

D-Link *AirPlus Xtreme G*™ DWL-G820

**802.11g Wireless
108Mbps Gaming Adapter**

Manual



Building Networks for People

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Package Contents



Contents of Package:

- **D-Link AirPlus Xtreme G™ DWL-G820**
802.11g Wireless 108Mbps Gaming Adapter
- Manual and Warranty on CD
- Ethernet Cable
- Quick Installation Guide
- 5V DC, 2A Power Adapter

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

System Requirements for Configuration:

- A computer or laptop with an Ethernet adapter. (We recommend that you use an Ethernet connection to configure the DWL-G820.)
- A current web-browser (e.g., Internet Explorer 6.0 or Netscape Navigator 6.0 or later) for configuration

For Use: You will need an Ethernet-enabled device such as a game console, laptop or desktop computer, or set top box. The DWL-G820 will transform virtually any Ethernet device into a wireless device, enabling wireless communication over your network or in an Ad-Hoc/Peer-to-Peer mode.

Introduction

D-Link announces its latest addition to the D-Link *AirPlus Xtreme™* G series of wireless networking products—the DWL-G820 High-Speed Wireless Gaming Adapter. The DWL-G820 adds 802.11g wireless connectivity to your Ethernet-enabled gaming console.

The DWL-G820 works with any Ethernet-ready game console, making it ideal for both head-to-head and online gaming. Use Wireless Gaming Adapters to wirelessly connect two game systems to each other or use one to connect your system to a wireless network.

And when not gaming, you can use the DWL-G820 to make any Ethernet-enabled device, such as a media set-top box, wireless. The DWL-G820 is a true plug & play device that requires no configuration and is ready to work right out of the box.

The Wireless Game Adapter is also highly configurable, using any Java-enabled Web browser. With support for several advanced features, including Wi-Fi Protected Access (WPA) and 128-bit WEP encryption, the Wireless Gaming Adapter also protects your wireless signal.

The DWL-G820 uses D-Link 108 Technology for data transfer rates that are 15x faster than standard 802.11b rates and works with all 802.11g networks. The device is also backwards compatible with 802.11b wireless networks. This Gaming Adapter provides lag-free performance and allows your gaming console to join your wireless network.

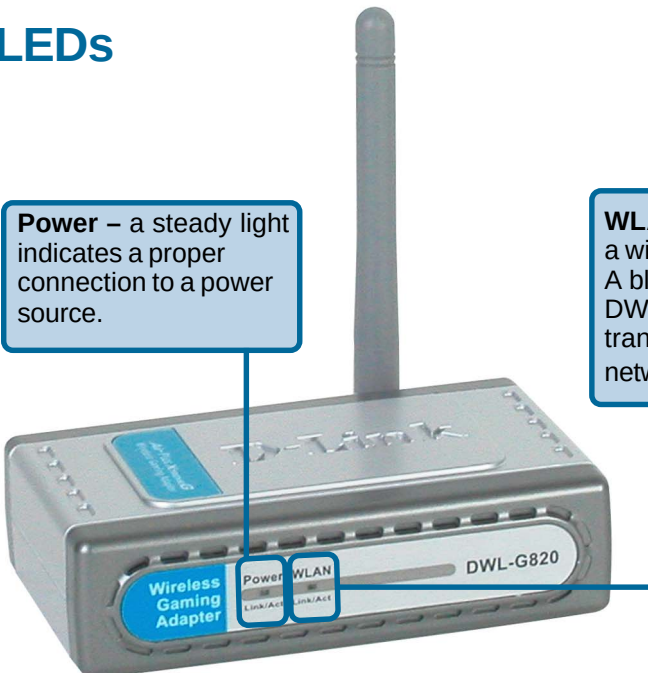
Features & Benefits

- Enables wireless connectivity for an Ethernet-enabled gaming console
- Five times faster using **802.11g** - achieve data transfer speeds up to 54Mbps (108Mbps in Super G mode); up to 5x faster than conventional 802.11b networks, when used with other 802.11g devices
- Fully compliant with the **802.11b** standard and interoperable with all existing 802.11b compliant and 802.11g compliant devices
- Quick and Simple connectivity via Ethernet
- Equipped with one 10/100 Ethernet port, Auto-MDI/MDIX
- Easy Web-based configuration when changing settings
- Encryption provides a level of security for data transfers
- Supports Ad-Hoc or Infrastructure modes

LEDs

Power – a steady light indicates a proper connection to a power source.

WLAN – a steady light indicates a wireless connection. A blinking light indicates that the DWL-G820 is receiving/transmitting from/to the wireless network.



Wireless Basics

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

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

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

People use WLAN technology for many different purposes:

Mobility - Productivity increases when people have access to data in any location within the operating range of the WLAN. Management decisions based on real-time information can significantly improve worker efficiency.

Low Implementation Costs - WLANs are easy to set up, manage, change and relocate. Networks that frequently change can benefit from WLANs ease of implementation. WLANs can operate in locations where installation of wiring may be impractical.

Installation and Network Expansion - Installing a WLAN system can be fast and easy and can eliminate the need to pull cable through walls and ceilings. Wireless technology allows the network to go where wires cannot go - even outside the home or office.

Inexpensive Solution - Wireless network devices are as competitively priced as conventional Ethernet network devices. The DWL-G820 saves money by providing multi-functionality, configurable in one of four different modes.

Scalability - WLANs can be configured in a variety of ways to meet the needs of specific applications and installations. Configurations are easily changed and range from Peer-to-Peer networks suitable for a small number of users to larger Infrastructure networks to accommodate hundreds or thousands of users, depending on the number of wireless devices deployed.

Wireless Basics (continued)

The DWL-G820 is compatible, in default mode, with the following wireless products:

- **D-Link AirPlus Xtreme G™ DWL-G650**
Wireless Cardbus Adapters used with laptop computers
- **D-Link AirPlus Xtreme G™ DWL-G520**
Wireless PCI cards used with desktop computers
- **D-Link AirPlus Xtreme G™ DI-624**
Wireless Broadband Router
- **D-Link AirPlus Xtreme G™ DWL-2100AP**
Wireless Access Point
- The DWL-G820 is also interoperable with other 802.11g and 802.11b standards-compliant devices.

Standards-Based Technology

The DWL-G820 Wireless Gaming Adapter utilizes the **802.11b** and the **802.11g** standards.

The IEEE **802.11g** standard is an extension of the **802.11b** standard. It increases the data rate up to 54Mbps (108Mbps in Super G mode) within the 2.4GHz band, utilizing **OFDM technology**.

This means that in most environments, within the specified range of this device, you will be able to transfer large files quickly or even watch a movie in MPEG format over your network without noticeable delays. This technology works by transmitting high-speed digital data over a radio wave utilizing **OFDM (Orthogonal Frequency Division Multiplexing)** technology. **OFDM** works by splitting the radio signal into multiple smaller sub-signals that are then transmitted simultaneously at different frequencies to the receiver. **OFDM** reduces the amount of **crosstalk** (interference) in signal transmissions. The D-Link DWL-G820 will automatically sense the best possible connection speed to ensure the greatest speed and range possible.

802.11g offers WPA, the most advanced network security features available today.

Wireless Basics (*continued*)

Installation Considerations

The D-Link *AirPlus Xtreme G™* DWL-G820 lets you access your network, using a wireless connection, from virtually anywhere within its operating range. Keep in mind, however, that the number, thickness and location of walls, ceilings, or other objects that the wireless signals must pass through, may limit the range. Typical ranges vary depending on the types of materials and background RF (radio frequency) noise in your home or business. The key to maximizing wireless range is to follow these basic guidelines:

- 1** Keep the number of walls and ceilings between the DWL-G820 and other network devices to a minimum - each wall or ceiling can reduce your DWL-G820's range from 3-90 feet (1-30 meters.) Position your devices so that the number of walls or ceilings is minimized.
- 2** Be aware of the direct line between network devices. A wall that is 1.5 feet thick (.5 meters), at a 45-degree angle appears to be almost 3 feet (1 meter) thick. At a 2-degree angle it looks over 42 feet (14 meters) thick! Position devices so that the signal will travel straight through a wall or ceiling (instead of at an angle) for better reception.
- 3** Building materials can impede the wireless signal - a solid metal door or aluminum studs may have a negative effect on range. Try to position wireless devices and computers with wireless adapters so that the signal passes through drywall or open doorways and not other materials.
- 4** Keep your product away (at least 3-6 feet or 1-2 meters) from electrical devices or appliances that generate RF noise.

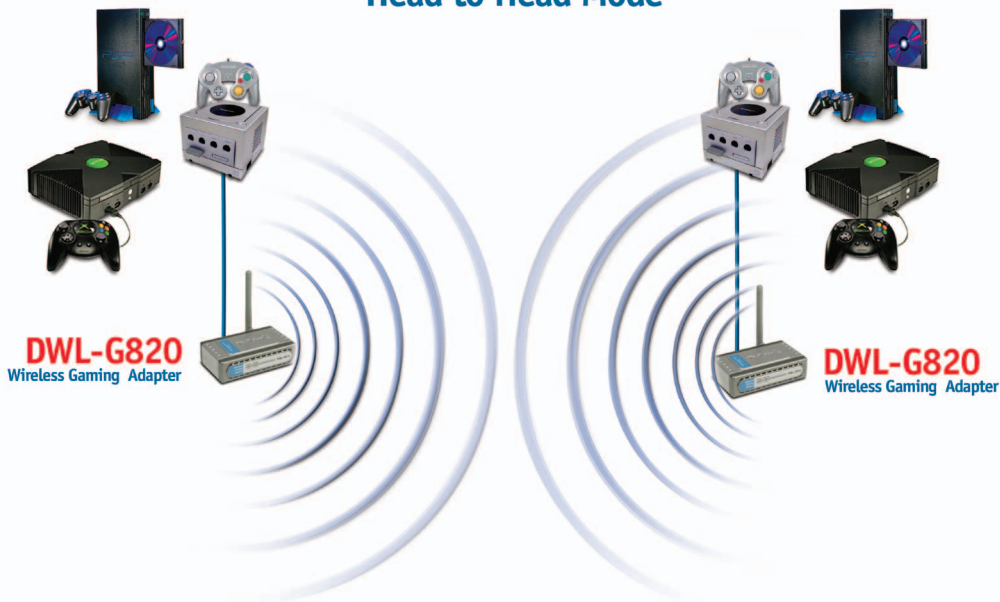
Getting Started

With its default settings, the DWL-G820, when activated, will connect with other D-Link AirPlus Xtreme G™ products, right out of the box.

There are basically two modes of networking:

- **Infrastructure** – using an access point or router
- **Ad-Hoc** – communicating with another console, for Head to Head or Peer-to-Peer communication, using wireless network adapters, such as two or more DWL-G820 Wireless Gaming Adapters, on each gaming console.

Head to Head Mode



This example illustrates an **Ad-Hoc** setup. Simply connect the DWL-G820 (refer to the *Quick Installation Guide*) to your Ethernet-capable network device (in this case, a gaming console) and you will be able to connect wirelessly with other gaming consoles also connected to DWL-G820s.

Getting Started (continued)

Infrastructure Mode



This example illustrates an **Infrastructure** setup. To connect the DWL-G820 to a wireless network with a wireless router or access point, please refer to the printed Quick Installation Guide included with the product. Web configuration is required to connect the DWL-G820.

Some game consoles may require an additional Ethernet adapter.

Using the Configuration Menu

Requirements for using the DWL-G820's Web Configuration Utility

If you are incorporating the DWL-G820 into a network that contains all D-Link devices, you do not need to use the Web Configuration utility. With its default settings, the DWL-G820 will connect with other D-Link 802.11b or 802.11g devices that are set to their default settings, with no configuration needed!

If your network contains devices other than D-Link devices, or if you wish to configure the DWL-G820, you will need to do the following before using the Web Configuration Utility:

- 1

You will need a Java-enabled Web browser such as the Internet Explorer 6.0 or later, or the Netscape Navigator 6.0 or later.
- 2

You will need to assign a static IP address to the computer that you are using to configure the DWL-G820, within the IP address range of the DWL-G820. The DWL-G820 has a default IP address of 192.168.0.35 with a subnet mask of 255.255.255.0

You can, for example, assign a static IP address of 192.168.0.2 with a subnet mask of 255.255.255.0 to the computer you will use for configuration. (Please refer to the Appendix section of the Quick Installation Guide.)

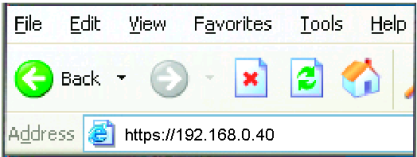
Factory Default Settings for the DWL-G820

Operating Mode:	Infrastructure
SSID:	default
Channel:	6
Transmission rates:	Auto
Encryption:	No
Administrator Password:	Blank (no password needed)
IP Address Mode:	Static
IP Address:	192.168.0.35
IP Subnet:	255.255.255.0
username:	admin

Using the Configuration Menu (continued)

After you have completed the *Setup Wizard* (please see the *Quick Installation Guide* that came with the product) you can access the *Configuration* menu at any time by opening the Web browser and typing in the IP address of the DWL-G820. The DWL-G820 default IP address is shown below:

- Open the Web browser
- Type in the **IP address** of the DWL-G820



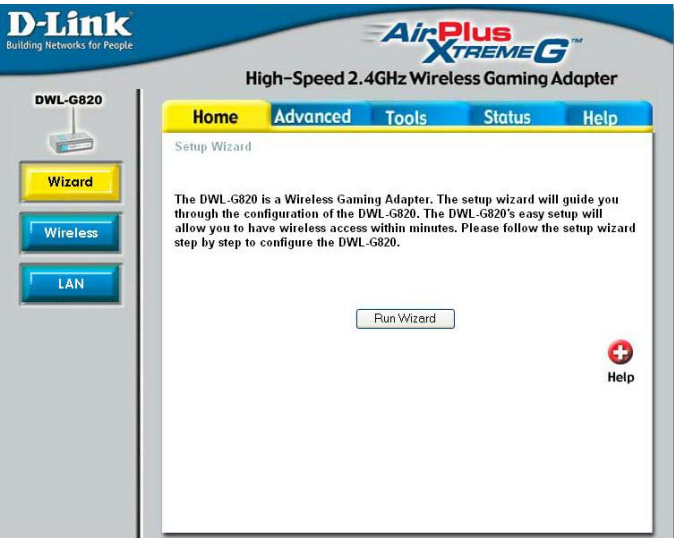
Note: if you have changed the default IP address assigned to the DWL-G820, make sure to enter the correct IP address.

- Type **admin** in the **User Name** field
- Leave the **Password** blank.
(However, if you have changed the password, please enter the correct password.)
- Click **OK**



Home > Wizard

The **Home>Wizard** screen will appear. Please refer to the *Quick Installation Guide* for more information regarding the Setup Wizard.



Using the Configuration Menu (continued)

Home > Wireless



Wireless Band-

IEEE802.11g.

SSID-

Service Set Identifier (SSID) is the name designated for a specific wireless local area network (WLAN). The SSID's factory default setting is **default**. The SSID can be easily changed to connect to an existing wireless network or to establish a new wireless network.

Channel-

6 is the default channel. All devices on the network must share the same channel.

Radio Frequency-

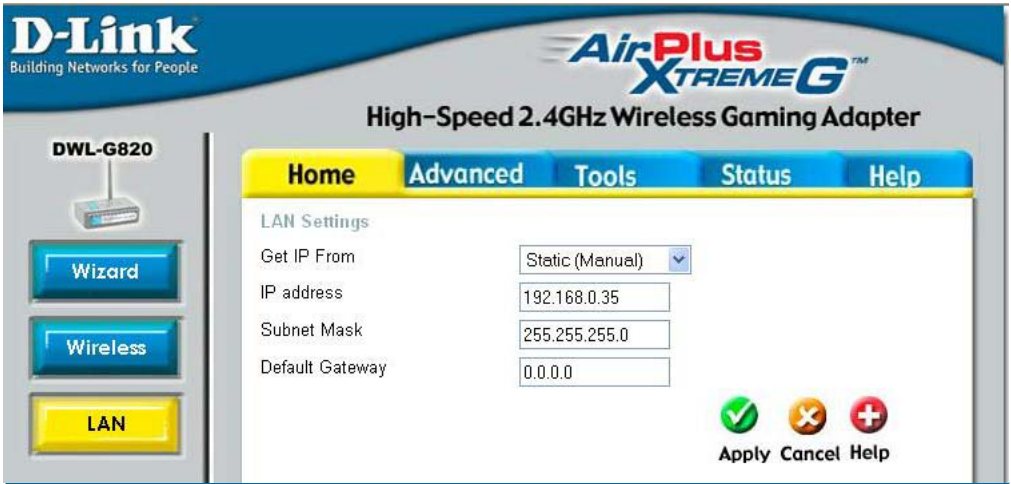
The radio frequency will remain at 2.437GHz.

Apply-

Click **Apply** to save the changes.

Using the Configuration Menu (continued)

Home > LAN



LAN is short for Local Area Network. This is considered your internal network. These are the IP settings of the LAN interface for the DWL-G820. These settings may be referred to as private settings. You may change the LAN IP address if needed. The LAN IP address is private to your internal network and cannot be seen on the Internet.

Get IP From- Select **Static (Manual)** or **Dynamic (DHCP)** as the method you will use to assign an IP address to the DWL-G820.

IP Address- The IP address of the LAN interface. The default IP address is: **192.168.0.35**

Subnet Mask- The subnet mask of the LAN interface. The default subnet mask is **255.255.255.0**

Default Gateway- This field is optional. Enter in the IP address of the router on your network.

Apply- Click **Apply** to save the changes.

Using the Configuration Menu (continued)

Advanced > Mode

D-Link
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DWL-G820

Mode

Performance

Encryption

AirPlus
XTREME G™

High-Speed 2.4GHz Wireless Gaming Adapter

Home

Advanced

Tools

Status

Help

Wireless Band: IEEE802.11g

Service Type

☒ infrastructure

☐ ad hoc

AP Client

Root AP MAC Address

SSID

default

Apply Cancel Help

Site Survey

Site Survey

BSS Type	Channel	RSSI	BSSID	SECURITY	SSID
AP BSS	2	25	00:0d:88:9f:d3:e9	WEP	
AP BSS	6	38	00:0d:88:9f:d6:31	WEP	gamdal
AP BSS	6	15	00:0d:88:b6:d4:1a	WEP	m-lounge
AP BSS	6	44	00:0d:88:95:59:bb	WEP	
AP BSS	6	10	00:0d:88:ad:d0:a9	WEP	FishCamMktg
AP BSS	6	12	00:40:05:b1:33:13	WEP	c-dogg

An Infrastructure network includes a router or an access point; an Ad-Hoc network is a Peer-to-Peer network with a direct communication between two DWL-G820s.

Service Type- Select **Infrastructure** or **Ad-Hoc**.

AP Client

Root AP MAC Address-

In Infrastructure mode: Enter the MAC Address of the access point or router in your network.

In Ad-Hoc mode: Enter the IP address of the DWL-G820 that you will be in Peer-to-Peer communication with.

SSID-

In Infrastructure mode: Enter the SSID of the access point or router in your network.

In Ad-Hoc mode: Enter the SSID of the DWL-G820 that you will be in Peer-to-Peer communication with.

Site Survey- Click **Site Survey** to view the available networks

Apply - Click **Apply** if you have made any changes.

MAC Address - Media Access Control Address

A unique hardware address that identifies a device on a network. It is assigned at the factory and cannot be changed. Usually you will find this address on a sticker on the device or on the packaging.

Using the Configuration Menu (continued)

Wireless Band-

IEEE802.11g

Frequency-

The frequency remains at **2.437 GHz**.

Channel-

Select from channels **1-11**.

Data Rate-

The **Data Rates** are Auto, 1Mbps, 2Mbps, 5.5Mbps, 6Mbps, 9Mbps, 11Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 54Mbps.

Advanced > Performance

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Air-Plus Xtreme G™
High-Speed 2.4GHz Wireless Gaming Adapter

DWL-G820

Mode **Performance** **Encryption**

Advanced Wireless Settings

Wireless Band	IEEE802.11g
Frequency	2.437 GHz
Channel	6
Data Rate	Auto
Beacon Interval (20 - 1000)	100
DTIM (1 - 255)	1
Fragment Length (256 - 2346)	2346
RTS Length (256 - 2346)	2346
Transmit Power	full
Super G Mode	Disabled
802.11g Only	Disabled
Radio Wave	On

Apply **Cancel** **Help**

Beacon Interval- Beacons are packets sent by an access point to synchronize a network. Specify a beacon interval value. The default (100) is recommended.

DTIM- (*Delivery Traffic Indication Message*)- **1** is the default setting. DTIM is a countdown informing clients of the next window for listening to broadcast and multicast messages.

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

RTS Length- This value should remain at its default setting of 2346. If you encounter inconsistent data flow, only minor modifications to the value range between 256 and 2346 are recommended.

Transmit Power- Choose full, half (-3dB), quarter (-6dB), eighth (-9dB), minimum power.

Super G Mode- Super G is a group of performance enhancement features that increase end user application throughput in an 802.11g network. Super G is backwards compatible to standard 802.11g devices. For top performance, all wireless devices on the network should be Super G capable. Select either Disabled, Super G without Turbo, Super G with Dynamic Turbo, or Super G with Static Turbo.

Disabled- Standard 802.11g support, no enhanced capabilities.

Super G without Turbo- Capable of Packet Bursting, FastFrames, Compression, and no Turbo mode.

Using the Configuration Menu (continued)

Advanced > Performance (continued)

Super G with Dynamic Turbo-	Capable of Packet Bursting, FastFrames, Compression, and Dynamic Turbo. This setting is backwards compatible with non-Turbo (legacy) devices. Dynamic Turbo mode is only enabled when all devices on the wireless network are configured with Super G with Dynamic Turbo enabled.
Super G with Static Turbo-	Capable of Packet Bursting, FastFrames, Compression, and Static Turbo. This setting is not backwards compatible with non-Turbo (legacy) devices. Static turbo mode is always on and is only enabled when all the devices on the wireless network are configured with Super G with Static Turbo enabled.
802.11g only-	For increased speed in your network, enable this option. 802.11b devices will be excluded.
Radio Wave-	Select ON or OFF.

Using the Configuration Menu (continued)

Advanced > Encryption


Building Networks for People


Mode

Performance

Encryption

HomeAdvancedToolsStatusHelp

Security Settings

Wireless BandIEEE 802.11g

Authentication☒ Open System
☐ Shared Key
☐ WPA-PSK

PassPhrase

Cipher TypeWEP

Group Key Update Interval1800

Encryption☒ Disabled ☐ Enabled

Key TypeHEX

Key Size64 Bits

Valid KeyFirst

Key Table

First Key

Second Key

Third Key

Fourth Key

Hexadecimal digits consist of the numbers 0-9 and the letters A-F

ASCII (American Standard Code for Information Interchange) is a code for representing English letters as numbers from 0-127

Wireless Band- IEEE 802.11g

Authentication- Select **Open System** to communicate the key across the network. Select **Shared Key** to limit communication to only those devices that share the same WEP settings. Select **WPA-PSK** and enter a passphrase in the field below. Each device on the network must have an identical passphrase to communicate.

PassPhrase- Enter a passphrase when you have enabled WPA-PSK.

Cipher Type- Security type.

Group Key Update Interval- Enter the interval after which the group key will be updated.

Encryption- Select **Disabled** or **Enabled**.

Key Type- Select **HEX** or **ASCII**.

Key Size- Select **64-**, **128-**, **152-**bits.

Valid Key- Select the **1st** through the **4th** key to be the active key.

Key Table- Input up to **four keys** for encryption. You will select one of these keys in the valid key field.

Apply- Click **Apply** to save changes.

Using the Configuration Menu (continued)

Tools > Admin

The screenshot shows the D-Link configuration interface for the DWL-G820 High-Speed 2.4GHz Wireless Gaming Adapter. The interface has a blue header with the D-Link logo and 'AirPlus Xtreme G' branding. Below the header, the title 'High-Speed 2.4GHz Wireless Gaming Adapter' is displayed. The main navigation bar includes 'Home', 'Advanced', 'Tools' (highlighted in yellow), 'Status', and 'Help'. On the left side, there is a vertical menu with buttons for 'Admin' (highlighted in yellow), 'System', 'Firmware', 'Cfg File', and 'Misc.'. The 'Admin' section is titled 'Administrator Settings' and contains four input fields: 'User Name' (with 'admin' entered), 'Old Password', 'New Password', and 'Confirm New Password'. At the bottom right of the form, there are three buttons: 'Apply' (with a green checkmark icon), 'Cancel' (with an orange 'X' icon), and 'Help' (with a red plus icon).

User Name- Enter a user name; **admin** is the default setting.

Old Password- To change your password, enter your old password here

New Password- Enter your new password here.

Confirm New Password- Enter your new password again.

Using the Configuration Menu (continued)

Apply Settings and Restart-

Click **Restart** to apply the system settings and restart the DWL-G820.

Restore to Factory Default Settings-

Click **Restore** to return the DWL-G820 to its factory default settings.

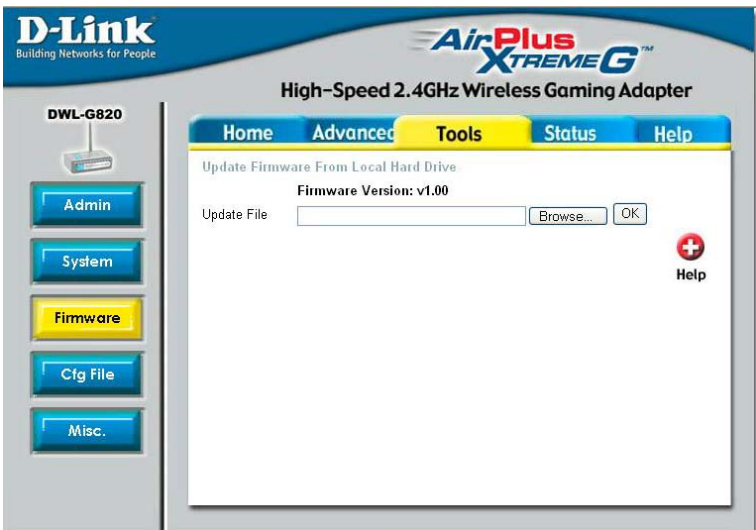
Tools > System



Tools > Firmware

Update File-

After you have downloaded the most recent version of the firmware from www.support.dlink.com you can **browse** your hard drive to locate the downloaded file and click **OK** to update the firmware.



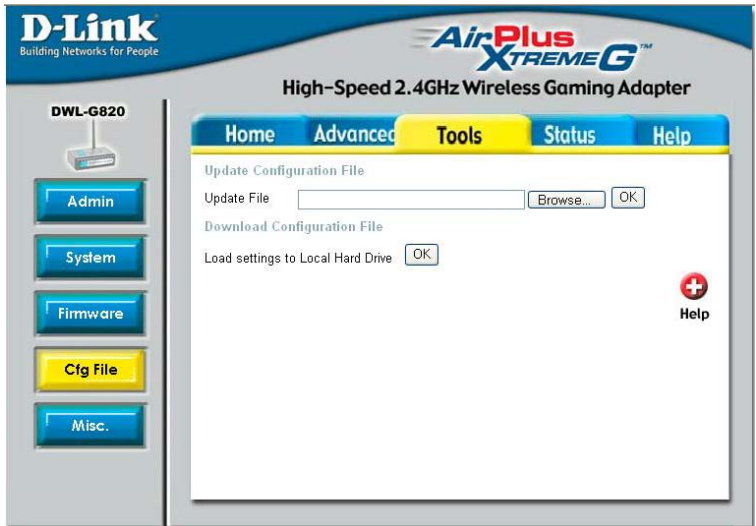
Using the Configuration Menu (continued)

Tools > Cfg File

Update File-Browse for the configuration settings that you have saved to your hard drive. Click **OK** when you made your selection.

Load Settings to the Local Hard Drive-

Click **OK** to load the selected settings.



Tools > Misc.

Telnet Settings

Status-

Click to Enable a Telnet session.

Timeout-

Select a time period after which a session timeout will occur.



Telnet is a program that allows you to control your network from a single PC.

Using the Configuration Menu (continued)

Status > Device Info

This window displays the settings of the DWL-G820, as well as the Firmware version, and the MAC address.

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DWL-G820



AirPlus
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High-Speed 2.4GHz Wireless Gaming Adapter

HomeAdvancedToolsStatusHelp

Device Information

Firmware Version: v1.00
MAC Address: 00:0d:88:e6:ee:b0

Ethernet

Get IP From: Manual
IP address: 192.168.0.35
Subnet Mask: 255.255.255.0
Gateway: 0.0.0.0

Wireless (802.11g)

SSID: default
Channel: 6
Super G Mode: Disabled
Rate: Auto
Security Level: Open System / Encryption Disabled

+

Help

Help

At this window you can access the help screens for the topics listed.

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DWL-G820



AirPlus
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High-Speed 2.4GHz Wireless Gaming Adapter

HomeAdvancedToolsStatusHelp

Home

- Setup Wizard
- Wireless
- LAN Settings

Advanced

- Mode
- Performance
- Encryption

Tools

- Administrative Settings
- System Settings
- Firmware Upgrade
- Configuration File
- Misc

Status

This page displays the current information about the DWL-G820. It will display what version of firmware you are currently running, as well as Ethernet and wireless parameters.

FAQs

22

Troubleshooting

This section provides solutions to situations that can occur during the installation and operation of the DWL-G820 Wireless Gaming Adapter.

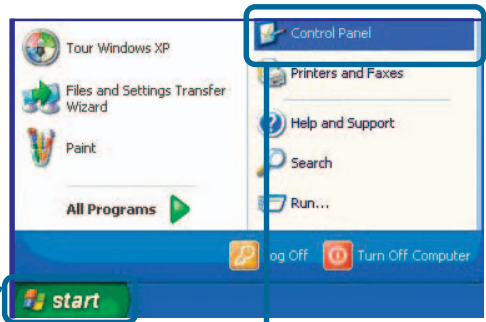
1. How do I assign a static IP address in Windows XP/2000?

Please note that 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 router you will not need to assign static IP addresses.

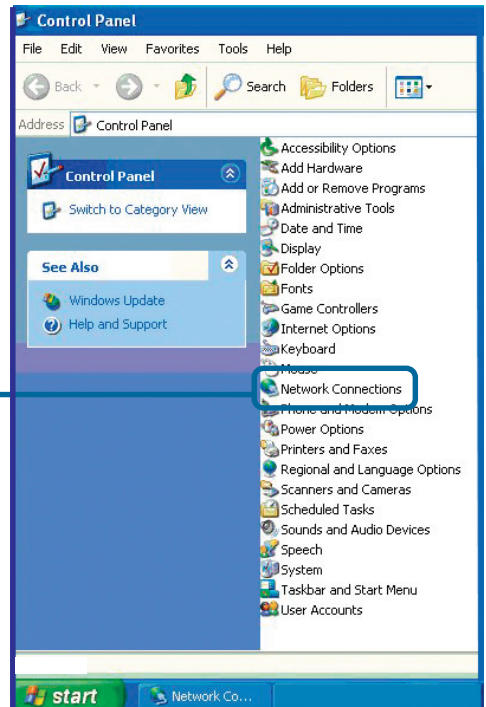
If you are not using a DHCP capable router, or you need to assign a static IP address, please follow these instructions:

Go to **Start**.

Click on **Control Panel**.



Double-click on **Network Connections**.

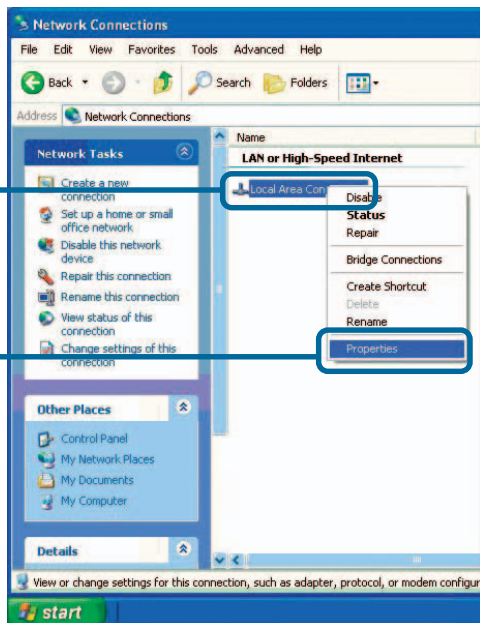


Troubleshooting (continued)

How do I assign a Static IP Address in Windows XP/2000? (continued)

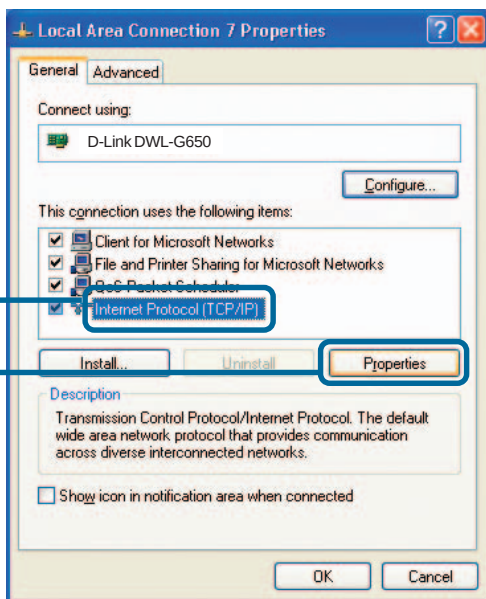
Right-click on **Local Area Connections**.

Click **Properties**.



Click **Internet Protocol (TCP/IP)**.

Click **Properties**.



Troubleshooting (continued)

How do I assign a Static IP Address in Windows XP/2000? (continued)

Select **Use the following IP address**.

Enter the **IP address**.

Enter the **Subnet mask**.

Enter the **Default Gateway**. The Default Gateway is the LAN IP address of the wireless router. **D-Link** wireless routers have a LAN IP address of 192.168.0.1

Select **Use the following DNS server address**. Enter the LAN IP address of the wireless router. (D-Link wireless routers have a LAN IP address of 192.168.0.1)

Click **OK**.

You have completed the assignment of a static IP address in Windows XP/2000!



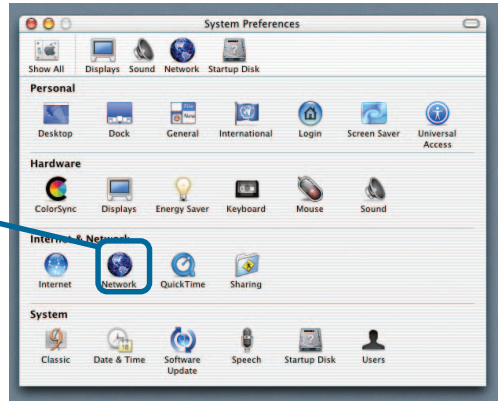
The IP addresses on your network must be within the same range. For example, if one computer has an IP address of 192.168.0.2, the other computers should have IP addresses that are sequential, like 192.168.0.3 and 192.168.0.4. The subnet mask must be the same for all the computers on the network.

Troubleshooting (continued)

2. How do I assign a static IP address in Macintosh OSX?

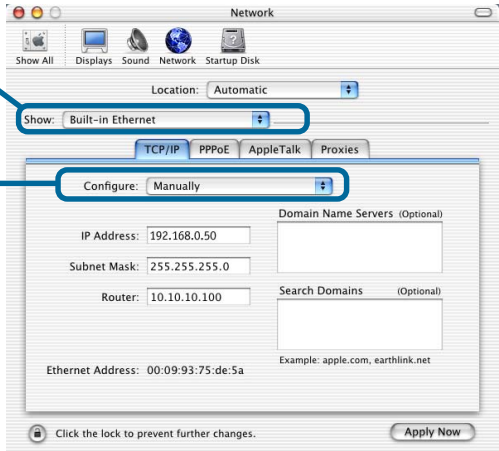
Go to the **Apple Menu** and select **System Preferences**.

Click **Network**.



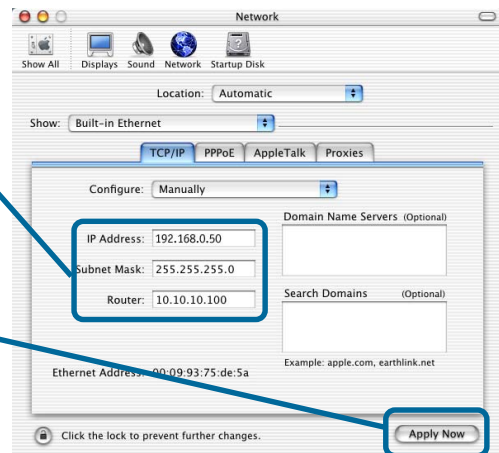
Select **Built-in Ethernet** in the **Show** pull-down menu.

Select **Manually** in the **Configure** pull-down menu.



Input the static IP address, the subnet mask and the router IP address in the appropriate fields.

Click **Apply Now**.



You have completed the assignment of a static IP address in Macintosh OS X!

Troubleshooting (continued)

3. Why doesn't the Power LED light up?

Check to see if the DWL-G820 Wireless Gaming Adapter is connected properly to a known good power outlet.

4. Why doesn't the Link LED light up?

- Make sure that the Ethernet cable is connected properly.
- Make sure the AC power adapter is plugged in properly.
- For advanced setup features, enter <http://192.168.0.35> into your Internet browser and gain access to the Web configuration of the DWL-G820. The advanced setup features can be used to change the LAN and wireless settings for your DWL-G820.

5. Why can't I connect to another wireless client in Ad-Hoc mode?

- The DWL-G820 Wireless Gaming Adapter has a default SSID of **default**. Make sure that the SSID on the DWL-G820 is exactly the same as the SSID on the other wireless client.
- The DWL-G820 has a default channel of 6. Make sure that the channel on the DWL-G820 is exactly the same as the channel on the other wireless client.

6. Why can't I connect to an access point or wireless router?

- Make sure that the SSID on the DWL-G820 is exactly the same as the SSID on the access point or wireless router.
- Move the DWL-G820 and access point or wireless router into the same room and then test the wireless connection.
- Disable all security settings. (WEP, MAC Address Control, WPA, etc.)
- Turn off your access point and the device connected to the DWL-G820. Then, turn on the access point, and the device connected to the DWL-G820.
- Make sure that the DWL-G820 is set to Infrastructure mode.

7. What can I do if I forget my encryption key?

Reset the access point to its factory default settings and restore the DWL-G820 to its factory default settings. You may do this by pressing the **Reset** button on the back of the unit. You will lose the current configuration settings.

Troubleshooting (continued)

8. Why can't I connect the DWL-G820 to my network?

- Check that the LED indicators for the broadband modem are indicating normal activity. If not, there may be a problem with the broadband connection.
- Check that the LED indicators on the wireless router are functioning properly. If not, check that the AC power and Ethernet cables are firmly connected.
- Check that the IP address, subnet mask, gateway, and DNS settings are correctly entered for the network.
- In **Infrastructure** mode, make sure the same Service Set Identifier (SSID) is specified on the settings for the wireless clients and access points. The SSID factory default setting for D-Link products is **default**.
- In **Ad-Hoc mode**, both wireless clients will need to have the same SSID. Please note that it might be necessary to set up one client to establish a BSS (Basic Service Set) and wait briefly before setting up other clients. This prevents several clients from trying to establish a BSS at the same time, which can result in multiple singular BSSs being established, rather than a single BSS with multiple clients associated to it.
- Check that the **Network Connection** for the wireless client is configured properly. Select **Infrastructure** when connecting to a wireless router and select **Ad-Hoc** mode when connecting without an access point.
- If security is enabled, make sure that the correct encryption key or passphrase is entered on both the DWL-G820 and the wireless router or Ad-Hoc client.

9. What variables may cause my wireless products to lose reception?

D-Link products let you access your network from virtually anywhere you want. However, the positioning of the products within your environment will affect the wireless range. Please refer to **Installation Considerations** in the **Wireless Basics** section of this manual for further information about the most advantageous placement of your D-Link wireless products.

10. Why does my wireless connection drop?

- Antenna orientation – try different antenna orientations for the DWL-G820. Try to keep the antenna at least 6 inches away from the wall or other objects.
- If you are using 2.4GHz cordless phones, X-10 equipment or other home security systems, ceiling fans, and lights, your wireless connection will degrade dramatically or drop altogether. Try changing the channel on your router, access point and all other devices on the network to avoid interference.
- Keep your product away (at least 3-6 feet) from electrical devices that generate RF noise, like microwaves, monitors, electric motors, etc.

Technical Specifications

Standards

- IEEE 802.11b
- IEEE 802.11g
- IEEE 802.3
- IEEE 802.3u
- IEEE 802.3x

Device Management

- Web-based — Internet Explorer v6 or later; Netscape Navigator v6 or later; or other Java-enabled browsers
- Telnet

Data Rate¹

For 802.11g:

- 108, 54, 48, 36, 24, 18, 12, 9 and 6Mbps

For 802.11b:

- 11, 5.5, 2, and 1Mbps

Security

- 64-, 128-, 152-bit WEP
- WPA - Wi-Fi Protected Access (WPA-TKIP and WPA-PSK)

Wireless Frequency Range

- 2.4GHz to 2.4835GHz

Wireless Operating Range²

- Indoors: Up to 328ft (100 meters)
- Outdoors: Up to 1312ft (400 meters)

Radio and Modulation Type

- BPSK, QPSK, 16QAM, OFDM
- DQPSK, DBPSK and CCK

1. Theoretical wireless signal rate. Actual throughput will vary depending on network conditions and environmental factors.

2. Environmental factors may adversely affect wireless range.

Technical Specifications (continued)

Receiver Sensitivity:

- 54Mbps OFDM, 10% PER, -66dBm
- 48Mbps OFDM, 10% PER, -71dBm
- 36Mbps OFDM, 10% PER, -76dBm
- 24Mbps OFDM, 10% PER, -80dBm
- 18Mbps OFDM, 10% PER, -83dBm
- 12Mbps OFDM, 10% PER, -85dBm
- 11Mbps CCK, 8% PER, -83dBm
- 9Mbps OFDM, 10% PER, -86dBm
- 6Mbps OFDM, 10% PER, -87dBm
- 2Mbps CCK, 10% PER, -89dBm

Wireless Transmit Power (Typical RF Output Power at each Data Rate):

- +14~15dBm at 54, and 108Mbps
- +14~16dBm at 48Mbps
- +16~18dBm at 36, 24, 18, 9, and 6Mbps
- +14~15dBm at 54, and 108Mbps

External Antenna Type:

- Dipole antennas with 2dBi gain

LEDs:

- Power
- WLAN (wireless connection)

Operating Voltage:

- 5V DC +/- 10%

Temperature:

- Operating: 32°F to 104°(0°C to 40°C)
- Storing. -4°F to 149°F (-20°C to 65°C)

Technical Specifications (continued)

Humidity:

- Operating: 10%~90% (non-condensing)
- Storing: 5%~95% (non-condensing)

Certifications:

- FCC
- CSA

Dimensions:

- L=4.1 inches (103mm)
- W=2.4 inches (62mm)
- H=1.1 inches (27mm)

Warranty:

- 1 year

Technical Support

You can find software updates and user documentation on the D-Link website.

D-Link provides free technical support for customers within the United States and within Canada for the duration of the warranty period on this product.

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

Tech Support for customers within the United States:

D-Link Technical Support over the Telephone:

(877) 453-5465

24 hours a day, seven days a week.

D-Link Technical Support over the Internet:

<http://support.dlink.com>

email:support@dlink.com

Tech Support for customers within Canada:

D-Link Technical Support over the Telephone:

(800) 361-5265

Monday to Friday 7:30am to 12:00am EST

D-Link Technical Support over the Internet:

<http://support.dlink.ca>

email:support@dlink.ca

Subject to the terms and conditions set forth herein, D-Link Systems, Inc. ("D-Link") provides this Limited warranty for its product only to the person or entity that originally purchased the product from:

- D-Link or its authorized reseller or distributor and
- 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, addresses with an APO or FPO.

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

1-Year Limited Warranty for the Product(s) is defined as follows:

- Hardware (excluding power supplies and fans) One (1) Year
- Power Supplies and Fans One (1) Year
- Spare parts and spare kits Ninety (90) days

D-Link's sole obligation shall be to repair or replace the defective Hardware during the Warranty Period at no charge to the original owner or to refund at D-Link's sole discretion. Such 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 in its sole discretion 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 from the date of original retail purchase. If a material defect is incapable of correction, or if D-Link determines in its sole discretion that it is not practical to repair or replace the defective Hardware, the 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 ("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 Warranty Period, the magnetic media on which D-Link delivers the Software will be free of physical defects. D-Link's sole obligation shall be 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 at D-Link's sole discretion. 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. Software will be warranted for the remainder of the original Warranty Period from the date of original retail purchase. 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 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.

- The original product owner must obtain a Return Material Authorization (“RMA”) number from the Authorized D-Link Service Office and, if requested, provide written proof of purchase of the product (such as a copy of the dated purchase invoice for the product) before the warranty service is provided.
- 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. 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, with shipping charges prepaid. Expedited shipping is available if shipping charges are prepaid by the customer and upon request.
- Return Merchandise Ship-To Address
USA: 17595 Mt. Herrmann, Fountain Valley, CA 92708
Canada: 2180 Winston Park Drive, Oakville, ON, L6H 5W1 (Visit <http://www.dlink.ca> for detailed warranty information within Canada)

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: This limited warranty provided by D-Link does not cover: Products, if 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; 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. Repair by anyone other than D-Link or an Authorized D-Link Service Office will void this 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 NINETY (90) DAYS. EXCEPT AS EXPRESSLY COVERED UNDER THE LIMITED WARRANTY PROVIDED HEREIN, THE ENTIRE RISK AS TO THE QUALITY, SELECTION AND PERFORMANCE OF THE PRODUCT IS WITH THE PURCHASER OF THE PRODUCT.

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

Governing Law: This Limited Warranty shall be governed by the laws of the State of California. Some states do not allow exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the foregoing limitations and exclusions may not apply. This limited warranty provides specific legal rights and the product owner may also have other rights which vary from state to state.

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

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

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

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution:

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

D-Link declares that the DWL-G820 (Wireless Gaming Adapter) is limited in CH1~CH11 by specified firmware controlled in the USA.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

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

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

INFORMATION TO USER:

The user's manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

For detailed warranty outside the United States, please contact corresponding local D-Link office.

Register your D-Link product online at <http://support.dlink.com/register/>

(06/08/04)