

D-Link AirPlus™ G DWL-G730AP

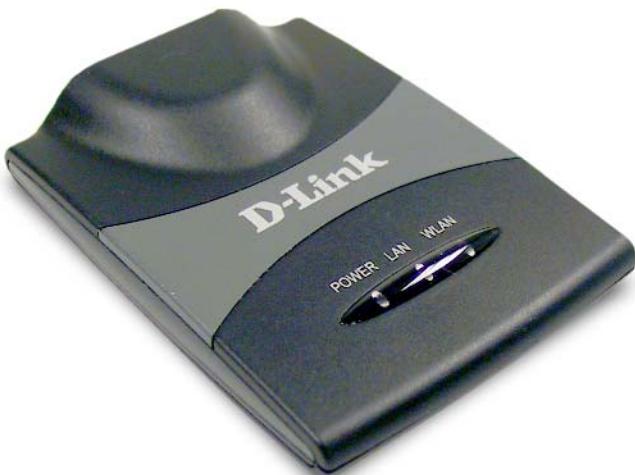
802.11g/2.4GHz
Wireless Pocket Router/AP

Manual

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Package Contents



Contents of Package:

- **D-Link AirPlus™ G DWL-G730AP**
802.11g/2.4GHz Wireless Pocket Router/AP
- Power Supply - 5V DC, 1.2A
- Manual on CD
- Quick Installation Guide
- Ethernet Cable
- USB Power Cable
- Travel Case

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

Note: Using a power supply with a different voltage rating than the one included with the DWL-G730AP will cause damage and void the warranty for this product.

System Requirements:

Computer with Windows XP/2000/Me operating system with an installed Ethernet adapter

Internet Explorer version 6.0 or Netscape Navigator version 7.0, with JavaScript enabled

Introduction

The pocket-sized DWL-G730AP gives you all the features of a full-size router/access point with pocket-size convenience and portability. Carry it along with you on business trips and vacations, and experience the convenience of wireless networking with your colleagues and family almost anywhere you travel.

With 3 different operating modes, the versatile DWL-G730AP can be used as a portable access point, AP client or router.

At up to five times the speed of previous wireless devices (maximum wireless signal rate up to 54Mbps*), you can work faster and more efficiently, increasing productivity. With the DWL-G730AP, bandwidth-intensive applications like graphics or multimedia will benefit significantly because large files are able to move across the network quickly.

The D-Link *AirPlus™ G* DWL-G730AP Wireless Pocket Router/AP is an 802.11g high-performance, wireless device that is also compatible with 802.11b devices. It is an ideal way to extend the reach and number of computers connected to your wireless network.

The DWL-G730AP is capable of data transfer rates up to 54Mbps*, when used with other D-Link *AirPlus G* products, and can be integrated into a large network.

*Maximum wireless signal rate based on IEEE Standard 802.11g specifications. Actual data throughput will vary. Network conditions and environmental factors lower actual data throughput rate.

Features and Benefits

- **Up to 5X Faster with *AirPlus G* Products** - maximum wireless signal rate up to 54Mbps.* With increased data rate and capacity, the DWL-G730AP delivers media rich content such as digital images, videos, and MP3 files much faster than standard 802.11b networks.
- **Fully 802.11b Compatible** – Fully compatible with the IEEE 802.11b standard and interoperable with all existing 802.11b compliant devices.
- **Network Security with up to 128-bit WEP Encryption** – Supports 64/128-bit WEP encryption for a level of security for your data and wireless communication.
- **Built-in DHCP Server** – If enabled, it will automatically assign IP addresses to wireless clients on the local network.
- **Web-based interface for Managing and Configuring** – Easy-to-use interface independent of the operating system.

*Maximum wireless signal rate based on IEEE Standard 802.11g specifications. Actual data throughput will vary. Network conditions and environmental factors lower actual data throughput rate.

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.

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.

Inexpensive Solution - Wireless network devices are as competitively priced as conventional Ethernet network devices.

Wireless Basics (*continued*)

Installation Considerations

Keep in mind, that the number, thickness and location of walls, ceilings, or other objects that the wireless signals must pass through, may limit the range. Typical ranges vary depending on the types of materials and background RF (radio frequency) noise in your home or business. The key to maximizing wireless range is to follow these basic guidelines:

- 1** Keep the number of walls and ceilings between the DWL-G730AP and other network devices to a minimum - each wall or ceiling can reduce your DWL-G730AP'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.

Hardware Overview

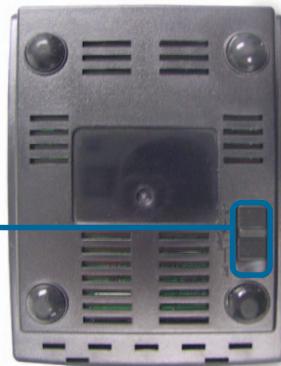
Top Panel



Power LED: Solid indicates a connection to a good power source.

WLAN LED: A solid light indicates that the wireless segment is ready. This LED blinks during wireless data transmission.

LAN LED: Solid indicates an Ethernet connection. Blinking indicates activity on the Ethernet network.



Mode Selection Switch: Used to select AP, client, or router mode.

Rear Panel

Reset Button: Used to restore default settings.

Receptor for **Power Adapter**

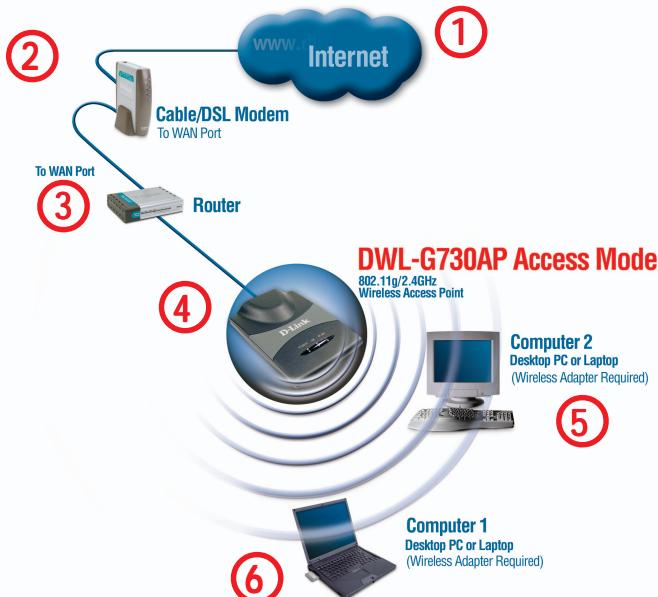


LAN Port

This is the connection for Ethernet cables to your Ethernet-enabled device. When in Router mode, this port functions as a WAN port.

Getting Started - in AP mode

An Example of a Wireless Infrastructure Network



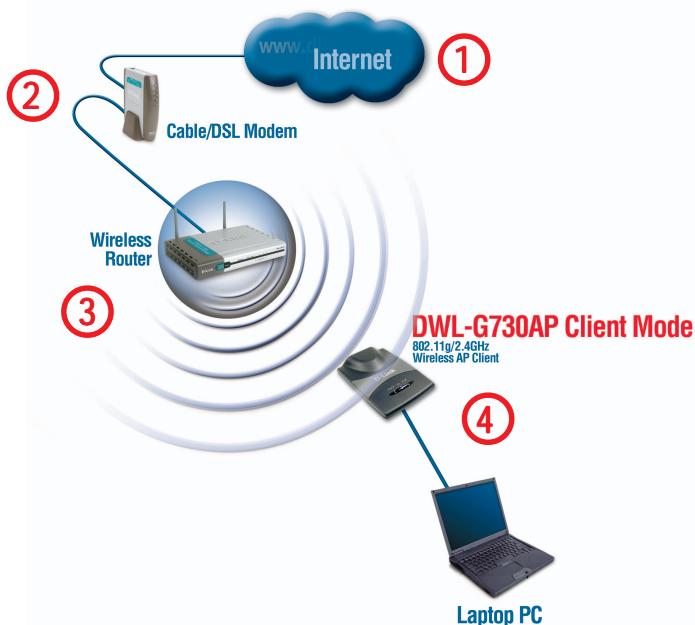
Please remember that D-Link AirPlus G wireless devices are pre-configured to connect together, right out of the box, with their default settings.

For a typical wireless setup at home (as shown above), please do the following:

- 1 You will need broadband Internet access (a Cable or DSL-subscriber line into your home or office)
- 2 Consult with your Cable or DSL provider for proper installation of the modem
- 3 Connect the Cable or DSL modem to your broadband router (see the **Quick Installation Guide** included with your router.)
- 4 Connect the router to the D-Link AirPlus G DWL-G730AP (in access point mode). (See the **Quick Installation Guide** included with the DWL-G730AP.)
- 5 If you are connecting a desktop computer in your network, you can install the D-Link AirPlus G DWL-G510 wireless PCI adapter into an available PCI slot on your desktop computer. (See the **Quick Installation Guide** included with the DWL-G510.)
- 6 Install the drivers for the wireless Cardbus adapter into a laptop computer. (e.g., the DWL-G630; See the **Quick Installation Guide** included with the DWL-G630.)

Getting Started - in Client mode

An Example of a Wireless Infrastructure Network



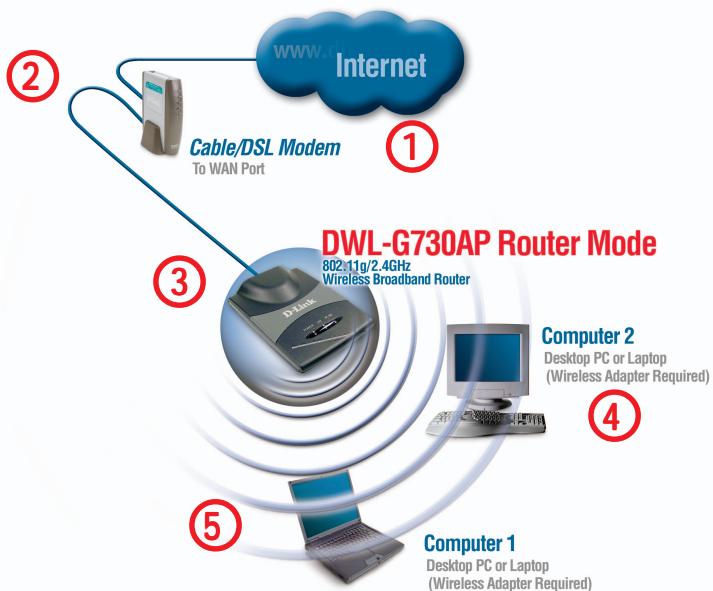
Please remember that D-Link AirPlus G wireless devices are pre-configured to connect together, right out of the box, with their default settings.

For a typical wireless setup at home (as shown above), please do the following:

- 1 You will need broadband Internet access (a Cable or DSL-subscriber line into your home or office)
- 2 Consult with your Cable or DSL provider for proper installation of the modem
- 3 Connect the Cable or DSL modem to your broadband router (see the **Quick Installation Guide** included with your router.)
- 4 Connect the D-Link AirPlus G DWL-G730AP (in client mode) to your laptop. (See the **Quick Installation Guide** included with the DWL-G730AP.)

Getting Started - in Router mode

An Example of a Wireless Infrastructure Network



Please remember that D-Link AirPlus G wireless devices are pre-configured to connect together, right out of the box, with their default settings.

For a typical wireless setup at home (as shown above), please do the following:

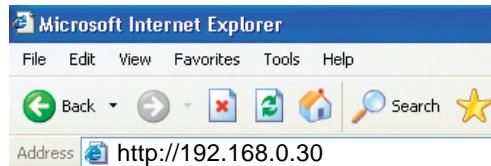
- 1** You will need broadband Internet access (a Cable or DSL-subscriber line into your home or office)
- 2** Consult with your Cable or DSL provider for proper installation of the modem.
- 3** Connect the modem to the D-Link AirPlus G DWL-G730AP (in router mode).
*(See the **Quick Installation Guide** included with the DWL-G730AP.)*
- 4** If you are connecting a desktop computer in your network, you can install the D-Link AirPlus G DWL-G510 wireless PCI adapter into an available PCI slot on your desktop computer.
*(See the **Quick Installation Guide** included with the DWL-G510.)*
- 5** Install the drivers for the wireless Cardbus adapter into a laptop computer.
*(e.g. the DWL-G630; See the **Quick Installation Guide** included with the DWL-G630.)*

Using the Configuration Utility in AP Mode

After you have completed the initial installation and the Setup Wizard (as illustrated in the Quick Installation Guide that is included with the DWL-G730AP), and you have selected AP Mode, you can access the configuration menu, at any time, by opening the web-browser and typing in the IP address of the DWL-G730AP.

The DWL-G730AP's default IP address is shown below:

- Open the web browser
- Type in the **IP address** of the DWL-G730AP. (192.168.0.30).

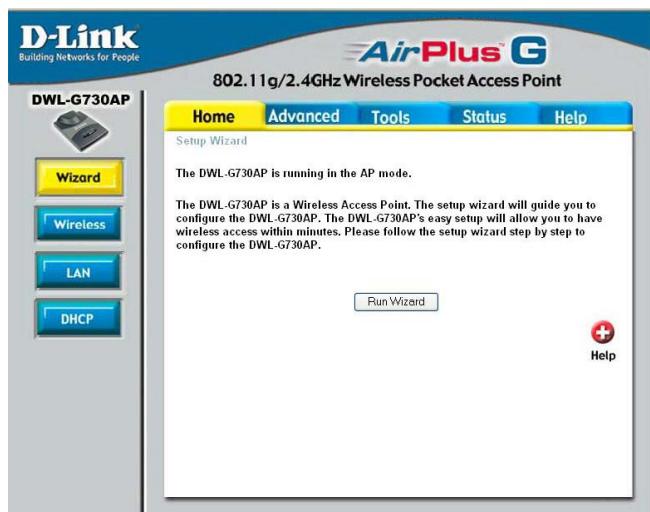


Note: If you have changed the default IP address assigned to the DWL-G730AP, make sure to enter the correct IP address.

- Type **admin** in the **User Name** field
- Leave the **Password** blank
- Click **OK**



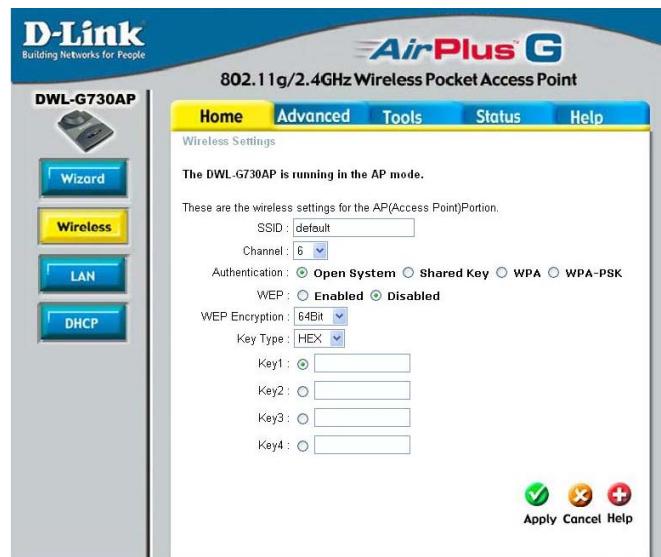
The **Home>Wizard** screen will appear. Please refer to the *Quick Installation Guide* for more information regarding the Setup Wizard.



Using the Configuration Utility in AP Mode (continued)

Home > Wireless

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



SSID: (Service Set Identifier) default is the default setting. The SSID is a unique name that identifies a network. All devices on a network must share the same SSID name in order to communicate on the network. If you choose to change the SSID from the default setting, input your new SSID name in this field.

Channel: Channel **6** is the default channel. Input a new number if you want to change the default setting. All devices on the network must be set to the same channel to communicate on the network.

Authentication:

Select **Open System** to communicate the key across the network.

Select **Shared Key** to limit communication only to those devices that share the same WEP settings.

Select **WPA** to select *Wi-Fi Protected Access* in conjunction with a RADIUS server in your network

Select **WPA-PSK** to select *Wi-Fi Protected Access* without a RADIUS server.

WEP: Select **Enabled** or **Disabled**.

WEP Encryption: Select **64-bit** or **128-bit** WEP encryption.

Key Type: Select **Hexadecimal** or **ASCII** key type

Keys 1-4: Input up to four encryption keys. You will select one of these to be the active key.

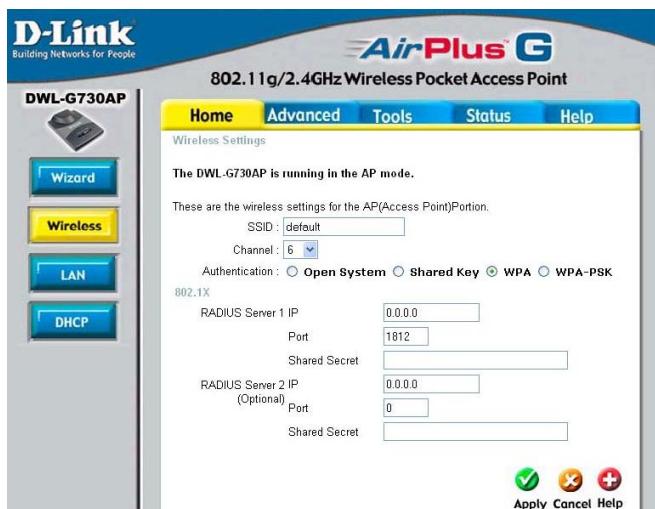
Apply: Click **Apply** to apply the changes.

Using the Configuration Utility in AP Mode (continued)

Home > Wireless > WPA

SSID: (Service Set Identifier) Default is the default setting. The SSID is a unique name that identifies a network. All devices on a network must share the same SSID name in order to communicate on the network. If you choose to change the SSID from the default setting, input your new SSID name in this field.

Channel: Channel **6** is the default channel. Input a new number if you want to change the default setting. All devices on the network must be set to the same channel to communicate on the network.



Authentication:

Select **WPA** to select *Wi-Fi Protected Access* in conjunction with a RADIUS server in your network.

When **WPA** is selected fill in the following fields:

RADIUS Server 1 IP: Enter the IP address of the RADIUS server.

Port: Enter the Port number here.

Shared Secret: Enter the shared secret here.

RADIUS Server 2 IP: Enter the IP address of the RADIUS server.

Port: Enter the Port number here.

Shared Secret: Enter the shared secret here.

Apply: Click **Apply** to apply the changes.

Using the Configuration Utility in AP Mode (continued)

Home > Wireless > WPA-PSK

SSID: (Service Set Identifier) Default is the default setting. The SSID is a unique name that identifies a network. All devices on a network must share the same SSID name in order to communicate on the network. If you choose to change the SSID from the default setting, input your new SSID name in this field.

Channel: Channel 6 is the default channel.

Input a new number if you want to change the default setting. All devices on the network must be set to the same channel to communicate on the network.

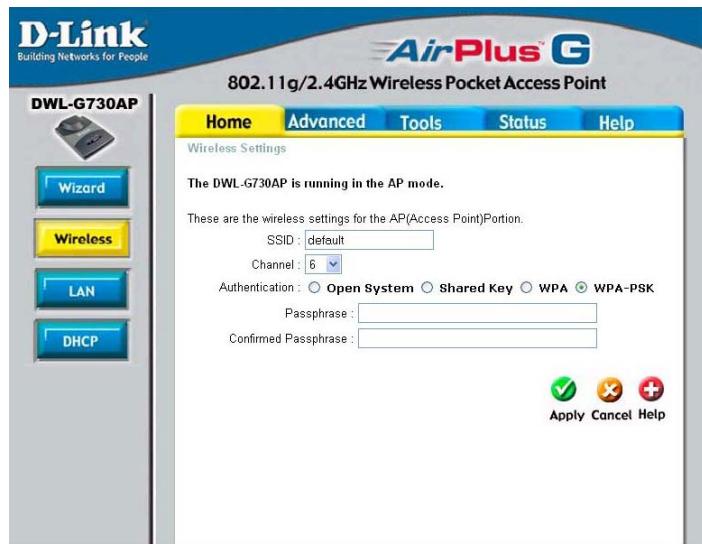
Authentication:

When **WPA-PSK** is selected fill in the following fields:

Passphrase: Enter the Passphrase here.

Confirmed Passphrase: Confirm the Passphrase here.

Apply: Click **Apply** to apply the changes.



Using the Configuration Utility in AP Mode (continued)

Home > LAN



Dynamic IP Address: Select this option if you would like to have an IP Address automatically assigned to the DWL-G730AP by a DHCP server in your network.

DHCP stands for Dynamic Host Configuration Protocol. It is a protocol for assigning dynamic IP addresses “automatically.” With a DHCP Server there is no need to manually assign an IP Address.

Static IP Address: Select this option if you are manually assigning an IP address.

IP Address: 192.168.0.30 is the default IP address of the access point.

Subnet Mask: 255.255.255.0 is the default Subnet Mask. All devices on the network must have the same subnet mask to communicate on the network.

Gateway: Enter the IP address of the router in your network.

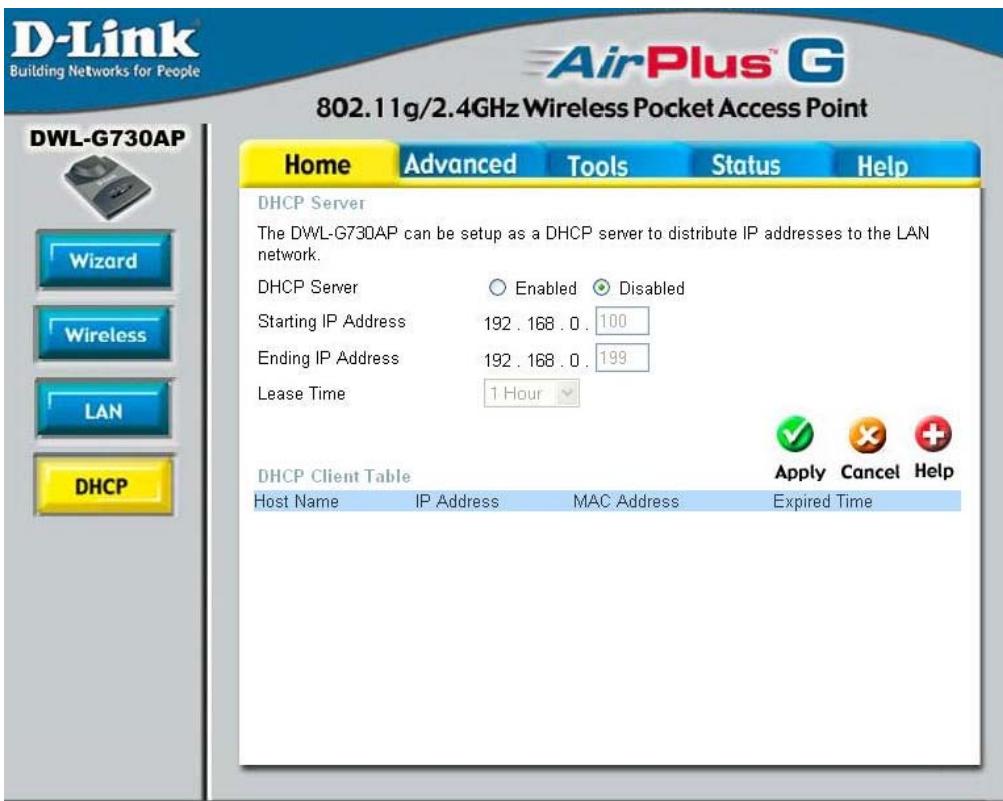
DNS Server: Enter the IP address of the DNS server. The DNS server translates domain names such as www.dlink.com into IP addresses.

IP Address

If you need to assign static IP addresses to the devices in your network, please remember that the IP address for each computer or device must be in the same IP address range as all the devices in the network. Each device must also have the same subnet mask. *For example: Assign the first computer an IP address of 192.168.0.2 and a subnet mask of 255.255.255.0, the second device an IP address of 192.168.0.3 and a subnet mask of 255.255.255.0, and so on. Note: Devices that are assigned the same IP address may not be visible on the network.*

Using the Configuration Utility in AP Mode (continued)

Home > DHCP



DHCP Server: Select **Enabled** or **Disabled**. Disabled is the default setting. If you want to use the DWL-G730AP as a DHCP server, to automatically assign dynamic IP addresses on the network, you will select Enabled.

Starting IP Address: If you have enabled the DHCP server function, enter the starting point of the IP address range for your network.

Ending IP Address: Enter the ending IP address of your IP address range, if you have enabled the DHCP function of the DWL-G730AP.

Lease Time: Choose the length of time during which the DHCP function of the DWL-G730AP automatically regenerates the IP addresses to the devices in your network.

DHCP Client Table: Lists the devices on your network that are receiving dynamic IP addresses from the DWL-G730AP.

Using the Configuration Utility in AP Mode (continued)

Advanced > Performance

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

RTS Threshold: This value should remain at its default setting of 2432. If you encounter inconsistent data flow, only minor modifications to the value range between 256 and 2432 are recommended.

Fragmentation: This value should remain at its default setting of 2346. If you experience a high packet error rate, you may slightly increase your fragmentation threshold within the value range of 256 to 2346. Setting the fragmentation threshold too low may result in poor performance.

DTIM Interval (Beacon Rate): (Delivery Traffic Indication Message) Enter a value between 1 and 255 (default is 3) for the Delivery Traffic Indication Message (DTIM.) A DTIM is a countdown informing clients of the next window for listening to broadcast and multicast messages.

TX Rates: Select the transmission rate for the network. The default setting is Auto.

Mode Setting: For utmost speed, select **G Mode** to include only 802.11g devices in your network. Select **Mix Mode** to include 802.11g and 802.11b devices in your network.

Preamble: **Short Preamble** is the default setting. (High traffic networks should use the shorter preamble type.) The preamble defines the length of the CRC block (Cyclic Redundancy Check is a common technique for detecting data transmission errors) used in communication between the access point and the wireless network adapters.

SSID Broadcast: (Service Set Identifier) Enable or Disable (default) the broadcast of the SSID name across the network. SSID is a name that identifies a wireless network. All devices on a network must use the same SSID to establish communication.

Antenna Transmit Power: Select the transmission power of the antenna. Limiting antenna power can be useful for security purposes.



Using the Configuration Utility in AP Mode (continued)

Advanced > Filters

The screenshot shows the configuration interface for the D-Link DWL-G730AP AirPlus G. The top banner displays the brand name "D-Link" and "Building Networks for People" on the left, and "AirPlus G" with "802.11g/2.4GHz Wireless Pocket Access Point" on the right. The main menu bar at the top includes "Home", "Advanced" (which is highlighted in yellow), "Tools", "Status", and "Help". On the left sidebar, there are icons for "DWL-G730AP" (showing a small image of the device), "Performance", and "Filters" (which is highlighted in yellow). The main content area is titled "MAC Filters" and contains the following text: "Filters are used to allow or deny Wireless Clients users from accessing the DWL-G730AP." Below this, there are three radio button options: "Disabled MAC Filters" (selected), "Only allow MAC address(es) listed below to connect to DWL-G730AP", and "Only deny MAC address(es) listed below to connect to DWL-G730AP". There is also a "MAC Address" input field with six text boxes separated by hyphens and a "Clear" button. Below this is a "Connected PCs" dropdown menu with a "Clone" button. At the bottom right of the content area are three buttons: a green checkmark for "Apply", a red X for "Cancel", and a red plus sign for "Help". A search bar labeled "MAC Address" is located just above the content area.

Use **MAC Filters** to allow or deny wireless clients (identified by their MAC addresses) access to the DWL-G730AP.

You can manually add a MAC address or select the MAC address from the list of clients that are currently connected to the router (**Connected PCs**).

The default setting is **Disabled MAC Filters**.

MAC Filter List: This list will display the MAC addresses that are in the selected filter.

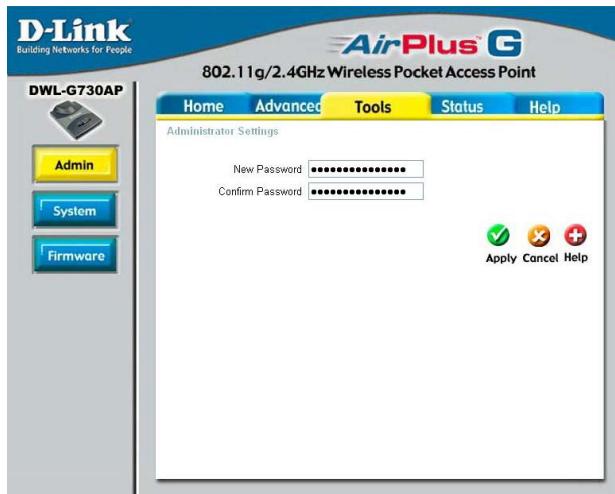
Using the Configuration Utility in AP Mode (continued)

Tools > Admin

New Password: Enter the new password.

Confirm Password:

Re-enter the password to confirm it.



Tools > System

Save Settings: The current system settings can be saved as a file onto the local hard drive.

Load Settings: The saved file or any other saved setting file can be loaded back on the access point. To reload a system settings file, click on **Browse** to browse the local hard drive and locate the system file to be used. Click **Load** when you have selected the file to be loaded back onto the access point.

Restore: You may also reset the DWL-G730AP back to factory settings by clicking on **Restore**. Make sure to save the unit's settings before clicking on **Restore**. You will lose your current settings when you click **Restore**.



Using the Configuration Utility in AP Mode (continued)

Tools > Firmware

You can upgrade the firmware of the DWL-G730AP on this page. When you click [Click here to check...](#) in this window you will be connected to D-Link's website, where you can download the latest firmware update. After you have completed the firmware download to your hard drive, click **Browse** to browse your local hard drive and locate the firmware to be used for the update.

Click **Apply**.

The screenshot shows the 'Firmware Upgrade' section of the configuration utility. It includes a link to check for the latest firmware, instructions for upgrading via a local folder, and current firmware details (Version 1.00, Date Fri, 30 Jul 2004). Buttons for 'Browse...', 'Apply', 'Cancel', and 'Help' are present.

Status > Device Info

This screen displays the current firmware version, and the current wireless and Ethernet settings of the DWL-G730AP.

The screenshot shows the 'Device Information' section. It displays the current firmware version (1.00, Thu, 22 Jul 2004) and detailed settings for both Ethernet and Wireless interfaces. The Wireless section shows SSID default, Encryption Function Disabled, and Channel 6.

Using the Configuration Utility in AP Mode (continued)

Status > Log

The screenshot shows the D-Link DWL-G730AP AirPlus G configuration utility interface. At the top, it displays "D-Link Building Networks for People" and "AirPlus G 802.11g/2.4GHz Wireless Pocket Access Point". The main menu bar includes Home, Advanced, Tools, Status (which is highlighted in yellow), and Help. On the left, there's a vertical sidebar with buttons for Device Info, Log (which is highlighted in yellow), Stats, and Wireless. The main content area is titled "View Log" and shows a log entry: "page 1 of 1" followed by a table with columns for Time and Message. The entry shows "Jul/23/2004 17:31:28" in the Time column and "System started" in the Message column. Navigation buttons at the top of the log table include First Page, Last Page, Previous, Next, Clear, and Log Settings. A "Help" button with a plus sign icon is also present.

View Log

The DWL-G730AP keeps a running log of events and activities occurring on the AP. If the device is rebooted, the logs are automatically cleared. You may save the log files under Log Setting.

First Page - The first page of the log.

Last Page - The last page of the log.

Previous - Moves back one log page.

Next - Moves forward one log page.

Clear - Clears the logs completely.

Log Settings - Brings up the page to configure the logs.

Log Settings

Not only does the DWL-G730AP display the logs of activities and events, it can be setup to send these logs to another location. The logs can be sent via email to an email account.

Using the Configuration Utility in AP Mode (continued)

Traffic Statistics

The DWL-G730AP keeps statistics of traffic that passes through it. You are able to view the amount of packets that pass through the Ethernet and wireless portions of the network. The traffic counter will reset if the device is rebooted.

Status> Stats

This screenshot shows the 'Traffic Statistics' section of the configuration utility. It displays packet counts for both the Ethernet and Wireless interfaces. The Ethernet interface has sent 483 good packets and received 1336 good packets. The Wireless interface has sent 483 good packets and received 1336 good packets. The utility interface includes a 'Device Info' button, a 'Log' button, a yellow 'Stats' button, and a 'Wireless' button.

Interface	Send Good Packets	Recv Good Packets
Ethernet	483	1336
Wireless	483	1336

Connected Wireless PCs List

This list displays the MAC addresses of connected PCs and the length of time that they have been connected.

Status > Wireless

This screenshot shows the 'Connected Wireless PCs List' section of the configuration utility. It lists connected PCs with their MAC addresses and connection times. The utility interface includes a 'Device Info' button, a 'Log' button, a yellow 'Stats' button, and a yellow 'Wireless' button.

Connected Time	MAC Address
00:00:00:00:00:00	00:00:00:00:00:00

Menu

Select from this menu for extra help.

Help

This screenshot shows the 'Help' menu of the configuration utility. It lists several sections: Home (Setup Wizard, Wireless, LAN Settings, DHCP Server), Advanced (Performance, Filters), Tools (Administrator Settings, System Settings, Firmware Upgrade), Status (Device Information, Log, Stats, Wireless), and FAQs. The utility interface includes a yellow 'Menu' button.

- Home**
 - Setup Wizard
 - Wireless
 - LAN Settings
 - DHCP Server
- Advanced**
 - Performance
 - Filters
- Tools**
 - Administrator Settings
 - System Settings
 - Firmware Upgrade
- Status**
 - Device Information
 - Log
 - Stats
 - Wireless
- FAQs**

Using the Configuration Utility in AP Client Mode

Whenever you want to configure your network or the DWL-G730AP, you can access the Configuration Menu by opening the Web browser and typing in the IP address of the DWL-G730AP. The DWL-G730AP default IP address is shown at right.

- Open the Web browser
- Type in the **IP address** of the AP Client (<http://192.168.0.30>)



Note: if you have changed the default IP address assigned to the DWL-G730AP, make sure to enter the correct IP address.

- Type **admin** in the **User Name** field
- Leave the **Password** blank
- Click **OK**



Home > Wizard

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

A screenshot of the DWL-G730AP configuration interface. The top header includes the D-Link logo, AirPlus G branding, and "802.11g/2.4GHz Wireless Pocket Access Point". The main menu bar has tabs for "Home", "Advanced", "Tools", "Status", and "Help". On the left, there's a sidebar with "DWL-G730AP" and three buttons: "Wizard" (yellow), "Wireless" (blue), and "LAN" (green). The main content area displays the "Setup Wizard" message: "The DWL-G730AP is running in the AP Client mode. The setup wizard will guide you to configure the DWL-G730AP. The DWL-G730AP's easy setup will allow you to have wireless access within minutes. Please follow the setup wizard step by step to configure the DWL-G730AP." A "Run Wizard" button is located below the message. In the bottom right corner, there's a "Help" button with a red cross icon.

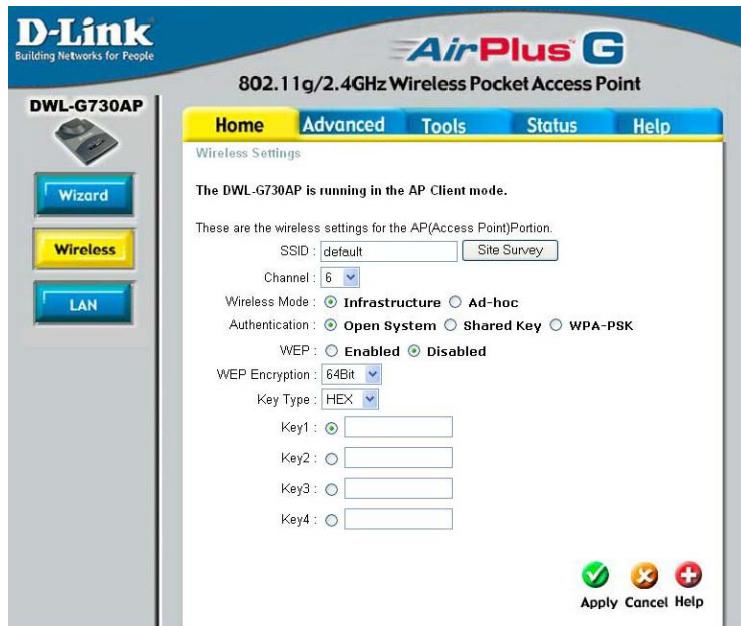
Using the Configuration Utility in AP Client Mode (continued)

Home > Wireless

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. (Note: The wireless adapters will automatically scan and match the wireless setting.)

Wireless Mode-

Select **Infrastructure** or **Ad-Hoc** mode.

Authentication-

Select **Open System** to communicate the key across the network.

Select **Shared Key** to limit communication only to those devices that share the same WEP settings.

Select **WPA-PSK** to select *Wi-Fi Protected Access* without a RADIUS server.

WEP-

Wired Equivalent Privacy (WEP) is a wireless security protocol for Wireless Local Area Networks (WLAN). WEP provides security by encrypting the data that is sent over the WLAN. Select **Enabled** or **Disabled**. **Disabled** is the default setting.

WEP Encryption-

Select the level of encryption desired: 64-bit, or 128-bit

Key Type-

Select **HEX** or **ASCII**

Keys 1-4-

Input up to 4 WEP keys; select the one you wish to use

Using the Configuration Utility in AP Client Mode (continued)

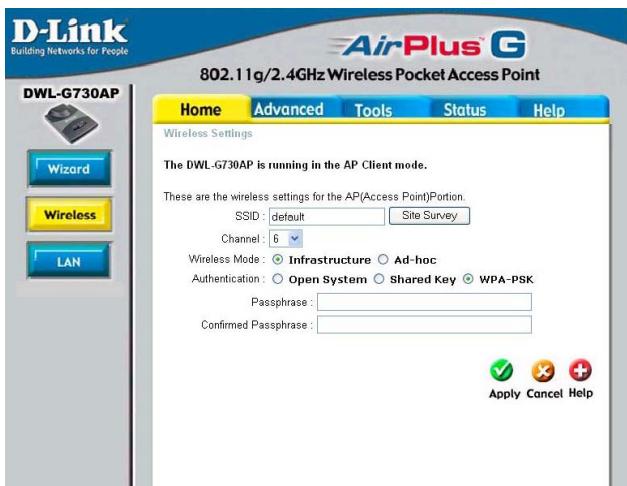
Home > Wireless > WPA-PSK

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

Channel-

6 is the default channel. All devices on the network must share the same channel. (*Note: The wireless adapters will automatically scan and match the wireless setting.*)



Wireless Mode- Select Infrastructure or Ad-Hoc mode.

Authentication- Select **Open System**, Shared Key or WPA-PSK

When **WPA-PSK** is selected fill in the following fields:

Passphrase: Enter the Passphrase here.

Confirmed Passphrase: Confirm the Passphrase here.

Apply: Click **Apply** to apply the changes.

Using the Configuration Utility in AP Client Mode (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-G730AP. 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.

- IP Address-** The IP address of the LAN interface. The default IP address is: **192.168.0.30**
- Subnet Mask-** The subnet mask of the LAN interface. The default subnet mask is **255.255.255.0**
- Gateway-** The IP address of the router.
- DNS Server-** The IP address of the Domain Name Server.

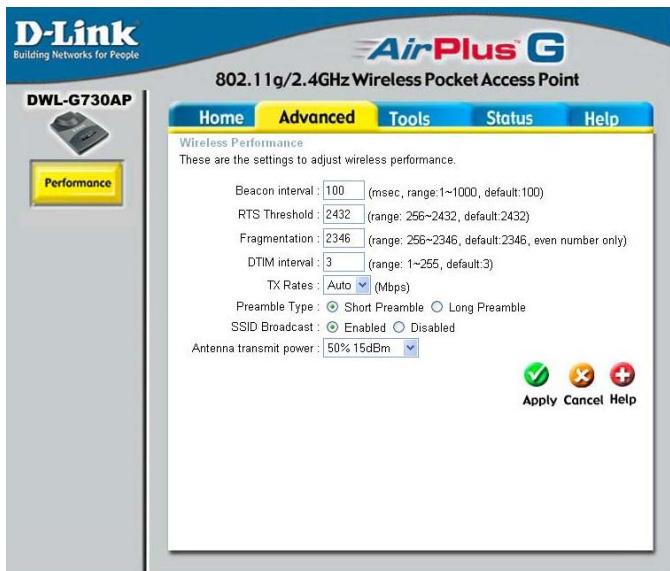
Using the Configuration Utility in AP Client Mode (continued)

Advanced > Performance

Beacon Interval:

Beacons are packets sent by an access point to synchronize a wireless network. Specify a beacon interval value. Default (100) is recommended.

RTS Threshold: This value should remain at its default setting of 2432. If you encounter inconsistent data flow, only minor modifications to the value range between 256 and 2432 are recommended.



Fragmentation:

This value should remain at its default setting of 2346. If you experience a high packet error rate, you may slightly increase your fragmentation threshold within the value range of 256 to 2346. Setting the fragmentation threshold too low may result in poor performance.

DTIM Interval: (Delivery Traffic Indication Message) Enter a value between 1 and 255 (default is 3) for the Delivery Traffic Indication Message (DTIM.) A DTIM is a countdown informing clients of the next window for listening to broadcast and multicast messages.

TX Rates: Select the transmission rate for the network. The default setting is Auto.

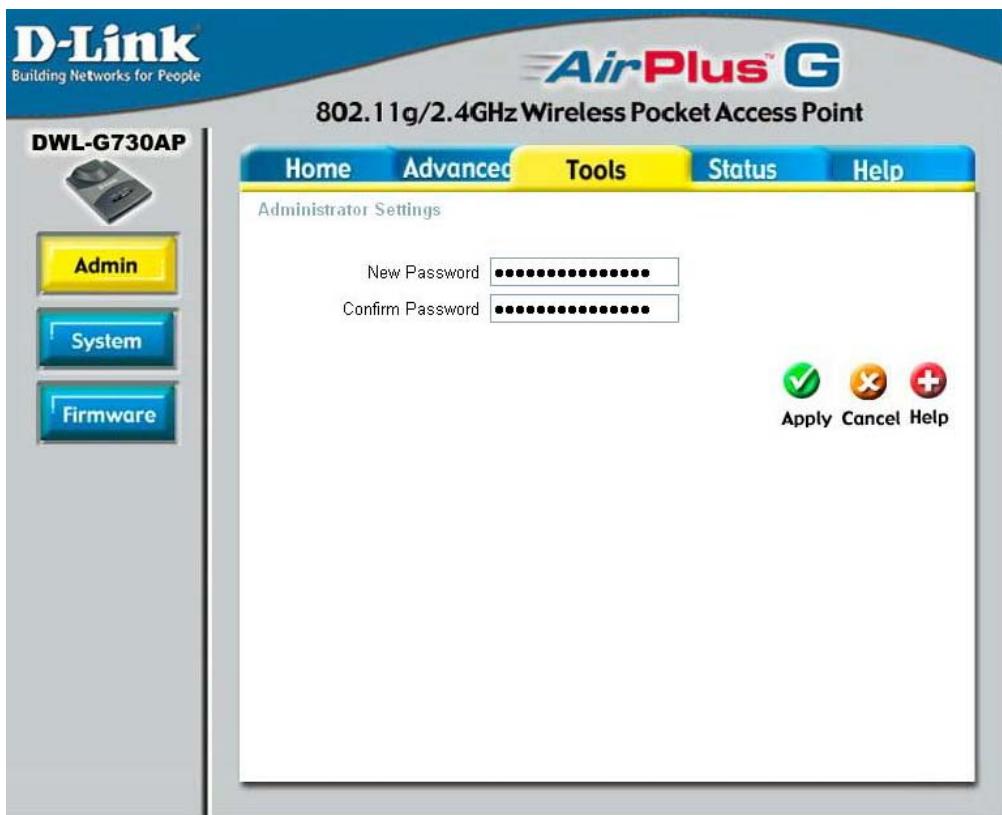
Preamble Type: **Short Preamble** is the default setting. (High traffic networks should use the shorter preamble type.) The preamble defines the length of the CRC block (Cyclic Redundancy Check is a common technique for detecting data transmission errors) used in communication between the access point and the wireless network adapters.

SSID Broadcast: (Service Set Identifier) Enable or Disable (default) the broadcast of the SSID name across the network. SSID is a name that identifies a wireless network. All devices on a network must use the same SSID to establish communication.

Antenna Transmit Power: Select the transmission power of the antenna. Limiting antenna power can be useful for security purposes.

Using the Configuration Utility in AP Client Mode (continued)

Tools > Admin



Administrator Settings-

New Password- Enter the password.

Confirm Password- Enter the password again.

Using the Configuration Utility in AP Client Mode (continued)

Tools > System



The current system settings can be saved as a file onto the local hard drive. To reload a system settings file, click on **Browse** to browse the local hard drive and locate the system file to be used.

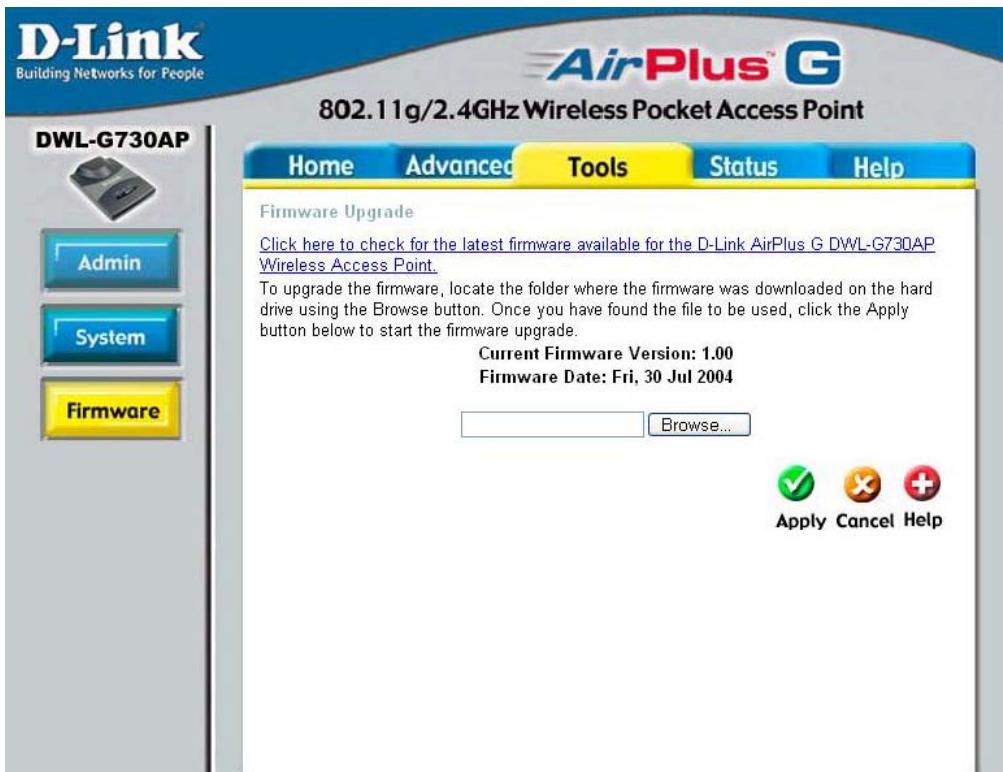
Save Settings to Local Hard Drive- Click **Save** to save the current settings to the local hard drive

Load Settings from Local Hard Drive- Click **Browse** to find the settings, then click **Load**

Restore to Factory Default Settings- Click **Restore** to restore the factory default settings

Using the Configuration Utility in AP Client Mode (continued)

Tools > 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. Check the D-Link support site for firmware updates at <http://support.dlink.com> and download firmware upgrades to your hard drive. After you have downloaded the firmware upgrade to your hard drive, click **Browse** to browse the local hard drive and locate the firmware to be used for the update.

Firmware Upgrade- Click on the link in this screen to find out if there is updated firmware; if so, download the new firmware to your hard drive.

Browse-

After you have downloaded the new firmware, click **Browse** in this window to locate the firmware update on your hard drive. Click **Apply** to complete the firmware upgrade.

Using the Configuration Utility in AP Client Mode (continued)

Status > Device Info

The screenshot shows the configuration interface for the D-Link DWL-G730AP AirPlus G. At the top left is the D-Link logo with the tagline "Building Networks for People". To its right is the "AirPlus G" logo. Below the logo, the text "802.11g/2.4GHz Wireless Pocket Access Point" is displayed. The main menu bar includes Home, Advanced, Tools, Status (which is highlighted in yellow), and Help. On the left side, there is a sidebar with a small image of the DWL-G730AP, a "Device Info" button (which is yellow), and a "Stats" button (which is blue). The main content area is titled "Device Information" and displays the following information:

Device Information	
Firmware Version 1.00 , Thu, 22 Jul 2004	
Ethernet	
MAC Address	00-2C-5E-98-78-B3
IP Address	192.168.0.30
Subnet Mask	255.255.255.0
Gateway	0.0.0.0
DHCP Server	Disabled
Wireless	
SSID	POCKET_AP
Encryption Function	Disabled
Channel	6

In the bottom right corner of the main content area, there is a red circular icon with a white plus sign and the word "Help" next to it.

This screen displays the current firmware version, and the current wireless and Ethernet settings of the DWL-G730AP.

Using the Configuration Utility in AP Client Mode (continued)

Status > Stats

The screenshot shows the 'Status' tab selected in the navigation bar of the configuration utility. On the left, there's a sidebar with 'DWL-G730AP' and icons for 'Device Info' and 'Stats'. The main content area displays 'Traffic Statistics' for both 'Ethernet' and 'Wireless' networks. For each network, it shows 'Send Good Packets' (1460) and 'Recv Good Packets' (0). A 'Help' button with a red cross icon is located in the bottom right corner.

Network	Action	Value
Ethernet	Send Good Packets	1460
	Recv Good Packets	0
Wireless	Send Good Packets	1460
	Recv Good Packets	0

This screen displays the Traffic Statistics. Here you can view the amount of packets that pass through the DWL-G730AP on both the Ethernet and the wireless networks. The traffic counter will reset if the device is rebooted.

Using the Configuration Utility in AP Client Mode (continued)

Help

The screenshot shows the configuration utility interface for the D-Link AirPlus G DWL-G730AP. At the top left is the D-Link logo with the tagline "Building Networks for People". To its right is the product name "DWL-G730AP" next to an image of the access point. Above the main menu bar is the text "802.11g/2.4GHz Wireless Pocket Access Point". The main menu bar includes "Home", "Advanced", "Tools", "Status", and "Help". The "Help" menu is currently selected and highlighted in yellow. On the left side, there is a vertical sidebar with a "Menu" button. The main content area is divided into sections: "Home" (with links to Setup Wizard, Wireless, LAN Settings, and DHCP Server), "Advanced" (with links to Performance and Filters), "Tools" (with links to Administrator Settings, System Settings, and Firmware Upgrade), "Status" (with links to Device Information, Log, Stats, and Wireless), and "FAQs".

The Help menu is displayed here. Click on a topic to learn more about it.

Using the Configuration Utility in Router Mode

To configure the DWL-G730AP in Router mode, you must be connected to the router via a wireless network adapter. The LAN Port on the unit functions as a WAN port when the DWL-G730AP is operating in Router mode. To run the setup wizard, establish a wireless connection with the DWL-G730AP and follow the steps below.

To use the DWL-G730AP as a router, toggle the switch on the back of the unit.

- Open the Web browser
- Type in the **IP address** of the router
(<http://192.168.0.30>)

Note: if you have changed the default IP address assigned to the DWL-G730AP, make sure to enter the correct IP address.

- Type **admin** in the **User Name** field
- Leave the **Password** blank
- Click **OK**



Home > Wizard

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

The DWL-G730AP can be configured as a Wireless Broadband Router that is ideal for sharing an Internet Connection. This setup wizard will guide you through a simple configuration process to connect the DWL-G730AP to an ISP (Internet Service Provider). To begin this process click the "Run Wizard" button below and follow the step by step instructions.

Using the Configuration Utility in Router Mode (continued)

Home > Wireless

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.

Authentication-

Select **Open System** to communicate the key across the network.

Select **Shared Key** to limit communication only to those devices that share the same WEP settings.

Select **WPA-PSK** to select *Wi-Fi Protected Access* without a RADIUS server.

WEP-

Wired Equivalent Privacy (WEP) is a wireless security protocol for Wireless Local Area Networks (WLAN). WEP provides security by encrypting the data that is sent over the WLAN. Select **Enabled** or **Disabled**. **Disabled** is the default setting.

WEP Encryption-

Select the level of encryption desired: 64-bit, or 128-bit.

Key Type-

Select **HEX** or **ASCII**.

Keys 1-4-

Input up to 4 WEP keys; select the one you wish to use.

Using the Configuration Utility in Router Mode (continued)

Home > Wireless > WPA-PSK

SSID: (Service Set Identifier) default is the default setting. The SSID is a unique name that identifies a network. All devices on a network must share the same SSID name in order to communicate on the network. If you choose to change the SSID from the default setting, input your new SSID name in this field.

Channel: Channel **6** is the default channel. Input a new number if you want to change the default setting. All devices on the network must be set to the same channel to communicate on the network.

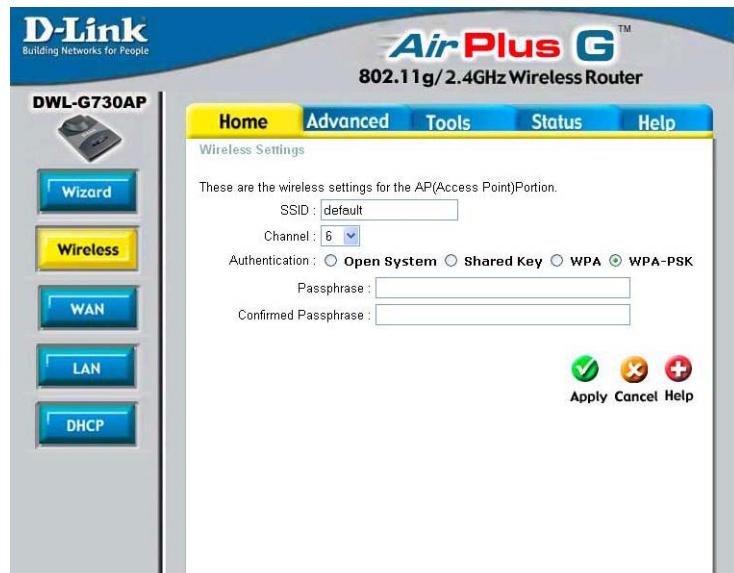
Authentication:

When **WPA-PSK** is selected fill in the following fields:

Passphrase: Enter the Passphrase here.

Confirmed Passphrase: Confirm the Passphrase here.

Apply: Click **Apply** to apply the changes.

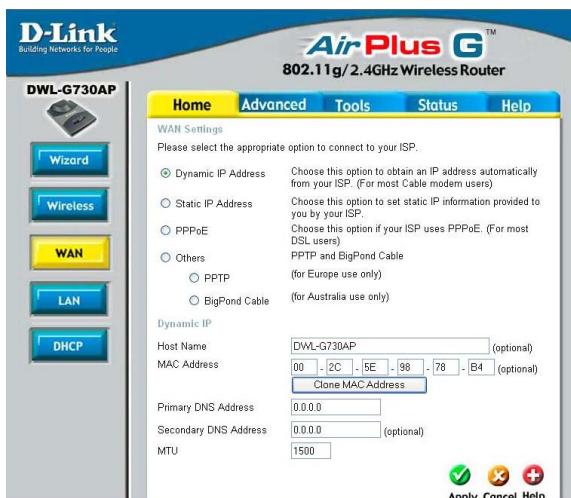


Using the Configuration Utility in Router Mode (continued)

Home > WAN > Dynamic IP Address

Dynamic IP Address is selected here.

Other options include:
Static IP Address (if your ISP provides you with a static IP address), **PPPoE** (for most DSL users), **PPTP** (for Europe) and **BigPond Cable** (for Australia).



Dynamic IP Address-

Choose **Dynamic IP Address** to obtain an IP address automatically.

Host Name-

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.

MAC Address-

The default MAC address is set to the WAN's physical interface MAC address on the router. It is not recommended that you change the default MAC address unless required by your ISP.

Clone MAC Address-

The default MAC address is set to the WAN's physical interface MAC address on the router. You can use the "Clone MAC Address" button to copy the MAC address of the Ethernet Card installed by your ISP and replace the WAN MAC address with the MAC address of the router. It is not recommended that you change the default MAC address unless required by your ISP.

Primary/ Secondary DNS Address-

Enter a DNS address if you do not wish to use the one provided by your ISP.

MTU-

Maximum Transmission Unit-1500 is the default setting. Enter an MTU value only if required by your ISP. Otherwise, leave it at the default setting.

Using the Configuration Utility in Router Mode (continued)

Home > LAN

The screenshot shows the configuration interface for a D-Link AirPlus G DWL-G730AP wireless router. The top navigation bar includes the D-Link logo, the model name "DWL-G730AP", and the product name "AirPlus G™ 802.11g/2.4GHz Wireless Router". The main menu bar has tabs for Home, Advanced, Tools, Status, and Help, with "Home" currently selected. On the left sidebar, there are links for Wizard, Wireless, WAN, LAN (which is highlighted in yellow), and DHCP. The main content area is titled "LAN Settings" and contains the following information:
The IP address of the DWL-G730AP.
IP Address: 192.168.0.30
Subnet Mask: 255.255.255.0
Local Domain Name: (optional)
Below these fields are three buttons: a green checkmark icon labeled "Apply", a red X icon labeled "Cancel", and a red plus sign icon labeled "Help".

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-G730AP. 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.

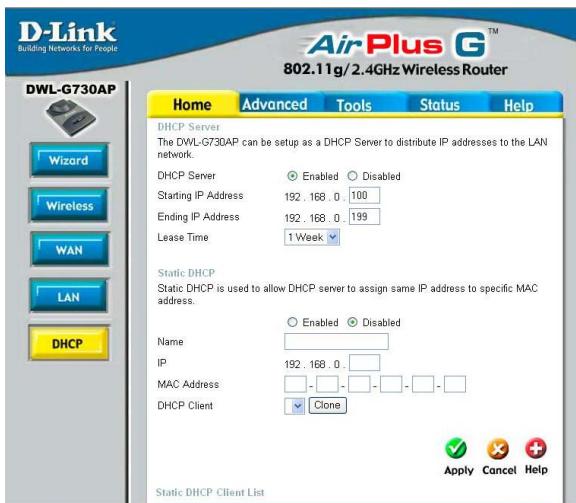
- IP Address-** The IP address of the LAN interface. The default IP address is: **192.168.0.30**
- Subnet Mask-** The subnet mask of the LAN interface. The default subnet mask is **255.255.255.0**
- Local Domain-** This field is optional. Enter in the local domain name.

Using the Configuration Utility in Router Mode (continued)

Home > DHCP

DHCP stands for *Dynamic Host Control Protocol*.

The DWL-G730AP 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 DWL-G730AP. 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.



DHCP Server- Select **Enabled** or **Disabled**. The **default** setting is **Enabled**.

Starting IP Address- The starting IP address for the DHCP server's IP assignment.

Ending IP Address- The ending IP address for the DHCP server's IP assignment.

Lease Time- The length of time for the IP lease. Enter the Lease time. The default setting is one hour.

Static DHCP is used to allow the DHCP server to assign some Static IP addresses via specific MAC addresses.

Static DHCP- Select **Enabled** or **Disabled**.

Name- Enter a name here.

IP- Enter the last digits of the IP address here.

MAC Address- Enter the MAC address of the computer that will be assigned the Static DHCP IP address.

DHCP Client- Use this pull-down list to list DHCP clients on your network. To copy the MAC address into the MAC address section above, simply select the client from the pull-down list and click the **Clone** button.

Using the Configuration Utility in Router Mode (continued)

Advanced > Virtual Server

The screenshot shows the 'Virtual Server' configuration page. The 'Virtual Server' tab is active. The configuration fields include:

- Name: A text input field with a 'Clear' button.
- Private IP: A text input field.
- Protocol Type: A dropdown menu set to 'TCP'.
- Private Port: A text input field.
- Public Port: A text input field.
- Schedule: A radio button group with 'Always' selected, or a 'From time' dropdown for specific hours and days.

Below the configuration form is a table titled 'Virtual Servers List' containing the following data:

Name	Private IP	Protocol	Schedule
Virtual Server FTP	0.0.0.0	TCP 21/21	always
Virtual Server HTTP	0.0.0.0	TCP 80/80	always
Virtual Server HTTPS	0.0.0.0	TCP 443/443	always
Virtual Server DNS	0.0.0.0	UDP 53/53	always
Virtual Server SMTP	0.0.0.0	TCP 25/25	always
Virtual Server POP3	0.0.0.0	TCP 110/110	always
Virtual Server Telnet	0.0.0.0	TCP 23/23	always
IPSec	0.0.0.0	UDP 500/500	always
PPTP	0.0.0.0	TCP 1723/1723	always
NetMeeting	0.0.0.0	TCP 1720/1720	always
DCS-900/DCS-1000	0.0.0.0	TCP 80/80	always
DCS-2000	0.0.0.0	TCP 80/80	always
DVC-1000	0.0.0.0	TCP 1720/1720	always

Buttons for 'Apply', 'Cancel', and 'Help' are located at the bottom right of the configuration area.

The DWL-G730AP 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 DWL-G730AP firewall feature filters out unrecognized packets to protect your LAN network so all computers networked with the DWL-G730AP 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 DWL-G730AP redirects the external service request to the appropriate server within the LAN network.

The DWL-G730AP 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.

Using the Configuration Utility in Router Mode (continued)

Advanced > Virtual Server (continued)

Virtual Server-	Select Enabled or Disabled .
Name-	Enter the name referencing the virtual service.
Private IP-	The server computer in the LAN (Local Area Network) that will be providing the virtual services.
Protocol Type-	The protocol used for the virtual service.
Private Port-	The port number of the service used by the Private IP computer.
Public Port-	The port number on the WAN (Wide Area Network) side that will be used to access the virtual service.
Schedule-	The schedule of time when the virtual service will be enabled. The schedule may be set to Always , which will allow the particular service to always be enabled. If it is set to From , select the time frame for the service to be enabled. If the system time is outside of the scheduled time, the service will be disabled.
Example #1:	If you have a Web server that you wanted Internet users to access at all times, you would need to enable it. Web (HTTP) server is on LAN (Local Area Network) computer 192.168.0.25. HTTP uses port 80, TCP. Name: Web Server Private IP: 192.168.0.25 Protocol Type: TCP Private Port: 80 Public Port: 80 Schedule: always

Using the Configuration Utility in Router Mode (continued)

Advanced > Virtual Server (continued)

Virtual Servers List

Name	Private IP
<input checked="" type="checkbox"/> Virtual Server HTTP	192.168.0.25



Click on this icon to edit the virtual service



Click on this icon to delete the virtual service

Example #2:

If you have an FTP server that you wanted Internet users to access by WAN port 2100 and only during the weekends, you would need to enable it as such. FTP server is on LAN computer 192.168.0.30. FTP uses port 21, TCP.

Name: FTP Server

Private IP: 192.168.0.30

Protocol Type: TCP

Private Port: 21

Public Port: 2100

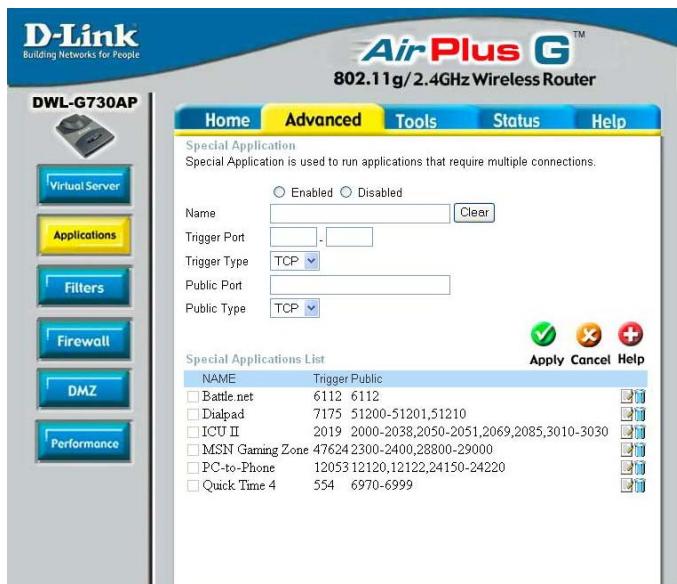
Schedule: From: 01:00AM to 01:00AM, Sat to Sun

All Internet users who want to access this FTP Server must connect to it from port 2100. This is an example of port redirection and can be useful in cases where there are many of the same servers on the LAN network.

Using the Configuration Utility in Router Mode (continued)

Advanced > Applications

Some applications such as Internet gaming, video conferencing, Internet telephony and others, require multiple connections. These applications save difficulties working through NAT (Network Address Translation). Special Applications makes some of these applications work with the DWL-G730AP. 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 public ports associated with the trigger port to open them for inbound traffic.



Note! Only one PC can use each Special Application tunnel.

Name: This is the name referencing the special application.

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

Trigger Type: This is the protocol used to trigger the special application.

Public Port: This is the port number on the WAN 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.

Public Type: This is the protocol used for the special application.

Special Applications List

The DWL-G730AP provides some predefined applications in the table on the bottom of the Web page. Select the application you want to use and enable it.

Using the Configuration Utility in Router Mode (continued)

Advanced > Filters > IP Filters

The screenshot shows the D-Link AirPlus G DWL-G730AP configuration utility. The top navigation bar includes Home, Advanced (which is selected), Tools, Status, and Help. On the left, a sidebar lists Virtual Server, Applications, Filters (selected), Firewall, DMZ, and Performance. The main content area is titled 'Filters' and describes how they allow or deny LAN users from accessing the Internet. It includes sections for IP Filters, URL Blocking, MAC Filters, and Domain Blocking. Under 'IP Filters', there are fields for enabling/disabling filters, specifying IP ranges, ports, protocol type (TCP/UDP), and a schedule. A table at the bottom shows the current IP Filter List with columns for IP Range, Protocol, and Schedule. Buttons for Apply, Cancel, and Help are located on the right.

IP Range	Protocol	Schedule
*	TCP 20-21	always
*	TCP 80	always
*	TCP 443	always

Filters are used to deny or allow LAN (Local Area Network) computers from accessing the Internet. The DWL-G730AP can be setup to deny internal computers by their IP or MAC addresses. The DWL-G730AP can also block users from accessing restricted web sites.

IP Filters: Use IP Filters to deny LAN IP addresses from accessing the Internet. You can deny specific port numbers or all ports for the specific IP address.

IP: The IP address of the LAN computer that will be denied access to the Internet.

Port: The single port or port range that will be denied access to the Internet.

Protocol Type: Select the protocol type

Schedule: This is the schedule of time when the IP Filter will be enabled.

Using the Configuration Utility in Router Mode (continued)

Advanced > Filters > URL Blocking



URL Blocking: Select **Enable** or **Disable**. Enter the words or word contained in the URL that you wish to block. Click **Apply** to activate the URL blocking.

Delete: Select the URL block that you want to delete. Click **Delete**.

Apply: Click **Apply** to save changes.

Using the Configuration Utility in Router Mode (continued)

Advanced > Filters > MAC Filters

The screenshot shows the D-Link AirPlus G DWL-G730AP configuration utility. The top header includes the D-Link logo, the model name DWL-G730AP, and the product name AirPlus G™ 802.11g/2.4GHz Wireless Router. The main menu bar has tabs for Home, Advanced (which is selected), Tools, Status, and Help. On the left, a vertical sidebar contains buttons for Virtual Server, Applications, Filters (which is selected), Firewall, DMZ, and Performance. The main content area is titled 'Filters' and describes how filters allow or deny LAN users from accessing the Internet. It offers four filter types: IP Filters, URL Blocking, MAC Filters (selected), and Domain Blocking. The 'MAC Filters' section allows selecting Disabled, Allow, or Deny. For 'Allow', there is a 'Name' input field and a 'Clear' button. For 'Deny', there is a 'MAC Address' input field with a separator dash and a 'Clone' dropdown. Below this is a 'DHCP Client' dropdown. At the bottom right are 'Apply', 'Cancel', and 'Help' buttons, along with icons for checkmark, cancel, and add.

Disable MAC Filters:

Click to **Disable** MAC Filters.

Allow:

Allow only those devices with the listed MAC addresses access to the network.

Deny:

Deny the devices that are listed from accessing the network.

Name:

Enter a name for the device.

Clear:

Click Clear to erase the name.

MAC Address:

Enter the MAC address manually.

Clone:

Select the **DHCP Client** from the pull-down list and click **Clone** to enter the MAC address into the list.

Apply:

Click **Apply** to save the changes.

Using the Configuration Utility in Router Mode (continued)

Advanced > Filters > Domain Blocking

The screenshot shows the D-Link AirPlus G DWL-G730AP configuration utility. The top bar includes the D-Link logo, the model name DWL-G730AP, and the product name AirPlus G 802.11g/2.4GHz Wireless Router. The menu bar has tabs for Home, Advanced (which is selected), Tools, Status, and Help. On the left, a vertical sidebar lists icons for Virtual Server, Applications, Filters (selected), Firewall, DMZ, and Performance. The main content area has a 'Filters' section describing domain blocking. It includes radio buttons for IP Filters, URL Blocking, MAC Filters, and Domain Blocking (which is selected). Below this is a 'Domain Blocking' section with three options: Disabled (selected), Allow users to access all domains except "Blocked Domains", and Deny users to access all domains except "Permitted Domains". There are two lists: 'Permitted Domains' and 'Blocked Domains', each with a text input field and a 'Delete' button.

Disable: Click **Disable** to disable domain blocking.

Allow: Click **Allow** to allow access to all domains except **Blocked Domains**.

Deny: Click **Deny** to deny access to all domains except **Permitted Domains**.

Permitted Domains: Enter the permitted domains here. Click **Apply**.

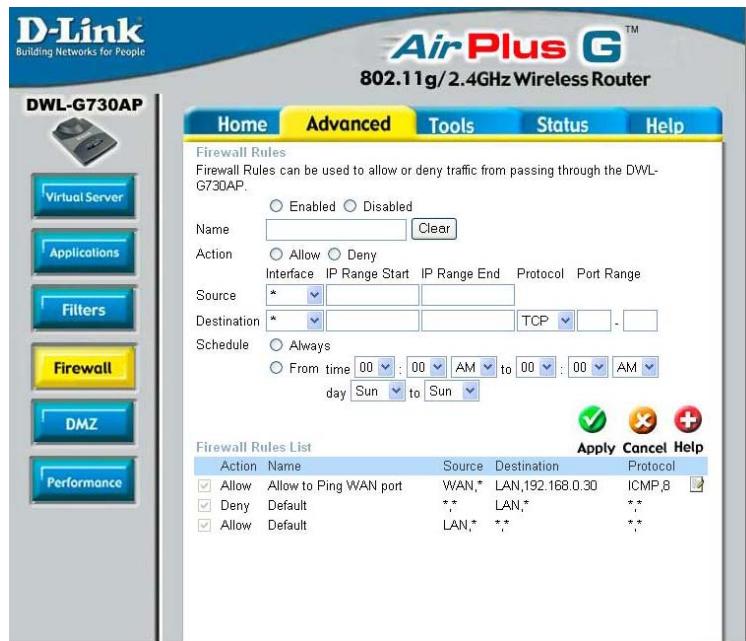
Blocked Domains: Enter the blocked domains here. Click **Apply**.

Delete: Select a domain from either the permitted or blocked domain list, and click **Delete** to delete this domain.

Using the Configuration Utility in Router Mode (continued)

Advanced > Firewall

Firewall Rules is an advanced feature used to deny or allow traffic from passing through the DWL-G730AP. It works in the same way as IP Filters with additional settings. You can create more detailed access rules for the DWL-G730AP. When virtual services are created and enabled, it will also display in Firewall Rules. Firewall Rules contain all network firewall rules pertaining to IP (Internet Protocol).



Note:

The DWL-G730AP MAC Address filtering rules have precedence over the Firewall Rules.

Firewall Rules-

Enable or disable the Firewall

Name-

Enter the name

Action-

Allow or Deny

Source-

Enter the IP Address range

Destination-

Enter the IP Address range; the Protocol; and the Port Range

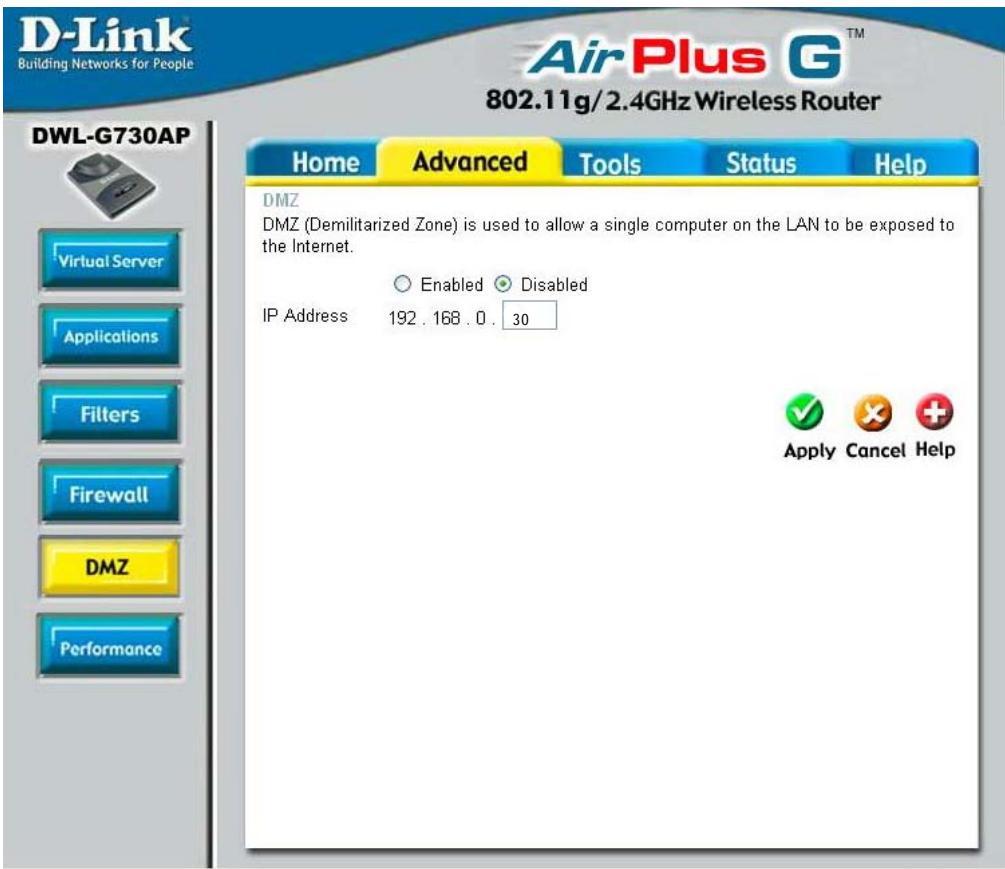
Schedule-

Select Always or enter the Time Range.

In the Firewall Rules List at the bottom of the screen, rules are prioritized from the top (highest priority) to the bottom (lowest priority.)

Using the Configuration Utility in Router Mode (continued)

Advanced > DMZ



If you have a client PC that cannot run Internet applications properly from behind the DWL-G730AP, then you can set the client up for unrestricted Internet access. Allowing a computer to be exposed to the Internet, this feature is useful for gaming purposes. Enter the IP address of the internal computer that will be the DMZ host. Using the DMZ (Demilitarized Zone) feature may expose your local network to a variety of security risks, so only use this option as a last resort.

DMZ-

Enable or Disable the DMZ. The DMZ (Demilitarized Zone) allows a single computer to be exposed to the internet. By **default** the DMZ is **disabled**.

IP Address-

Enter the **IP Address** of the computer to be in the **DMZ**

Using the Configuration Utility in Router Mode (continued)

Advanced > Performance

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

RTS Threshold: This value should remain at its default setting of 2432. If you encounter inconsistent data flow, only minor modifications to the value range between 256 and 2432 are recommended.

Fragmentation: This value should remain at its default setting of 2346. If you experience a high packet error rate, you may slightly increase your fragmentation threshold within the value range of 256 to 2346. Setting the fragmentation threshold too low may result in poor performance.

DTIM Interval (Beacon Rate): (Delivery Traffic Indication Message) Enter a value between 1 and 255 (default is 3) for the Delivery Traffic Indication Message (DTIM.) A DTIM is a countdown informing clients of the next window for listening to broadcast and multicast messages.

TX Rates: Select the transmission rate for the network. The default setting is Auto.

Mode Setting: For utmost speed, select **G Mode** to include only 802.11g devices in your network. Select **Mix Mode** to include 802.11g and 802.11b devices in your network.

Preamble: **Short Preamble** is the default setting. (High traffic networks should use the shorter preamble type.) The preamble defines the length of the CRC block (Cyclic Redundancy Check is a common technique for detecting data transmission errors) used in communication between the access point and the wireless network adapters.

Authentication:

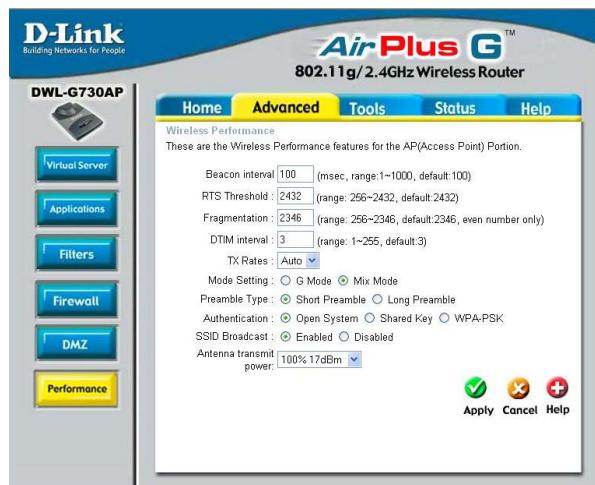
Select **Open System** to communicate the key across the network.

Select **Shared Key** to limit communication only to those devices that share the same WEP settings.

Select **WPA-PSK** to select *Wi-Fi Protected Access* without a RADIUS server.

SSID Broadcast: (Service Set Identifier) Enable or Disable (default) the broadcast of the SSID name across the network. SSID is a name that identifies a wireless network. All devices on a network must use the same SSID to establish communication.

Antenna Transmit Power: Select the transmission power of the antenna. Limiting antenna power can be useful for security purposes.



Using the Configuration Utility in Router Mode (continued)

Tools > Admin



At this page, the DWL-G730AP administrator can change the system password. There are two accounts that can access the router's Web-management interface. They are **admin** and **user**. **Admin** has read/write access while **user** has read-only access. The **user** can only view the settings but cannot make any changes.

Administrator-

admin is the **Administrator login name**

Password-

Enter the password and enter again to confirm

User-

user is the **User login name**

Password-

Enter the password and enter again to confirm

Remote Management- Remote management allows the DWL-G730AP 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.

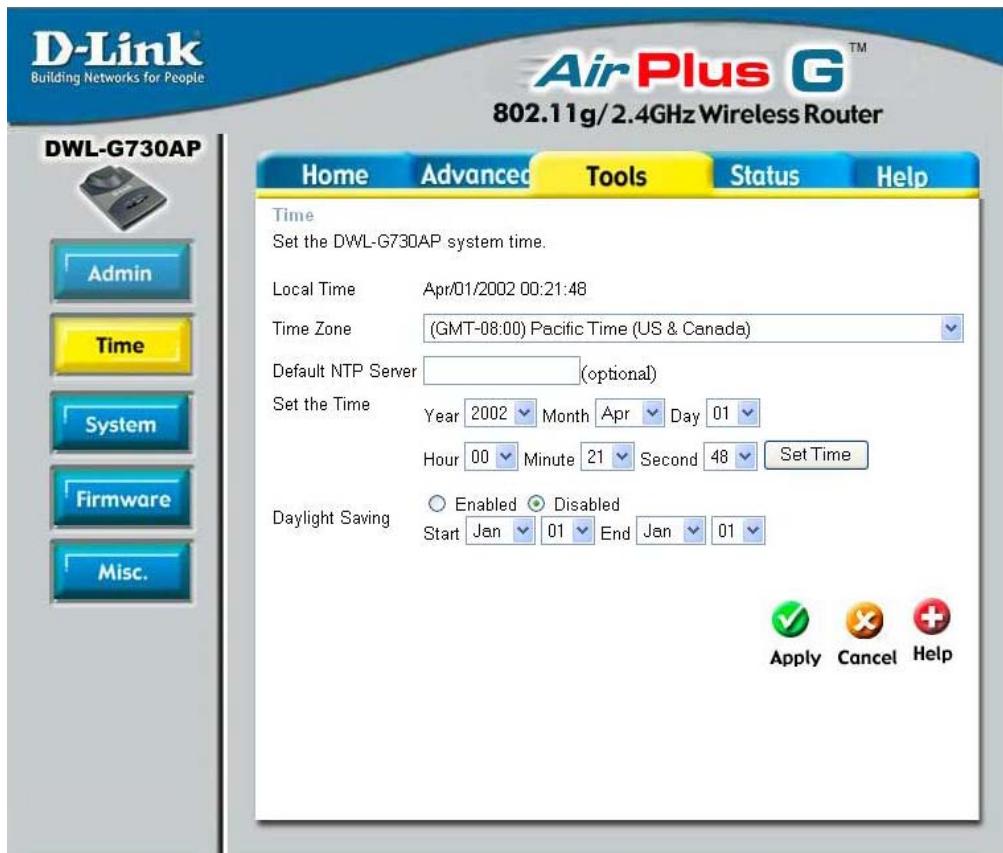
IP Address- The Internet IP address of the computer that has access to the router. If you input an asterisk (*) into this field, then any computer will be able to access the router. Putting an asterisk (*) into this field would present a security risk and is not recommended.

Port- The port number used to access the router.

Example- <http://x.x.x.x:8080> where x.x.x.x is the WAN IP address of the router and 8080 is the port used for the Web-mangement interface.

Using the Configuration Utility in Router Mode (continued)

Tools > Time



Time Zone-

Select the time zone from the pull-down menu.

Default NTP Server-

NTP is short for *Network Time Protocol*. NTP synchronizes computer clock times in a network of computers. This field is optional.

Set the Time-

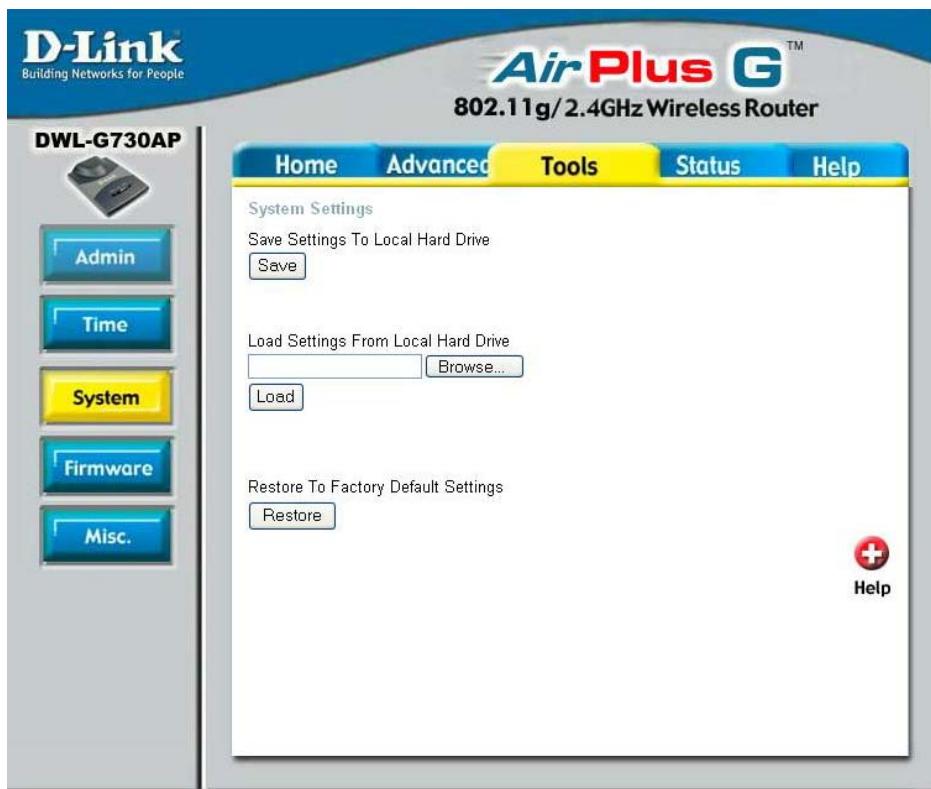
To manually input the time, enter the values in these fields for the year, month, day, hour, minute, and second. Click **Set Time**.

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.

Using the Configuration Utility in Router Mode (continued)

Tools > System



The current system settings can be saved as a file onto the local hard drive. To reload a system settings file, click on **Browse** to browse the local hard drive and locate the system file to be used.

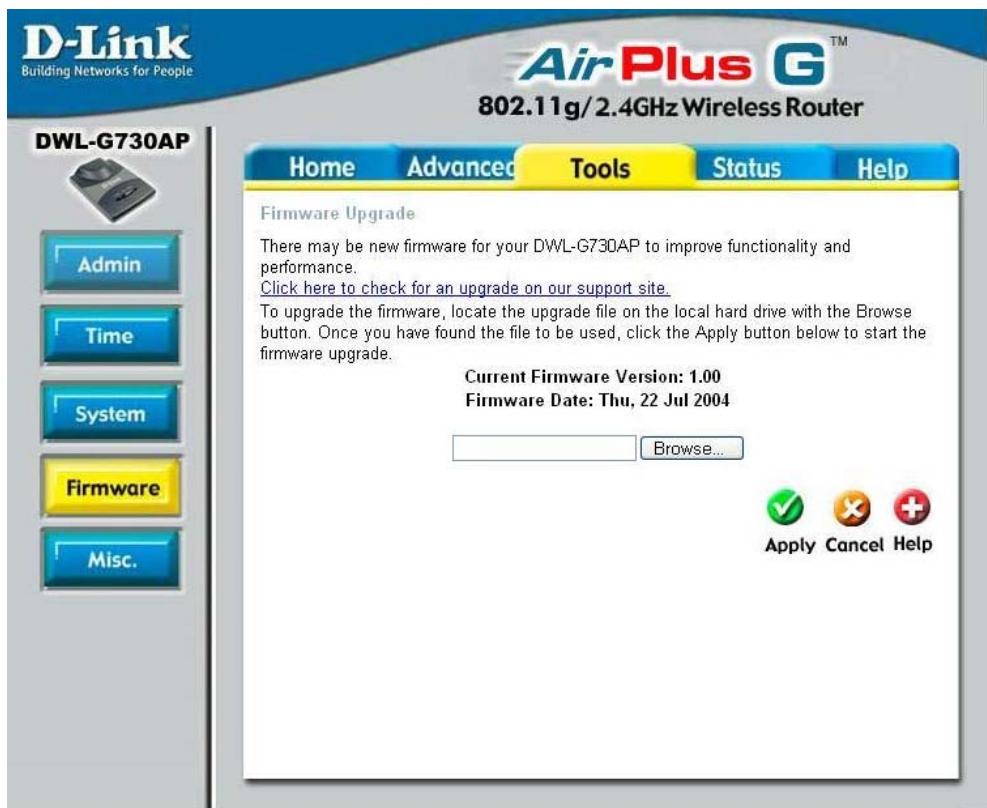
Save Settings to Local Hard Drive- Click **Save** to save the current settings to the local hard drive

Load Settings from Local Hard Drive- Click **Browse** to find the settings, then click **Load**

Restore to Factory Default Settings- Click **Restore** to restore the factory default settings

Using the Configuration Utility in Router Mode (continued)

Tools > 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. 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. After you have downloaded the firmware upgrade to your hard drive, click **Browse** to browse the local hard drive and locate the firmware to be used for the update.

Firmware Upgrade- Click on the link in this screen to find out if there is updated firmware; if so, download the new firmware to your hard drive.

Browse- After you have downloaded the new firmware, click **Browse** in this window to locate the firmware update on your hard drive. Click **Apply** to complete the firmware upgrade.

Using the Configuration Utility in Router Mode (continued)

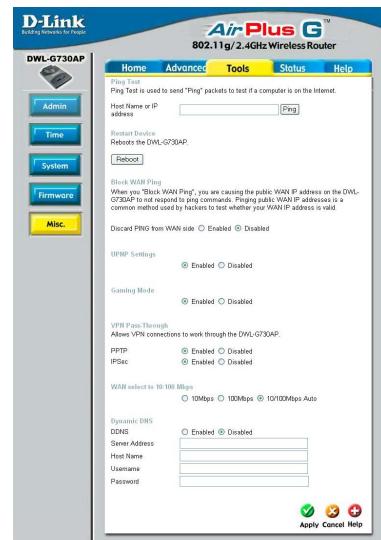
Tools > Misc

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**.

Restart Device- Click **Reboot** to restart the DWL-G730AP.

Block WAN Ping- If you choose to block WAN ping, the WAN IP address of the DWL-G730AP will not respond to pings. Blocking the ping may provide some extra security from hackers.

Discard Ping from WAN side
Click **Enabled** to block the WAN ping



UPNP- To use the *Universal Plug and Play* feature click on **Enabled**. UPnP provides compatibility with networking equipment, software and peripherals of the over 400 vendors that cooperate in the Plug and Play forum.

Gaming Mode- Gaming mode allows a form of pass-through for certain Internet games. If you are using Xbox, Playstation2 or a PC, make sure you are using the latest firmware and Gaming Mode is enabled. To utilize Gaming Mode, click **Enabled**. If you are not using a Gaming application, it is recommended that you **Disable** Gaming Mode.

VPN Pass Through- The DWL-G730AP supports VPN (Virtual Private Network) pass-through for both PPTP (Point-to-Point Tunneling Protocol) and IPSec (IP Security). Once VPN pass-through is enabled, there is no need to open up virtual services. Multiple VPN connections can be made through the DWL-G730AP. This is useful when you have many VPN clients on the LAN network.

PPTP- select **Enabled** or **Disabled**

IPSec- select **Enabled** or **Disabled**

WAN select to 10/100Mbps- Select the data rate : 10Mbps, 100Mbps or 10/100Mbps Auto.

Dynamic DNS- Dynamic Domain Name System is a method of keeping a domain name linked to a changing IP Address. This is a useful feature since many computers do not use a static IP address. Enter the IP address and Host Name of the Domain Name Server. Enter your Username and Password.

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

Using the Configuration Utility in Router Mode (continued)

Status > Device Info

This page displays the current information for the DWL-G730AP. It will display the LAN, WAN and MAC address information.

If your WAN 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 WAN 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.



This window will display the following settings:

LAN

MAC address of the DWL-G730AP
IP Address: LAN/Private IP address of the DWL-G730AP
Subnet Mask: LAN/Private subnet mask
DHCP Server (Enabled or Disabled)

WAN

MAC address of the DWL-G730AP
Client connection (DHCP or PPPoE client status)
IP address: WAN/Public IP address
Subnet Mask: WAN/Public subnet mask
Gateway: WAN/Public Gateway IP address
Domain Name Server: WAN/Public DNS IP address

Wireless

MAC Address: Displays the MAC address
SSID: Displays the current SSID
Channel: Displays the current channel
WEP: indicates whether WEP is enabled or disabled

Using the Configuration Utility in Router Mode (continued)

Status > Log

The screenshot shows the D-Link AirPlus G DWL-G730AP configuration utility. At the top, there's a logo for "D-Link Building Networks for People" and the product name "DWL-G730AP". To the right, it says "Air Plus G™ 802.11g / 2.4GHz Wireless Router". Below the header, there's a navigation bar with tabs: Home, Advanced, Tools, Status (which is highlighted in yellow), and Help. On the left, there's a sidebar with buttons for Device Info, Log (which is highlighted in yellow), Stats, and Wireless. The main content area is titled "View Log" and contains a message: "View Log displays the activities occurring on the DWL-G730AP. Click on Log Settings for advance features." Below this, there are several buttons: First Page, Last Page, Previous, Next, Clear, and Log Settings. Underneath these buttons, it says "page 1 of 1" and lists columns for Time, Message, Source, Destination, and Note. There's also a small "Help" icon with a plus sign.

The DWL-G730AP keeps a running log of events and activities. If the device is rebooted, the logs are automatically cleared. You may save the log files under Log Settings.

View Log-

- First Page** - The first page of the log
- Last Page** - The last page of the log
- Previous** - Moves back one log page
- Next** - Moves forward one log page
- Clear** - Clears the logs completely
- Log Settings** - Brings up the page to configure the log

Using the Configuration Utility in Router Mode (continued)

Status > Stats

This screen displays the Traffic Statistics. Here you can view the amount of packets that pass through the DWL-G730AP on both the WAN and the LAN ports.

The traffic counter will reset if the device is rebooted.

Click **Refresh** to view the latest statistics.

Click **Reset** to reset.

The screenshot shows the 'Status > Stats' page of the D-Link AirPlus G 802.11g/2.4GHz Wireless Router. The top header includes the D-Link logo, 'Building Networks for People', the AirPlus G logo, and '802.11g/2.4GHz Wireless Router'. The main menu bar has tabs for Home, Advanced, Tools, Status (which is selected and highlighted in yellow), and Help. On the left, a sidebar for 'DWL-G730AP' shows icons for Device Info, Log, Stats (which is highlighted in yellow), and Wireless. The central content area is titled 'Traffic Statistics' with a sub-instruction: 'Traffic Statistics display Receive and Transmit packets passing through the DWL-G730AP.' It features two buttons: 'Refresh' and 'Reset'. Below this, a table provides packet counts for WAN, LAN, and WIRELESS interfaces:

	Receive	Transmit
WAN	0 Packets	0 Packets
LAN	6 Packets	0 Packets
WIRELESS	6 Packets	5 Packets

Status > Wireless

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

Click on **Help** at any time, for more information.

The screenshot shows the 'Status > Wireless' page of the D-Link AirPlus G 802.11g/2.4GHz Wireless Router. The top header includes the D-Link logo, 'Building Networks for People', the AirPlus G logo, and '802.11g/2.4GHz Wireless Router'. The main menu bar has tabs for Home, Advanced, Tools, Status (selected), and Help. On the left, a sidebar for 'DWL-G730AP' shows icons for Device Info, Log, Stats, and Wireless. The central content area is titled 'Connected Wireless Client List' with a sub-instruction: 'The Wireless Client table below displays Wireless clients Connected to the AP (Access Point).'. It shows a table with columns for Connected Time and MAC Address:

Connected Time	MAC Address
Apr/01/2002 00:41:46	00-0D-88-A0-B0-98

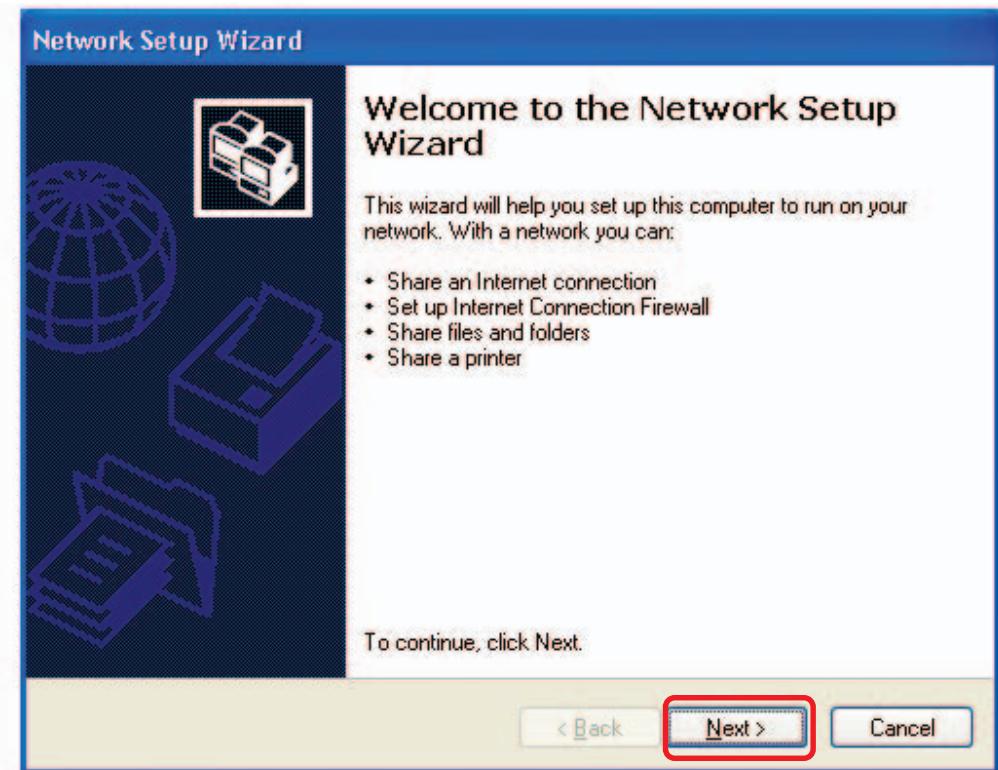
Networking Basics

Using the Network Setup Wizard in Windows XP

In this section you will learn how to establish a network at home or work, using Microsoft Windows XP.

Note: Please refer to websites such as <http://www.homenethelp.com> and <http://www.microsoft.com/windows2000> for information about networking computers using Windows 2000, Me or 98SE.

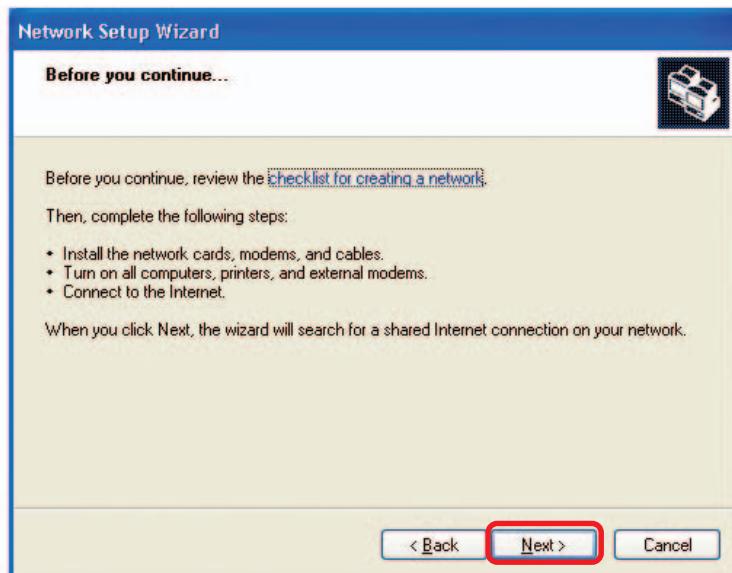
Go to Start>Control Panel>Network Connections
Select Set up a home or small office network



When this screen appears, click **Next**.

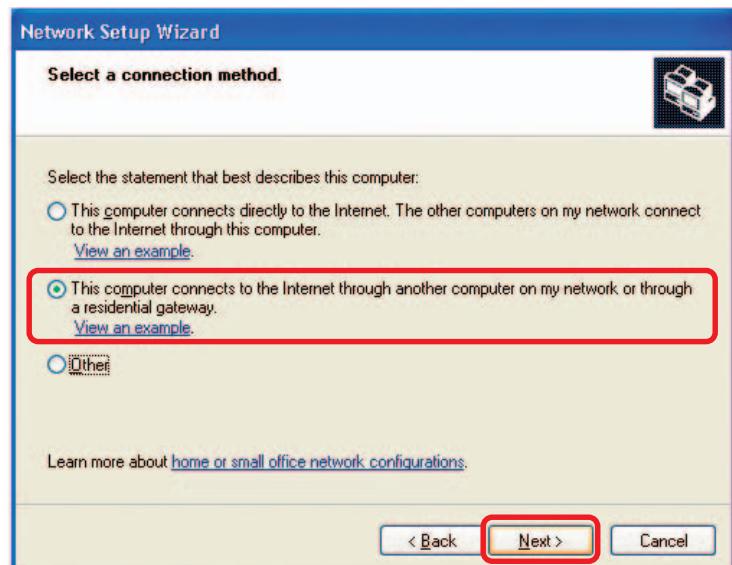
Networking Basics (continued)

Please follow all the instructions in this window:



Click **Next**.

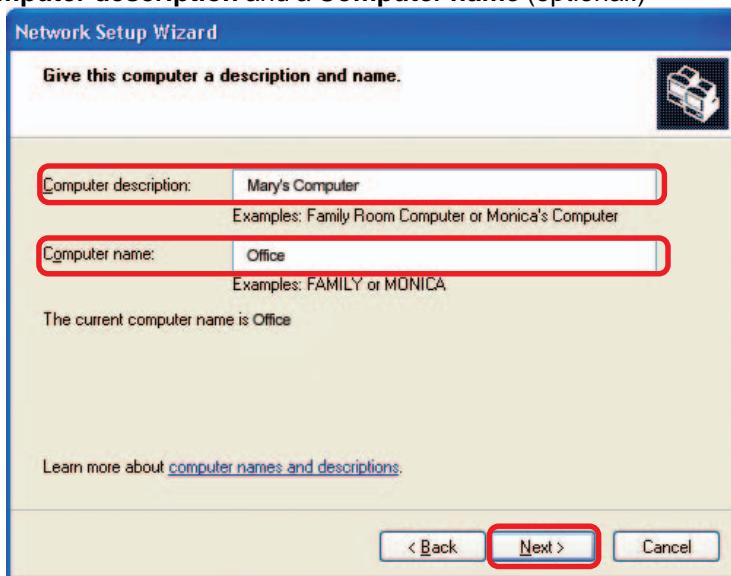
In the following window, select the best description of your computer. If your computer connects to the internet through a gateway/router, select the second option as shown.



Click **Next**.

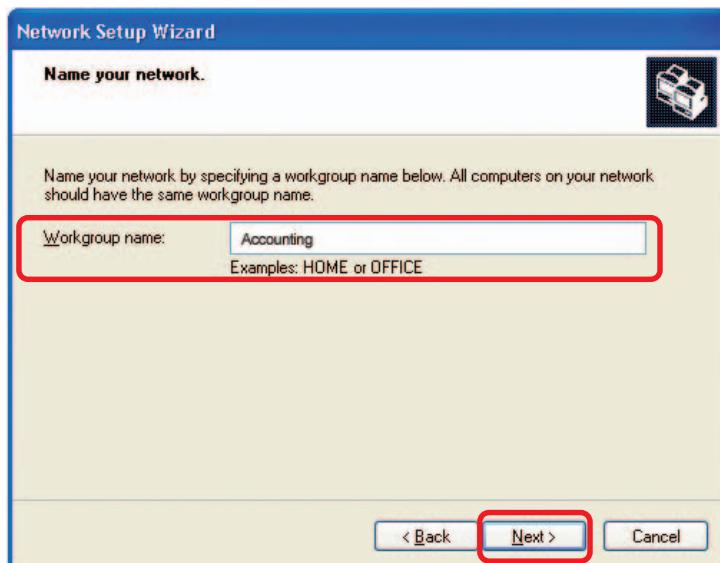
Networking Basics (continued)

Enter a **Computer description** and a **Computer name** (optional.)



Click **Next**.

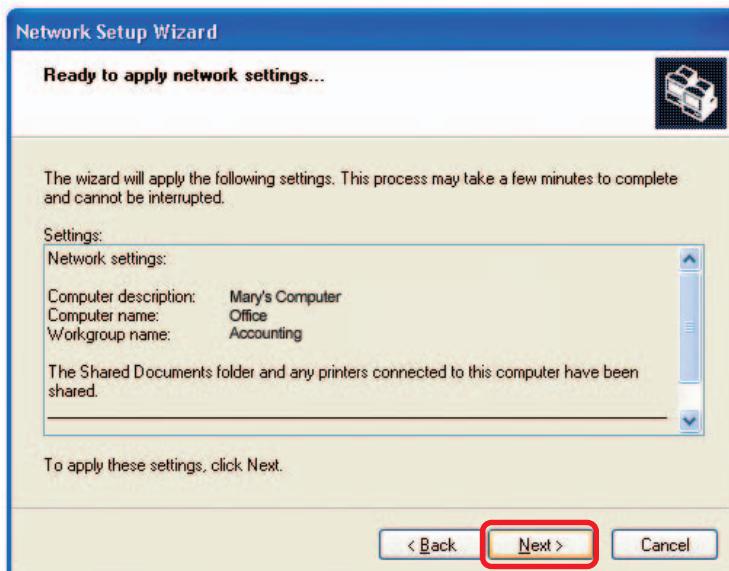
Enter a **Workgroup** name. All computers on your network should have the same **Workgroup name**.



Click **Next**.

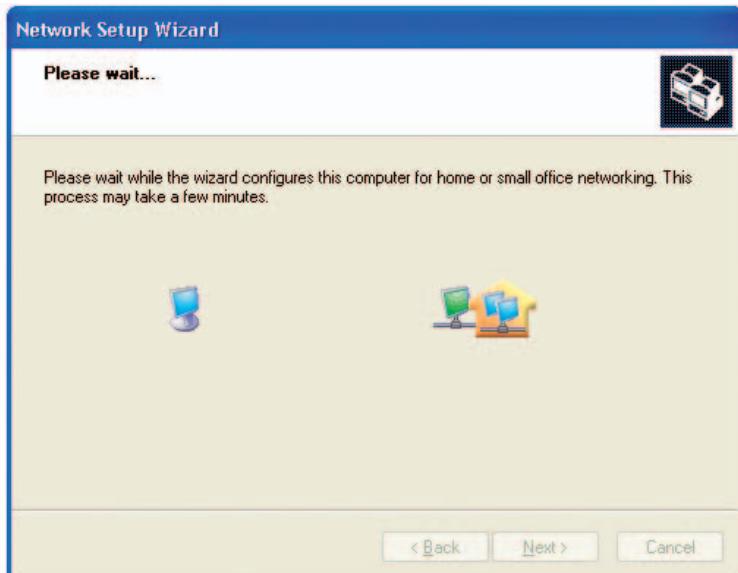
Networking Basics (continued)

Please wait while the **Network Setup Wizard** applies the changes.



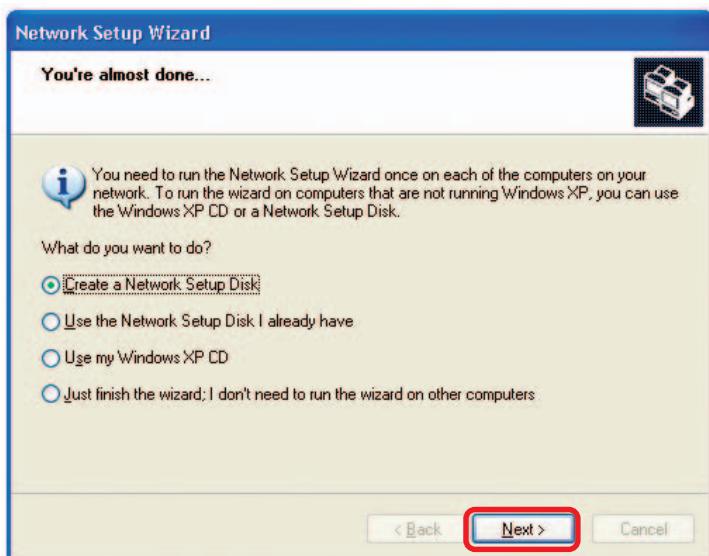
When the changes are complete, click **Next**.

Please wait while the **Network Setup Wizard** configures the computer. This may take a few minutes.



Networking Basics (continued)

In the window below, select the option that fits your needs. In this example, **Create a Network Setup Disk** has been selected. You will run this disk on each of the computers on your network. Click **Next**.

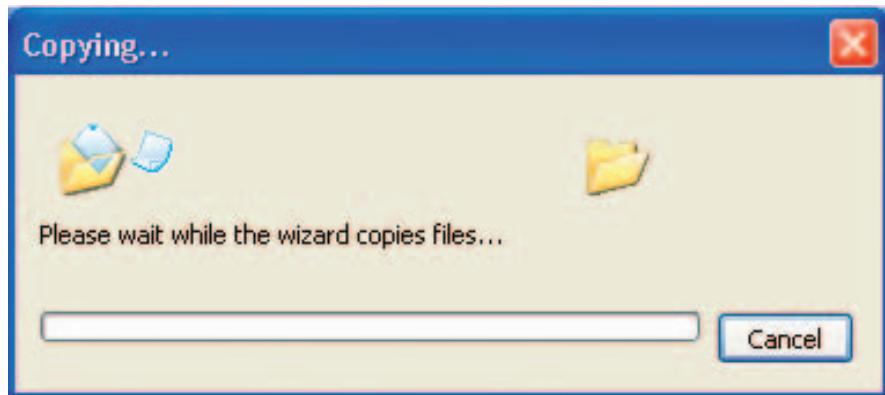


Insert a disk into the Floppy Disk Drive, in this case drive **A**.

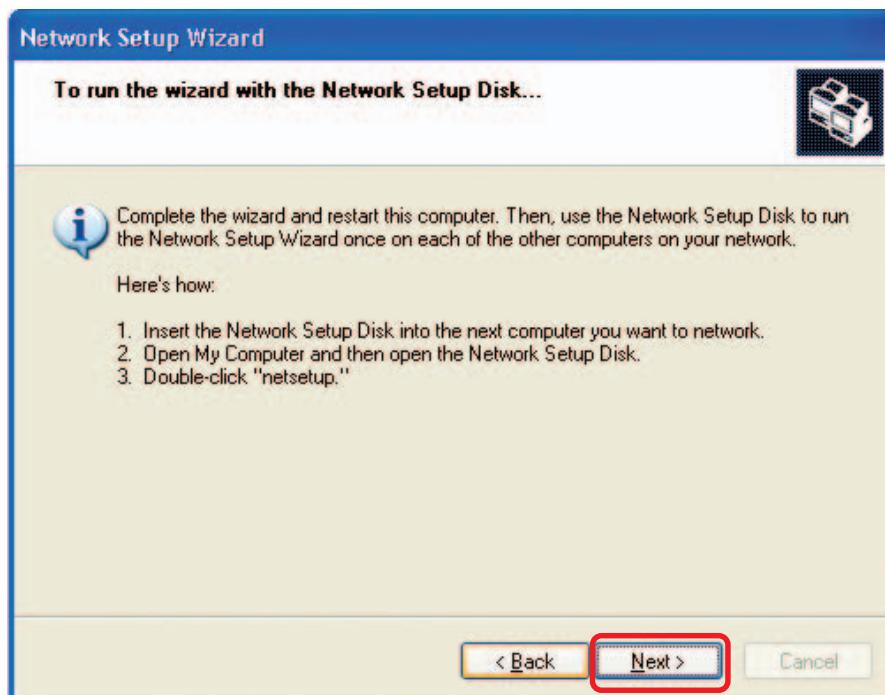


Networking Basics (continued)

Please wait while the **Network Setup Wizard** copies the files.

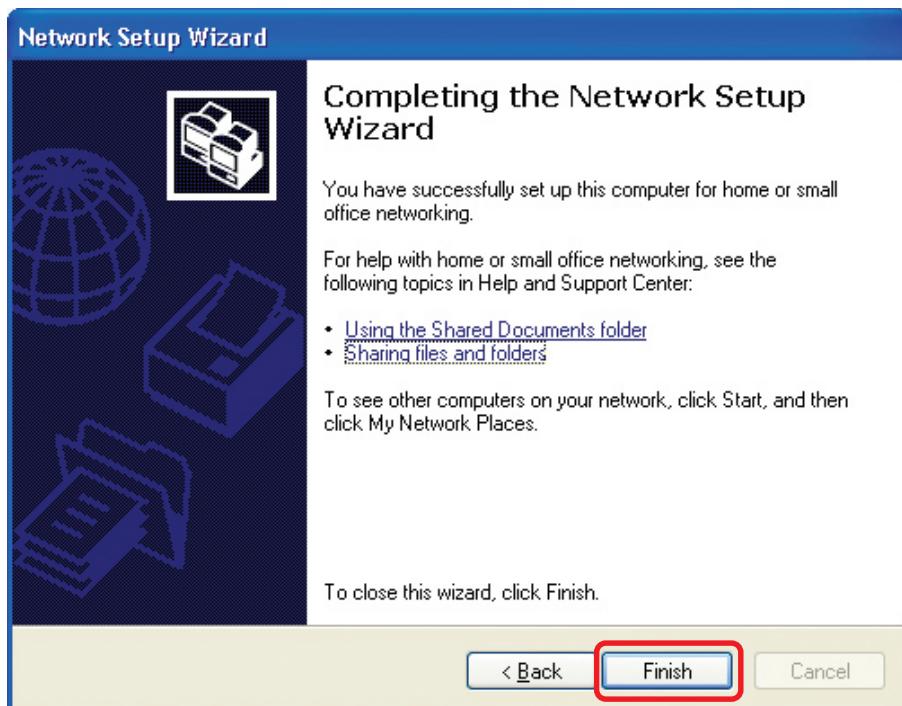


Please read the information under **Here's how** in the screen below. After you complete the **Network Setup Wizard** you will use the **Network Setup Disk** to run the **Network Setup Wizard** once on each of the computers on your network. To continue click **Next**.

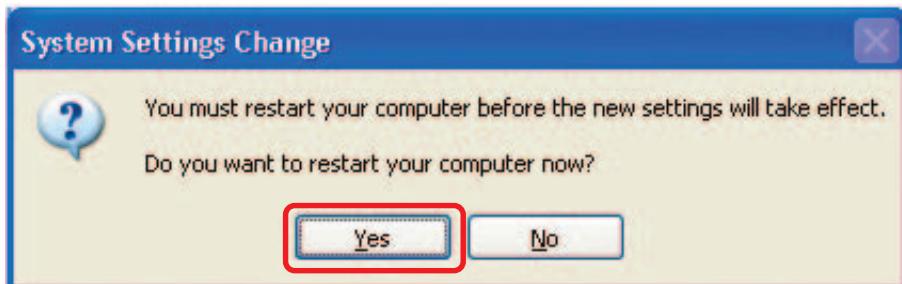


Networking Basics (continued)

Please read the information on this screen, then click **Finish** to complete the **Network Setup Wizard**.



The new settings will take effect when you restart the computer. Click **Yes** to restart the computer.



You have completed configuring this computer. Next, you will need to run the **Network Setup Disk** on all the other computers on your network. After running the **Network Setup Disk** on all your computers, your new wireless network will be ready to use.

Networking Basics (continued)

Naming your Computer

To name your computer, please follow these directions: In **Windows XP**:

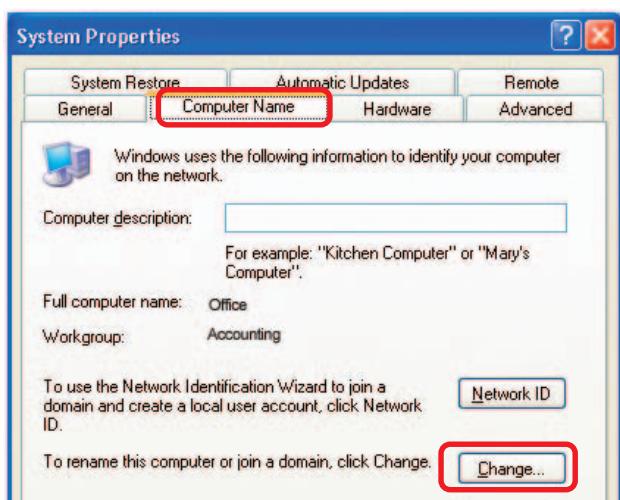
- Click **Start** (in the lower left corner of the screen).
- Right-click on **My Computer**.
- Select **Properties** and click.



- Select the **Computer Name Tab** in the System Properties window.

- You may enter a **Computer Description** if you wish; this field is optional.

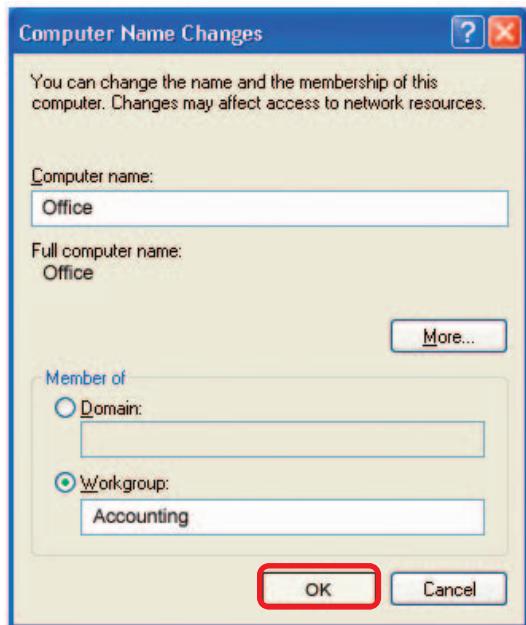
- To rename the computer and join a domain, Click **Change**.



Networking Basics (continued)

Naming your Computer

- In this window, enter the **Computer name**.
- Select **Workgroup** and enter the name of the **Workgroup**.
- All computers on your network must have the same **Workgroup** name.
- Click **OK**.



Checking the IP Address in Windows XP

The wireless adapter-equipped computers in your network must be in the same IP Address range (see Getting Started in this manual for a definition of IP Address Range.) To check on the IP Address of the adapter, please do the following:

- Right-click on the **Local Area Connection icon** in the task bar.
- Click on **Status**.



Networking Basics (continued)

Checking the IP Address in Windows XP

This window will appear.

- Click the **Support tab**.



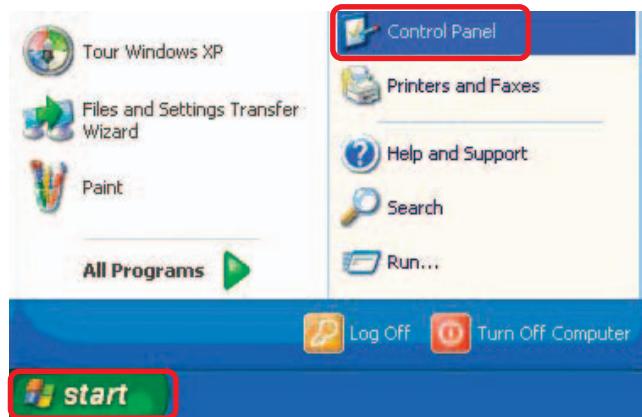
- Click **Close**.

Assigning a Static IP Address in Windows XP/2000

Note: Residential Gateways/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:

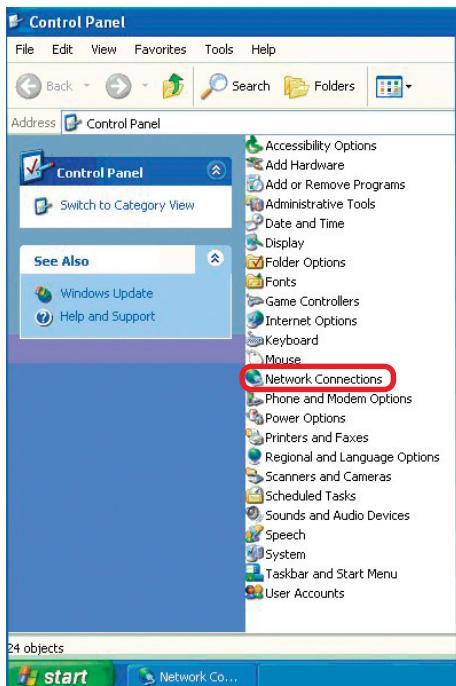
- Go to **Start**.
- Double-click on **Control Panel**.



Networking Basics (continued)

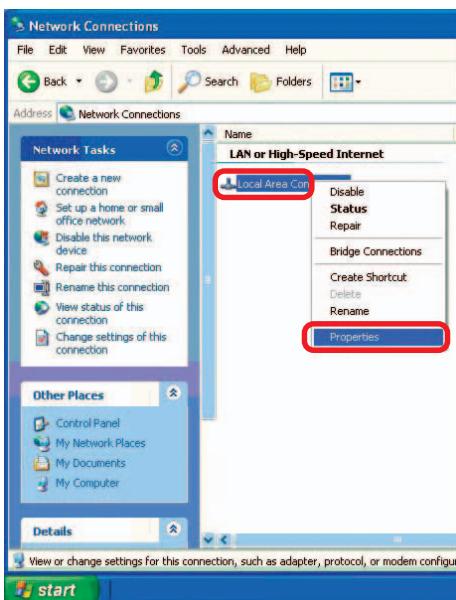
Assigning a Static IP Address in Windows XP/2000

- Double-click on Network Connections.



- Right-click on Local Area Connections.

- Double-click on Properties.

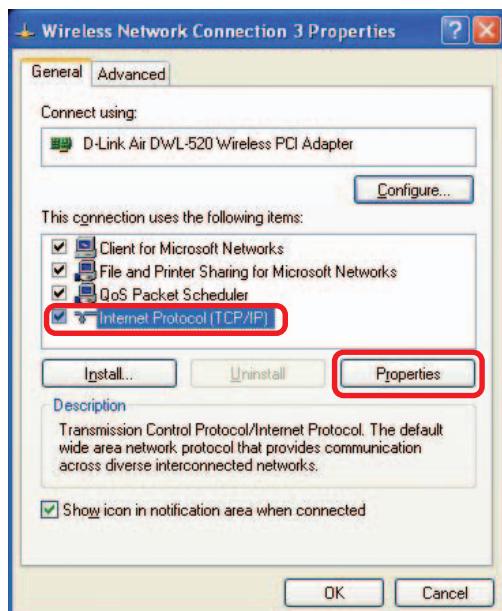


Networking Basics (continued)

Assigning a Static IP Address in Windows XP/2000

- Click on **Internet Protocol (TCP/IP)**.
- Click **Properties**.

Select Use the following IP address in the Internet Protocol (TCP/IP) Properties window (shown below)



- In the window below, select **Use the following IP address**. 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.)

IP Address:
e.g., 192.168.0.2

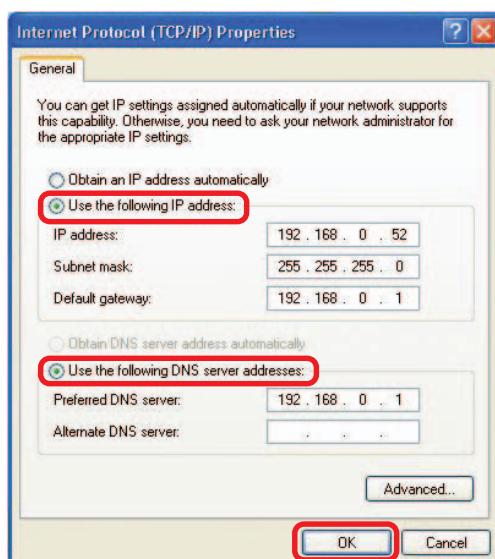
Subnet Mask:
255.255.255.0

Default Gateway:

Enter 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**.

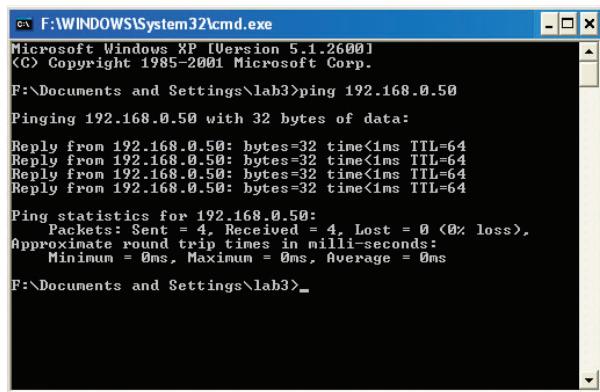


You have completed the assignment of a static IP address. (You do not need to assign a static IP address if you have a DHCP-capable router.)

Networking Basics (continued)

Checking the Wireless Connection by Pinging in Windows XP/2000

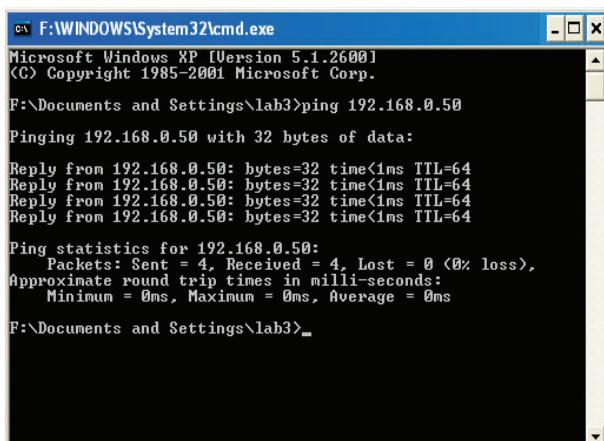
- Go to **Start > Run** > type **cmd**. A window similar to this one will appear. Type **ping xxx.xxx.xxx.xxx**, where **xxx** is the **IP address** of the wireless router or access point. A good wireless connection will show four replies from the wireless router or access point, as shown.



F:\WINDOWS\System32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.
F:\Documents and Settings\lab3>ping 192.168.0.50
Pinging 192.168.0.50 with 32 bytes of data:
Reply from 192.168.0.50: bytes=32 time<1ms TTL=64
Ping statistics for 192.168.0.50:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
F:\Documents and Settings\lab3>

Checking the Wireless Connection by Pinging in Windows Me/98SE

- Go to **Start > Run** > type **command**. A window similar to this will appear. Type **ping xxx.xxx.xxx.xxx** where **xxx** is the **IP address** of the wireless router or access point. A good wireless connection will show four replies from the wireless router or access point, as shown.



F:\WINDOWS\System32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.
F:\Documents and Settings\lab3>ping 192.168.0.50
Pinging 192.168.0.50 with 32 bytes of data:
Reply from 192.168.0.50: bytes=32 time<1ms TTL=64
Ping statistics for 192.168.0.50:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
F:\Documents and Settings\lab3>

Technical Specifications

Standards

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

Device Management

- Web-Based – Internet Explorer v6 or later; Netscape Navigator v7 or later; or other Java-enabled browsers.

Data Rate

For 802.11g:

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

For 802.11b:

- 11, 5.5, 2, and 1Mbps

Security

- 64-, 128-bit WEP
- WPA – Wi-Fi Protected Access
- MAC Address Filtering
- SSID Broadcast Disable

Wireless Frequency Range

- 2.412GHz to 2.462GHz

Wireless Operating Range*

802.11g (Full Power with internal antenna)

Outdoors:

- 164ft (50m) @ 54Mbps
- 492ft (150m) @ 11Mbps
- 656ft (200m) @ 6Mbps

Power

- External Power Supply: DC 5V/1.2A

* Environmental factors may adversely affect wireless range

Technical Specifications (continued)

Radio and Modulation Type

For 802.11g:

OFDM:

- BPSK @ 6 and 9Mbps
- QPSK @ 12 and 18Mbps
- 16QAM @ 24 and 36Mbps
- 64QAM @ 48 and 54Mbps

DSSS:

- DBPSK @ 1Mbps
- DQPSK @ 2Mbps
- CCK @ 5.5 and 11Mbps

For 802.11b:

DSSS:

- DBPSK @ 1Mbps
- DQPSK @ 2Mbps
- CCK @ 5.5 and 11Mbps

Wireless Transmit Power

Typical RF Output Power at each Data Rate

For 802.11g:

- 31mW (15dBm) @ 54Mbps
- 40mW (16dBm) @ 48Mbps
- 40mW (16dBm) @ 36, 24, 18, 12, 9, and 6Mbps

For 802.11b:

- 50mW (17dBm) @ 11, 5.5, 2, and 1Mbps

Receiver Sensitivity

For 802.11g:

- 6Mbps: -87dBm
- 9Mbps: -85dBm
- 12Mbps: -82dBm
- 18Mbps: -81dBm
- 24Mbps: -80dBm
- 36Mbps: -79dBm
- 48Mbps: -71dBm
- 54Mbps: -69dBm

For 802.11b:

- 1Mbps: -90dBm
- 2Mbps: -90dBm
- 5.5Mbps: -86dBm
- 11Mbps: -85dBm

Technical Specifications (continued)

LEDs

- Power
- LAN
- WLAN

Temperature

- Operating: 32°F to 131°F (0°C to 55°C)
- Storing: -4°F to 149°F (-20°C to 65°C)

Humidity

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

Certifications

- FCC
- CE

Dimensions

- L = 3.15 inches (80mm)
- W = 2.36 inches (60mm)
- H = 0.67 inches (17mm)

Weight

- 0.11 lbs (50g)

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 website, 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 OR 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.

FCC Caution:

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment; such modifications could void the user's authority to operate the 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.

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/>