

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



Note: It is recommended to write down 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.

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).



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

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



Setup Wizard

You may click **Setup Wizard** to quickly configure your router.

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

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.

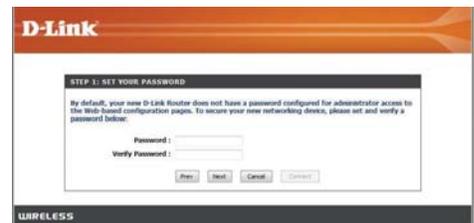
[Manual Internet Connection Setup](#)

Section 3 - Configuration

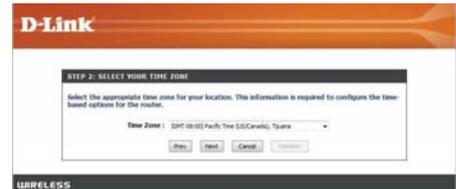
Click **Next** to continue.



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.



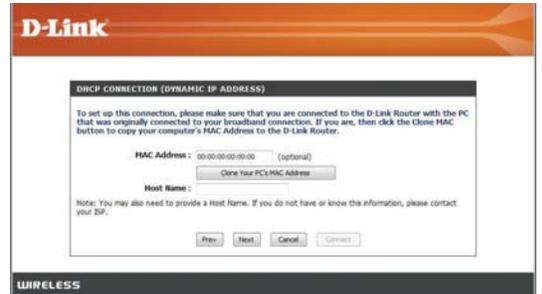
Select the type of Internet connection you use and then click **Next** to continue.



Section 3 - Configuration

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.

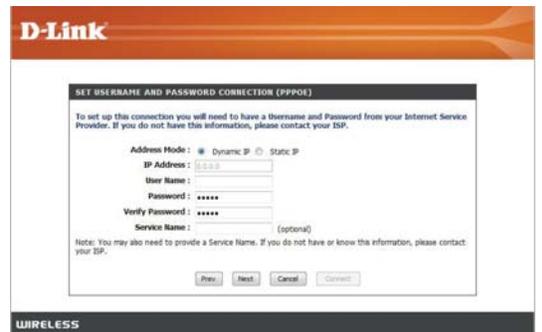
The Host Name is optional but may be required by some ISPs. The default host name is the device name of the Router and may be changed.



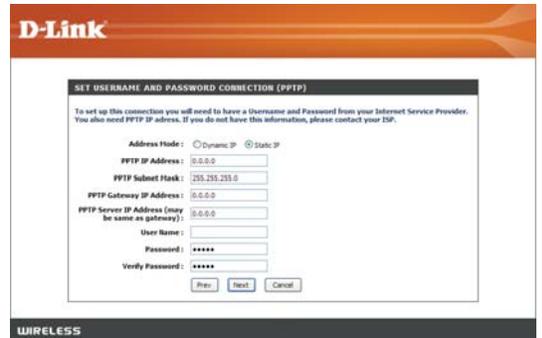
If you selected PPPoE, enter your PPPoE username and password. Click **Next** to continue.

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.



Section 3 - Configuration

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

The screenshot shows the 'SET USERNAME AND PASSWORD CONNECTION (L2TP)' configuration page. It features a D-Link logo at the top and a 'WIRELESS' label at the bottom. The main content area contains the following fields and options:

- Address Mode:** Radio buttons for 'Dynamic IP' and 'Static IP'. 'Static IP' is selected.
- L2TP IP Address:** Input field with '0.0.0.0' entered.
- L2TP Subnet Mask:** Input field with '255.255.255.0' entered.
- L2TP Gateway IP Address:** Input field with '0.0.0.0' entered.
- L2TP Server IP Address (must be same as gateway):** Input field with '0.0.0.0' entered.
- User Name:** Input field.
- Password:** Input field with '*****' entered.
- Verify Password:** Input field with '*****' entered.

At the bottom of the form are three buttons: 'Prev', 'Next', and 'Cancel'.

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

The screenshot shows the 'SET STATIC IP ADDRESS CONNECTION' configuration page. It features a D-Link logo at the top and a 'WIRELESS' label at the bottom. The main content area contains the following fields:

- IP Address:** Input field with '0.0.0.0' entered.
- Subnet Mask:** Input field with '0.0.0.0' entered.
- Gateway Address:** Input field with '0.0.0.0' entered.
- Primary DNS Address:** Input field with '0.0.0.0' entered.
- Secondary DNS Address:** Input field with '0.0.0.0' entered.

At the bottom of the form are three buttons: 'Prev', 'Next', and 'Cancel'.

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.

The screenshot shows the 'SETUP COMPLETE!' configuration page. It features a D-Link logo at the top and a 'WIRELESS' label at the bottom. The main content area contains the following text and buttons:

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

At the bottom of the form are four buttons: 'Prev', 'Next', 'Cancel', and 'Connect'.

Manual Configuration 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.

- Advanced DNS Service:** Check **Enable Advanced DNS Service** if you wish to use this free security option.

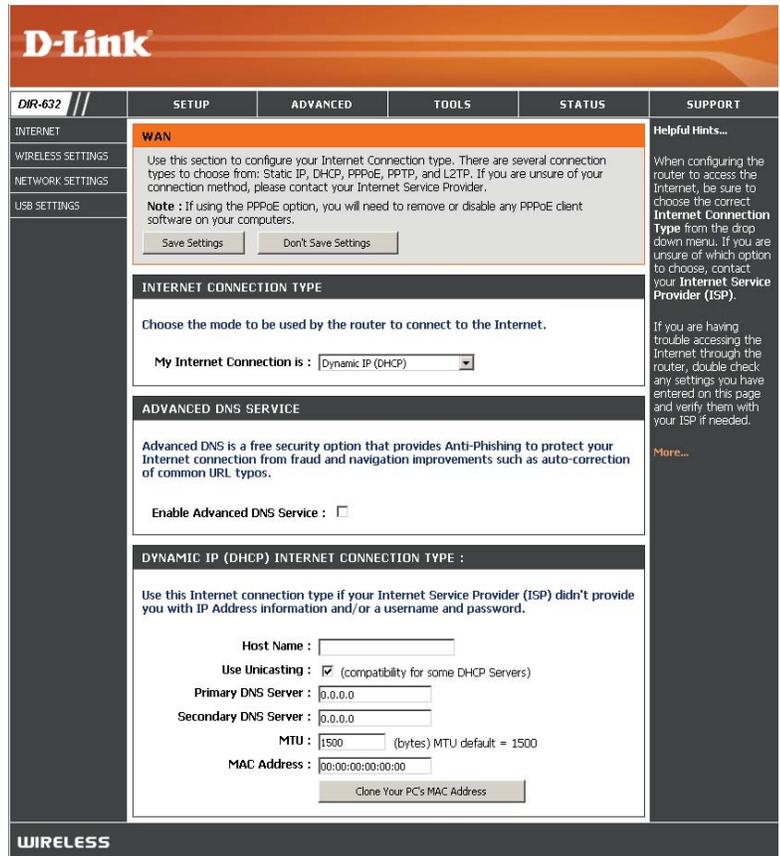
- Host Name:** The Host Name is optional but may be required by some ISPs.

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

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

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

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



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.

Advanced DNS Service: This is a free security option that provides Anti-Phishing and auto correction of URL typos. Check **Enable Advanced DNS Service** if you wish to use this free security option.

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.

WAN

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

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

INTERNET CONNECTION TYPE

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

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

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 :

PPPoE INTERNET CONNECTION TYPE :

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

Address Mode : Dynamic IP Static IP

IP Address :

Username :

Password :

Verify Password :

Service Name : (optional)

Reconnect Mode : Always on On demand Manual

Maximum Idle Time : (minutes, 0=infinite)

Primary DNS Server : (optional)

Secondary DNS Server : (optional)

MTU : (bytes) MTU default = 1492

MAC Address :

Internet Setup 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.

Advanced DNS Service: This is a free security option that provides Anti-Phishing and auto correction of URL typos. Check **Enable Advanced DNS Service** if you wish to use this free security option.

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.

WAN

Internet Connection

Use this section to configure your Internet Connection type. There are several connection types to choose from: Static IP, DHCP, PPPoE, PPTP, L2TP, and BigPond. 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.

INTERNET CONNECTION TYPE

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

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

PPTP INTERNET CONNECTION TYPE :

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

Address Mode: Dynamic IP Static IP

PPTP IP Address:

PPTP Subnet Mask:

PPTP Gateway IP Address:

PPTP Server IP Address:

Username:

Password:

Verify Password:

Reconnect Mode: Always on On demand Manual

Maximum Idle Time: (minutes, 0=infinite)

Primary DNS Server:

Secondary DNS Server:

MTU: (bytes) MTU default = 1400

MAC Address:

Internet Setup 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.

Advanced DNS Service Description: This is a free security option that provides Anti-Phishing and auto correction of URL typos. Check **Enable Advanced DNS Service** if you wish to use this free security option.

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.

WAN

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

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

Save Settings
Don't Save Settings

INTERNET CONNECTION TYPE

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

My Internet Connection is : L2TP (Username / Password)

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 :

L2TP INTERNET CONNECTION TYPE :

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

Address Mode : Dynamic IP Static IP

L2TP IP Address :

L2TP Subnet Mask :

L2TP Gateway IP Address :

L2TP Server IP Address :

Username :

Password :

Verify Password :

Reconnect Mode : Always on On demand Manual

Maximum Idle Time : (minutes, 0=infinite)

Primary DNS Server :

Secondary DNS Server :

MTU : (bytes) MTU default = 1400

MAC Address :

Clone Your PC's MAC Address

Internet Setup 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.

Advanced DNS This is a free security option that provides Anti-Phishing and auto correction of **description:** URL typos. Check **Enable Advanced DNS Service** if you wish to use this free security option.

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.

WAN

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

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

INTERNET CONNECTION TYPE

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

My Internet Connection is : Static IP

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 :

STATIC IP ADDRESS INTERNET CONNECTION TYPE :

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

IP Address :

Subnet Mask :

Default Gateway :

Primary DNS Server :

Secondary DNS Server :

MTU : (bytes) MTU default = 1500

MAC Address :

Wireless Settings

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

If you want to configure the wireless settings on your router using the wizard, click **Wireless Network Setup Wizard** and refer to page 77.

Click **Add Wireless Device with WPS** if you want to add a wireless device using Wi-Fi Protected Setup (WPS) and refer to page 79.

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

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

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

802.11 Mode: Select one of the following:
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 802.11g wireless clients.

Enable Auto Channel Scan: The **Auto Channel Scan** setting can be selected to allow the DIR-632 to choose the channel with the least amount of interference.

Wireless Channel: Indicates the channel setting for the DIR-632. By default the channel is set to 6. The Channel can be changed to fit the channel setting for an existing wireless network or to customize the wireless network. If you enable **Auto Channel Scan**, this option will be greyed out.

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

Channel Width: Select the Channel Width:
Auto 20/40 - Select if you are using both 802.11n and non-802.11n wireless devices.
20MHz - Select if you are not using any 802.11n wireless clients. This is the default setting.

Visibility Status: Select **Invisible** if you do not want the SSID of your wireless network to be broadcasted by the DIR-632. If Invisible is selected, the SSID of the DIR-632 will not be seen by Site Survey utilities so your wireless clients will have to know the SSID of your DIR-632 in order to connect to it.

Wireless Security: Refer to page 76 for more information regarding wireless security.

WIRELESS

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

Save Settings Don't Save Settings

WI-FI PROTECTED SETUP (ALSO CALLED WCN 2.0 IN WINDOWS VISTA) :

Enable:

Current PIN: 20081843

Generate New PIN Reset PIN to Default

Wi-Fi Protected Status: Enabled / Not Configured

Reset to Unconfigured

WIRELESS NETWORK SETTINGS

Enable Wireless: Always Add New

Wireless Network Name: dlink (Also called the SSID)

802.11 Mode: Mixed 802.11n, 802.11g and 802.11b

Enable Auto Channel Scan:

Wireless Channel: 2.437 GHz - CH 6

Channel Width: 20 MHz

Visibility Status: Visible Invisible

WIRELESS SECURITY MODE

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

Security Mode: None

Section 3 - Configuration

Enable Auto Channel Scan: The **Auto Channel Scan** setting can be selected to allow the DIR-632 to choose the channel with the least amount of interference.

Wireless Channel: Indicates the channel setting for the DIR-632. By default the channel is set to 6. The Channel can be changed to fit the channel setting for an existing wireless network or to customize the wireless network. If you enable **Auto Channel Scan**, this option will be greyed out.

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

Channel Width: Select the Channel Width:

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

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

Visibility Status: Select **Invisible** if you do not want the SSID of your wireless network to be broadcasted by the DIR-632. If Invisible is selected, the SSID of the DIR-632 will not be seen by Site Survey utilities so your wireless clients will have to know the SSID of your DIR-632 in order to connect to it.

Wireless Security: Refer to page 76 for more information regarding wireless security.

Network Settings

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

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

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.

Device Name: Enter a name for the router.

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: (optional)

Enable DNS Relay:

DHCP Server Settings

DHCP stands for Dynamic Host Control Protocol. The DIR-632 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-632. 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."

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: 0.0.0.0

Secondary WINS IP Address: 0.0.0.0

Section 3 - Configuration

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

Primary/Secondary Enter your Primary (and Secondary) WINS IP address(es).
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	Computer Name	MAC Address	IP Address

NUMBER OF DYNAMIC DHCP CLIENTS:2			
Hardware Address	Assigned IP	Hostname	Expires

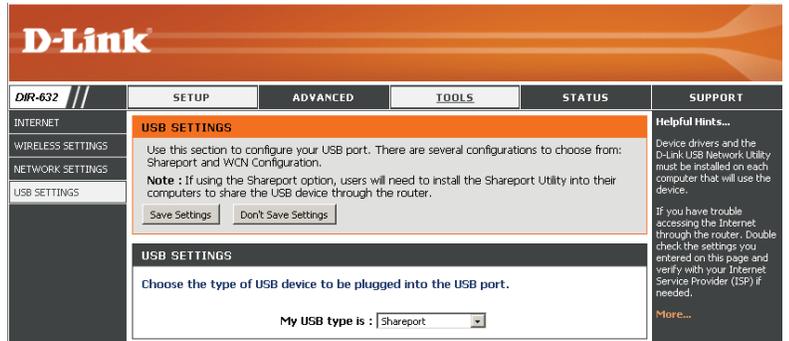
USB Settings

Use this section to configure your USB port. There are two configurations to choose from: Network USB and WCN Configuration.

Note: If using the Network USB option, users will need to install the Network USB Utility into the computers to share the USB device through the router.

USB Settings: Choose between these two configuration: Network USB and WCN Configuration.

Network USB: Please set the Network USB Detection interval time.



Note: Please see the SharePort Manual on the CD for more information.

Virtual Server

The DIR-632 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-632 firewall feature filters out unrecognized packets to protect your LAN network so all computers networked with the DIR-632 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-632 redirects the external service request to the appropriate server within the LAN network.

The DIR-632 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.

Section 3 - Configuration

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**, **Both** or **Other** 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-632

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	Port	Traffic Type	Schedule	Inbound Filter
<input type="checkbox"/>	<< Application Name	<< Computer Name	Public 0	Protocol TCP	Schedule Always	Allow All
<input type="checkbox"/>	<< Application Name	<< Computer Name	Private 0	Protocol TCP	Schedule Always	Allow All
<input type="checkbox"/>	<< Application Name	<< Computer Name	Public 0	Protocol TCP	Schedule 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 this virtual server to hosts that you trust. If you do not see the filter you need in the list of filters, go to the

Port Forwarding

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

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

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

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

Example: 24,1009,3000-4000

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.

The screenshot shows the D-Link DIR-632 web interface. The top navigation bar includes 'SETUP', 'ADVANCED', 'TOOLS', 'STATUS', and 'SUPPORT'. The left sidebar lists various configuration options: VIRTUAL SERVER, PORT FORWARDING (selected), APPLICATION RULES, QOS ENGINE, NETWORK FILTER, ACCESS CONTROL, WEBSITE FILTER, INBOUND FILTER, FIREWALL SETTINGS, ROUTING, ADVANCED WIRELESS, ADVANCED NETWORK, and IPV6.

The main content area is titled 'PORT FORWARDING' and contains the following text: '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). This option is only applicable to the INTERNET session.' Below this text are 'Save Settings' and 'Don't Save Settings' buttons.

Below the main content area is a table titled '24 -- PORT FORWARDING RULES'. The table has the following columns: Name, IP Address, Application Name, Ports to Open, Schedule, and Inbound Filter. There are four rows of configuration options, each with a checkbox in the Name column. The 'Ports to Open' column has a dropdown menu for 'TCP' or 'UDP'. The 'Schedule' column has a dropdown menu for 'Always' or 'Schedule'. The 'Inbound Filter' column has a dropdown menu for 'Allow All' or 'Inbound Filter'.

On the right side of the interface, there are 'Helpful Hints...' and '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.' There is also a note: '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.' and 'You can enter ports in various formats:'.

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-632. 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-632 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.

The screenshot shows the D-Link DIR-632 web interface. The top navigation bar includes links for SETUP, ADVANCED, TOOLS, STATUS, and SUPPORT. The left sidebar lists various configuration sections: VIRTUAL SERVER, PORT FORWARDING, APPLICATION RULES (selected), QOS ENGINE, NETWORK FILTER, ACCESS CONTROL, WEBSITE FILTER, INBOUND FILTER, FIREWALL SETTINGS, ROUTING, ADVANCED WIRELESS, ADVANCED NETWORK, and IPV6.

The main content area is titled "APPLICATION RULES" and contains the following text: "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." Below this text are two buttons: "Save Settings" and "Don't Save Settings".

Below the main content area is a table titled "24 -- APPLICATION RULES". The table has the following columns: Name, Application, Port, Traffic Type, and Schedule. There are five rows of predefined rules, each with a checkbox in the Name column. The Application column contains a dropdown menu with "<<" and "Application Name" options. The Port column has a "Trigger" label and a dropdown menu. The Traffic Type column has a dropdown menu with "TCP" selected. The Schedule column has a dropdown menu with "Always" selected.

On the right side of the page, there is a "Helpful Hints..." sidebar. It contains the following text: "Use this feature if you are trying to execute one of the listed network applications and it is not communicating as expected." and "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." Below this text is a note: "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 screen and create a new schedule." At the bottom of the sidebar is a "More..." link.

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: Check to enable Traffic Shaping.

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

Measured Uplink: 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. ISP's often speed as a download/upload pair. For example, 1.5Mbps/284Kbits. Using this example, you would enter 284. Alternatively you can test your uplink speed with a service such as www.dslreports.com.

The screenshot shows the D-Link DIR-632 web interface. At the top, it displays 'Product Page: DIR-632', 'Hardware Version: A1', and 'Firmware Version: 1.00NA'. The main navigation bar includes 'D-Link', 'DIR-632', and tabs for 'SETUP', 'ADVANCED', 'TOOLS', 'STATUS', and 'SUPPORT'. The left sidebar lists various configuration options: VIRTUAL SERVER, PORT FORWARDING, APPLICATION RULES, QoS ENGINE, NETWORK FILTER, ACCESS CONTROL, WEBSITE FILTER, INBOUND FILTER, FIREWALL SETTINGS, ROUTING, ADVANCED WIRELESS, ADVANCED NETWORK, and IPV6.

The main content area is divided into two sections:

- QoS ENGINE:** This section contains a text box explaining that the QoS Engine improves online gaming experience by prioritizing game traffic. Below the text are two buttons: 'Save Settings' and 'Don't Save Settings'.
- WAN TRAFFIC SHAPING:** This section contains several settings:
 - Enable QoS Engine:**
 - Automatic Uplink Speed:**
 - Measured Uplink Speed:** Not Estimated
 - Manual Uplink Speed:** 128 kbps << (Select Transmission Rate)

On the right side, there is a 'Helpful Hints...' sidebar with a warning: '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.' A 'More...' link is also present.

Network Filters

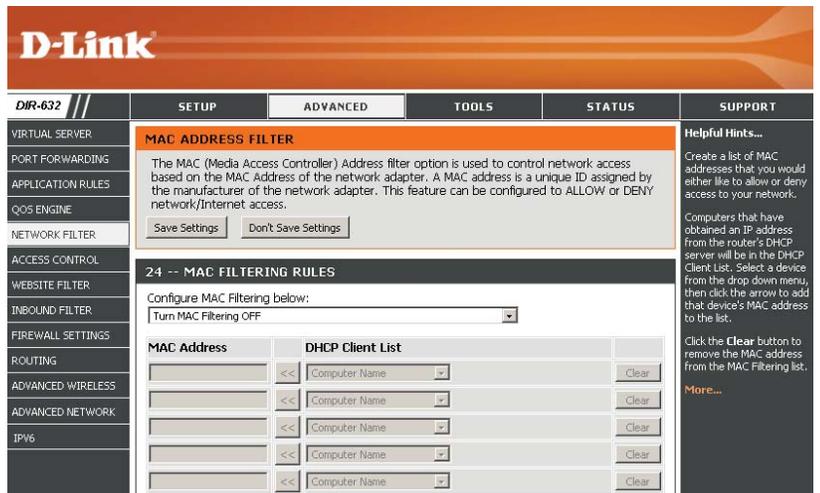
Use MAC (Media Access Control) Filters to allow or deny LAN (Local Area Network) computers by their MAC addresses from accessing the Network. You can either manually add a MAC address or select the MAC address from the list of clients that are currently connected to the Broadband Router.

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

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

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

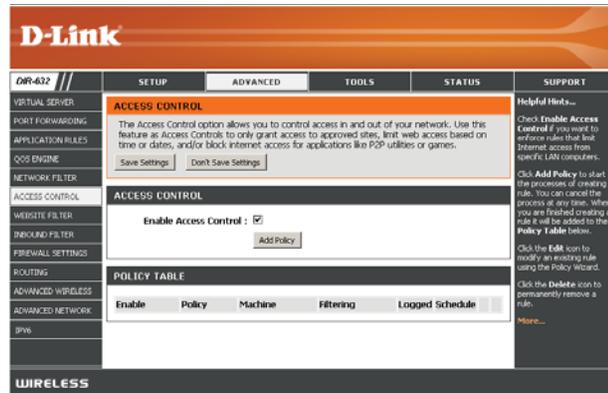
DHCP Client: Select a DHCP client from the drop-down menu and click << to copy that MAC Address.



Access Control

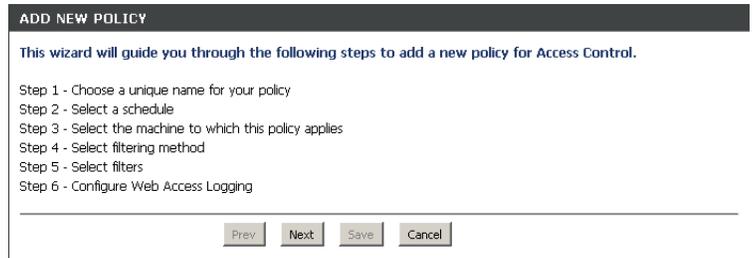
The Access Control section allows you to control access in and out of your network. Use this feature as Parental Controls to only grant access to approved sites, limit web access based on time or dates, and/or block access from applications like P2P utilities or games.

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



Access Control Wizard

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



Section 3 - Configuration

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

The screenshot shows a configuration window titled "STEP 1: CHOOSE POLICY NAME". The instruction is "Choose a unique name for your policy." Below this is a text input field labeled "Policy Name :". At the bottom of the window are four buttons: "Prev", "Next", "Save", and "Cancel".

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

The screenshot shows a configuration window titled "STEP 2: SELECT SCHEDULE". The instruction is "Choose a schedule to apply to this policy." There is a drop-down menu currently showing "Always" and a text input field below it labeled "Details : Always". At the bottom of the window are four buttons: "Prev", "Next", "Save", and "Cancel".

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.

The screenshot shows a configuration window titled "STEP 3: SELECT MACHINE". The instruction is "Select the machine to which this policy applies." Below this is a sub-instruction: "Specify a machine with its IP or MAC address, or select 'Other Machines' for machines that do not have a policy." The form includes:

- "Address Type" with radio buttons for "IP" (selected), "MAC", and "Other Machines".
- "IP Address" with a text input field containing "0.0.0.0" and a "<<" button next to a "Computer Name" dropdown menu.
- "Machine Address" with a text input field and a "<<" button next to a "Computer Name" dropdown menu.
- A "Copy Your PC's MAC Address" button.
- "OK" and "Cancel" buttons.

At the bottom of the window is a "Machine" list box and four buttons: "Prev", "Next", "Save", and "Cancel".

Section 3 - Configuration

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

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	1	65535
<input type="checkbox"/>		0.0.0.0	255.255.255.255	Any	1	65535
<input type="checkbox"/>		0.0.0.0	255.255.255.255	Any	1	65535
<input type="checkbox"/>		0.0.0.0	255.255.255.255	Any	1	65535
<input type="checkbox"/>		0.0.0.0	255.255.255.255	Any	1	65535
<input type="checkbox"/>		0.0.0.0	255.255.255.255	Any	1	65535
<input type="checkbox"/>		0.0.0.0	255.255.255.255	Any	1	65535
<input type="checkbox"/>		0.0.0.0	255.255.255.255	Any	1	65535

Prev Next Save Cancel

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

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

STEP 6: CONFIGURE WEB ACCESS LOGGING

Web Access Logging: Disabled Enabled

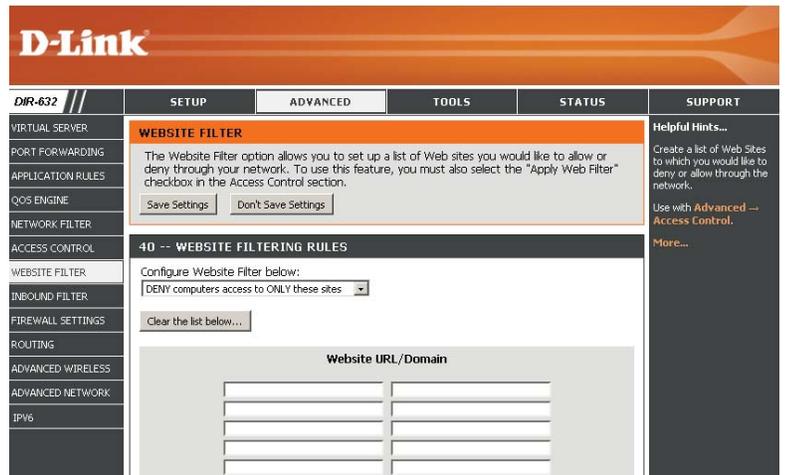
Prev Next Save Cancel

Website Filters

Website Filters are used to allow you to set up a list of allowed Web sites that can be used by multiple users through the network. To use this feature select to **Allow** or **Deny**, enter the domain or website and click **Save Settings**. You must also select **Apply Web Filter** under the *Access Control* section (page 37).

Add Website Filtering Rule: Select **Allow** or **Deny**.

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



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**.

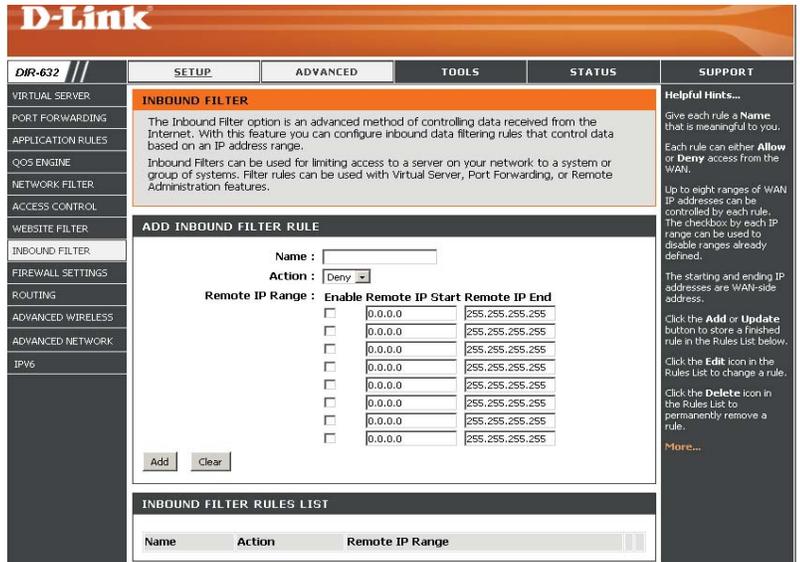
Enable: Check to enable rule.

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

Remote 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 apply your settings. 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.



Firewall Settings

A firewall protects your network from the outside world. The D-Link DIR-632 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.

NAT Endpoint Select one of the following for TCP and UDP ports:

Filtering: 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.

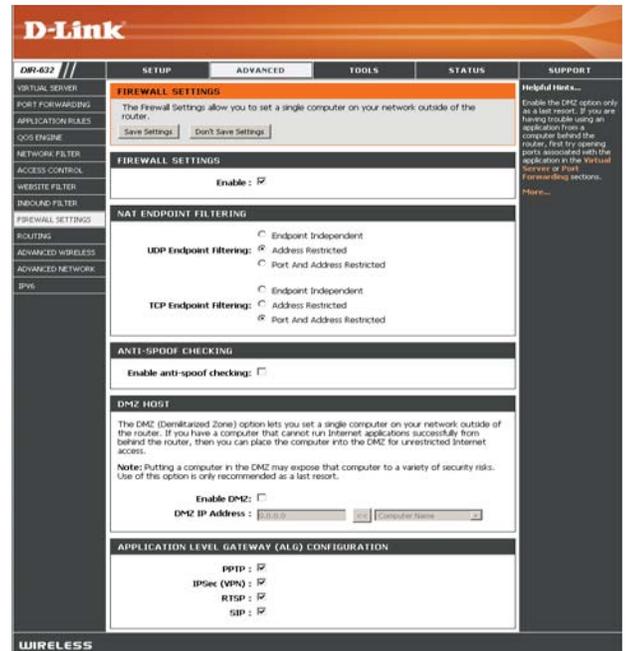
Address + Port Restriction - Incoming traffic must match the IP address and port of the outgoing connection.

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

Enable DMZ: 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.*

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



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.

The screenshot shows the D-Link DIR-632 web interface. The main content area is titled 'ROUTING' and contains the following text: 'This Routing page allows you to specify custom routes that determine how data is moved around your network.' Below this text are two buttons: 'Save Settings' and 'Don't Save Settings'.

The '32--ROUTE LIST' table is as follows:

	Name	Destination IP	Netmask	Gateway	Metric	Interface
<input type="checkbox"/>		0.0.0.0	0.0.0.0	0.0.0.0	1	WAN
<input type="checkbox"/>		0.0.0.0	0.0.0.0	0.0.0.0	1	WAN
<input type="checkbox"/>		0.0.0.0	0.0.0.0	0.0.0.0	1	WAN
<input type="checkbox"/>		0.0.0.0	0.0.0.0	0.0.0.0	1	WAN
<input type="checkbox"/>		0.0.0.0	0.0.0.0	0.0.0.0	1	WAN

The 'Helpful Hints...' sidebar on the right contains the following text: '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.

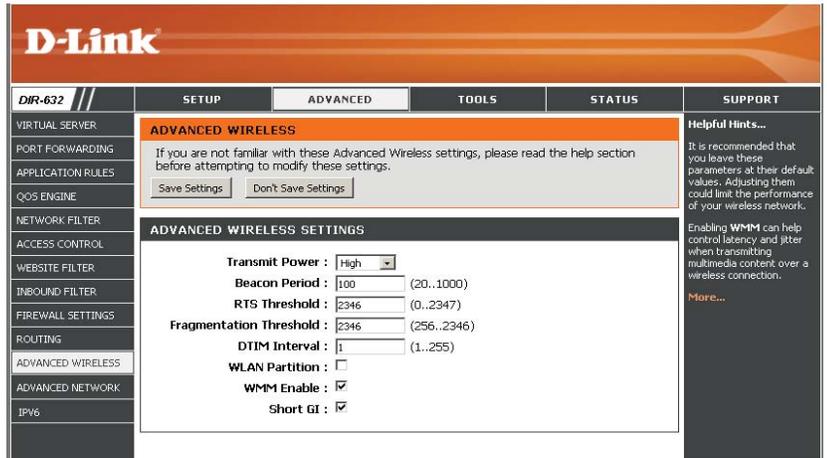
Fragmentation Threshold: The fragmentation threshold, which is specified in bytes, determines whether packets will be fragmented. Packets exceeding the 2346 byte setting will be fragmented before transmission. 2346 is the default setting.

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.

WLAN Partition: Enabling WLAN Partition prevents associated wireless clients from communicating with each other.

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.



Advanced Network Settings

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

WAN Ping: Unchecking the box will not allow the DIR-632 to respond to pings. Blocking the Ping may provide some extra security from hackers. Check the box to allow the WAN port to be “pinged”.

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

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

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

The screenshot shows the 'Advanced Network' settings page for a D-Link DIR-632 router. The page is divided into several sections:

- ADVANCED NETWORK:** Contains a warning message and 'Save Settings' / 'Don't Save Settings' buttons.
- UPNP:** Includes the text 'Universal Plug and Play (UPnP) supports peer-to-peer Plug and Play functionality for network devices.' and a checked checkbox for 'Enable UPnP'.
- WAN PING:** Includes the text '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.' and a checked checkbox for 'Enable WAN Ping Respond'. It also features a dropdown for 'WAN Ping Inbound Filter' (set to 'Allow All') and a 'Details' field (set to 'Allow All').
- WAN PORT SPEED:** Features a dropdown for 'WAN Port Speed' (set to 'Auto 10/100Mbps').
- MULTICAST STREAMS:** Includes a checkbox for 'Enable Multicast Streams' which is currently unchecked.

On the right side, there are 'Helpful Hints...' for each section, providing additional context and security recommendations.

IPv6

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.



Static IPv6 (Stateful)

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)** or **Stateless**. Refer to the next page for Stateless.

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 : <input type="text" value="Static IPv6"/></p>
WAN IPv6 ADDRESS SETTINGS :
<p>Enter the IPv6 address information provided by your Internet Service Provider (ISP).</p> <p>IPv6 Address : <input type="text"/></p> <p>Subnet Prefix Length : <input type="text"/></p> <p>Default Gateway : <input type="text"/></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's network settings to access the network again.</p> <p>LAN IPv6 Address : <input type="text"/> /64</p> <p>LAN IPv6 Link-Local Address : FE80::240:F4FF:FE03:1A9C/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 Autoconfiguration : <input checked="" type="checkbox"/></p> <p>Autoconfiguration Type : <input type="text" value="Stateful (DHCPv6)"/></p> <p>IPv6 Address Range(Start): <input type="text"/> : <input type="text"/> /64</p> <p>IPv6 Address Range(End): <input type="text"/> : <input type="text"/> /64</p> <p>IPv6 Address Lifetime: 30 <input type="text"/> (minutes)</p>

Static IPv6 (Stateless)

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 **Stateless**. Refer to the previous page for Stateful.

Router Advertisement Lifetime: Enter the Router Advertisement 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 : <input type="text" value="Static IPv6"/></p>
WAN IPv6 ADDRESS SETTINGS :
<p>Enter the IPv6 address information provided by your Internet Service Provider (ISP).</p> <p>IPv6 Address : <input type="text"/></p> <p>Subnet Prefix Length : <input type="text"/></p> <p>Default Gateway : <input type="text"/></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's network settings to access the network again.</p> <p>LAN IPv6 Address : <input type="text"/> /64</p> <p>LAN IPv6 Link-Local Address : FE80::240:F4FF:FE03:1A9C/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 Autoconfiguration : <input checked="" type="checkbox"/></p> <p>Autoconfiguration Type : <input type="text" value="Stateless"/></p> <p>Router Advertisement Lifetime: <input type="text" value="30"/> (minutes)</p>

DHCPv6 (Stateful)

My IPv6 Connection: Select **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)** or **Stateless**. Refer to the next page for Stateless.

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 :	<input type="text" value="DHCPv6"/>
IPv6 DNS SETTINGS :	
Obtain DNS server address automatically or enter a specific DNS server address.	
	<input checked="" type="radio"/> Obtain DNS server address automatically <input type="radio"/> Use the following DNS address
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 :	<input type="text" value="Stateful (DHCPv6)"/>
IPv6 Address Range(Start):	<input type="text"/> :: <input type="text"/>
IPv6 Address Range(End):	<input type="text"/> :: <input type="text"/>
IPv6 Address Lifetime:	<input type="text" value="30"/> (minutes)

DHCPv6 (Stateless)

My IPv6 Connection: Select **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 **Stateless**. Refer to the previous page for Stateful.

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 : <input type="text" value="DHCPv6"/>
IPv6 DNS SETTINGS :
Obtain DNS server address automatically or enter a specific DNS server address. <input checked="" type="radio"/> Obtain DNS server address automatically <input type="radio"/> Use the following DNS address 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 : <input type="text" value="Stateless"/> Router Advertisement Lifetime: <input type="text" value="30"/> (minutes)

IPv6 over PPPoE (Stateful)

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.

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.

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).

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)

IPv6 DNS SETTINGS :

Obtain DNS server address automatically or enter a specific DNS server address.

Obtain 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's network settings to access the network again.

LAN IPv6 Address : /64

LAN IPv6 Link-Local Address : **FE80::240:F4F: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 :

Autoconfiguration Type : Stateful (DHCPv6)

IPv6 Address Range(Start): ::

IPv6 Address Range(End): ::

IPv6 Address Lifetime: (minutes)

Section 3 - Configuration

Enable Autoconfiguration: Check to enable the Autoconfiguration feature.

Autoconfiguration Type: Select **Stateful (DHCPv6)** or **Stateless**. Refer to the next page for Stateless.

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 over PPPoE (Stateless)

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.

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.

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).

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)

IPv6 DNS SETTINGS :

Obtain DNS server address automatically or enter a specific DNS server address.

Obtain 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's network settings to access the network again.

LAN IPv6 Address: /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:

Autoconfiguration Type: Stateless

Router Advertisement Lifetime: (minutes)

Section 3 - Configuration

Enable Autoconfiguration: Check to enable the Autoconfiguration feature.

Autoconfiguration Type: Select **Stateful (DHCPv6)** or **Stateless**.

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

6 to 4 Tunneling (Stateful)

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)** or **Stateless**. Refer to the next page for Stateless.

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
6to4 SETTINGS :
Enter the IPv6 address information provided by your Internet Service Provider (ISP).
6to4 Address : 0:0:0:0:0:0:0
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 : 2002:0:0:0001 ::1/64
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): 2002:0:0:0001 :: <input type="text"/>
IPv6 Address Range(End): 2002:0:0:0001 :: <input type="text"/>
IPv6 Address Lifetime: 30 (minutes)

6 to 4 Tunneling (Stateless)

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 **Stateless**. Refer to the previous page for Stateful.

Router Advertisement Lifetime: Enter the Router Advertisement 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 : <input type="text" value="6 to 4"/></p>
6to4 SETTINGS :
<p>Enter the IPv6 address information provided by your Internet Service Provider (ISP).</p> <p>6to4 Address : 0:0:0:0:0:0:0</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's network settings to access the network again.</p> <p>LAN IPv6 Address : 2002:0:0:0001 ::1/64</p> <p>LAN IPv6 Link-Local Address : FE80::240:F4FF:FE03:1A9C/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 Autoconfiguration : <input checked="" type="checkbox"/></p> <p>Autoconfiguration Type : <input type="text" value="Stateless"/></p> <p>Router Advertisement Lifetime: <input type="text" value="30"/> (minutes)</p>

IPv6 in IPv4 Tunneling (Stateful)

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 **Stateless**. Refer to the previous page for Stateless.

Router Advertisement Lifetime: Enter the Router Advertisement 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 : IPv6 in IPv4 Tunnel ▾</p>
IPv6 in IPv4 TUNNEL SETTINGS :
<p>Enter the IPv6 in IPv4 Tunnel information provided by your Tunnel Broker.</p> <p>Remote IPv4 Address : <input type="text"/></p> <p>Remote IPv6 Address : <input type="text"/></p> <p>Local IPv4 Address : <input type="text"/></p> <p>Local IPv6 Address : <input type="text"/></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's network settings to access the network again.</p> <p>LAN IPv6 Address : <input type="text"/> /64</p> <p>LAN IPv6 Link-Local Address : FE80::240:F4FF:FE03:1A9C/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 Autoconfiguration : <input checked="" type="checkbox"/></p> <p>Autoconfiguration Type : Stateful (DHCPv6) ▾</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: 30 <input type="text"/> (minutes)</p>

IPv6 in IPv4 Tunneling (Stateless)

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)** or **Stateless**. Refer to the next page for Stateless.

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 : 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 : Stateless ▾
Router Advertisement Lifetime: 30 <input type="text"/> (minutes)

Administrator Settings

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

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

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

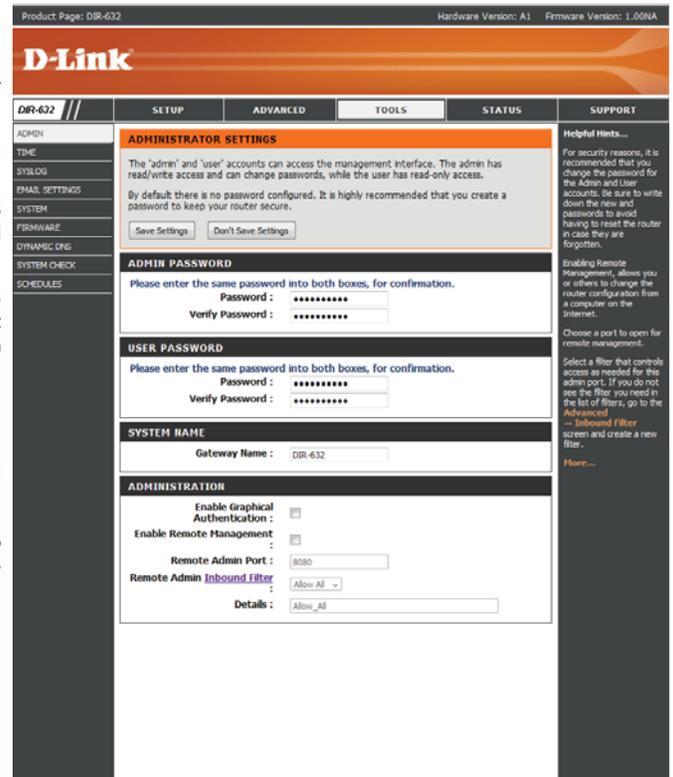
Gateway Name: Enter a name for the DIR-632 router.

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.

Remote Management: Remote management allows the DIR-632 to be configured from the Internet by a web browser. A username and password is still required to access the Web-Management interface. In general, only a member of your network can browse the built-in web pages to perform Administrator tasks. This feature enables you to perform Administrator tasks from the remote (Internet) host.

Remote Admin Port: The port number used to access the DIR-632.
Example: http://x.x.x.x:8080 where x.x.x.x is the Internet IP address of the DIR-632 and 8080 is the port used for the Web Management interface.

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



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-632 web interface. The top navigation bar includes tabs for SETUP, ADVANCED, TOOLS, STATUS, and SUPPORT. The left sidebar lists various configuration categories: ADMIN, TIME, 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 brief description of the Time Configuration option and two buttons: 'Save Settings' and 'Don't Save Settings'.
- TIME CONFIGURATION:**
 - Current Router Time:** Sunday, February 01, 2004 3:15:09 PM
 - Time Zone:** (GMT-08:00) Pacific Time (US/Canada), Tijuana
 - Enable Daylight Saving:**
 - Daylight Saving Offset:** +1:00
 - Daylight Saving Dates:** DST Start (Mar 1st Sun 2 am), DST End (Oct 8th Sun 2 am)
- AUTOMATIC TIME CONFIGURATION:**
 - Enable NTP Server:**
 - NTP Server Used:** << Select NTP Server >>
- SET THE DATE AND TIME MANUALLY:**
 - Date And Time:** Year (2004), Month (Feb), Day (01), Hour (03), Minute (15), Second (05), 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-632 web interface. The top navigation bar includes 'DIR-632', 'SETUP', 'ADVANCED', 'TOOLS', 'STATUS', and 'SUPPORT'. The left sidebar lists menu items: ADMIN, TIME, SYSLOG, EMAIL SETTINGS (highlighted), SYSTEM, FIRMWARE, DYNAMIC DNS, SYSTEM CHECK, and SCHEDULES. The main content area is titled 'EMAIL SETTINGS' and contains the following sections:

- ENABLE**: A section with the heading 'ENABLE' and a checkbox for 'Enable Email Notification' which is checked.
- EMAIL SETTINGS**: A section with the following fields:
 - From Email Address: [text input]
 - To Email Address: [text input]
 - SMTP Server Address: [text input]
 - SMTP Server Port: [text input with value 25]
 - Enable Authentication: [checkbox]
 - Account Name: [text input]
 - Password: [text input]
 - Verify Password: [text input]
- EMAIL LOG WHEN FULL OR ON SCHEDULE**: A section with the following fields:
 - On Log Full: [checkbox]
 - On Schedule: [checkbox]
 - Schedule: [dropdown menu with 'Never' selected]
 - Details: [text input with 'Never' value]

On the right side, there is a 'Helpful Hints...' sidebar with the text: 'You may want to make the email settings similar to those of your email client program.' and 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, use the Browse control to find a previously save file of configuration settings. Then, click the **Load** button to transfer those settings to the router.

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

Reboot Device: Click to reboot the router.

The screenshot displays the D-Link DIR-632 web interface. At the top, the D-Link logo is visible. Below it, a navigation bar includes tabs for SETUP, ADVANCED, TOOLS, STATUS, and SUPPORT. The left sidebar lists various configuration categories, with 'SYSTEM' currently selected. The main panel, titled 'SYSTEM SETTINGS', provides instructions and controls for managing the router's configuration. It includes buttons for saving the current configuration to a local file, loading a previously saved file, restoring factory defaults, and rebooting the device. A 'Helpful Hints...' sidebar on the right offers additional context and a 'More...' link.

Firmware

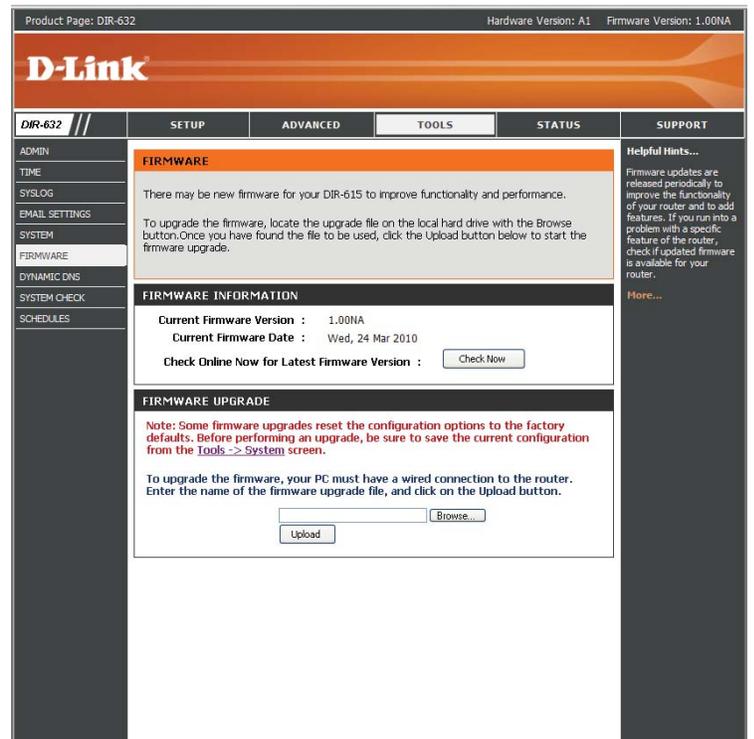
You can upgrade the firmware of the Router here. Make sure the firmware you want to use is on the local hard drive of the computer. Click on **Browse** to locate the firmware file to be used for the update. Please check the D-Link support site for firmware updates at <http://support.dlink.com>. You can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



Dynamic DNS

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

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 current status - Connected or Disconnected.

The screenshot shows the D-Link DIR-632 web interface. The top navigation bar includes 'SETUP', 'ADVANCED', 'TOOLS', 'STATUS', and 'SUPPORT'. The left sidebar lists various configuration categories. The main content area is titled 'DYNAMIC DNS' and contains a 'Helpful Hints...' section on the right. The configuration form includes the following fields and options:

- Enable Dynamic DNS:**
- Server Address:** <<< Select Dynamic DNS Server
- Host Name:**
- Username or Key:**
- Password or Key:**
- Verify Password or Key:**
- Timeout:** (hours)
- Status:** Disconnect

The 'Select Dynamic DNS Server' dropdown menu is open, showing the following options:

- Select Dynamic DNS Server
- www.DynDNS.com
- www.DynDNS.com (Custom)
- www.DynDNS.com (Free)

System Check

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

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



Schedules

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.

The screenshot shows the D-Link DIR-632 web interface for configuring schedules. The main content area is divided into two sections: 'ADD SCHEDULE RULE' and 'SCHEDULE RULES LIST'.

ADD SCHEDULE RULE: This section contains a form for creating a new schedule rule. It includes a text input for 'Name', a radio button for 'All Week' and a radio button for 'Select Day(s)'. Under 'Select Day(s)', there are checkboxes for Sun, Mon, Tue, Wed, Thu, Fri, and Sat. There is also a checkbox for 'All Day - 24 hrs'. Below these are two time selection fields: 'Start Time' and 'End Time', each with hour and minute dropdowns and AM/PM selectors. 'Save' and 'Clear' buttons are at the bottom of the form.

SCHEDULE RULES LIST: This section displays a table of existing schedule rules. The table has columns for Name, Day(s), and Time Frame. A single rule is listed: 'kids' with 'Every Day' and '09:00 AM-11:00 PM'. There are 'Edit' and 'Delete' icons to the right of the rule.

Helpful Hints...: This sidebar provides instructions on how to use the schedule feature, including advice on naming schedules and how to edit or delete them.

Device Information

This page displays the current information for the DIR-632. 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.

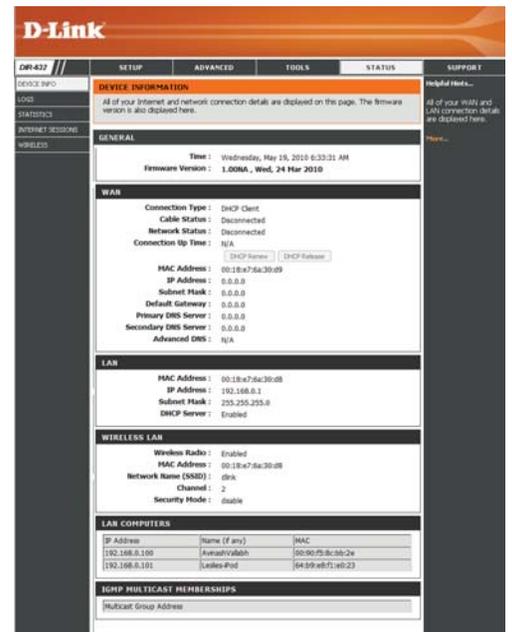
WAN: Displays the MAC address and the public IP settings for the router.

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.

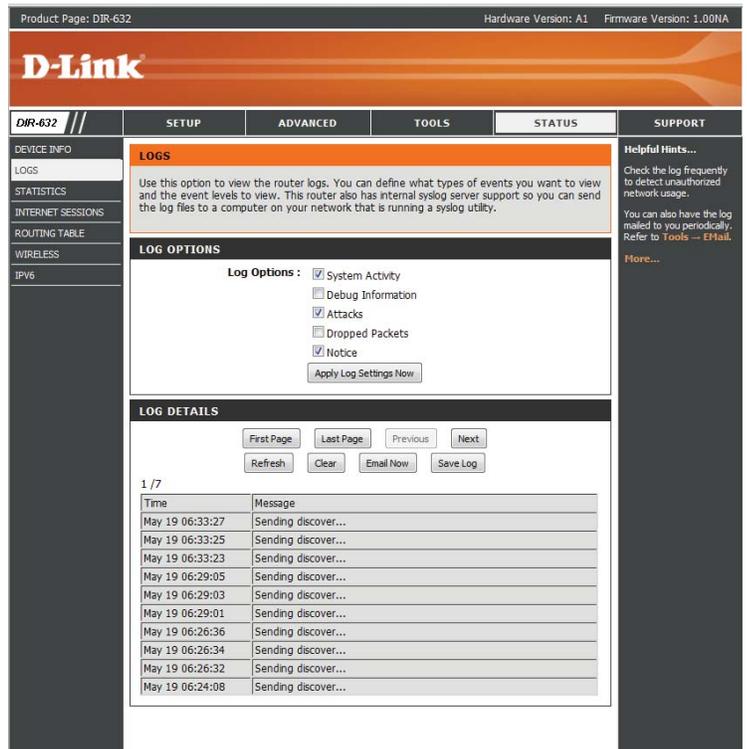
Apply Log Settings: Will filter the log results so that only the selected options appear.

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.



Stats

The screen below displays the Traffic Statistics. Here you can view the amount of packets that pass through the DIR-632 on both the WAN and the LAN ports. The traffic counter will reset if the device is rebooted.

D-Link

DIR-632 // SETUP ADVANCED TOOLS STATUS SUPPORT

DEVICE INFO
LOGS
STATISTICS
INTERNET SESSIONS
ROUTING TABLE
WIRELESS

TRAFFIC STATISTICS
Traffic Statistics display receive and transmit packets passing through your router.
Refresh Statistics Clear Statistics

LAN STATISTICS

Sent : 11112	Received : 9667
TX Packets Dropped : 1	RX Packets Dropped : 0
Collisions : 0	Errors : 0

WAN STATISTICS

Sent : 0	Received : 0
TX Packets Dropped : 0	RX Packets Dropped : 0
Collisions : 0	Errors : 0

WIRELESS STATISTICS

Sent : 118519	Received : 0
TX Packets Dropped : 0	RX Packets Dropped : 0
	Errors : 26

Helpful Hints...
This is a summary of the number of packets that have passed between the WAN and the LAN since the router was last initialized.
More...

WIRELESS

Internet Sessions

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

- Local:** The IP address and, where appropriate, port number of the local application.
- NAT:** The port number of the LAN-side application as viewed by the WAN-side application.
- Internet:** The IP address and, where appropriate, port number of the application on the Internet.
- Protocol:** The communications protocol used for the conversation.
- State:** State for sessions that use the TCP protocol:



- NO: None** -- This entry is used as a placeholder for a future connection that may occur.
- SS: SYN Sent** -- One of the systems is attempting to start a connection.
- EST: Established** -- the connection is passing data.
- FW: FIN Wait** -- The client system has requested that the connection be stopped.
- CW: Close Wait** -- The server system has requested that the connection be stopped.
- TW: Time Wait** -- Waiting for a short time while a connection that was in FIN Wait is fully closed.
- LA: Last ACK** -- Waiting for a short time while a connection that was in Close Wait is fully closed.
- CL: Closed** -- The connection is no longer active but the session is being tracked in case there are any retransmitted packets still pending.

Section 3 - Configuration

Dir: The direction of initiation of the conversation:

Out - Initiated from LAN to WAN.

In - Initiated from WAN to LAN.

Priority: The preference given to outbound packets of this conversation by the QoS Engine logic. Smaller numbers represent higher priority.

Time Out: The number of seconds of idle time until the router considers the session terminated. The initial value of Time Out depends on the type and state of the connection.

300 seconds - UDP connections.

240 seconds - Reset or closed TCP connections. The connection does not close instantly so that lingering packets can pass or the connection can be re-established.

7800 seconds - Established or closing TCP connections.

Routing Table

This page displays the routing details configured for your router.

The screenshot shows the D-Link DIR-632 web interface. The top navigation bar includes the D-Link logo and tabs for SETUP, ADVANCED, TOOLS, STATUS, and SUPPORT. The left sidebar contains menu items: DEVICE INFO, LOGS, STATISTICS, INTERNET SESSIONS, ROUTING TABLE (highlighted), WIRELESS, and IPV6. The main content area is titled 'ROUTING' and contains a 'Routing Table' section with the text: 'This page displays the routing details configured for your router.' Below this is a table titled 'ROUTING TABLE' with the following data:

Destination IP	Netmask	Gateway	Metric	Interface	Creator
192.168.0.0	255.255.255.0	0.0.0.0	0	LAN	System
239.0.0.0	255.0.0.0	0.0.0.0	0	LAN	System

Wireless

The wireless client table will assist you in your wireless network setup and wireless device connection. Click **Wireless Network Setup Wizard** to begin.

Product Page: DIR-632 Hardware Version: A1 Firmware Version: 1.00NA

D-Link

DIR-632 // SETUP ADVANCED TOOLS STATUS SUPPORT

DEVICE INFO
LOGS
STATISTICS
INTERNET SESSIONS
ROUTING TABLE
WIRELESS
IPV6

WIRELESS

Use this option to view the wireless clients that are connected to your wireless router.

NUMBER OF WIRELESS CLIENTS : 0

MAC Address	IP Address	Mode	Rate	Signal(%)
-------------	------------	------	------	-----------

Helpful Hints...
This is a list of all wireless clients that are currently connected to your wireless router.
[More...](#)

Support

D-Link

DIR-632 // SETUP ADVANCED TOOLS STATUS SUPPORT

MENU
SETUP
ADVANCED
TOOLS
STATUS

SUPPORT MENU

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

SETUP HELP

- [Internet Connection](#)
- [WAN](#)
- [Wireless](#)
- [Network Settings](#)
- [USB Settings](#)

ADVANCED HELP

- [Virtual Server](#)
- [Port Forwarding](#)
- [Application Rules](#)
- [QoS Engine](#)
- [Network Filter](#)
- [Access Control](#)
- [Website Filter](#)
- [Inbound Filter](#)
- [Firewall Settings](#)
- [Routing](#)
- [Advanced Wireless](#)
- [Advanced Network](#)
- [IPv6](#)

TOOLS HELP

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

STATUS HELP

- [Device Info](#)
- [Logs](#)
- [Statistics](#)
- [Internet Sessions](#)
- [Routing Table](#)
- [Wireless](#)

WIRELESS

Wireless Security

This section will show you the different levels of security you can use to protect your data from intruders. The DIR-655 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 Network Setup Wizard

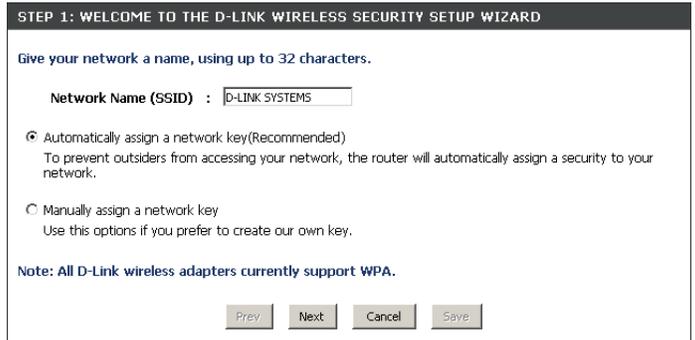
To run the security wizard, click on **Setup** at the top and then click **Wireless Network Setup Wizard**.



Type your desired wireless network name (SSID).

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

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



Section 4 - Security

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

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) : D-LINK SYSTEMS

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

Cipher Type : TKIP and AES

Pre-Shared Key :
234bfe3df39fedac4f421a5534ec28b486e0dcb1cb5316087976086752c1cdea

If you selected **Manually**, the following screen will appear.

STEP 2: SET YOUR WIRELESS SECURITY PASSWORD

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

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

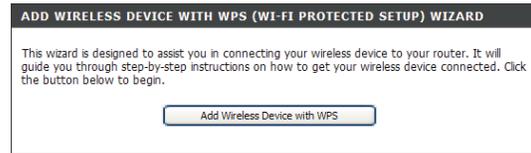
- Between 8 and 63 characters (A longer WPA key is more secure than a short one)
- Exactly 64 characters using 0-9 and A-F

Wireless Security Password :

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

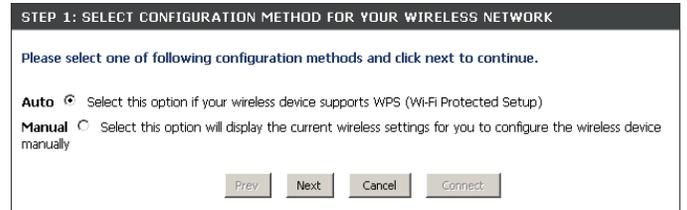
Add Wireless Device with WPS Wizard

From the **Basic > Wizard** screen, click **Add Wireless Device with WPS**.



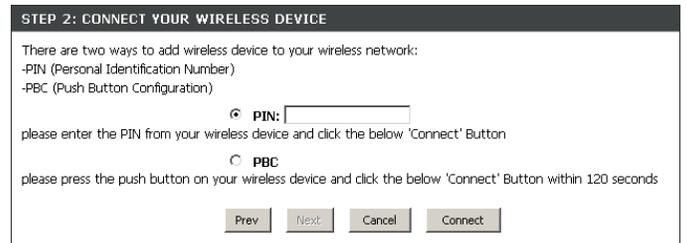
Select **Auto** to add a wireless client using WPS (Wi-Fi Protected Setup). Once you select **Auto** and click **Connect**, you will have a 120 second time limit to apply the settings to your wireless client(s) and successfully establish a connection.

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



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

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



Configure WPA-Personal (PSK)

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

1. Log into the web-based configuration by opening a web browser and entering the IP address of the router (192.168.0.1). 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 *Cypher Type*, select **TKIP and AES**, **TKIP**, or **AES**.
5. 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).
6. Next to *Pre-Shared Key*, enter a key (passphrase). The key is entered as a passphrase in ASCII format at both ends of the wireless connection. The passphrase must be between 8-63 characters.
7. 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.

WIRELESS SECURITY MODE

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

Security Mode :

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)

PRE-SHARED KEY

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

Pre-Shared Key :

Configure WPA-Enterprise (RADIUS)

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

1. Log into the web-based configuration by opening a web browser and entering the IP address of the router (192.168.0.1). 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 *Cypher Type*, select **TKIP and AES**, **TKIP**, or **AES**.
5. 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).
6. Next to *Authentication Timeout*, enter the amount of time before a client is required to re-authenticate (60 minutes is default).
7. Next to *RADIUS Server IP Address* enter the IP Address of your RADIUS server.

WIRELESS SECURITY MODE

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

Security Mode :

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)

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8. Next to *RADIUS Server Port*, enter the port you are using with your RADIUS server. 1812 is the default port.
9. Next to *RADIUS Server Shared Secret*, enter the security key.
10. 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.
11. Click **Advanced** to enter settings for a secondary RADIUS Server.
12. 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 :

[<< Advanced](#)

Optional backup RADIUS server :

Second RADIUS server IP Address :

Second RADIUS server Port :

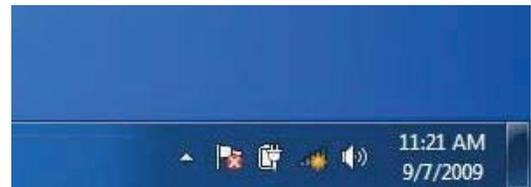
Second RADIUS server Shared Secret :

Second MAC Address Authentication :

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.



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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.

