# D-Link *Air*Plus<sup>™</sup> G DWL-G730AP

802.11g/2.4GHz Wireless Pocket Router/AP

Manual



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# **Package Contents**



## **Contents of Package:**

- D-Link AirPlus<sup>™</sup> 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 *Air*Plus<sup>™</sup> 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 *Air*Plus 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:

- 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.

LAN LED: Solid indicates an Ethernet connection. Blinking indicates activity on the Ethernet network. WLAN LED: A solid light indicates that the wireless segment is ready. This LED blinks during wireless data transmission.

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

## **Rear Panel**

**Reset Button:** Used to restore default settings.

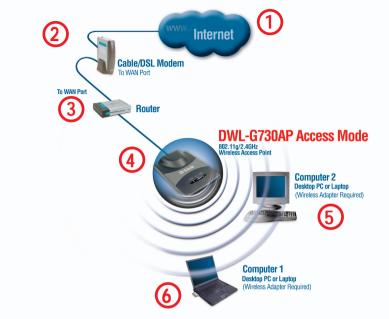


# LAN Port

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:

You will need broadband Internet access (a Cable or DSL-subscriber line into your home or office)



Consult with your Cable or DSL provider for proper installation of the modem



Connect the Cable or DSL modem to your broadband router (see the **Quick** *Installation Guide included with your router.*)



Connect the router to the D-Link *Air*Plus G DWL-G730AP (in access point mode). (See the **Quick Installation Guide** included with the DWL-G730AP.)



If you are connecting a desktop computer in your network, you can install the D-Link *Air*Plus G DWL-G510 wireless PCI adapter into an available PCI slot on your desktop computer.

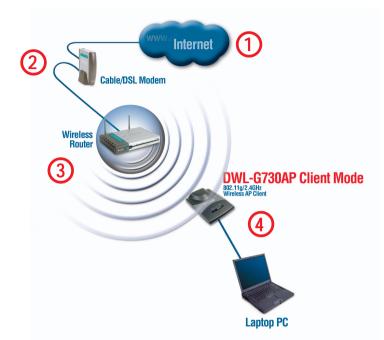
(See the Quick Installation Guide included with the DWL-G510.)



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:



You will need broadband Internet access (a Cable or DSL-subscriber line into your home or office)



Consult with your Cable or DSL provider for proper installation of the modem



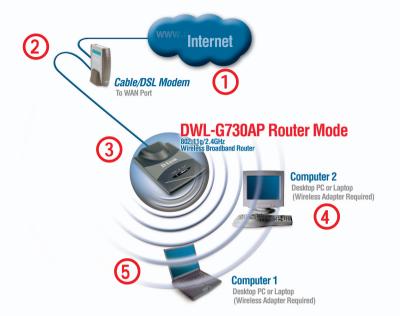
Connect the Cable or DSL modem to your broadband router (see the **Quick** *Installation Guide included with your router.*)



Connect the D-Link *Air*Plus 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:

You will need broadband Internet access (a Cable or DSL-subscriber line into your home or office)

Consult with your Cable or DSL provider for proper installation of the modem.



Connect the modem to the D-Link *Air*Plus G DWL-G730AP (in router mode). (See the **Quick Installation Guide** included with the DWL-G730AP.)



If you are connecting a desktop computer in your network, you can install the D-Link *Air*Plus 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.)



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).

🕘 Mi	icroso	ft Inte	rnet Expl	orer			
File	Edit	View	Favorites	Tools	Help	)	
G	Back	• 6	) - 🗙	2		🔎 Search	*
Addre	ss 🙆	http:	//192.16	58.0.3	0		

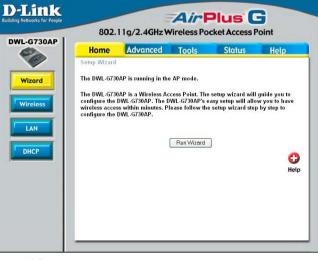
Note: If you have changed the default IP address assigned to the DWL-G730AP, make sure to enter the correct IP address.

- 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.



#### 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

#### Home > Wireless

Home	Advanced	Tools	Status	Help
Wireless Setti	ings			
The DWL-G73	OAP is running in the	AP mode.		
These are the	wireless settings for th	e AP(Access Po	int)Portion	
	SSID : default		ing short	
Ch	nannel : 6 💌			
Authenti	cation : 💿 Open Sy	stem 🔘 Shai	ed Key 🔘 WPA	O WPA-
	WEP : O Enabled	Oisabled		
WEP Encr	yption : 64Bit 💌	Oisabled		
WEP Encr	yption : 64Bit 💌 / Type : HEX 💌	Oisabled		
WEP Encr	yption : 64Bit 💌	Oisabled		
WEP Encr	yption : 64Bit 💌 / Type : HEX 💌	Oisabled		
WEP Encr	yption : 64Bit 💌 Type : HEX 💌 Key1 : 🛞	Disabled		

**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.

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

Home	Advanced	Tools	Status	Help
Wireless Set	tings			
The DWL-G7	30AP is running in the	AP mode.		
	-			
These are the	wireless settings for the SSID : default	AP(Access Poir	nt)Portion.	
I C	hannel: 6 💌			
				-
Authent	ication : O Open Syst	tem 🔿 Share	ed Key 💿 WPA	O WPA-P
Authent 802.1X	ication : O Open Syst		ed Key 💿 WPA	O WPA-P
Authent 802.1X	ication : Open Syst	0.0.0.0	ed Key 💿 WPA	○ ₩РА-Р
Authent 802.1X	ication : O Open Syst : Server 1 IP Port		ed Key 🖲 WPA	. ○ wpa-р:
Authent 802.1X	ication : Open Syst	0.0.0.0	ed Key 💿 WPA	○ WPA-PS
Authent 802.1X RADIUS RADIUS	ication : O Open Syst Server 1 IP Port Shared Secret	0.0.0.0	ed Key 💿 WPA	. ○ WPA-PS
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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.

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

Home	Advanced	Tools	Status	Help
Wireless Setti	ings			
The DWL-G73	0AP is running in the	e AP mode.		
These are the	wireless settings for th	a AP(Access Po	int)Portion	
and the second se	SSID : default	e Ar (ALLESS FU	inge onton.	
	iannel : 6 💌			
	cation : 🔘 Open Sy	stem 🔿 Shar	ed Key 🔘 WPA	WPA-
	Passphrase :			
Confirm	ned Passphrase :			
				_
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			<u>v</u>	oly Cancel

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.

## Home > LAN

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				c IP Addres	s	
		IP Address				
		Subnet Mask		55.0		
		Gateway				
		DNS Server	0.0.0.0			
					<	) 🕴 🕻
					Ap	ply Cancel Hel

**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.

## Home > DHCP

30AP	lome	Advanced	Tools	Status	Help
		<sup>o</sup> can be setup as	a DHCP server to di	stribute IP addresse	es to the LAN
DHC	P Server	O E	nabled 💿 Disabled		
Start	ing IP Addres	s 192 . 1	168.0.100		
Endir	ng IP Address	s 192 . 1	168 . 0 . 199		
Leas	e Time	1 Ho	ur 🕑		
				0	<b>63</b>
DHC	P Client Tab	le		Apply	Cancel Hel
Host	Name	IP Address	MAC Address	Expired	l Time

**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.

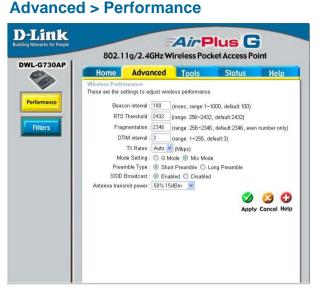
**Lease Time:** Choose the length of time during which the DHCP function of the DWL-G730AP automatically regenerates the IP addresses to the devices in your network.

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

**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.

## **Advanced > Filters**

D-Link Building Networks for People	802.1	1g/2.4GHz W		Plus C	
DWL-G730AP	Home MAC Filters Filters are used t Olisabled MA Only allow t Only deny M MA	Advanced o allow or deny Wirel C Filters MAC address(es) liste IAC address(es) liste AC Address	Tools less Clients users ed below to conn	Status s from accessing the ect to DWL-G730AF ct to DWL-G730AP	Help 9 DWL-G730AP.

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.

**New Password:** Enter the new password.

#### **Confirm Password:**

Re-enter the password to confirm it.

## Tools > Admin

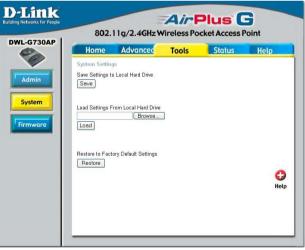


Save Settings: The current system settings can be saved as a file onto the local hard drive.

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

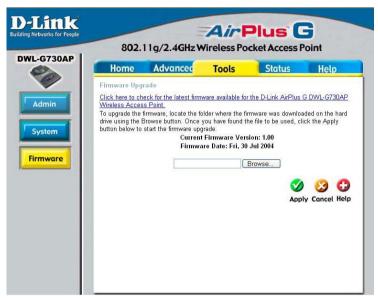
## Tools > System



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**.

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 connnected to D-Link's website. where you can download the latest firmware update. After vou have completed the firmware download to your hard drive, click Browse to browse vour local hard drive and locate the firmware to be used for the update. Click Apply.

#### Tools > Firmware



## Status > Device Info

**D-Link** Air Plus G Building Networks for People 802.11g/2.4GHz Wireless Pocket Access Point DWL-G730AP Home Advanced Tools Status Help Firmware Version 1.00, Thu, 22 Jul 2004 **Device Info** Ethernet MAC Address 00-2C-5E-98-78-B3 IP Address 192.168.0.30 Log Subnet Mask 255,255,255.0 Gateway 0.0.0.0 DHCP Server Disabled Wireless Stats SSID default Encryption Function Disabled Channel 6 Wireless G Heln

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

## Status > Log



#### 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.

#### **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



#### 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

-G730AP	-				
9	Home	Advanced	Tools	Status	Help
	Connected Wir	eless PCs List			
evice Info	Connected Time			MAC Add	
Log					
Stats					
Vireless					

#### Menu

Select from this menu for extra help.



Help

# 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)

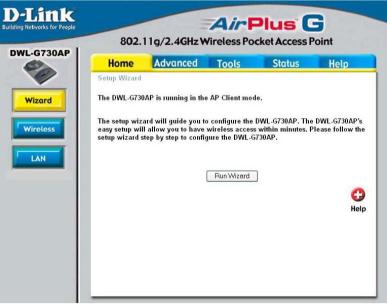
Note: if you have changed the default IP address assigned to the DWL-G730AP, make sure to enter the correct IP address.

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

Connect to 19	2.168.0.30	? 🛛
R		
DWL-G730AP		
User name: Password:	🖸 admin	~
Eassword:		
	ОК	Cancel

#### Home > Wizard

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





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

D-Link ilding Networks for People	802.	11g/2.4GHzW		Plus (	
DWL-G730AP	Home	Advanced	Tools	Status	
	Wireless Setti	ngs			
Wizard	The DWL-G73	0AP is running in the	e AP Client mod	e.	
	These are the v	vireless settings for th	e AP(Access Poi	nt)Portion.	
Wireless		SSID : default	Site	e Survey	
	Ch	annel : 6 💌			
LAN	Wireless I	Mode : 💿 Infrastru	ucture 🔘 Ad-I	hoc	
	Authentic	ation : 💿 Open Sy	stem 🔘 Shar	ed Key 🔘 WPA	-PSK
		WEP : 🔘 Enabled	Oisabled		
	WEP Encry	ption : 64Bit 💌			

Key Type : HEX 💌

Key1 : 💿 🗌

Key2 : O

Key3 : 🔿 🗍

Key4 : 🔿 🗌

Help

0

Apply Cancel Help

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

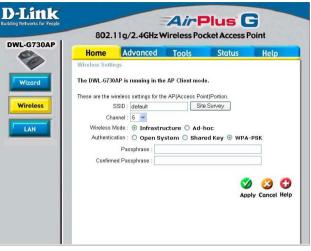
Wireless Mode- Select Infrastructure or Ad-Hoc mode.

Authentication-	Select <b>Open System</b> to communicate the key across the network.
	Select <b>Shared Key</b> to limit communication only to those devices that share the same WEP settings.
	Select <b>WPA-PSK</b> to select <i>Wi-Fi Protected Access</i> without a RADIUS server.
WEP-	Wired Equivalent Privacy (WEP) is a wireless security protocol for Wireless Local Area Networks (WLAN). WEP provides secu- rity by encrypting the data that is sent over the WLAN. Select <b>Enabled</b> or <b>Disabled</b> . <b>Disabled</b> is the default setting.
WEP Encryption-	Select the level of encryption desired: 64-bit, or 128-bit
Кеу Туре-	Select HEX or ASCII
Keys 1-4-	Input up to 4 WEP keys; select the one you wish to use

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.

#### Home > LAN

D-Link ilding Networks for People					Plus C	and the second
DWL-G730AP	802. Home	Advance		Tools	cket Access Po Status	Help
Wizard Wireless LAN	LAN Settings	LAN IP IP Address Subnet Mask Gateway DNS Server	<ul> <li>Stat</li> <li>192.168.</li> <li>255.255.</li> <li>0.0.0.0</li> </ul>		55	y Cancel 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: <b>192.168.0.30</b>
Subnet Mask-	The subnet mask of the LAN interface. The default subnet mask is <b>255.255.255.0</b>
Gateway-	The IP address of the router.
DNS Server-	The IP address of the Domain Name Server.

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.

#### **D-Link** AirPlus G Networks for Peop 802.11g/2.4GHz Wireless Pocket Access Point DWL-G730AP Home Advanced Tools Status Help These are the settings to adjust wireless performance Performance Beacon interval : 100 (msec. range: 1~1000, default: 100) RTS Threshold : 2432 (range: 256~2432, default:2432) Fragmentation : 2346 (range: 256~2346, default:2346, even number only) DTIM interval : 3 (range: 1~255, default:3) TX Rates : Auto V (Mbps) Preamble Type : Short Preamble Long Preamble SSID Broadcast : 💿 Enabled 🔘 Disabled Antenna transmit power : 50% 15dBm 🔽 0 Apply Cancel Help

#### 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.

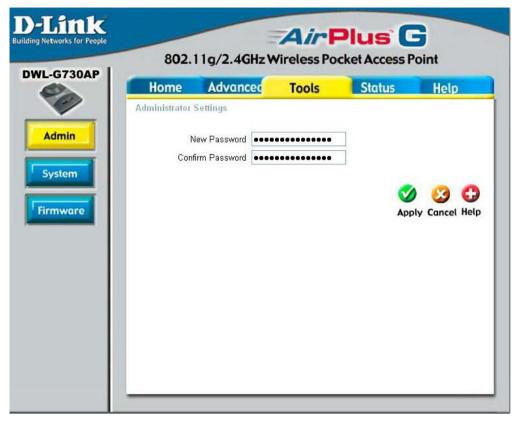
**TX Rates:** Select the transmission rate for the network. The default setting is Auto.

**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.

#### Tools > Admin

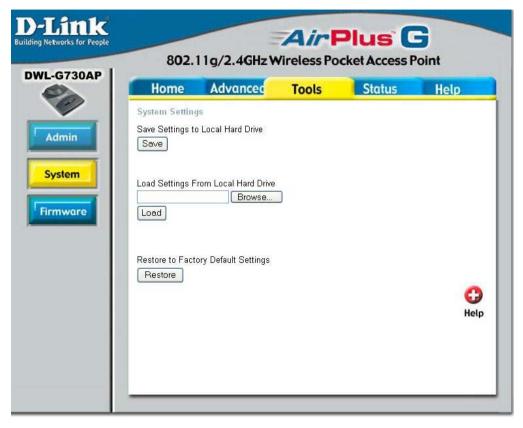


#### **Administrator Settings-**

**New Password-** Enter the password.

Confirm Password- Enter the password again.

#### 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.

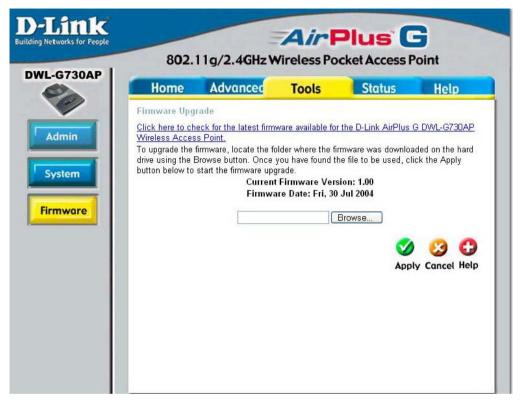
Save Settings to Local Hard Drive- Click Save to save the current settings to the local hard drive

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

#### Tools > Firmware

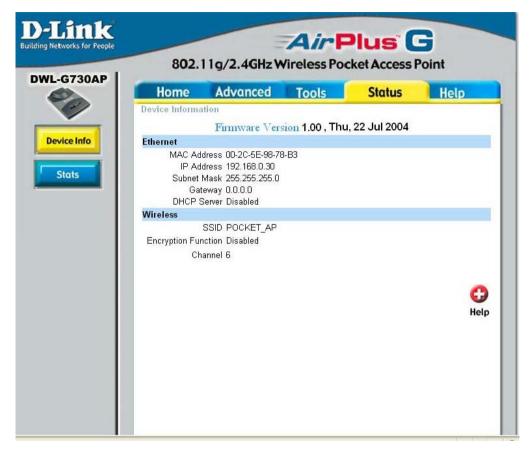


You can upgrade the firmware of the router here. Make sure the firmware you want to use is on the local hard drive of the computer. Check the D-Link support site for firmware updates at http://support.dlink.com and download firmware upgrades to your hard drive. After you have downloaded the firmware 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

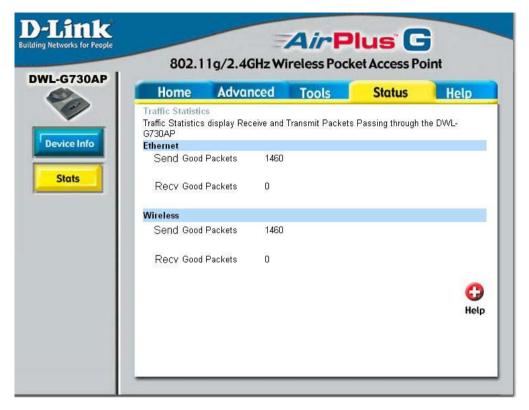
Browse- After you have downloaded the new firmware, click Browse in this window to locate the firmware update on your hard drive. Click Apply to complete the firmware upgrade.

#### Status > Device Info



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

#### Status > Stats



This screen displays theTraffic 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.

Help

Home	Advanced	Tools	Status	Hel
Home • Setup V • Wireles • LAN Se • DHCP :	<u>s</u> ettings			
Advanced • <u>Perform</u> • <u>Filters</u>				
<ul> <li>System</li> </ul>	<u>strator Settings</u> <u>Settings</u> re Upgrade			
Status	Information			

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.

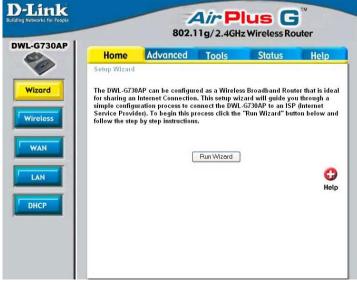
- Type admin in the User Name field
- Leave the **Password** blank
- Click OK



Connect to 192	.168.0.30	? 🛛
R		
DWL-G730AP User name: Password:	2 admin Remember my pa	<b>▼</b> assword
12	ОК	Cancel

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

#### Home > Wizard



#### 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.

#### Home > Wireless

Home	Advanced Tools Status Help
Wireless Setti	
These are the v	vireless settings for the AP(Access Point)Portion.
	SSID : default
Cha	innel : 6 💌
Authentic	ation : 💿 Open System 🔘 Shared Key 🔘 WPA-PSK
1	WEP : 🔿 Enabled 💿 Disabled
WEP Encry	ption : 64Bit 💌
Key	Type : HEX 💌
l l	<ey1 :="" td="" 💿<=""></ey1>
i i	<ey2 :="" td="" 🔿<=""></ey2>
I	<ey3 :="" o<="" td=""></ey3>
	Kev4 · O
	Key4 : O

Channel-	<b>6</b> is the default channel. All devices on the network must share the same channel.
Authentication-	Select <b>Open System</b> to communicate the key across the network. Select <b>Shared Key</b> to limit communication only to those devices that share the same WEP settings. Select <b>WPA-PSK</b> to select <i>Wi-Fi Protected Access</i> 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 <b>Enabled</b> or <b>Disabled</b> . <b>Disabled</b> is the default setting.
WEP Encryption-	Select the level of encryption desired: 64-bit, or 128-bit.
Кеу Туре-	Select HEX or ASCII.
Keys 1-4-	Input up to 4 WEP keys; select the one you wish to use.

#### 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.

-G730AP	Home	Advanced	Tools	Status	Help
	Wireless Setti	ngs			
lizard	These are the v	vireless settings for the	e AP(Access Poi	int)Portion.	
		SSID : default			
eless		nnel : 6 💌	<u> </u>		~
	Authentic	ation : O Open Sys	tem 🔾 Share	ed Key 🔘 WPA (	WPA-PSK
AN	Canfirm	Passphrase : d Passphrase :			-
	Comme	o Passprirase .			_
AN				<b>C</b> A	00
				Apply	Cancel Help
				Аррау	cuncer ner
ICP					

**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).

	and the second second		-	-
Home	Advance	d Tools	s Statu	s Help
WAN Settings				
Please select the	appropriate op	otion to connect	to your ISP.	
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O Static IP Add		hoose this optio ou by your ISP.	n to set static IP inf	ormation provided to
O PPPoE		hoose this optio ISL users)	n if your ISP uses P	PPoE. (For most
O Others	F	PTP and BigPor	nd Cable	
O PPTP	(1	or Europe use o	nly)	
O BigPo	nd Cable (f	or Australia use	only)	
Dynamic IP				
Host Name	0	DWL-G730AP		(optional)
MAC Address	0	00 - 2C - E		- B4 (optional)
	l	Clone MAC.	Address	
Primary DNS Adi	dress (	0.0.0		
Secondary DNS	Address	0.0.0	(optional)	
MTU	6	500		

Dynamic IP Address-	Choose <b>Dynamic IP Address</b> 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. 38

#### Home > WAN > Dynamic IP Address

#### Home > LAN

D-Link Iding Networks for People				lus C z Wireless Ro	
DWL-G730AP	Home	Advanced	Tools	Status	Help
	LAN Settings The IP address of t	ne DWL-G730AP.			
Wizard	IP Address	192.168.0	0.30		
Wireless	Subnet Mask	255.255.2	255.0		
wireless	Local Domain Nam	e		(optional)	
				Solution Apply	Cancel Help
DHCP					

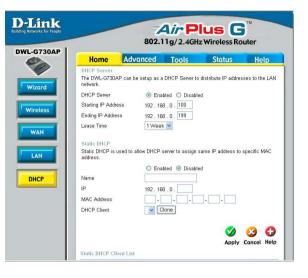
LAN is short for Local Area Network. This is considered your internal network. These are the IP settings of the LAN interface for the DWL-G730AP. These settings may be referred to as Private settings. You may change the LAN IP address if needed. The LAN IP address is private to your internal network and cannot be seen on the Internet.

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

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<br/>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<br/>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 <b>Clone</b> button.

#### Advanced > Virtual Server

		-	2.4GHz Wire		
Home	Advanced	Too	ols St	atus	Help
Virtual Serve	r.				
Virtual Server i	s used to allow inte	met users a	access to LAN ser	vices.	
	C Enabled O [	Disabled			
Name		JISUBICU	Clear		
Private IP		1			
Protocol Type	TCP 🔽				
Private Port					
Public Port					
Schedule	Always				
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Name Virtual Ser Virtual Ser Virtual Ser Virtual Ser Virtual Ser Virtual Ser	day S rs List rver FTP rver HTTP rver HTTPS rver DNS rver DNS rver SMTP rver POP3 rver Telnet	Private IP 0.0.0.0 0.0.0.0 0.0.0.0 0.0.0.0 0.0.0.0 0.0.0.0 0.0.0.0	Protocol TCP 21/21 TCP 80/80 TCP 443/443 UDP 53/53 TCP 25/25 TCP 25/25 TCP 21/0/110	Apply Car Schedule always always always always always always always	3 Cel Ha
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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.

#### 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 <b>Always</b> , which will allow the particular service to always be enabled. If it is set to <b>From</b> , 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

#### Advanced > Virtual Server (continued)

Virtual Servers List Name Private IP 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.

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

#### Advanced > Applications

Home	Advanced	Tools	Status	Help
Special Appl Special Applic	cation ation is used to run ap	nlications that rea	uira multipla conna	ctione
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Name	O Enabled O Dis		Clear	
			JIBAI	
Trigger Port				
Trigger Type	TCP 💌			
Public Port				
Public Type	TCP 💌		<	O C
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Special Appl NAME Battle.net Dialpad ICU II	cations List Trigger Publi 6112 6112 7175 5120 2019 2000	2 00-51201,51210 0-2038,2050-20	) 51,2069,2085,30	☑ ☑ 10-3030 ☑
Special Appl NAME Battle.net Dialpad ICU II	cations List Trigger Publi 6112 6112 7175 5122 2019 2000 ing Zone 47624 2300	2 00-51201,51210 0-2038,2050-20	) 151,2069,2085,30 19000	

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.

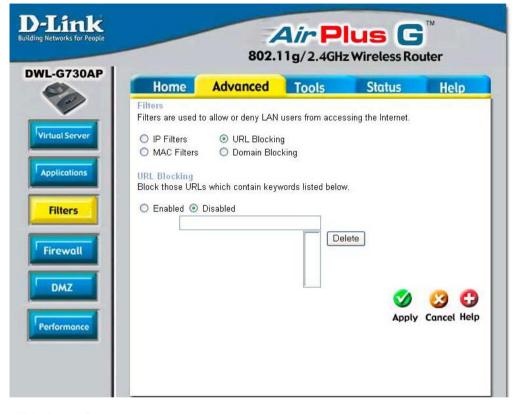
#### Advanced > Filters > IP Filters

Link etworks for People			A <i>ir</i> Plu	s G	м
america I		802.1	1g/2.4GHz Wi	ireless Rout	ter
5730AP	Home	Advanced	Tools	Status	Help
	Filters Filters are used	to allow or deny LAN	users from accessing	the Internet	
er	<ul> <li>IP Filters</li> <li>MAC Filters</li> </ul>	O URL Blocking	1		
	IP Filters Use IP Filters to	deny LAN IP address	es access to the Inter	met.	
	O Enabled O	Disabled Clear			
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					a c
	IP Filter List			Apply (	Cancel Help
	IP Rang	e Protoco	l Sch	edule	aneer net
	*	TCP 20	21 alwa	iys	
	*	TCP 80	alwa	iys	
	*	TCP 44	3 alwa	IVS	

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.

#### Advanced > Filters > URL Blocking



URL Blocking:	Select <b>Enable</b> or <b>Disable</b> . Enter the words or word contained in the URL that you wish to block. Click <b>Apply</b> to activate the URL blocking.
Delete:	Select the URL block that you want to delete. Click Delete.
Apply:	Click <b>Apply</b> to save changes.

#### Advanced > Filters > MAC Filters

	and the second se		No. of Concession, Name		
	Home	Advanced	Tools	Status	Help
	Filters Filters are used to	allow or deny LAN	users from acces	sing the Internet.	
Server	O IP Filters	O URL Blockin	q		
	MAC Filters	🔘 Domain Bloc	king		
	MAC Filters				
7	Use MAC addres	s to allow or deny co	mputers access	to the network.	
	O Disabled MA	C Filters			
	🔘 Only allow c	omputers with MAC	address listed be	low to access the n	etwork
	O Only deny co	omputers with MAC :	address listed bel	ow to access the ne	etwork
	Na	me		Clear	
	MAC Addre	ISS	+	-	
l	DHCP Cli	ent 🔽 Clone			
	Drier ein				
				<b>S</b>	- 😢 🖸
	MAC Filter List			Apply	Cancel Hel
	Name	MAC Addre	58		
L	Indinio				
	Name				

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 <b>DHCP Client</b> from the pull-down list and click <b>Clone</b> to enter the MAC address into the list.
Apply:	Click Apply to save the changes.

#### Advanced > Filters > Domain Blocking

L-G730AP	Home	Advanced	Tools	Status	Help
<b>P</b>	Filters	o allow or deny LAN			neip
rtual Server	O IP Filters O MAC Filters	<ul><li>○ URL Blockin</li><li>⊙ Domain Bloc</li></ul>	0		
pplications	Domain Blockin ③ Disabled	g			
Filters		to access all domair o access all domain			
irewall	Permitted Doma	ins			
DMZ			De	lete	
erformance	Blocked Domain	IS			
				lete	

Allow:	Click <b>Allow</b> to allow access to all domains except <b>Blocked Domains</b> .
Deny:	Click <b>Deny</b> to deny access to all domains except <b>Permitted Domains</b> .
Permitted Domains:	Enter the permitted domains here. Click <b>Apply</b> .
Blocked Domains:	Enter the blocked domains here. Click <b>Apply</b> .
Delete:	Select a domain from either the permitted or blocked domain list, and click <b>Delete</b> to delete this domain.

#### Advanced > Firewall

Firewall Rules is an advanced feature used to denv 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).

Home	Advanced	Tools	Status	Help
Firewall Ru Firewall Rule G730AP.	les Is can be used to allow or	deny traffic fr	om passing through th	he DWL-
	O Enabled O Disabled			
Name		Clear		
	○ Allow ○ Deny Interface IP Range Start	IP Range E	nd Protocol Port R	ange?
Source	* 🗸			
Destination	* ¥		TCP 👻	-
Schedule	Always			
	○ From time 00 💌 : 0	10 💌 🗛 🕚	to 00 💌 : 00 💌	AM 💌
	day Sun 💌 ti	Sun 💌		
				S3 (
Firewall Ru	lac liet		Apple	Cancel H
Action	TOO LIGT	Source		Protocol
🗹 Allow	Allow to Ping WAN port	WAN,*	LAN,192.168.0.30	ICMP,8
	Default	* *	LAN,*	* *
Allow	Default	LAN,*	* *	**

#### 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 <b>IP Address range</b> ; the <b>Protocol</b> ; and the <b>Port Range</b>
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.)

#### 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** 

#### 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.

#### Tools > Admin

730AP Home	Advanced	Tools	Status	Help
Administrate	tor Settings ors can change their log	in password.		
Administrate	or (The Login Name is "	admin")		
N	ew Password	•••••		
Confi	rm Password	•••••		
User (The L	ogin name is "user")			
N	ew Password	•••••		
Confi	rm Password 🚥	•••••		
Remote Ma	nagement			
		led 💿 Disabled		
	IP Address *	1		
	Port 8080 💙			0.0
				<b>1</b>
			Apply	Cancel Help

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.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.

#### Tools > Time

Home	Advanced	Tools	Status	Help
Time Set the DWL-G	730AP system time.			
Local Time	Apr/01/2002 00:2	1:48		
Time Zone	(GMT-08:00) Pa	cific Time (US &	Canada)	
Default NTP Se	rver	(optional)		
Set the Time	Year 2002 🚩 M	lonth Apr 💌 D	ay 01 💌	
	Hour 00 💌 Mine	ute 21 💌 Secor	nd 🛛 😽 🔽 Set Ti	me
Daylight Saving	◯ Enabled ⊙ Start Jan 🖌 C	CONTRACTOR CONTRACTOR	✓ 01 ✓	
				0 6
			Apply	Cancel He
			Apply	Cancel

Time Zone-	Select the time zone from the pull-down menu.
Default NTP Server-	NTP is short for <i>Network Time Protocol</i> . 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 <b>Set Time</b> .
Daylight Saving-	To select daylight saving time manually, select <b>enabled</b> or <b>disabled</b> , and enter a start date and an end date for daylight saving time.

#### 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

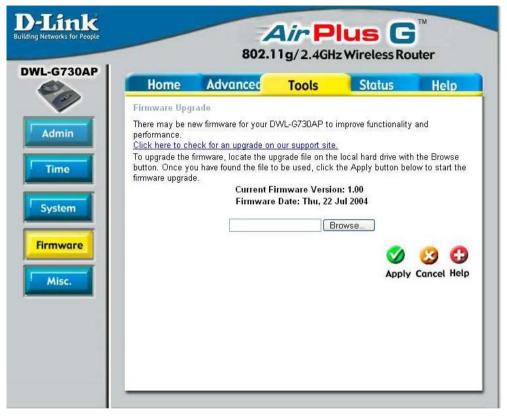
#### Load Settings from

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

#### 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-<br/>Click on the link in this screen to find out if there is updated<br/>firmware; if so, download the new firmware to your hard drive.Browse-After you have downloaded the new firmware, click Browse in<br/>this window to locate the firmware update on your hard drive.<br/>Click Apply to complete the firmware upgrade.

- **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.**
- RestartClick Reboot to restart theDevice-DWL-G730AP.
- Block If you choose to block WAN ping, the WAN WAN Ping- 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

#### Tools > Misc



the over 400 vendors that cooperate in the Plug and Play forum.

- **Gaming** 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 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/	IPSec- select Enabled of Disabled
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 <b>Apply</b> to save the changes.

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.

#### Status > Device Info

Home	Advanced	Tools	Status	He
Device Inform	ation Firmware Versio	n:100 Thu	22 Jul 2004	
LAN				
MAC Add	ress 00-2C-5E-98-78-E	33		
	ress 192.168.0.30			
	lask 255.255.255.0			
DHCP Sei	rver Enabled			
WAN				
MAC Add	ress 00-2C-5E-98-78-E			
Connect	tion DHCP Client Disc		Renew	
IP Add	ress 0.0.0.0	غنت لتنف		
Subnet M	lask 0.0.0.0			
Default Gates	way 0.0.0.0			
ſ	ONS			
Wireless				
MAC Add	ress 00-2C-5E-98-78-E	33		
S	SID default			
	nnel6			
v	VEP Disabled			

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 PPoE 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

#### Status > Log

AP Home Advanced Tools Status Help View Log View Log displays the activities occurring on the DWL-G730AP. Click on Log Settings for advance features.
View Log displays the activities occurring on the DWL-G730AP. Click on Log Settings for advance features.
page 1 of 1 Time Message Source Destination Note

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

This screen displays theTraffic 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.

#### Status > Stats



#### Status > Wireless

**D-Link** Air Plus G Networks for P 802.11g/2.4GHz Wireless Router DWL-G730AP Status Home Advanced Tools Help C The Wireless Client table below displays Wireless clients Connected to the AP (Access Point). Help **Device Info** Connected Time MAC Address Apr/01/2002 00:41:46 00-0D-88-A0-8C-98 Log Stats 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.

# **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 <u>http://www.homenethelp.com</u> and <u>http://www.microsoft.com/windows2000</u> 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.

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.

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

Network Setup Wizard	
Give this computer a	description and name.
Computer description:	Mary's Computer
	Examples: Family Room Computer or Monica's Computer
Computer name:	Office
The current computer na	Examples: FAMILY or MONICA me is Office ter names and descriptions.
	< <u>Back</u> <u>N</u> ext > Cancel

Click Next.

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

Name your network	
Name your network by should have the same	specifying a workgroup name below. All computers on your network workgroup name.
Workgroup name: Accounting	
	Examples: HOME or OFFICE

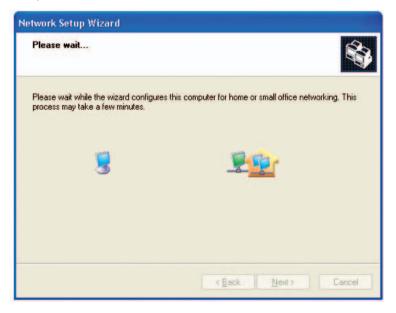
Click Next.

Please wait while the Network Setup Wizard applies the changes.

etwork Setup Wizar		
Ready to apply netw	ork settings	
The wizard will apply the and cannot be interrupte Settings:	following settings. This process may take a few r d.	ninutes to complete
Network settings:		^
Computer description: Computer name: Workgroup name:	Mary's Computer Office Accounting	
The Shared Documents shared.	folder and any printers connected to this comput	er have been
T 1.0 0	r.u	<u> </u>
To apply these settings,	CIICK NEXT.	
	< Back Nex	t> Cancel

When the changes are complete, click Next.

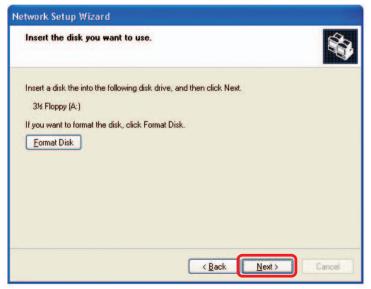
Please wait while the **Network Setup Wizard** configures the computer. This may take a few minutes.



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.



Please wait while the Network Setup Wizard copies the files.

Copying	
<u>&gt;</u> >	2
Please wait while the wizard copies files	
	Cancel

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**.

Network Setup Wizard
To run the wizard with the Network Setup Disk
Complete the wizard and restart this computer. Then, use the Network Setup Disk to run the Network Setup Wizard once on each of the other computers on your network. Here's how: 1. Insert the Network Setup Disk into the next computer you want to network. 2. Open My Computer and then open the Network Setup Disk. 3. Double-click "netsetup."
< <u>B</u> ack <u>N</u> ext > Cancel

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

Network Setup Wizard	
	Completing the Network Setup Wizard
	You have successfully set up this computer for home or small office networking.
山ろ	For help with home or small office networking, see the following topics in Help and Support Center:
	<u>Using the Shared Documents folder</u> Sharing files and folders
	To see other computers on your network, click Start, and then click My Network Places.
	To close this wizard, click Finish.
	< <u>B</u> ack Finish Cancel

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

System	Settings Change 🛛 🛛 🔀
?	You must restart your computer before the new settings will take effect. Do you want to restart your computer now?

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.

System Re	store Automa	tic Updates	Remote
General	Computer Name	Hardware	Advanced
		formation to identify Kitchen Computer" (	
Full computer r	ame: Office		
Workgroup:	Accounting		
domain and cre ID.	work Identification Wizard sate a local user account, computer or join a domain	click Network	Network ID

#### Networking Basics (continued) Naming your Computer

In this window, enter the	Computer Name Changes		
<ul><li>Computer name.</li><li>Select Workgroup and enter</li></ul>	You can change the name and the membership of this computer. Changes may affect access to network resources.		
the name of the Workgroup.	Computer name:		
<ul> <li>All computers on your network must have the same Workgroup name.</li> </ul>	Full computer name: Office		
Click OK.	Member of Domain:		
	OK Cancel		

#### 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	Disable	Restances in
Local Area	Status	CARLANS ST
<i>Connection icon</i> in the task bar.	Repair	TAG 1
	View Available Wireless Networks	101.83
	Open Network Connections	
Click on Status.		3:05 PM

#### Networking Basics (continued) Checking the IP Address in <u>Windows XP</u>

This window will appear.	<b>*</b> Wireless Network Connection	n 7 Status 🛛 ? 🔀
Click the Support tab.	General Support Internet Protocol (TCP/IP) Address Type: IP Address: Subnet Mask: Default Gateway:	Assigned by DHCP 192.168.0.114 255.255.255.0 192.168.0.1 Details
Click Close.	Regair	

#### Assigning a Static IP Address in Windows XP/2000

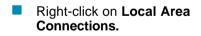
# Note: Residential Gateways/Broadband Routers will automatically assign IP Addresses to the computers on the network, using DHCP (Dynamic Host Configuration Protocol) technology. If you are using a DHCP-capable Gateway/Router you will not need to assign Static IP Addresses.

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

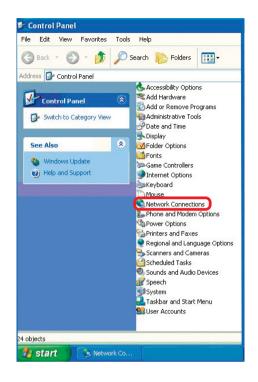
Double-clie	Go to <b>Start.</b> Double-click on <b>Control Panel.</b>	Files and Settings Transfer Wizard	Printers and Faxes  Help and Support  Search
		All Programs 👂 🚺 start	Log Off OT Turn Off Computer

#### Networking Basics (continued) Assigning a Static IP Address in <u>Windows XP/2000</u>

Double-click on Network Connections.



Double-click on Properties.





#### Networking Basics (continued) Assigning a Static IP Address in <u>Windows XP/2000</u>

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

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

eneral	Advanced				
Connec	t using:				
<b>B</b>	)-Link Air DWL	-520 Wireles	s PCI Adapte	at.	
	nnection uses				a
	Client for Mic File and Print QoS Packet Internet Proto	ter Sharing fo Scheduler	r Microsoft N	etworks	
-	nstall	Unins	tall	Propertie	s
Tran wide	smission Contro area network j ss diverse inter	protocol that	provides con		ılt
Shc	<u>w</u> icon in notifi	cation area w	hen connect	led	
Shc	w icon in notific	cation area w	hen connect	ted	

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) General You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings. Obtain an IP address automatically Use the following IP address: IP address: 192.168.0.52 Subnet mask: 255 . 255 . 255 . 0 Default gateway: 192.168.0 1 Obtain DNS server address automatically Use the following DNS server addresses: Preferred DNS server: 192.168.0.1 Alternate DNS server: Advanced OK Cancel

?

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.)

#### 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, 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:WINDOWSVSystem32\cmd.exe
★ F:WINDOWSVSystem32\cmd.exe
★ Microsoft Windows XP [Uersion 5.1.26001
(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 ITL=64</p>
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.

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# **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, and1Mbps

#### 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

 $^{st}$  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 11 Mbps

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 or original retail purchase. If a material 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 <u>http://www.dlink.ca</u> for detailed warranty information within Canada)

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

What Is Not Covered: This limited warranty provided by D-Link does not cover: Products, if in D-Link's judgment, have been subjected to abuse, accident, alteration, modification, tampering, negligence, misuse, faulty installation, lack of reasonable care, repair or service in any way that is not contemplated in the documentation for the product, or if the model or serial number has been altered, tampered with, defaced or removed; Initial installation, installation and removal of the product for repair, and shipping costs; Operational adjustments covered in the operating manual for the product, and normal maintenance; Damage that occurs in shipment, due to act of God, failures due to power surge, and cosmetic damage; Any hardware, software, firmware or other products or services provided by anyone other than D-Link; Products that have been purchased from inventory clearance or liquidation sales or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product. Repair by anyone other than D-Link or an Authorized D-Link Service Office will void this Warranty.

**Disclaimer of Other Warranties:** EXCEPT FOR THE LIMITED WARRANTY SPECIFIED HEREIN, THE PRODUCT IS PROVIDED "AS-IS" WITHOUT ANY WARRANTY OF ANY KIND WHATSOEVER INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. IF ANY IMPLIED WARRANTY CANNOT BE DISCLAIMED IN ANY TERRITORY WHERE A PRODUCT IS SOLD, THE DURATION OF SUCH IMPLIED WARRANTY SHALL BE LIMITED TO NINETY (90) DAYS. EXCEPT AS EXPRESSLY COVERED UNDER THE LIMITED WARRANTY PROVIDED HEREIN, THE ENTIRE RISK AS TO THE QUALITY, SELECTION AND PERFORMANCE OF THE PRODUCT IS WITH THE PURCHASER OF THE PRODUCT.

Limitation of Liability: TO THE MAXIMUM EXTENT PERMITTED BY LAW, D-LINK IS NOT LIABLE UNDER ANY CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER LEGAL OR EQUITABLE THEORY FOR ANY LOSS OF USE OF THE PRODUCT, INCONVENIENCE OR DAMAGES OF ANY CHARACTER, WHETHER DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL (INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF GOODWILL, LOSS OF REVENUE OR PROFIT, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, FAILURE OF OTHER EQUIPMENT OR COMPUTER PROGRAMS TO WHICH D-LINK'S PRODUCT IS CONNECTED WITH, LOSS OF INFORMATION OR DATA CONTAINED IN, STORED ON, OR INTEGRATED WITH ANY PRODUCT RETURNED TO D-LINK FOR WARRANTY SERVICE) RESULTING FROM THE USE OF THE PRODUCT, RELATING TO WARRANTY SERVICE, OR ARISING OUT OF ANY BREACH OF THIS LIMITED WARRANTY, EVEN IF D-LINK HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE SOLE REMEDY FOR A BREACH OF THE FOREGOING LIMITED WARRANTY IS REPAIR, REPLACEMENT OR REFUND OF THE DEFECTIVE OR NON-CONFORMING PRODUCT. THE MAXIMUM LIABILITY OF D-LINK UNDER THIS WARRANTY IS LIMITED TO THE PURCHASE PRICE OF THE PRODUCT COVERED BY THE WARRANTY. THE FOREGOING EXPRESS WRITTEN WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ANY OTHER WARRANTIES OR REMEDIES, EXPRESS, IMPLIED OR STATUTORY. **Governing Law:** This Limited Warranty shall be governed by the laws of the State of California. Some states do not allow exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the foregoing limitations and exclusions may not apply. This limited warranty provides specific legal rights and the product owner may also have other rights which vary from state to state.

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

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

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

#### 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.