

USER MANUAL

EBR-2310

VERSION 2.0



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Package Contents

- EBR-2310 Ethernet Broadband Router
- Power Adapter
- Ethernet Cable
- Manual on CD



System Requirements

- Ethernet-based Cable or DSL Modem
- Computers with Windows®, Macintosh®, or Linux-based operating systems with an installed Ethernet adapter
- Internet Explorer Version 6.0 and above (for configuration)

Note: Using a power supply with a different voltage rating will damage and void the warranty for this product. If any of the above items are missing, please contact your reseller.

Introduction

The D-Link Express EtherNetwork EBR-2310 is a 4-port Ethernet Broadband Router. The D-Link EBR-2310 enables users to quickly and easily share a high speed Internet connection. The D-Link EBR-2310 also incorporates many advanced features, traditionally found in more expensive routers.

The EBR-2310 is compatible with most popular operating systems, including Macintosh, Linux and Windows®, and can be integrated into an existing network. This Manual is designed to help you connect the D-Link Express EtherNetwork EBR-2310 to a high speed Internet connection and 4 Ethernet PC connections.

This manual provides a quick introduction to Broadband Router Technology, Firewalls, and Local Area Networking. Please take a moment to read through this manual and get acquainted these various technologies.

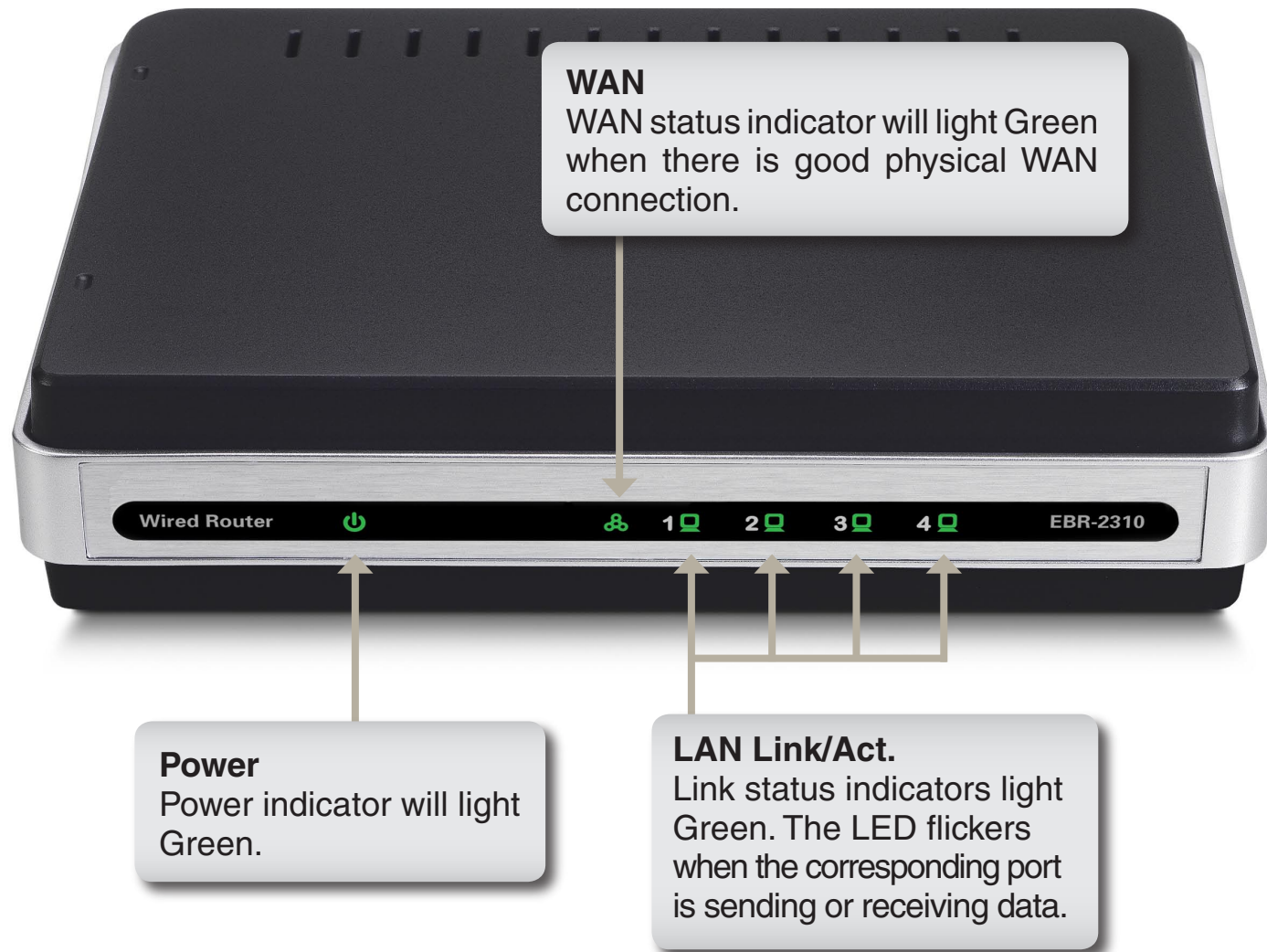
Features

- **QoS Engine** - Helps to improve your network gaming performance by prioritizing applications.
- **Broadband Modem and IP Sharing** - Connects multiple computers to a Broadband (Cable or DSL) modem to share the Internet connection.
- **Ethernet Switch** - Allows you to quickly and easily share an Internet connection with multiple computers and devices.
- **VPN supported** - Supports multiple and concurrent IPSec and PPTP pass-through sessions, so multiple users behind the EBR-2310 can access corporate networks through various VPN clients more securely.

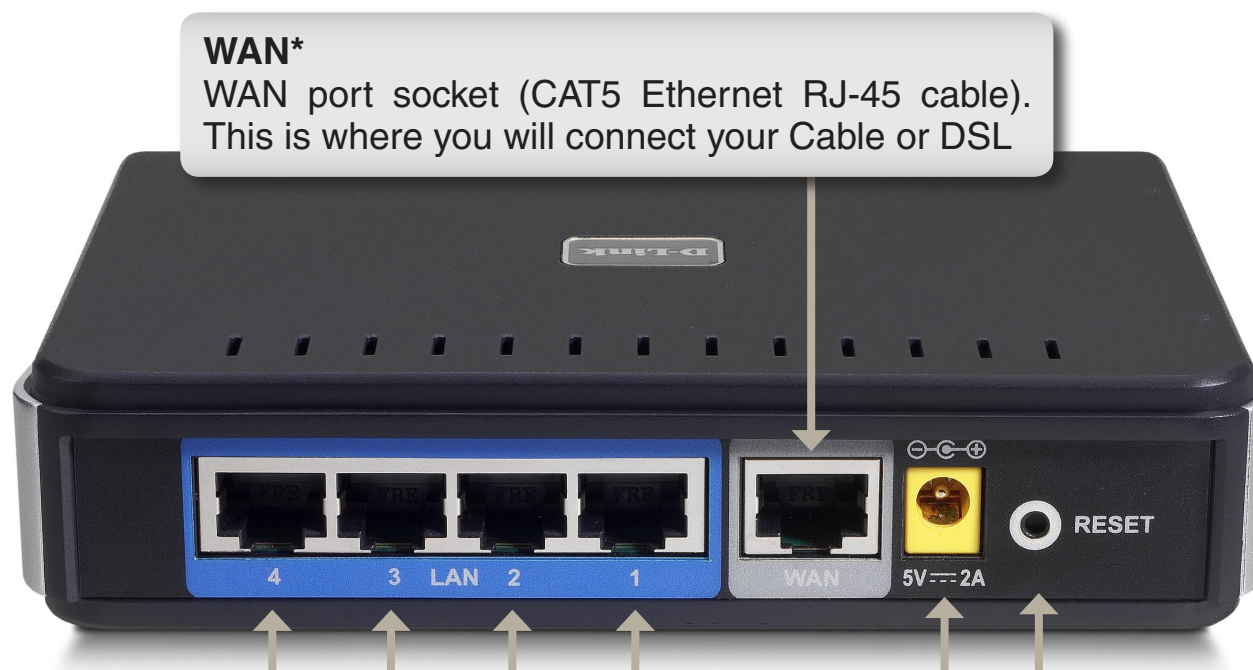
- **Advanced Firewall & Parental Control Features** - The Web-based user interface displays a number of advanced network management features including:
- **Content Filtering** - Easily applied content filtering based on Mac Address, URL and/or Domain Name.
- **Network Address Translation** - NAT allows you to share a single IP Address and protects you from outside intruders gaining access to your private network.
- **DHCP Server Supported** - All of the networked computers can retrieve TCP/IP settings automatically from the EBR-2310.
- **Web-Based Management** - EBR-2310 is configurable through any network computer's web browser using Netscape or Internet Explorer.
- **Port Forwarding Supported** - Enables you to expose WWW, FTP and other services on your LAN to be accessible to Internet users.
- **Special Application Supported** - Special applications requiring multiple connections, like Internet gaming, video conferencing, Internet telephony and so on. The EBR-2310 can sense the application type and open a multi-port tunnel for it.
- **DMZ Host Supported** - Allows a networked computer to be fully exposed to the Internet. This function is used when the Special Application feature is insufficient to allow an application to function correctly.

Hardware Overview

Front Panel



Rear Panel



WAN*

WAN port socket (CAT5 Ethernet RJ-45 cable). This is where you will connect your Cable or DSL.

LAN PORTS* 1-4

LAN port sockets (CAT5 Ethernet RJ-45 cable). The LED glows steadily when a port is connected to a hub, switch or network-adaptor-equipped computer in your local area network (LAN.)

Power

Connect one end of your included power adapter to the power port and the other end into your power outlet.

Reset

Used to restore the EBR-2310 back to factory default settings.

***All ports (both LAN & WAN) are Auto-MDIX. All ports auto-sense cable types to accommodate Straight-through or Cross-over cable.**

Technology Introduction

Introduction to Broadband Router Technology

A router is a device that forwards data packets from a source to a destination. Routers forward data packets using IP addresses and not a MAC address. A router will forward data from the Internet to a particular computer on your LAN. The information that makes up the Internet gets moved around using routers. When you click on a link on a web page, you send a request to a server to show you the next page. The information that is sent and received from your computer is moved from your computer to the server using routers. A router also determines the best route that your information should follow to ensure that the information is delivered properly.

A router controls the amount of data that is sent through your network by eliminating information that should not be there. This provides security for the computers connected to your router, because computers from the outside cannot access or send information directly to any computer on your network. The router determines which computer the information should be forwarded to and sends it. If the information is not intended for any computer on your network, the data is discarded. This keeps any unwanted or harmful information from accessing or damaging your network.

Introduction to Firewalls

A firewall is a device that sits between your computer and the Internet that prevents unauthorized access to or from your network. A firewall can be a computer using firewall software or a special piece of hardware built specifically to act as a firewall. In most circumstances, a firewall is used to prevent unauthorized Internet users from accessing private networks or corporate LAN's and Intranets.

A firewall watches all of the information moving to and from your network and analyzes each piece of data. Each piece of data is checked against a set of criteria that the administrator configures. If any data does not meet the criteria, that data is blocked and discarded. If the data meets the criteria, the data is passed through. This method is called packet filtering.

A firewall can also run specific security functions based on the type of application or type of port that is being used. For example, a firewall can be configured to work with an FTP or Telnet server. Or a firewall can be configured to work with specific UDP or TCP ports to allow certain applications or games to work properly over the Internet.

Introduction to Local Area Networking

Local Area Networking (LAN) is the term used when connecting several computers together over a small area such as a building or group of buildings. LAN's can be connected over large areas. A collection of LAN's connected over a large area is called a Wide Area Network (WAN).

A LAN consists of multiple computers connected to each other. There are many types of media that can connect computers together. The most common media is CAT5 cable (UTP or STP twisted pair wire.) On the other hand, wireless networks do not use wires; instead they communicate over radio waves. Each computer must have a Network Interface Card (NIC), which communicates the data between computers. A NIC is usually a 10Mbps network card, or 10/100Mbps network card, or a wireless network card.

Most networks use hardware devices such as hubs or switches that each cable can be connected to in order to continue the connection between computers. A hub simply takes any data arriving through each port and forwards the data to all other ports. A switch is more sophisticated, in that a switch can determine the destination port for a specific piece of data. A switch minimizes network traffic overhead and speeds up the communication over a network.

Networks take some time in order to plan and implement correctly. There are many ways to configure your network. You may want to take some time to determine the best network set-up for your needs.

Reset

To reset the system settings to factory defaults, please follow these steps:

1. Leave the device powered on, do not disconnect the power
2. Press the reset button and hold (use a paper-clip)
3. Keep the button pressed about 10 seconds
4. Release the button

The EBR-2310 will then automatically reboot itself.

Installation

Installation Location

The EBR-2310 can be positioned at any convenient place in your office or house. No special wiring or cooling requirements are needed. However, you should comply with the following guidelines:

- Place the EBR-2310 on a flat horizontal plane.
- Keep away from any heating devices.
- Do not place in a dusty or wet environment.

The recommended operational specifications of the EBR-2310 are:

Temperature 32°F ~ 131°F
Humidity 5 % ~ 90 %

In addition, remember to turn off the power, remove the power cord from the outlet, and keep your hands dry when you install the hardware.

Network Settings

To use the EBR-2310 correctly, you have to properly configure the network settings of your computers. The default IP address of the EBR-2310 is **192.168.0.1**, and the default subnet mask is **255.255.255.0**. These addresses can be changed as needed, but the default values are used in this manual. If the TCP/IP environment of your computer has not yet been configured, you can refer to **Configuring Your PCs to Connect to the EBR-2310** to configure it.

For example:

1. Configure your computer *IP* as 192.168.0.3, *subnet mask* as 255.255.255.0 and *gateway* as 192.168.0.1

Or more conveniently

2. Configure your computers to obtain TCP/IP settings automatically from the DHCP server feature of the EBR-2310

Since the IP address of the EBR-2310 is 192.168.0.1, the IP address of your computer must be 192.168.0.X (where “X” is a number between 2 and 254.) Each computer on your network must have a different IP address within that range. The default gateway must be 192.168.0.1 (the IP address of the EBR-2310).

Getting Started

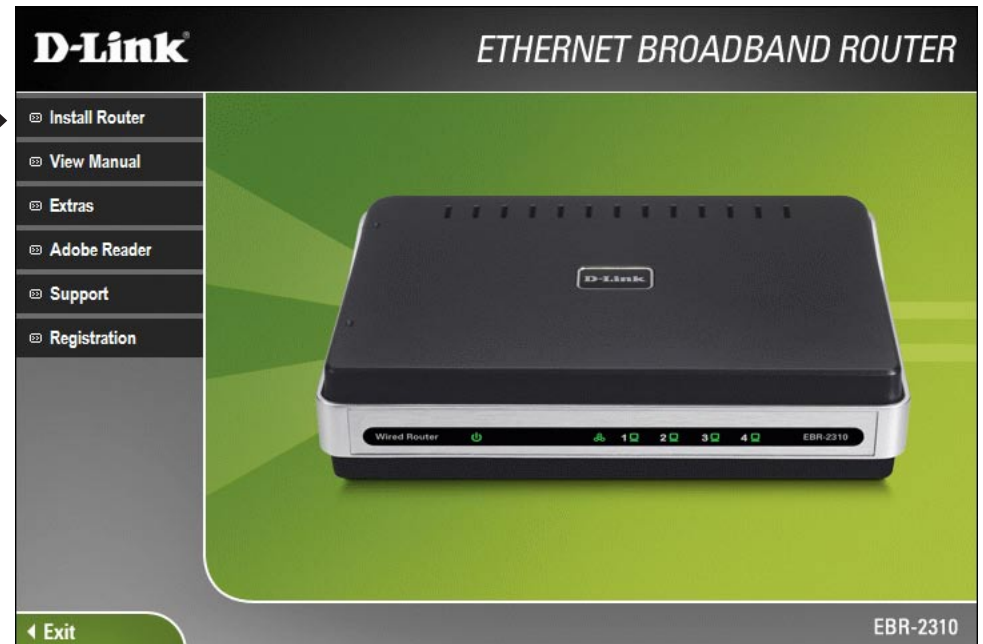
The EBR-2310 includes a Quick Router Setup Wizard CD. Follow the simple steps below to run the Setup Wizard to guide you quickly through the installation process.

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:\EBR2310.exe**” (where **D:** represents the drive letter of your CD-ROM drive).

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

Click **Install Router**



Note: It is recommended to write down the login password on the provided CD holder.

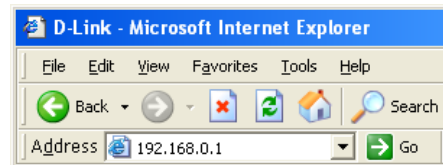
Configuration

The EBR-2310 provides an embedded Web-based management utility making it operating system independent. You can configure your EBR-2310 through the Netscape Communicator or Internet Explorer browser in MS Windows®, Macintosh, Linux or UNIX based platforms. All that is needed is a web browser such as Internet Explorer or Netscape Navigator with Java Script enabled.

Log in

Open your web browser and type in the IP address of the EBR-2310 into the *Location* (for Netscape) or *Address* (for IE) field and press “Enter.” The default IP address of the EBR-2310 is **192.168.0.1**

For example: **http://192.168.0.1**



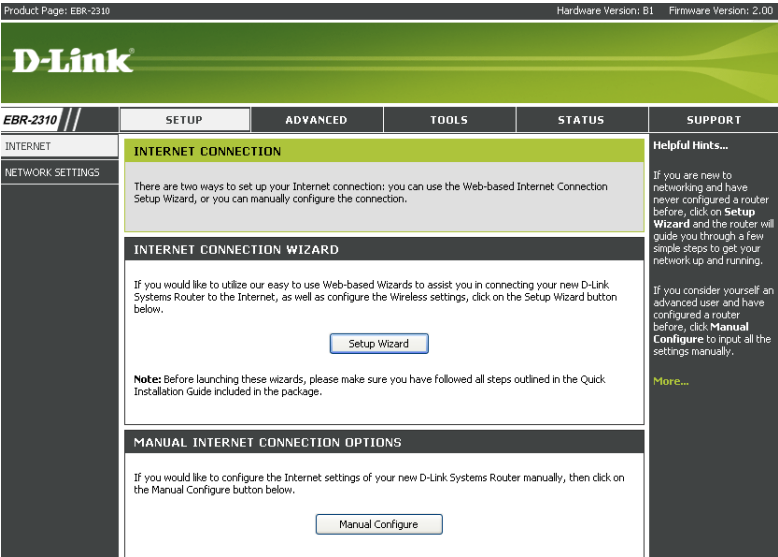
After the connection is established, the logon screen will pop up.

To log in as an administrator, enter the username of “**admin**” and the password (there isn’t a default password, leave it blank). Click the **OK** button. If the password is correct, the web-management interface will appear.

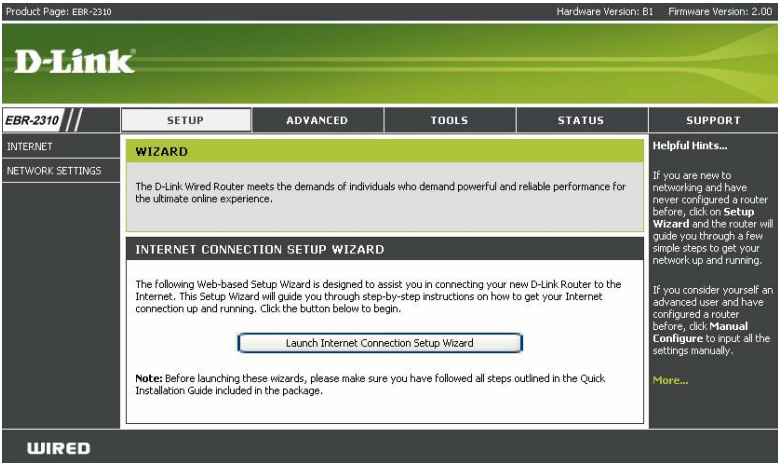
Setup Wizard

You may run the setup wizard to quickly setup your router.

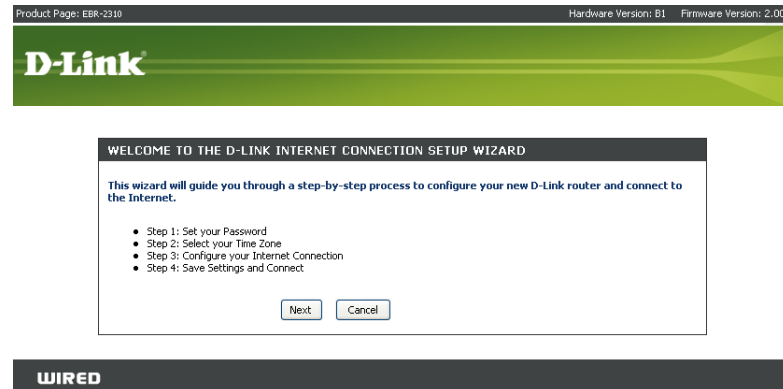
Click **Setup Wizard** to launch the wizard.



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



Click **Next** to continue.



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D-Link

WELCOME TO THE D-LINK INTERNET CONNECTION SETUP WIZARD

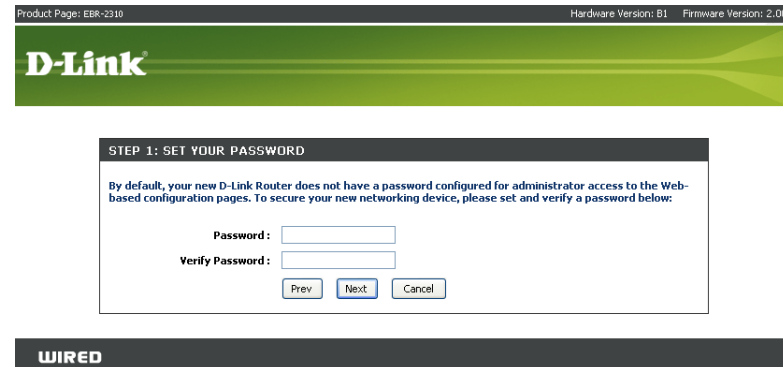
This wizard will guide you through a step-by-step process to configure your new D-Link router and connect to the Internet.

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

Next Cancel

WIRED

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



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D-Link

STEP 1: SET YOUR PASSWORD

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

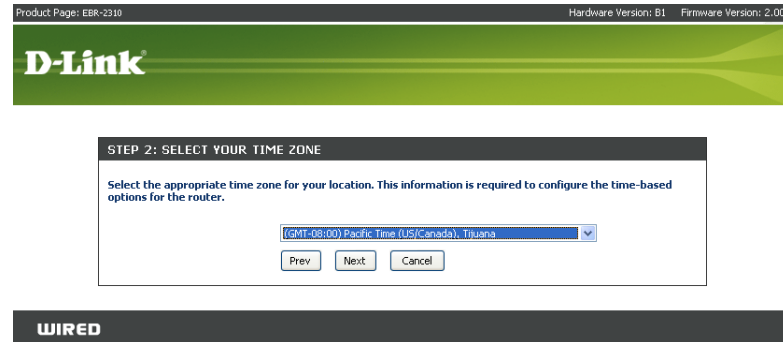
Password:

Verify Password:

Prev Next Cancel

WIRED

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



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D-Link

STEP 2: SELECT YOUR TIME ZONE

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

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

Prev Next Cancel

WIRED

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



STEP 3: CONFIGURE YOUR INTERNET CONNECTION

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

Not Listed or Don't Know ▼

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

- ☒ **DHCP Connection (Dynamic IP Address)**
Choose this if your Internet connection automatically provides you with an IP Address. Most Cable Modems use this type of connection.
- ☐ **Username / Password Connection (PPPoE)**
Choose this option if your Internet connection requires a username and password to get online. Most DSL modems use this type of connection.
- ☐ **Username / Password Connection (PPTP)**
PPTP client.
- ☐ **Username / Password Connection (L2TP)**
L2TP client.
- ☐ **Static IP Address Connection**
Choose this option if your Internet Setup Provider provided you with IP Address information that has to be manually configured.
- ☐ **BigPond**
BigPond Cable (Australia)

Prev Next Cancel

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

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



DHCP CONNECTION (DYNAMIC IP ADDRESS)

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

MAC Address : (optional)

Host Name :

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

Prev Next Cancel

WIRED

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

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

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



SET USERNAME AND PASSWORD CONNECTION (PPPOE)

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

Address Mode : ☒ Dynamic IP ☐ Static IP

IP Address :

User Name :

Password :

Verify Password :

Service Name : (optional)

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

WIRED

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



SET USERNAME AND PASSWORD CONNECTION (PPTP)

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

Address Mode : ☐ Dynamic IP ☒ Static IP

PPTP IP Address :

PPTP Subnet Mask :

PPTP Gateway IP Address :

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

User Name :

Password :

Verify Password :

WIRED

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

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SET USERNAME AND PASSWORD CONNECTION (L2TP)

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

Address Mode: ☐ Dynamic IP ☒ Static IP

L2TP IP Address:

L2TP Subnet Mask:

L2TP Gateway IP Address:

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

User Name:

Password:

Verify Password:

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

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SET STATIC IP ADDRESS CONNECTION

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

IP Address:

Subnet Mask:

Gateway Address:

Primary DNS Address:

Secondary DNS Address:

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

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

WIRED

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SETUP COMPLETE!

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

WIRED

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.

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.

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D-Link

EBR-2310	SETUP	ADVANCED	TOOLS	STATUS	SUPPORT														
INTERNET	WAN				Helpful Hints... When configuring the router to access the Internet, be sure to choose the correct Internet Connection Type from the drop down menu. If you are unsure of which option to choose, contact your Internet Service Provider (ISP) . If you are having trouble accessing the Internet through the router, double check any settings you have entered on this page and verify them with your ISP if needed.														
NETWORK SETTINGS	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. <input type="button" value="Save Settings"/> <input type="button" value="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 : <input type="text" value="Static IP"/>																			
STATIC IP ADDRESS INTERNET CONNECTION TYPE : Enter the static address information provided by your Internet Service Provider (ISP). <table> <tr> <td>IP Address :</td> <td><input type="text" value="0.0.0.0"/></td> </tr> <tr> <td>Subnet Mask :</td> <td><input type="text" value="255.255.255.0"/></td> </tr> <tr> <td>Default Gateway :</td> <td><input type="text" value="0.0.0.0"/></td> </tr> <tr> <td>Primary DNS Server :</td> <td><input type="text" value="0.0.0.0"/></td> </tr> <tr> <td>Secondary DNS Server :</td> <td><input type="text" value="0.0.0.0"/></td> </tr> <tr> <td>MTU :</td> <td><input type="text" value="1500"/> (bytes) MTU default = 1500</td> </tr> <tr> <td>MAC Address :</td> <td><input type="text" value="00:00:00:00:00:00"/></td> </tr> </table> <input type="button" value="Clone Your PC's MAC Address"/>						IP Address :	<input type="text" value="0.0.0.0"/>	Subnet Mask :	<input type="text" value="255.255.255.0"/>	Default Gateway :	<input type="text" value="0.0.0.0"/>	Primary DNS Server :	<input type="text" value="0.0.0.0"/>	Secondary DNS Server :	<input type="text" value="0.0.0.0"/>	MTU :	<input type="text" value="1500"/> (bytes) MTU default = 1500	MAC Address :	<input type="text" value="00:00:00:00:00:00"/>
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Secondary DNS Server :	<input type="text" value="0.0.0.0"/>																		
MTU :	<input type="text" value="1500"/> (bytes) MTU default = 1500																		
MAC Address :	<input type="text" value="00:00:00:00:00:00"/>																		

WIRED

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.

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

Use Unicastig: 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.

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D-Link

EBR-2310 // SETUP ADVANCED TOOLS STATUS SUPPORT

INTERNET NETWORK SETTINGS

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.

Save Settings Don't Save Settings

INTERNET CONNECTION TYPE

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

My Internet Connection is : Dynamic IP (DHCP)

DYNAMIC IP (DHCP) INTERNET CONNECTION TYPE :

Use this Internet connection type if your Internet Service Provider (ISP) didn't provide you with IP Address information and/or a username and password.

Host Name :

Use Unicastig : ☒ (compatibility for some DHCP Servers)

Primary DNS Server : 0.0.0.0

Secondary DNS Server : 0.0.0.0

MTU : 1500 (bytes) MTU default = 1500

MAC Address : 00:00:00:00:00:00

Clone Your PC's MAC Address

WIRED

Helpful Hints...

When configuring the router to access the Internet, be sure to choose the correct Internet Connection Type from the drop down menu. If you are unsure of which option to choose, contact your Internet Service Provider (ISP).

If you are having trouble accessing the Internet through the router, double check any settings you have entered on this page and verify them with your ISP if needed.

More...

Internet Setup

PPPoE (DSL)

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

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

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

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

User Name: Enter your PPPoE user name.

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

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

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

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

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

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

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

The screenshot shows the D-Link EBR-2310 Web Management Interface. The top navigation bar includes tabs for SETUP, ADVANCED, TOOLS, STATUS, and SUPPORT. The left sidebar shows the menu structure: INTERNET, NETWORK SETTINGS, and WIRED. The main content area is titled 'WAN' and contains the 'Internet Connection' section. This section includes a 'My Internet Connection is:' dropdown menu set to 'PPPoE (Username / Password)'. Below this, the 'PPPOE INTERNET CONNECTION TYPE' section is expanded, showing fields for Address Mode (Dynamic IP selected), IP Address, Username, Password, Verify Password, Service Name, Reconnect Mode (On demand selected), Maximum Idle Time, Primary and Secondary DNS Servers, MTU (1492), and MAC Address. A 'Clone Your PC's MAC Address' button is located at the bottom of the MAC Address field.

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.

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.)

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D-Link

EBR-2310 // SETUP ADVANCED TOOLS STATUS SUPPORT

INTERNET NETWORK SETTINGS

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.

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: 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: 0.0.0.0

PPTP Subnet Mask: 255.255.255.0

PPTP Gateway IP Address: 0.0.0.0

PPTP Server IP Address: 0.0.0.0

Username:

Password:

Verify Password:

Reconnect Mode: ☐ Always on ☒ On demand ☐ Manual

Maximum Idle Time: 20 (minutes, 0=infinite)

Primary DNS Server: 0.0.0.0

Secondary DNS Server: 0.0.0.0

MTU: 1400 (bytes) MTU default = 1400

MAC Address: 00:00:00:00:00:00

Clone Your PC's MAC Address

WIRED

Helpful Hints...

When configuring the router to access the Internet, be sure to choose the correct **Internet Connection Type** from the drop down menu. If you are unsure of which option to choose, contact your **Internet Service Provider (ISP)**.

If you are having trouble accessing the Internet through the router, double check any settings you have entered on this page and verify them with your ISP if needed.

[More...](#)

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

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

Internet 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.

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).

The screenshot shows the D-Link EBR-2310 Web UI. The top navigation bar includes 'SETUP', 'ADVANCED', 'TOOLS', 'STATUS', and 'SUPPORT'. The 'SETUP' tab is selected, and the 'INTERNET' section is active. The 'WAN' configuration page is displayed, showing the 'Internet Connection' section. The 'Internet Connection Type' is set to 'L2TP (Username / Password)'. The 'L2TP Internet Connection Type' section is expanded, showing fields for 'Address Mode' (Dynamic IP and 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' (20 minutes), 'Primary DNS Server', 'Secondary DNS Server', 'MTU' (1400 bytes), and 'MAC Address'. The 'Static IP' radio button is selected for 'Address Mode'. The 'On demand' radio button is selected for 'Reconnect Mode'. The 'Maximum Idle Time' is set to 20 minutes. The 'Primary DNS Server' and 'Secondary DNS Server' are both set to 0.0.0.0. The 'MTU' is set to 1400 bytes. The 'MAC Address' is set to 00:00:00:00:00:00. A 'Clone Your PC's MAC Address' button is visible at the bottom of the form.

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.

Internet Setup

Big Pond

BigPond Server: Enter the IP address of the login server.

BigPond Username: Enter your BigPond username.

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

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'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.

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EBR-2310 // **SETUP** ADVANCED TOOLS STATUS SUPPORT

INTERNET NETWORK SETTINGS

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.

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 : BigPond (Australia)

BIG POND INTERNET CONNECTION TYPE :

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

BigPond Server :

BigPond User Id :

BigPond Password :

Verify Password :

Primary DNS Server : 0.0.0.0

Secondary DNS Server : 0.0.0.0

MTU : 1500 (bytes) MTU default = 1500

MAC Address : 00:00:00:00:00:00

Clone Your PC's MAC Address

WIRED

Helpful Hints...

When configuring the router to access the Internet, be sure to choose the correct **Internet Connection Type** from the drop down menu. If you are unsure of which option to choose, contact your **Internet Service Provider (ISP)**.

If you are having trouble accessing the Internet through the router, double check any settings you have entered on this page and verify them with your ISP if needed.

More...

Network Settings

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

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

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

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

Local Domain: Enter the Domain name (Optional).

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

The screenshot displays the D-Link EBR-2310 Web-based Management Interface. The top header shows the product name 'EBR-2310' and the D-Link logo. Below the header is a navigation bar with tabs: SETUP, ADVANCED, TOOLS, STATUS, and SUPPORT. The 'SETUP' tab is selected, and the 'NETWORK SETTINGS' sub-tab is active. The main content area is divided into three sections: 'NETWORK SETTINGS', 'ROUTER SETTINGS', and 'DHCP SERVER SETTINGS'. The 'NETWORK SETTINGS' section includes a description and 'Save Settings' and 'Don't Save Settings' buttons. The 'ROUTER SETTINGS' section includes fields for 'Router IP Address' (192.168.0.1), 'Subnet Mask' (255.255.255.0), 'Local Domain Name' (optional), and 'Enable DNS Relay' (checked). The 'DHCP SERVER SETTINGS' section includes a description, 'Enable DHCP Server' (checked), 'DHCP IP Address Range' (192.168.0.100 to 192.168.0.111), 'DHCP Lease Time' (1440 minutes), and 'Always broadcast' (checked). A 'WIRED' status indicator is visible at the bottom left. On the right side, there is a 'Helpful Hints...' section with additional information.

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EBR-2310 // SETUP ADVANCED TOOLS STATUS SUPPORT

INTERNET

NETWORK SETTINGS

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.

Save Settings Don't Save Settings

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 : 192.168.0.1

Subnet Mask : 255.255.255.0

Local Domain Name : (optional)

Enable DNS Relay : ☒

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 192.168.0.111

DHCP Lease Time : 1440 (minutes)

Always broadcast : ☒ (compatibility for some DHCP Clients)

WIRED

Helpful Hints...

If you already have a DHCP server on your network or are using static IP addresses on all the devices on your network, uncheck 'Enable DHCP Server' to disable this feature.

More...

DHCP Server Settings

DHCP stands for Dynamic Host Control Protocol. The EBR-2310 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 EBR-2310. 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.

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

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 : to

DHCP Lease Time : (minutes)

Always broadcast : ☒ (compatibility for some DHCP Clients)

Virtual Server

The EBR-2310 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 EBR-2310 firewall feature filters out unrecognized packets to protect your LAN network so all computers networked with the EBR-2310 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 EBR-2310 redirects the external service request to the appropriate server within the LAN network.

The EBR-2310 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**.

This will allow you to open a single port. If you would like to open a range of ports, refer to page 28.

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.

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

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

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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

B -- VIRTUAL SERVERS LIST

	Name	IP Address	Application Name	Computer Name	Port	Traffic Type	Schedule
<input type="checkbox"/>		0.0.0.0	<< Application Name	<< Computer Name	Public 0	Both	Schedule Always
<input type="checkbox"/>		0.0.0.0	<< Application Name	<< Computer Name	Private 0	Protocol	
<input type="checkbox"/>		0.0.0.0	<< Application Name	<< Computer Name	Public 0	Both	Schedule Always
<input type="checkbox"/>		0.0.0.0	<< Application Name	<< Computer Name	Private 0	Protocol	
<input type="checkbox"/>		0.0.0.0	<< Application Name	<< Computer Name	Public 0	Both	Schedule Always
<input type="checkbox"/>		0.0.0.0	<< Application Name	<< Computer Name	Private 0	Protocol	

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.

Port Forwarding

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

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

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

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

Example: 24,1009,3000-4000

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

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SETUP ADVANCED TOOLS STATUS SUPPORT

PORT FORWARDING

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

Save Settings Don't Save Settings

8 -- PORT FORWARDING RULES

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

Helpful Hints...

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

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

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

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 EBR-2310. 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 EBR-2310 provides some predefined applications in the table on the bottom of the web page. Select the application you want to use and enable it.

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

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

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

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

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

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

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SETUP ADVANCED TOOLS STATUS SUPPORT

APPLICATION RULES

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

Save Settings Don't Save Settings

12 -- APPLICATION RULES

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

Helpful Hints...

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

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

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

More...

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.

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EBR-2310 // SETUP ADVANCED TOOLS STATUS SUPPORT

VIRTUAL SERVER
PORT FORWARDING
APPLICATION RULES
NETWORK FILTER
ACCESS CONTROL
WEBSITE FILTER
FIREWALL SETTINGS
ADVANCED NETWORK

MAC ADDRESS FILTER

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

Save Settings Don't Save Settings

16 -- MAC FILTERING RULES

Configure MAC Filtering below:
Turn MAC Filtering OFF

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

Helpful Hints...

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

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

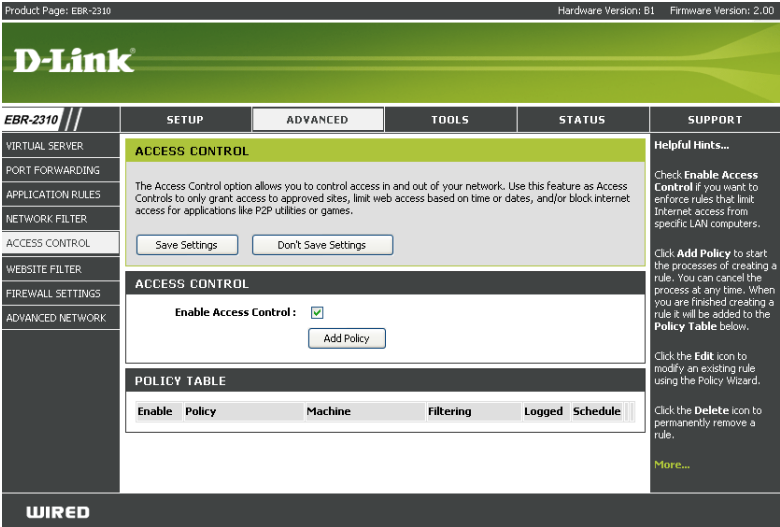
Click the Clear button to remove the MAC address from the MAC Filtering list.

More...

Access Control

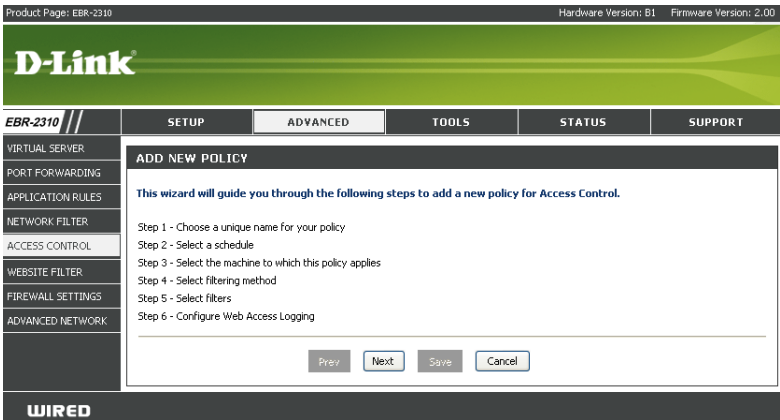
The Access Control section allows you to control access in and out of your network. Use this feature as Parental Controls to only grant access to approved sites, limit web access based on time or dates, and/or block access from applications like P2P utilities or games.

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



Access Control Wizard

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



Access Control Wizard (continued)

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

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EBR-2310 // SETUP ADVANCED TOOLS STATUS SUPPORT

STEP 1: CHOOSE POLICY NAME

Choose a unique name for your policy.

Policy Name :

Prev Next Save Cancel

WIRED

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

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EBR-2310 // SETUP ADVANCED TOOLS STATUS SUPPORT

STEP 2: SELECT SCHEDULE

Choose a schedule to apply to this policy.

Details : Always

Prev Next Save Cancel

WIRED

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.

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STEP 3: SELECT MACHINE

Select the machine to which this policy applies.

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

Address Type : ☒ IP ☐ MAC ☐ Other Machines

IP Address : <<

Machine Address : <<

Copy Your PC's MAC Address

OK Cancel

Machine
192.168.0.100

Prev Next Save Cancel

WIRED

Access Control Wizard (continued)

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

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.

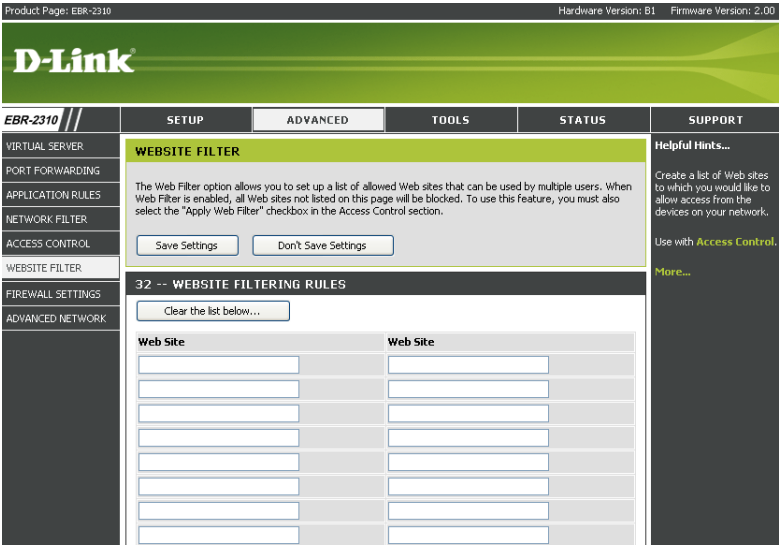
To enable web logging, click Enable.

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

Website Filters

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

Website URL/ Enter the keywords or URLs that you want to block (or allow). Any
Domain: URL with the keyword in it will be blocked.



Firewall Settings

A firewall protects your network from the outside world. The D-Link EBR-2310 offers a firewall type functionality. The SPI feature helps prevent cyber attacks. Sometimes you may want a computer exposed to the outside world for certain types of applications. If you choose to expose a computer, you can enable DMZ. DMZ is short for Demilitarized Zone. This option will expose the chosen computer completely to the outside world.

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

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

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

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.

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SETUP ADVANCED TOOLS STATUS SUPPORT

FIREWALL SETTINGS

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

Save Settings Don't Save Settings

FIREWALL SETTINGS

Enable SPI: ☒

DMZ HOST

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

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

Enable DMZ: ☒

DMZ IP Address: 0.0.0.0 << Computer Name

APPLICATION LEVEL GATEWAY (ALG) CONFIGURATION

PPTP: ☒

IPSec (VPN): ☒

RTSP: ☒

Windows/MSN Messenger: ☒ (automatically disabled if UPnP is enabled)

FTP: ☒

H.323 (NetMeeting): ☒

SIP: ☒

MMS: ☒

WIRED

Helpful Hints...

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

ALGs provide special handling of the IP payload for some protocols and applications to make them work with network address translation (NAT). If you are having trouble using any of these applications, try both enabling and disabling the corresponding ALG.

[More...](#)

Application Level Gateway (ALG) Configuration

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

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

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

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

MSN Messenger: Allows all of the Windows/MSN Messenger functions to work properly through the router.

FTP: Allows FTP clients and servers to transfer data across NAT. Refer to the Advanced > Virtual Server page if you want to host an FTP server.

H.323 (Netmeeting): Allows Microsoft NetMeeting clients to communicate across NAT. Note that if you want your buddies to call you, you should also set up a virtual server for NetMeeting. Refer to the Advanced > Virtual Server page for information on how to set up a virtual server.

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

MMS: Allows Windows Media Player, using MMS protocol, to receive streaming media from the Internet.

Advanced Network Settings

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

WAN Ping: Unchecking the box will not allow the EBR-2310 to respond to pings. Blocking the Ping may provide some extra security from hackers. Check the box to allow the Internet port to be “pinged”.

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

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

Enable QoS Engine: Check the box to enable QoS Engine.

Product Page: EBR-2310 Hardware Version: B1 Firmware Version: 2.00

D-Link

EBR-2310 // SETUP ADVANCED TOOLS STATUS SUPPORT

VIRTUAL SERVER
PORT FORWARDING
APPLICATION RULES
NETWORK FILTER
ACCESS CONTROL
WEBSITE FILTER
FIREWALL SETTINGS
ADVANCED NETWORK

ADVANCED NETWORK

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

Save Settings Don't Save Settings

UPNP

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

Enable UPnP: ☒

WAN PING

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

Enable WAN Ping Respond: ☐

WAN PORT SPEED

WAN Port Speed: Auto 10/100Mbps

MULTICAST STREAMS

Enable Multicast Streams: ☒

QoS ENGINE SETUP

Use this section to configure D-Link's QoS Engine powered by StreamEngine™ Technology. This QoS Engine improves your online gaming experience by ensuring that your game traffic is prioritized over other network traffic, such as FTP or Web.

Enable QoS Engine: ☒

WIRED

Helpful Hints...

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

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

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

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

More...

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 EBR-2310 router.

Remote Management: Remote management allows the EBR-2310 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 EBR-2310.
Example: http://x.x.x.x:8080 whereas x.x.x.x is the Internet IP address of the EBR-2310 and 8080 is the port used for the Web Management interface.

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D-Link

EBR-2310	SETUP	ADVANCED	TOOLS	STATUS	SUPPORT
ADMIN	ADMINISTRATOR SETTINGS				Helpful Hints... For security reasons, it is recommended that you change the password for the Admin and User accounts. Be sure to write down the new passwords to avoid having to reset the router in case they are forgotten. Enabling Remote Management, allows you or others to change the router configuration from a computer on the Internet. Choose a port to open for remote management. More...
TIME	The 'admin' and 'user' accounts can access the management interface. The admin has read/write access and can change passwords, while the user has read-only access.				
SYSTEM	By default there is no password configured. It is highly recommended that you create a password to keep your router secure.				
FIRMWARE	<input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/>				
DYNAMIC DNS					
SYSTEM CHECK	ADMIN PASSWORD				
SCHEDULES	Please enter the same password into both boxes, for confirmation.				
	Password : <input type="text"/> Verify Password : <input type="text"/>				
	USER PASSWORD				
	Please enter the same password into both boxes, for confirmation.				
	Password : <input type="text"/> Verify Password : <input type="text"/>				
	SYSTEM NAME				
	Gateway Name : <input type="text" value="D-Link EBR-2310"/>				
	ADMINISTRATION				
	Enable Remote Management : <input type="checkbox"/>				
	Remote Admin Port : <input type="text" value="8080"/>				

WIRED

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**.

Copy Your Computer's Time Settings: Apply your computer's date and time settings.

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D-Link

EBR-2310 // SETUP ADVANCED TOOLS STATUS SUPPORT

TIME

Time Configuration

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

Save Settings Don't Save Settings

TIME CONFIGURATION

Current Router Time : Tuesday, October 12, 2004 5:05:18 PM

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

Enable Daylight Saving : ☐

Daylight Saving Offset : +1:00

Daylight Saving Dates :

	Month	Week	Day of Week	Time
DST Start	Apr	1st	Sun	2 am
DST End	Oct	5th	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	Month	Day	Hour	Minute	Second	PM
2004	Oct	12	5	5	15	PM

Copy Your Computer's Time Settings

WIRED

Helpful Hints...

Good timekeeping is important for accurate logs and scheduled firewall rules.

[More...](#)

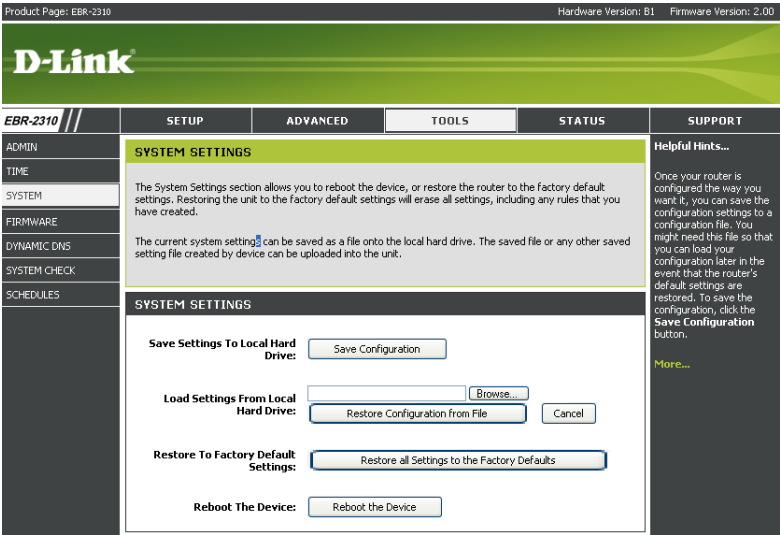
System Settings

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.



Update Firmware

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

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

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

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

The screenshot shows the D-Link EBR-2310 web interface. At the top, it displays 'Product Page: EBR-2310' and 'Hardware Version: B1 Firmware Version: 2.00'. The main navigation bar includes 'ADMIN', 'TIME', 'SYSTEM', 'DYNAMIC DNS', 'SYSTEM CHECK', and 'SCHEDULES'. The 'FIRMWARE' section is active, showing 'Firmware Upgrade' information. It includes a 'Check Online Now for Latest Firmware Version' button. Below this, there is a 'FIRMWARE INFORMATION' section showing 'Current Firmware Version: 2.00' and 'Latest Firmware Version: 2.00'. A 'FIRMWARE UPGRADE' section contains a note about resetting configuration options and an 'Upload' button with a 'Browse...' link. At the bottom, there is a 'FIRMWARE UPGRADE NOTIFICATION OPTIONS' section with a checkbox for 'Automatically Check Online for Latest Firmware Version' which is checked. A 'WIRED' status indicator is visible at the bottom left.

DDNS

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

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

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

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

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

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

Timeout: Enter a time (in hours).

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D-Link

EBR-2310 // SETUP ADVANCED TOOLS STATUS SUPPORT

ADMIN
TIME
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DYNAMIC DNS
SYSTEM CHECK
SCHEDULES

DYNAMIC DNS

Dynamic DNS (DDNS)

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

Save Settings Don't Save Settings

DYNAMIC DNS

Enable Dynamic DNS: ☒

Server Address: www.DynDNS.org (Free) << Select Dynamic DNS Server

Host Name:

Username or Key:

Password or Key:

Verify Password or Key:

Timeout: 576 (hours)

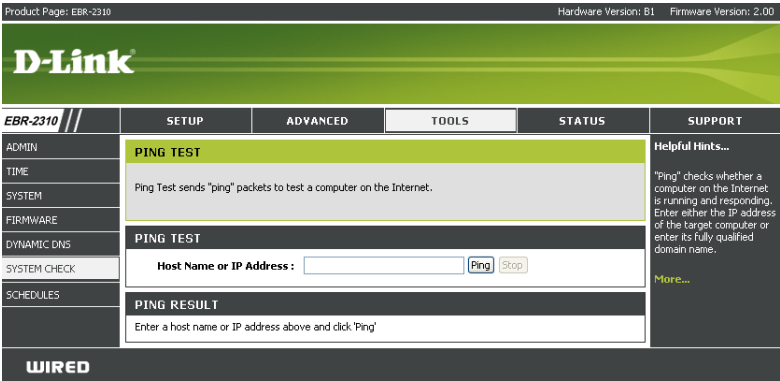
Helpful Hints...
To use this feature, you must first have a Dynamic DNS account from one of the providers in the drop down menu.
More...

WIRED

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

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EBR-2310

SETUPADVANCEDTOOLSSTATUSSUPPORT

ADMIN

TIME

SYSTEM

FIRMWARE

DYNAMIC DNS

SYSTEM CHECK

SCHEDULES

SCHEDULES

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

Save SettingsDon't Save Settings

ADD SCHEDULE RULE

Name:

Day(s):
☐ All Week ☒ Select Day(s)
☐ Sun ☐ Mon ☐ Tue ☐ Wed ☐ Thu ☐ Fri ☐ Sat

All Day - 24 hrs: ☐

Start Time: 0:0 AM (hour:minute, 12 hour time)

End Time: 0:0 AM (hour:minute, 12 hour time)

SaveClear

SCHEDULE RULES LIST

Name	Day(s)	Time Frame
------	--------	------------

Helpful Hints...

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

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

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

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

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

More...

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Device Information

This page displays the current information for the EBR-2310. 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.

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.

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EBR-2310 // SETUP ADVANCED TOOLS STATUS SUPPORT

DEVICE INFO LOGS STATISTICS ACTIVE SESSIONS

DEVICE INFORMATION

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

GENERAL

Time : Tuesday, October 12, 2004 5:08:11 PM
Firmware Version : 2.00, 2006/09/15

WAN

Connection Type : DHCP Client
Cable Status : Connected
Network Status : Established
Connection Up Time : 0 day(s), 0:26:59
DHCP Renew DHCP Release

MAC Address : 00:03:64:00:01:21
IP Address : 10.4.20.122
Subnet Mask : 255.0.0.0
Default Gateway : 10.4.20.1
Primary DNS Server : 67.130.140.2
Secondary DNS Server : 192.152.81.1

LAN

MAC Address : 00:03:64:00:01:22
IP Address : 192.168.0.1
Subnet Mask : 255.255.255.0
DHCP Server : Enabled

LAN COMPUTERS

IP Address	Name (if any)	MAC
192.168.0.100	intelpc	00:50:bab7:02:ae

IGMP MULTICAST MEMBERSHIPS

Multicast Group Address
239.255.255.250

Helpful Hints...
All of your WAN and LAN connection details are displayed here.
More...

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.

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

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D-Link

EBR-2310 // SETUP ADVANCED TOOLS STATUS SUPPORT

DEVICE INFO LOGS STATISTICS ACTIVE SESSIONS

LOGS

System Logs

Use this option to view the router logs. You can define what types of events you want to view and the event levels to view.

LOG OPTIONS

What to View : ☒ Firewall & Security ☒ System ☒ Router Status

View Levels : ☒ Critical ☒ Warning ☒ Informational

Apply Log Settings Now

LOG DETAILS

Refresh Clear Save Log

[INFO] Tue Oct 12 17:08:38 2004 Log viewed by IP address 192.168.0.100
 [INFO] Tue Oct 12 17:06:09 2004 Latest firmware version retrieved from the server was 2.0
 [INFO] Tue Oct 12 16:41:27 2004 Firmware upgrade server support.dlink.com is at IP address 64.7.210.130
 [INFO] Tue Oct 12 16:41:27 2004 Starting WAN Services
 [INFO] Tue Oct 12 16:41:27 2004 Rate estimation aborted as measurements failed to converge
 [INFO] Tue Oct 12 16:41:12 2004 Estimating speed of WAN interface
 [INFO] Tue Oct 12 16:41:12 2004 WAN interface is up. Connection to Internet established with IP Address 10.4.20.122 and default gateway 10.4.20.1
 [INFO] Tue Oct 12 16:41:12 2004 Obtained IP Address using DHCP. IP address is 10.4.20.122
 [INFO] Tue Oct 12 16:41:10 2004 Bringing up WAN using DHCP

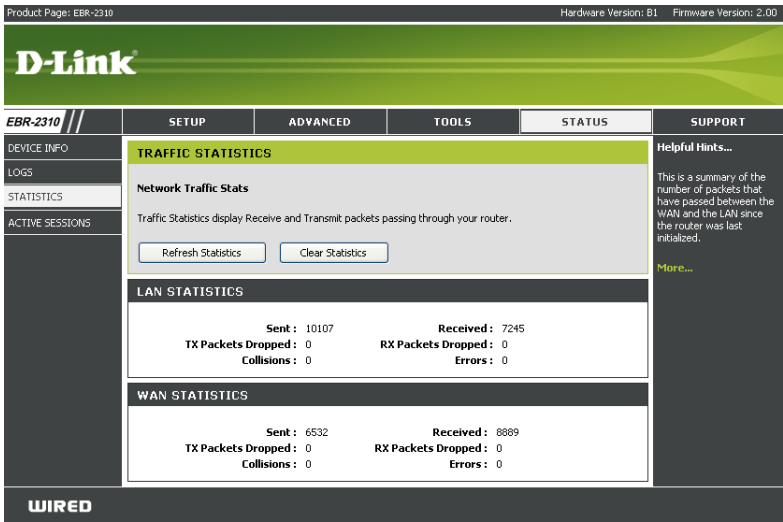
Helpful Hints...

Check the log frequently to detect unauthorized network usage.

More...

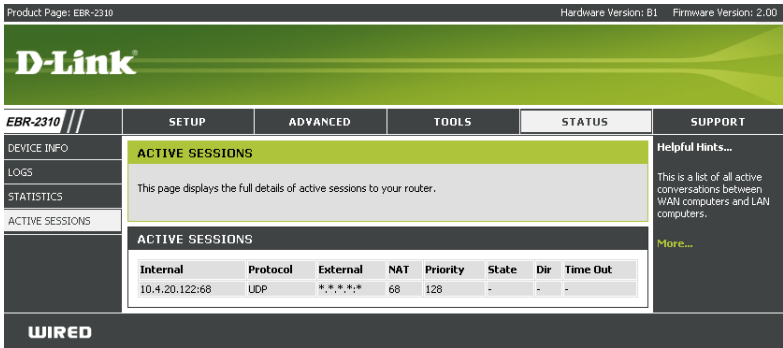
Stats

The screen below displays the Traffic Statistics. Here you can view the amount of packets that pass through the EBR-2310 on both the Internet and the LAN ports. The traffic counter will reset if the device is rebooted.



Active Sessions

The screen below displays sessions currently active in the router.



Support

Product Page: EBR-2310Hardware Version: B1Firmware Version: 2.00

D-Link

EBR-2310

MENU

SETUP

ADVANCED

TOOLS

STATUS

GLOSSARY

WIRED

SETUP

ADVANCED

TOOLS

STATUS

SUPPORT

SUPPORT MENU

- Setup
- Advanced
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- Status
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SETUP HELP

- Internet Connection
- WAN
- Network Settings

ADVANCED HELP

- Virtual Server
- Port Forwarding
- Application Rules
- Access Control
- Website Filter
- Network Filter
- Firewall Settings
- Advanced Network

TOOLS HELP

- Admin
- Time
- System
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- Dynamic DNS
- System Check
- Schedules

STATUS HELP

- Device Info
- Logs
- Statistics
- Active Sessions

D-Link EBR-2310 User Manual

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Troubleshooting

This chapter provides solutions to problems that can occur during the installation and operation of the EBR-2310. Read the following descriptions if you are having problems. (The examples below are illustrated in Windows® XP. If you have a different operating system, the screenshots on your computer will look similar to the following examples.)

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

When entering the IP address of the D-Link router (192.168.0.1 for example), you are not connecting to a website on the Internet or have to be connected to the Internet. The device has the utility built-in to a ROM chip in the device itself. Your computer must be on the same IP subnet to connect to the web-based utility.

- Make sure you have an updated Java-enabled web browser. We recommend the following:
 - Internet Explorer 6.0 or higher
 - Netscape 8 or higher
 - Mozilla 1.7.12 (5.0) or higher
 - Opera 8.5 or higher
 - Safari 1.2 or higher (with Java 1.3.1 or higher)
 - Camino 0.8.4 or higher
 - Firefox 1.5 or higher
- Verify physical connectivity by checking for solid link lights on the device. If you do not get a solid link light, try using a different cable or connect to a different port on the device if possible. If the computer is turned off, the link light may not be on.
- Disable any internet security software running on the computer. Software firewalls such as Zone Alarm, Black Ice, Sygate, Norton Personal Firewall, and Windows® XP firewall may block access to the configuration pages. Check the help files included with your firewall software for more information on disabling or configuring it.

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

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

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

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

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

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

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

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

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

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

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

```
C:\>ping yahoo.com -f -l 1482
Pinging yahoo.com [66.94.234.13] with 1482 bytes of data:
Packet needs to be fragmented but DF set.
Packet needs to be fragmented but DF set.
Packet needs to be fragmented but DF set.
Packet needs to be fragmented but DF set.
Ping statistics for 66.94.234.13:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>ping yahoo.com -f -l 1472
Pinging yahoo.com [66.94.234.13] with 1472 bytes of data:
Reply from 66.94.234.13: bytes=1472 time=93ms TTL=52
Reply from 66.94.234.13: bytes=1472 time=109ms TTL=52
Reply from 66.94.234.13: bytes=1472 time=125ms TTL=52
Reply from 66.94.234.13: bytes=1472 time=203ms TTL=52
Ping statistics for 66.94.234.13:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 93ms, Maximum = 203ms, Average = 132ms
C:\>
```

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

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

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

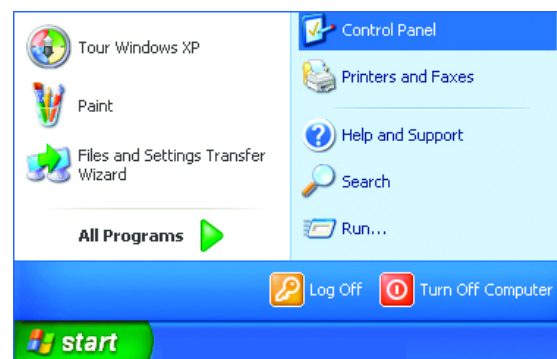
- Open your browser, enter the IP address of your router (192.168.0.1) and click **OK**.
- Enter your username (admin) and password (blank by default). Click **OK** to enter the web configuration page for the device.
- Click on the **Home** tab and click the **WAN** button.
- To change the MTU enter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

Assigning a Static IP Address (Windows® 2000/XP)

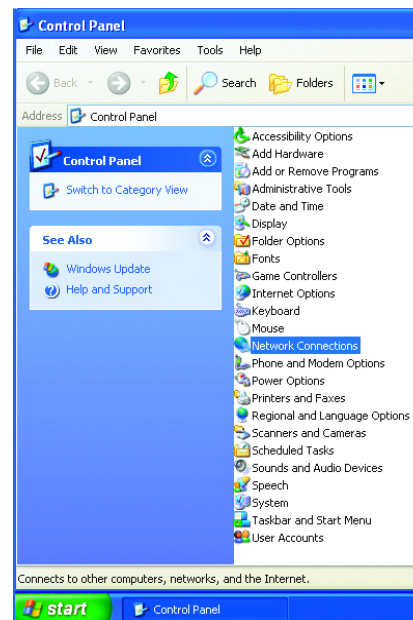
Note: Broadband Routers will automatically assign IP Addresses to the computers on the network, using DHCP (Dynamic Host Configuration Protocol) technology. If you are using a DHCP-capable Gateway/Router you will not need to assign Static IP Addresses.

If you are not using a DHCP capable Gateway/Router, or you need to assign a Static IP Address, please follow these instructions:

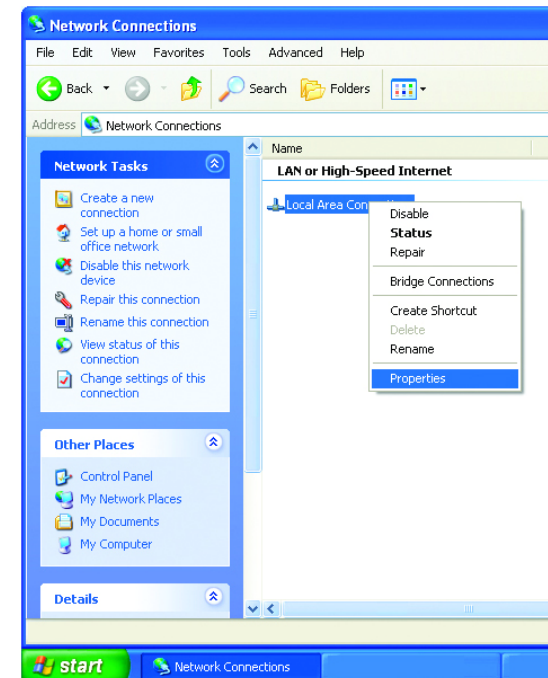
- Go to **Start**
- **Double-click** on **Control Panel**



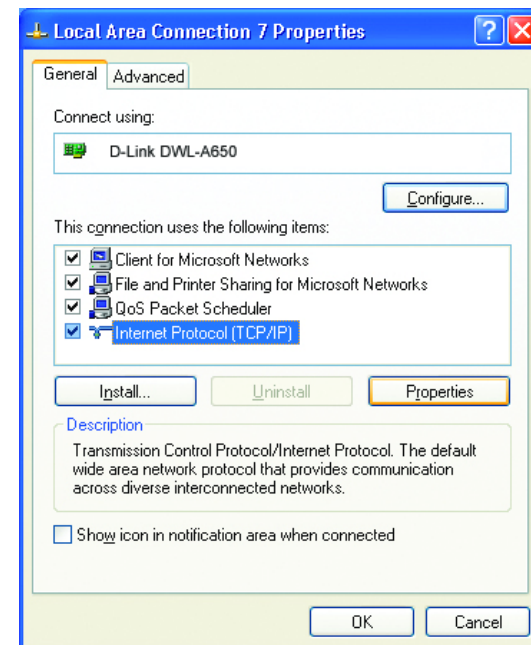
- **Double-click** on **Network Connections**



- **Right-click on Local Area Connections.**
- **Double-click Properties**



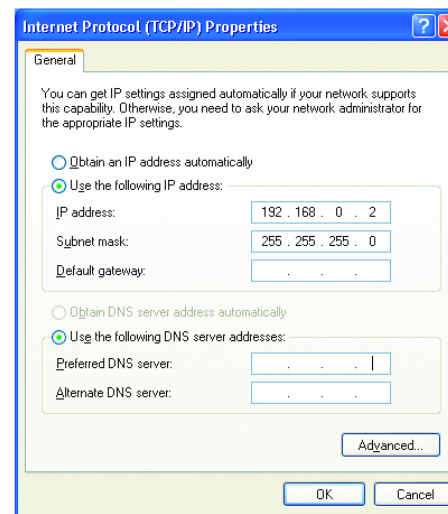
- **Highlight Internet Protocol (TCP/IP)**
- **Click Properties**
- **Select Use the following IP address in the Internet Protocol (TCP/IP) Properties window (shown below.)**



- Input your **IP address and subnet mask**. (The IP Addresses on your network must be within the same range. For example, if one computer has an IP Address of 192.168.0.2, the other computers should have IP Addresses that are sequential, like 192.168.0.3 and 192.168.0.4. The subnet mask must be the same for all the computers on the network.)

- Input your **DNS server addresses**.

(Note: If you are entering a DNS server, you must enter the IP Address of the Default Gateway.)



The DNS server information will be provided by your ISP (Internet Service Provider.)

Adding and Sharing Printers in Windows® XP

After you have run the **Network Setup Wizard** on all the computers in your network (please see the **Network Setup Wizard** section at the beginning of **Networking Basics**), you can use the **Add Printer Wizard** to add or share a printer on your network.

Whether you want to add a **local printer** (a printer connected directly to one computer,) share an **LPR printer** (a printer connected to a print server) or share a **network printer** (a printer connected to your network through a Gateway/Router,) use the **Add Printer Wizard**, you can find the directions below:

First, make sure that you have run the Network Setup Wizard on all of the computers on your network.

We will show you 3 ways to use the **Add Printer Wizard**

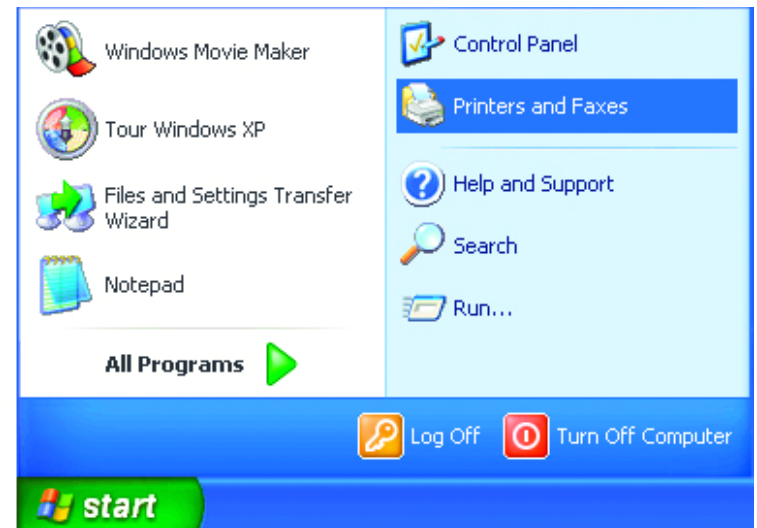
1. Adding a local printer
2. Sharing an network printer
3. Sharing an LPR printer

Adding a local printer

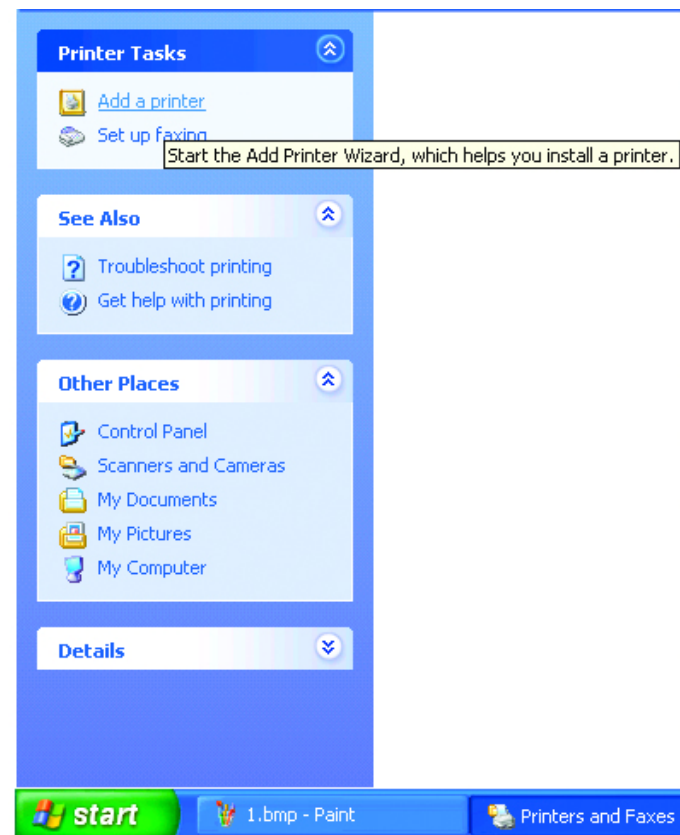
(A printer connected directly to a computer)

A printer that is not shared on the network and is connected directly to one computer is called a **local printer**. If you do not need to share your printer on a network, follow these directions to add the printer to one computer.

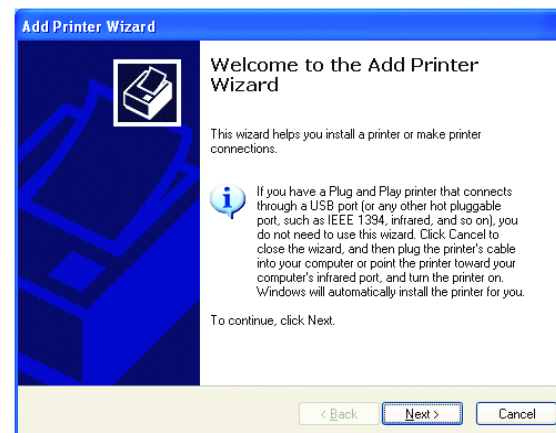
- Go to **Start> Printers and Faxes**



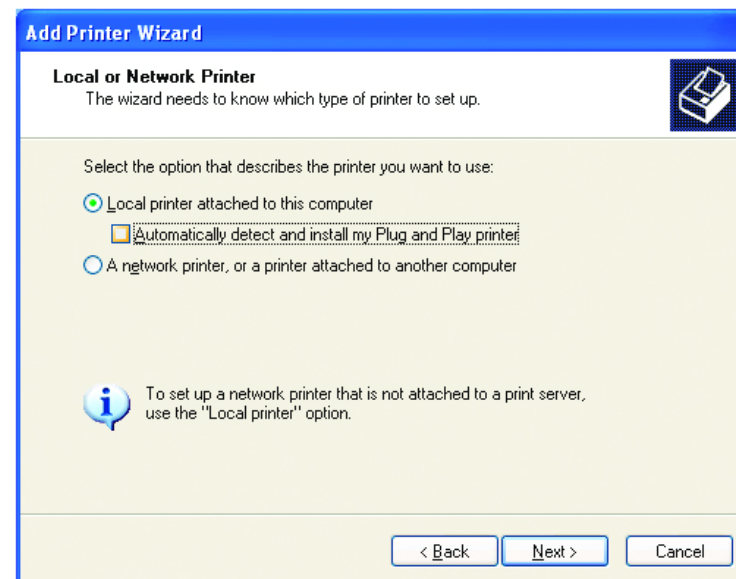
- Click on **Add a printer**



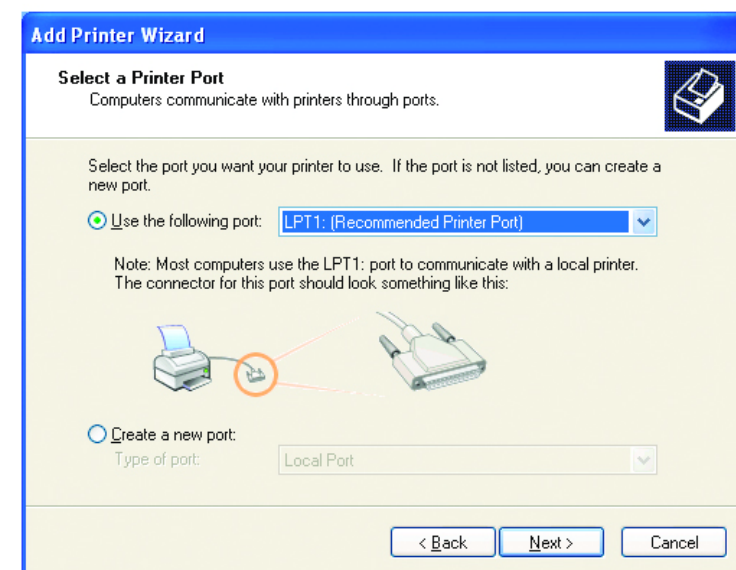
- Click **Next**



- Select **Local printer attached to this computer**
- *(Deselect **Automatically detect and install my Plug and Play printer** if it has been selected.)*
- Click **Next**

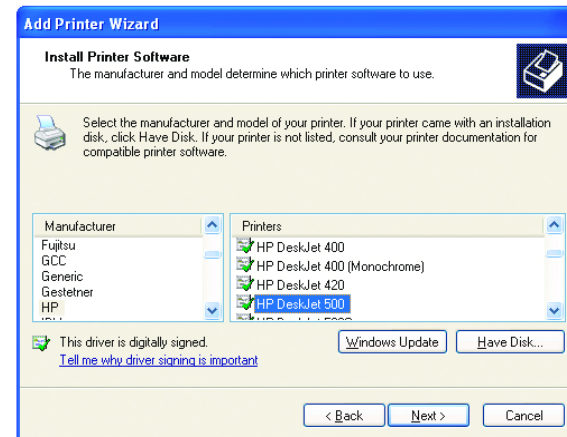


- Select **Use the following port:**
 - From the pull-down menu **select the correct port** for your printer
- (Most computers use the **LPT1:** port, as shown in the illustration.)*
- Click **Next**



- Select and highlight the **correct driver** for your printer.
- Click **Next**

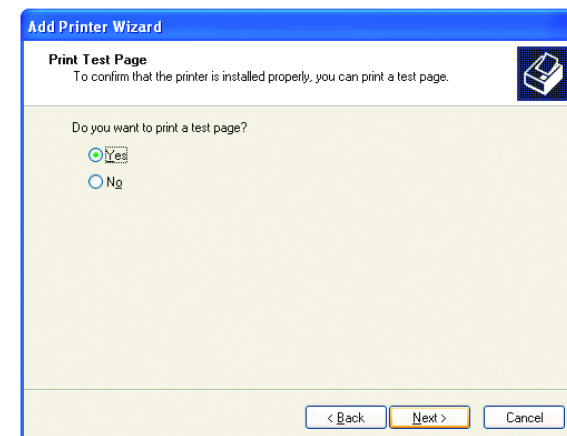
*(If the correct driver is not displayed, insert the CD or floppy disk that came with your printer and click **Have Disk.**)*



- At this screen, you can change the name of the printer (optional.)
- Click **Next**



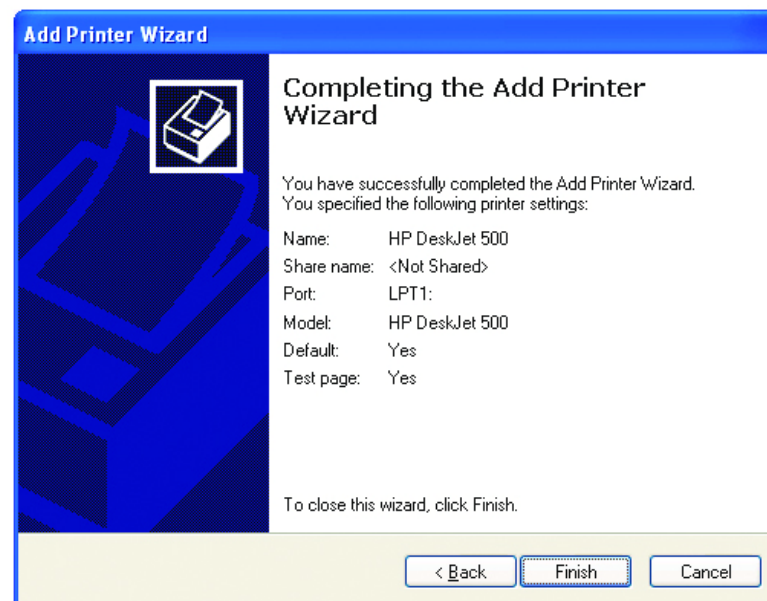
- Select **Yes**, to print a test page. A successful printing will confirm that you have chosen the correct driver.
- Click **Next**



This screen gives you information about your printer.

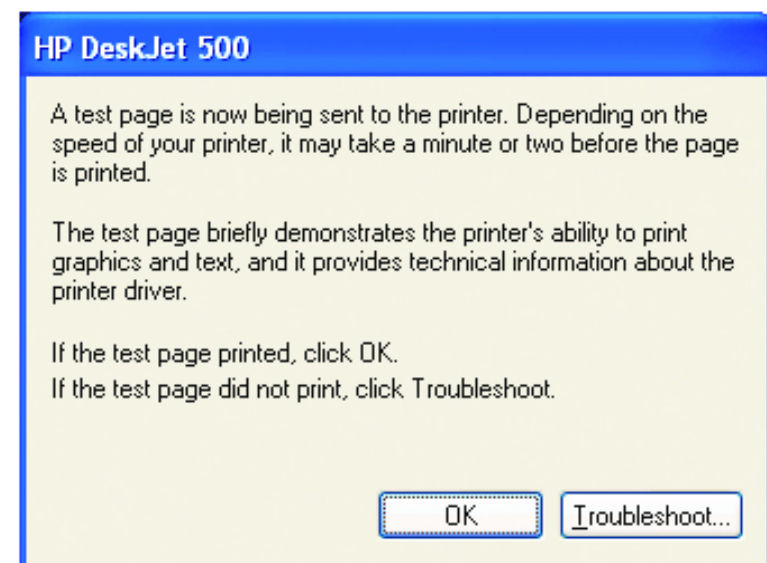
(The printer will begin to print a test page)

Click **Finish**



When the test page has printed,

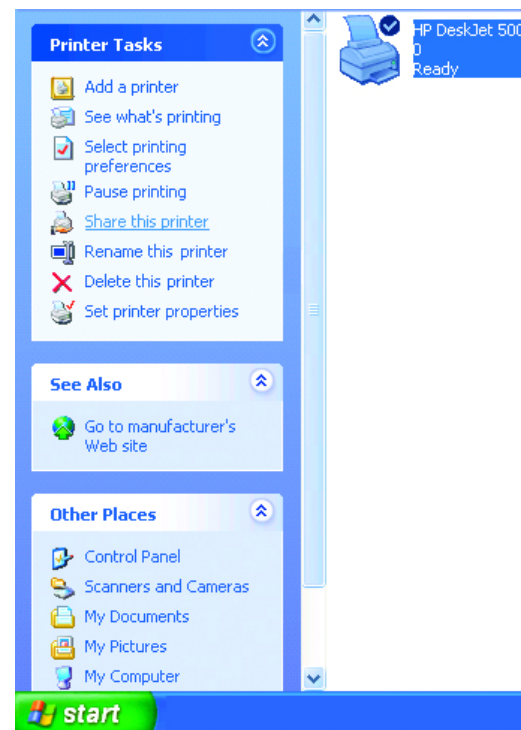
Click **OK**



- Go to **Start> Printers and Faxes**

A successful installation will display the printer icon as shown at right.

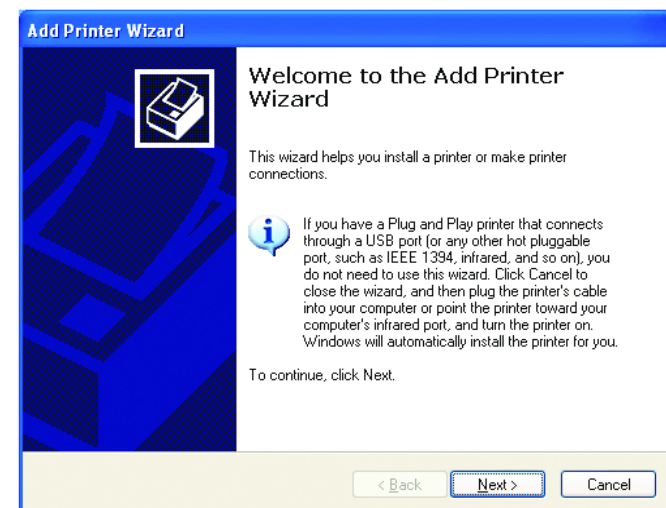
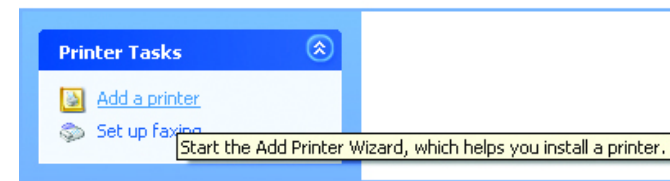
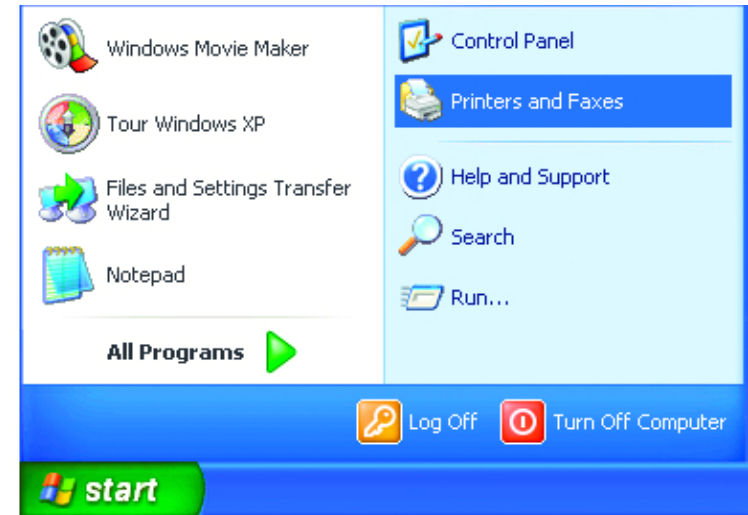
You have successfully added a local printer.



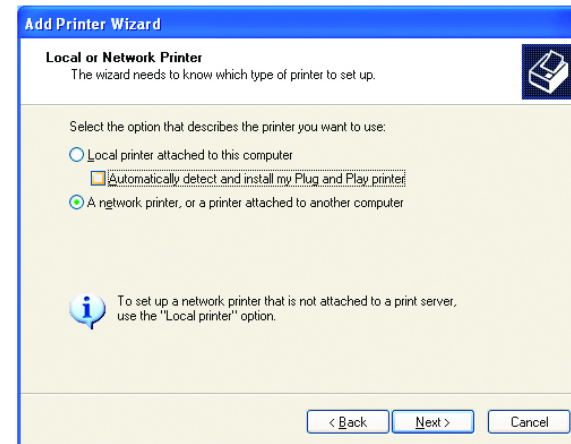
Sharing a Network Printer

After you have run the **Network Setup Wizard** on all the computers on your network, you can run the **Add Printer Wizard** on all the computers on your network. Please follow these directions to use the **Add Printer Wizard** to share a printer on your network:

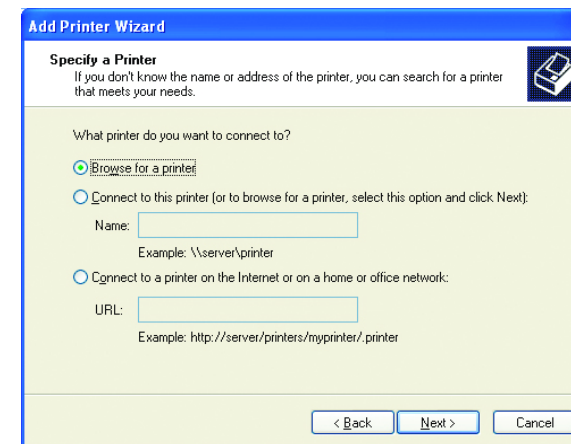
- Go to **Start**>
- **Printer and Faxes**
- Click on **Add a Printer**
- Click **Next**



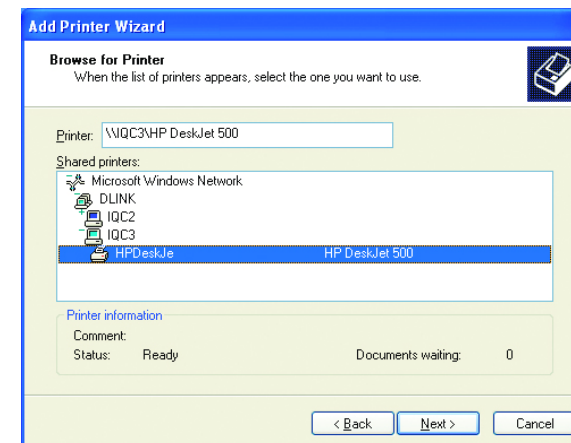
- Select **Network Printer**
- Click **Next**



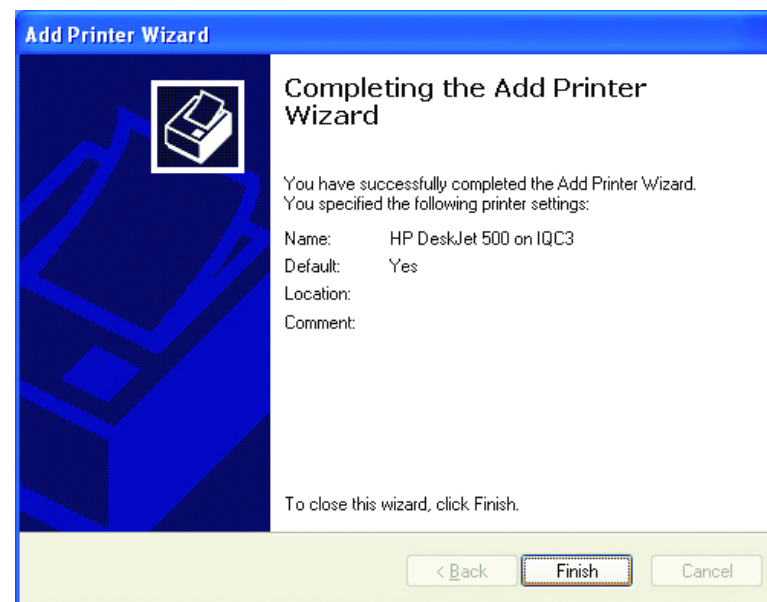
- Select **Browse for a printer**
- Click **Next**



- Select the **printer** you would like to share.
- Click **Next**

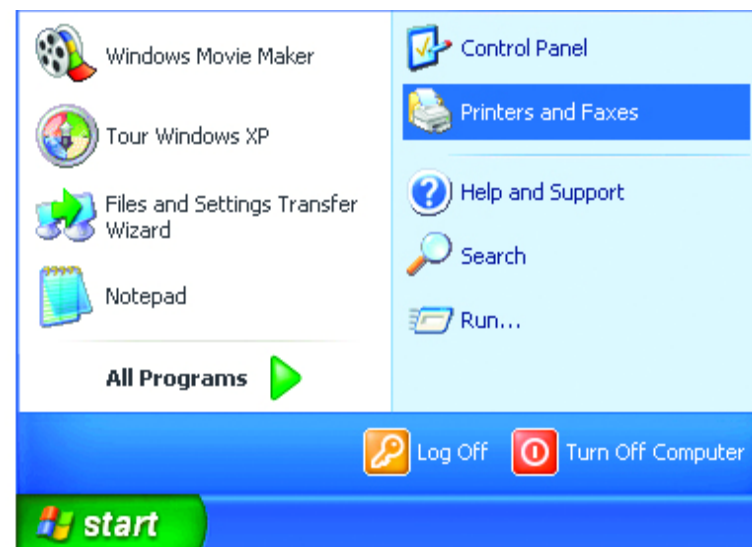


- Click **Finish**



To check for proper installation:

- Go to **Start > Printers and Faxes**



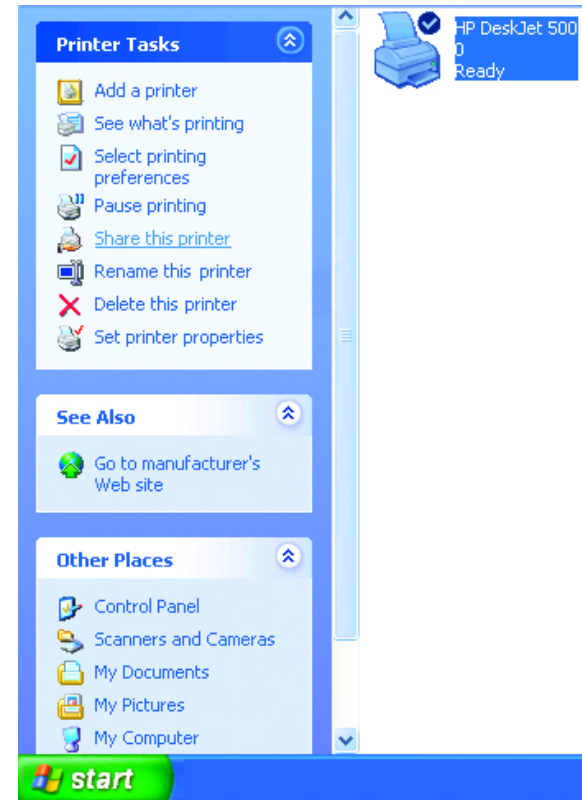
The printer icon will appear at right, indicating proper installation.

You have completed adding the printer.

To share this printer on your network:

- Remember the **printer name**
- Run the **Add Printer Wizard** on all the computers on your network.
- Make sure you have already run the **Network Setup Wizard** on all the network computers.

After you run the **Add Printer Wizard** on all the computers in the network, you can share the printer.



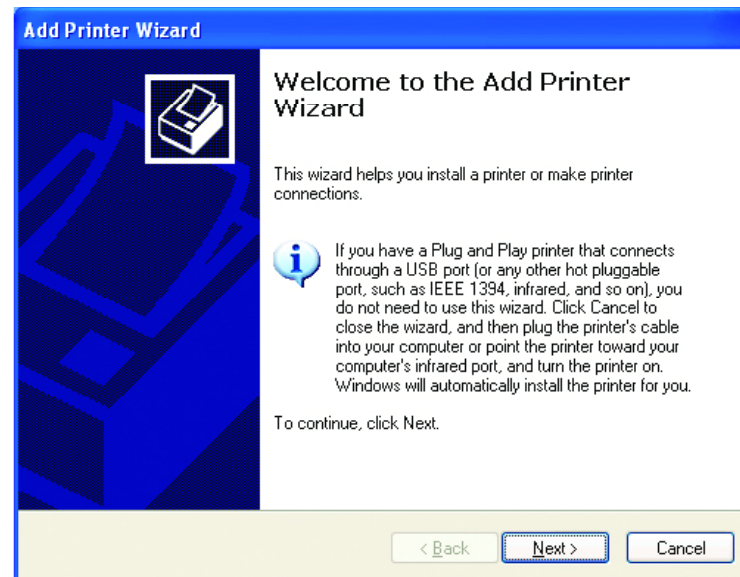
Sharing an LPR Printer

To share an **LPR printer** (using a print server,) you will need a Print Server such as the **DP-101P+**. Please make sure that you have run the **Network Setup Wizard** on all the computers on your network. To share an **LPR printer**, please follow these directions:

- Go to **Start > Printers and Faxes**
- Click on **Add a Printer**

The screen to the right will display.

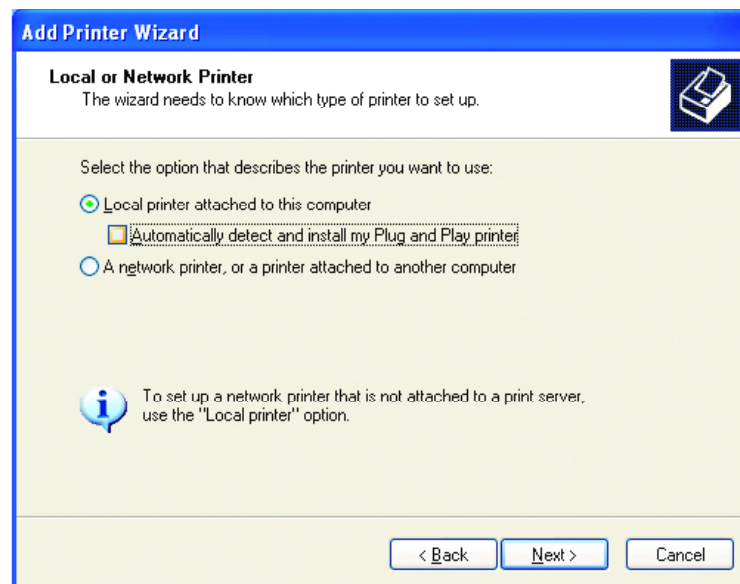
- Click **Next**



- Select **Local printer...**

- Click **Next**

- Select **Create a new port**



- From the pull-down menu, select **Standard TCP/IP Port**, as shown.

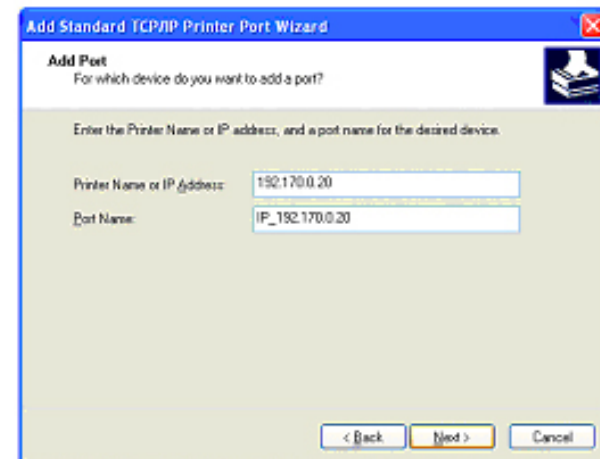
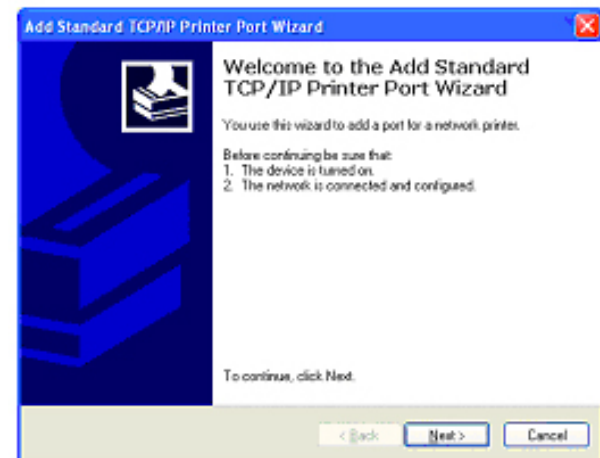
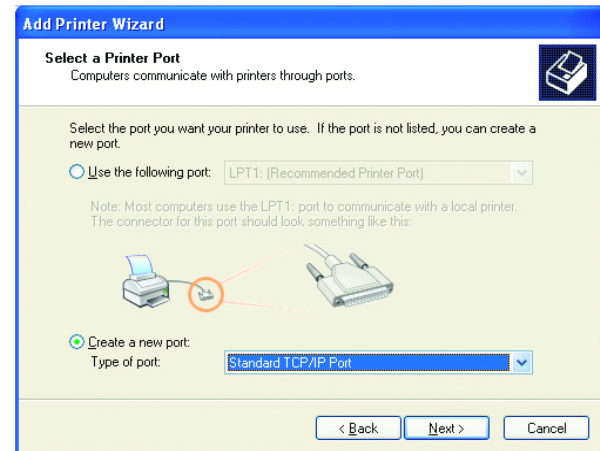
- Click **Next**

- Please read the instructions on this screen.

- Click **Next**

- Enter the **Printer IP Address** and the **Port Name**, as shown.

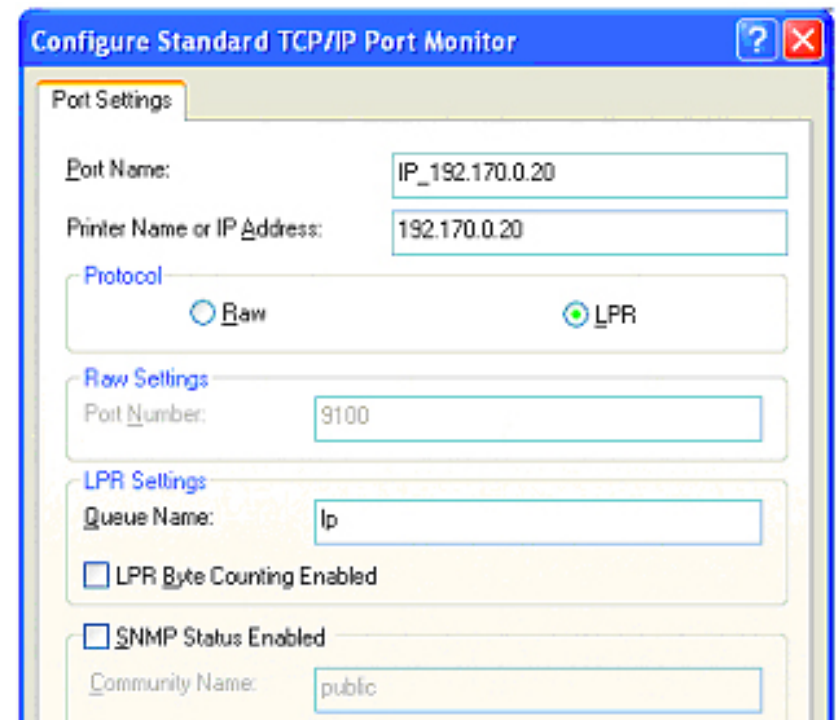
- Click **Next**



- In this screen, select **Custom**.
- Click **Settings**



- Enter the **Port Name** and the **Printer Name or IP Address**.
- Select **LPR**
- Enter a **Queue Name** (if your Print-Server/Gateway has more than one port, you will need a **Queue name**.)
- Click **OK**



- This screen will show you information about your printer.

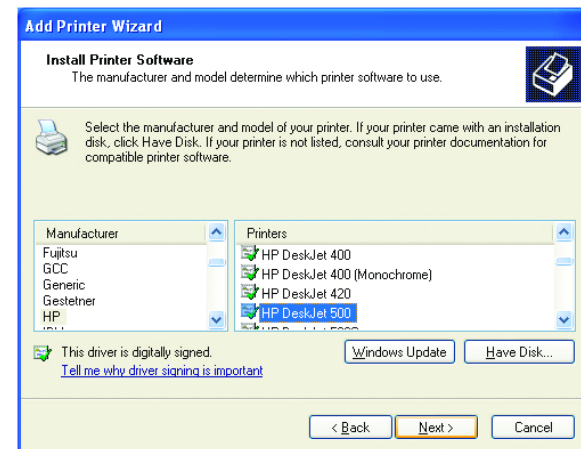
- Click **Finish**



- Select the **printer** you are adding from the list of **Printers**.

- Insert the printer driver disk that came with your printer.

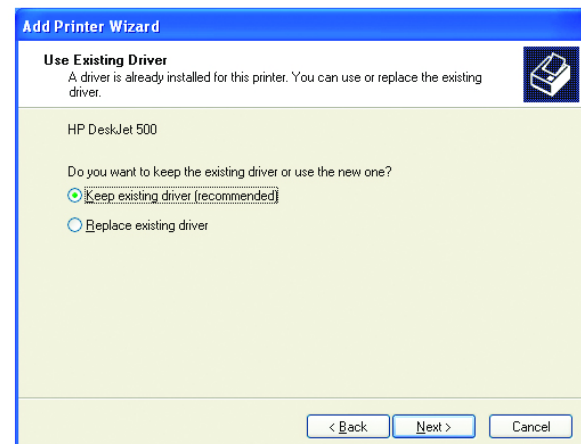
- Click **Have Disk**



If the printer driver is already installed,

- Select **Keep existing driver**

- Click **Next**



- You can rename your printer if you choose. It is optional.

*Please remember the name of your printer. You will need this information when you use the **Add Printer Wizard** on the other computers on your network.*

- Click **Next**

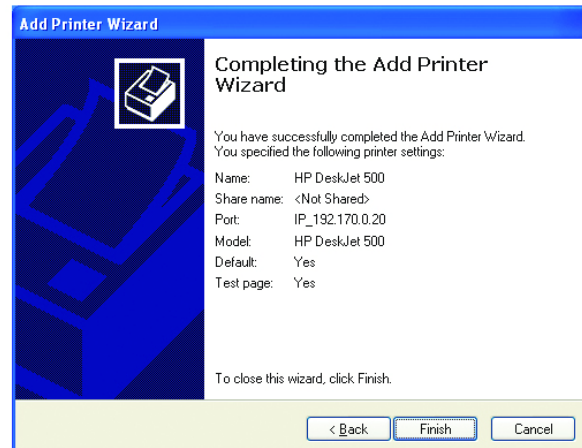
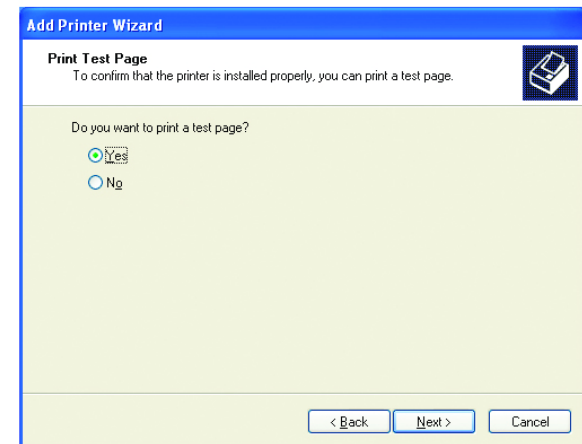
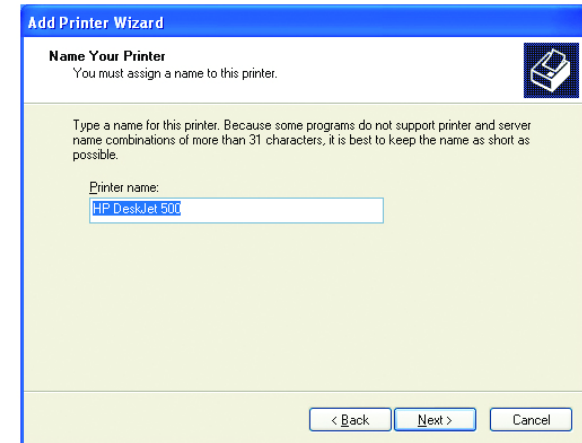
- Select **Yes**, to print a test page.

- Click **Next**

This screen will display information about your printer.

- Click **Finish** to complete the addition of the printer.
- Please run the **Add Printer Wizard** on all the computers on your network in order to share the printer.

*Note: You must run the **Network Setup Wizard** on all the computers on your network before you run the **Add Printer Wizard**.*



Networking Basics

Check your IP address

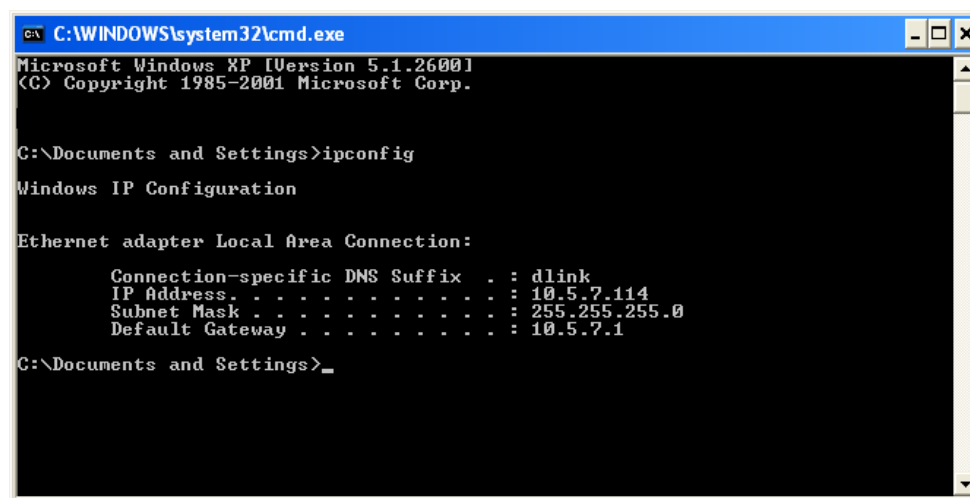
After you install your new D-Link adapter, by default, the TCP/IP settings should be set to obtain an IP address from a DHCP server (i.e. wireless router) automatically. To verify your IP address, please follow the steps below.

Click on **Start > Run**. In the run box type **cmd** and click **OK**.

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

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

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



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

C:\Documents and Settings>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

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

C:\Documents and Settings>
```

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

Statically Assign an IP address

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

Step 1

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

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

Step 2

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

Step 3

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

Step 4

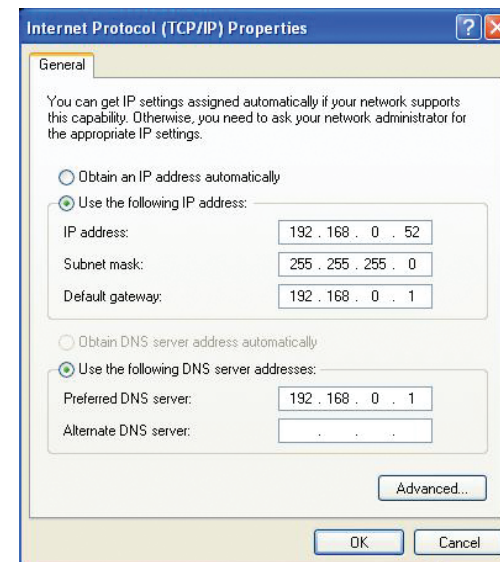
Click **Use the following IP address** and enter an IP address that is on the same subnet as your network or the LAN IP address on your router.

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

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

Step 5

Click OK twice to save your settings.



Technical Specifications

Standards

- IEEE 802.3 10Base-T Ethernet
- IEEE 802.3u 100Base-TX Fast Ethernet
- IEEE 802.3 Nway Auto-Negotiation

VPN Pass Through / Multi-Sessions

- PPTP
- L2TP
- IPSec

Device Management

Web-Based – requires at least Microsoft Internet Explorer v5 or later, Netscape Navigator v4 or later, or other Java-enabled browsers.

Media Access Control

CMSA/CA with ACK

LEDs

- Power
- WAN
- Local Network – 10/100

Operating Temperature

32°F to 131°F (0°C to 55°C)

Humidity

95% maximum (non-condensing)

Power Input

- External power Supply
- DC 5V, 2.0A

Safety & Emissions

- FCC
- CE

Dimensions

- L = 5.6in (142mm)
- W = 4.3in (109mm)
- H = 1.2in (31mm)

Weight

0.44 lbs (200g)

Warranty

1-Year

Contacting Technical Support

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

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

- Model number of the product (e.g. EBR-2310)
- Hardware Revision (located on the label on the bottom of the router (e.g. rev A1))
- Serial Number (s/n number located on the label on the bottom of the router).

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

For customers within the United States:

Internet Support:
<http://support.dlink.com>

For customers within Canada:

Internet Support:
<http://support.dlink.ca>

Warranty

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

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

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

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

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

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

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

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

- The customer must submit with the product as part of the claim a written description of the Hardware defect or Software nonconformance in sufficient detail to allow D-Link to confirm the same, along with proof of purchase of the product (such as a copy of the dated purchase invoice for the product) if the product is not registered.
- The customer must obtain a Case ID Number from D-Link Technical Support at 1-877-453-5465, who will attempt to assist the customer in resolving any suspected defects with the product. If the product is considered defective, the customer must obtain a Return Material Authorization ("RMA") number by completing the RMA form and entering the assigned Case ID Number at <https://rma.dlink.com/>.
- After an RMA number is issued, the defective product must be packaged securely in the original or other suitable shipping package to ensure that it will not be damaged in transit, and the RMA number must be prominently marked on the outside of the package. Do not include any manuals or accessories in the shipping package. D-Link will only replace the defective portion of the product and will not ship back any accessories.
- The customer is responsible for all in-bound shipping charges to D-Link. No Cash on Delivery ("COD") is allowed. Products sent COD will either be rejected by D-Link or become the property of D-Link. Products shall be fully insured by the customer and shipped to **D-Link Systems, Inc., 17595 Mt. Herrmann, Fountain Valley, CA 92708**. D-Link will not be held responsible for any packages that are lost in transit to D-Link. The repaired or replaced packages will be shipped to the customer via UPS Ground or any common carrier selected by D-Link. Return shipping charges shall be prepaid by D-Link if you use an address in the United States, otherwise we will ship the product to you freight collect. Expedited shipping is available upon request and provided shipping charges are prepaid by the customer.

D-Link may reject or return any product that is not packaged and shipped in strict compliance with the foregoing requirements, or for which an RMA number is not visible from the outside of the package. The product owner agrees to pay D-Link's reasonable handling and return shipping charges for any product that is not packaged and shipped in accordance with the foregoing requirements, or that is determined by D-Link not to be defective or non-conforming.

What Is Not Covered: The Limited Warranty provided herein by D-Link does not cover: Products that, in D-Link's judgment, have been subjected to abuse, accident, alteration, modification, tampering, negligence, misuse, faulty installation, lack of reasonable care, repair or service in any way that is not contemplated in the documentation for the product, or if the model or serial number has been altered,

tampered with, defaced or removed; Initial installation, installation and removal of the product for repair, and shipping costs; Operational adjustments covered in the operating manual for the product, and normal maintenance; Damage that occurs in shipment, due to act of God, failures due to power surge, and cosmetic damage; Any hardware, software, firmware or other products or services provided by anyone other than D-Link; and Products that have been purchased from inventory clearance or liquidation sales or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product. While necessary maintenance or repairs on your Product can be performed by any company, we recommend that you use only an Authorized D-Link Service Office. Improper or incorrectly performed maintenance or repair voids this Limited Warranty.

Disclaimer of Other Warranties: EXCEPT FOR THE LIMITED WARRANTY SPECIFIED HEREIN, THE PRODUCT IS PROVIDED "AS-IS" WITHOUT ANY WARRANTY OF ANY KIND WHATSOEVER INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. IF ANY IMPLIED WARRANTY CANNOT BE DISCLAIMED IN ANY TERRITORY WHERE A PRODUCT IS SOLD, THE DURATION OF SUCH IMPLIED WARRANTY SHALL BE LIMITED TO THE DURATION OF THE APPLICABLE WARRANTY PERIOD SET FORTH ABOVE. EXCEPT AS EXPRESSLY COVERED UNDER THE LIMITED WARRANTY PROVIDED HEREIN, THE ENTIRE RISK AS TO THE QUALITY, SELECTION AND PERFORMANCE OF THE PRODUCT IS WITH THE PURCHASER OF THE PRODUCT.

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

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

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

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

The use of this device in a system operating either partially or completely outdoors may require the user to obtain a license for the system according to the Canadian regulations.

L'utilisation de cet appareil au sein d'un ensemble qui fonctionne entièrement ou partiellement à l'extérieur peut obliger l'utilisateur à obtenir un permis pour le système selon les termes de la réglementation canadienne.

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

Registration



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

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