D-Link®
Building Networks for People

Manual

Version 1.1

DWL-8200AP

Managed Dualband Access Point

Table of Contents

Product Overview

Package Contents

- **D-Link *Air* Premier® DWL-8200AP**
  Managed Dualband Access Point
- Power over Ethernet base unit
- Power Adapter-DC 48V, 0.4A
- Power Cord
- Manual and Warranty on CD
- Quick Installation Guide
- Ethernet Cable
- Mounting Plate

Note: Using a power supply with a different voltage than the one included with the **DWL-8200AP** will cause damage and void the warranty for this product.

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

Minimum System Requirements

- Computers with Windows®, Macintosh®, or Linux-based operating systems with an installed Ethernet Adapter
- Internet Explorer version 6.0 or Netscape Navigator™ version 7.0 and above
- At least 128MB of memory and a 500MHz processor

Introduction

At up to fifteen times the speed of previous wireless devices (maximum wireless signal rate of up to 108Mbps* in Super A and Super G mode), you can work faster and more efficiently, increasing productivity. With the **DWL-8200AP**, bandwidth-intensive applications like graphics or multimedia will benefit significantly because large files are able to move across the network quickly.

Inclusion of all three standards (802.11a; 802.11b; 802.11g) means that the **DWL-8200AP** is versatile enough to allow connection to almost any 802.11 network or device.

The **DWL-8200AP** is capable of operating in one of 3 different modes to meet your wireless networking needs. The **DWL-8200AP** can operate as an access point, or in WDS (Wireless Distribution System) with AP, or in WDS mode.

Use less wiring, enjoy increased flexibility, save time and money with PoE (Power over Ethernet). With PoE, the **DWL-8200AP** shares power and data over the CAT5 cable, making the setup of your network less expensive and more convenient.

An ideal solution for quickly creating and extending a wireless local area network (WLAN) in offices or other workplaces, trade shows and special events, the **DWL-8200AP** provides data transfers at up to 108Mbps* in Super A and Super G mode when used with other D-Link ***Air* Premier**® or ***Air* Premier AG**® products (The 802.11g standard is backwards compatible with 802.11b devices).

WPA is offered in two flavors: **Enterprise** (used for corporations), and **Personal** (used for home users).

WPA-Personal and **WPA2-Personal** is directed at home users who do not have the server based equipment required for user authentication. The method of authentication is similar to WEP because you define a “Pre-Shared Key” on the wireless router/AP. Once the pre-shared key is confirmed and satisfied on both the client and access point, then access is granted. The encryption method used is referred to as the Temporal Key Integrity Protocol (TKIP), which offers per-packet dynamic hashing. It also includes an integrity checking feature which ensures that the packets were not tampered with during wireless transmission. **WPA2-Personal** is far superior to **WPA-Personal**, because the encryption of data is upgraded with the Advanced Encryption Standard (AES).

*Maximum wireless signal rate derived from IEEE Standard 802.11a and 802.11g specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead lower actual data throughput rate.

WPA-Enterprise and **WPA2-Enterprise** is ideal for businesses that have existing security infrastructures in place. Management and security implementation can now be centralized on a server participating on the network. Utilizing 802.1x with a RADIUS (Remote Authentication Dial-in User Service) server, a network adminstrator can define a list of authorized users who can access the wireless LAN. When attempting to access a wireless LAN with either **WPA-Enterprise** or **WPA2-Enterprise** configured, the new client will be challenged with a username and password. If the new client is authorized by the administration, and enters the correct username and password, then access is granted. In a scenario where an employee leaves the company, the network administrator can remove the employee from the authorized list and not have to worry about the network being compromised by a former employee. **WPA2-Enterprise** is far superior to **WPA-Enterprise**, because the encryption of data is upgraded with the Advanced Encryption Standard (AES).

802.1x: Authentication which is a first line of defense against intrusion. In the authentication process, the Authentication Server verifies the identity of the client attempting to connect to the network. Unfamiliar clients would be denied access.

Features & Benefits

- **3 Different Operation modes -** Capable of operating in one of three different operation modes to meet your wireless networking requirements: Access Point; WDS with AP; or WDS.
- **Easy Installation with PoE (Power over Ethernet).**
- **Faster wireless networking** speeds up to 108Mbps* in Super A and Super G mode.
- **Compatible with 802.11a, 802.11b and 802.11g Devices** that is fully compatible with the IEEE 802.11a, 802.11b and 802.11g standards, the **DWL-8200AP** can connect with existing 802.11b-, 802.11g- or 802.11a-compliant wireless network adapter cards.
- **Compatible with the 802.11b standard** to provide a wireless data rate of up to 11Mbps - that means you can migrate your system to the 802.11g standard on your own schedule without sacrificing connectivity.
- **Better security with WPA -** The **DWL-8200AP** can securely connect wireless clients on the network using WPA (Wi-Fi Protected Access) providing a much higher level of security for your data and communications than has previously been available.
- **AP Manager Setup Wizard -** The new Setup Wizard makes network configuration quick and simple.
- **SNMP for Management -** The **DWL-8200AP** is not just fast but it also supports SNMP v.3 for a better network management. Superior wireless AP manager software is bundled with the **DWL-8200AP** for network configuration and firmware upgrade. Systems administrators can also setup the **DWL-8200AP** easily with the Web-based configuration. A D-Link D-View module will be downloadable for network administration and real-time network traffic monitoring with D-Link D-View software.
- Utilizes **OFDM** technology (**O**rthogonal **F**requency **D**ivision **M**ultiplexing).
- Operates in the 2.437GHz frequency range for an 802.11a network, and in the 5.26GHz frequency range for an 802.11b and 802.11g network.
- **Web-based interface** for managing and configuring.

*Maximum wireless signal rate derived from IEEE Standard 802.11a and 802.11g specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead lower actual data throughput rate.

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 to access the data you want, when and where you want it. You will be able to enjoy the freedom that wireless networking brings.

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

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

People use WLAN technology for many different purposes:

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

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

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

Inexpensive Solution - Wireless network devices are as competitively priced as conventional Ethernet network devices. The **DWL-8200AP** saves money by providing multi-functionality, configurable in one of three different modes.

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

Standards-based Technology

The **DWL-8200AP** Wireless Access Point utilizes the **802.11a**, **802.11b** and the **802.11g** standards.

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

This means that in most environments, within the specified range of this device, you will be able to transfer large files quickly or even watch a movie in MPEG format over your network without noticeable delays. This technology works by transmitting high-speed digital data over a radio wave utilizing **OFDM** (**O**rthogonal **F**requency **D**ivision **M**ultiplexing) technology. **OFDM** works by splitting the radio signal into multiple smaller sub-signals that are then transmitted simultaneously at different frequencies to the receiver. **OFDM** reduces the amount of **crosstalk** (interference) in signal transmissions.

The D-Link **DWL-8200AP** will automatically sense the best possible connection speed to ensure the greatest speed and range possible.

The **DWL-8200AP** offers the most advanced network security features available today, including WPA and WPA2.

In addition to its compatibility with 802.11g and 802.11a devices, the **DWL-8200AP** is compatible with 802.11b devices. This means that if you have an existing 802.11b network, or a network with a mixture of 802.11g, 802.11a and 802.11b, the devices in that network will be compatible with the **DWL-8200AP**.

*Maximum wireless signal rate derived from IEEE Standard 802.11a and 802.11g specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead lower actual data throughput rate.

Installation Considerations

The D-Link *Air* Premier® **DWL-8200AP** lets you access your network, using a wireless connection, from virtually anywhere within its operating range. Keep in mind, however, that the number, thickness and location of walls, ceilings, or other objects that the wireless signals must pass through, may limit the range. Typical ranges vary depending on the types of materials and background RF (radio frequency) noise in your home or business. The key to maximizing wireless range is to follow these basic guidelines:

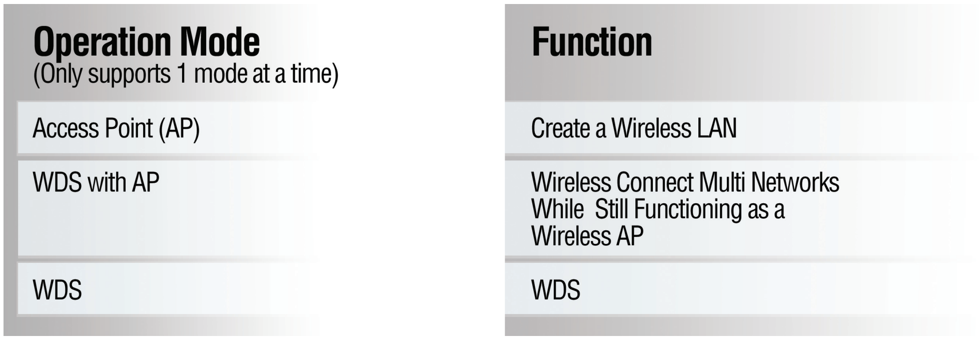
1. Keep the number of walls and ceilings between the **DWL-8200AP** and other network devices to a minimum - each wall or ceiling can reduce your **DWL-8200AP**'s range from 3-90 feet (1-30 meters.) Position your devices so that the number of walls or ceilings is minimized.

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.

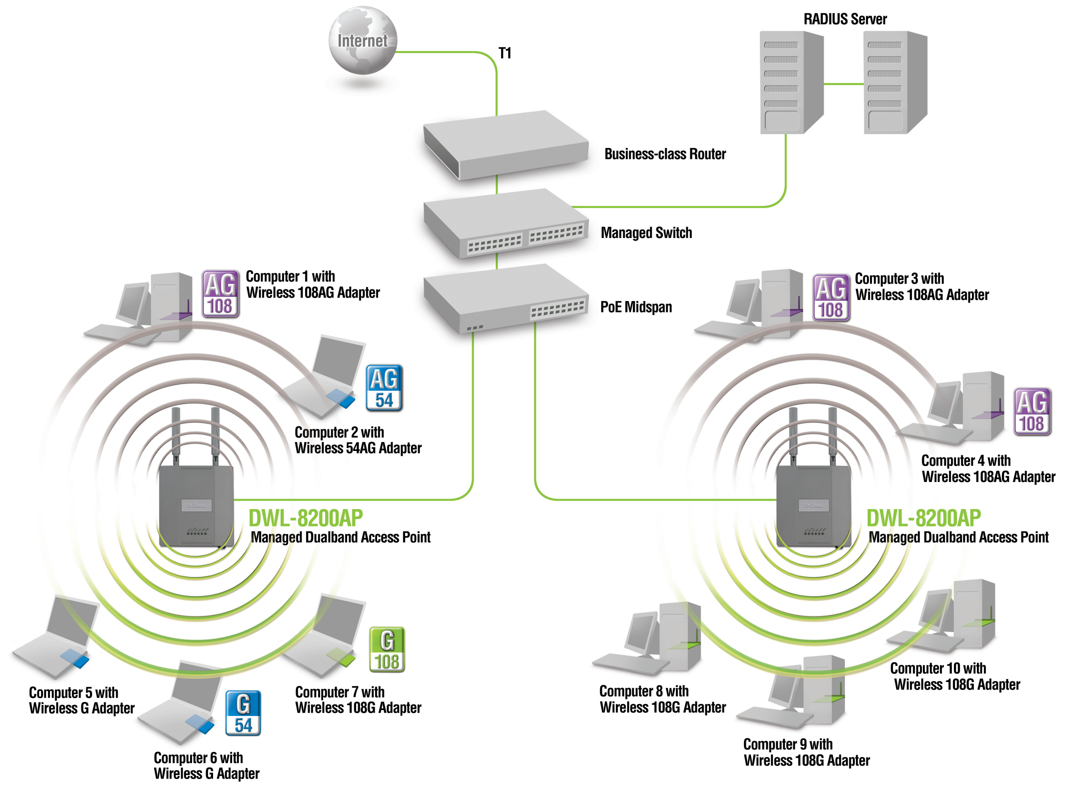
4. Keep your product away (at least 3-6 feet or 1-2 meters) from electrical devices or appliances that generate RF noise.

Three Operational Modes



Operation Mode (Only supports 1 mode at a time)	**Function**
Access Point (AP)	Create a Wireless LAN
WDS with AP	Wireless Connect Multi Networks While Still Functioning as a Wireless AP
WDS	WDS

Installation



1 You will need broadband Internet access.

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

3 Connect the Cable or DSL modem to a Router.
(*See the printed Quick Installation Guide included with your router.*)

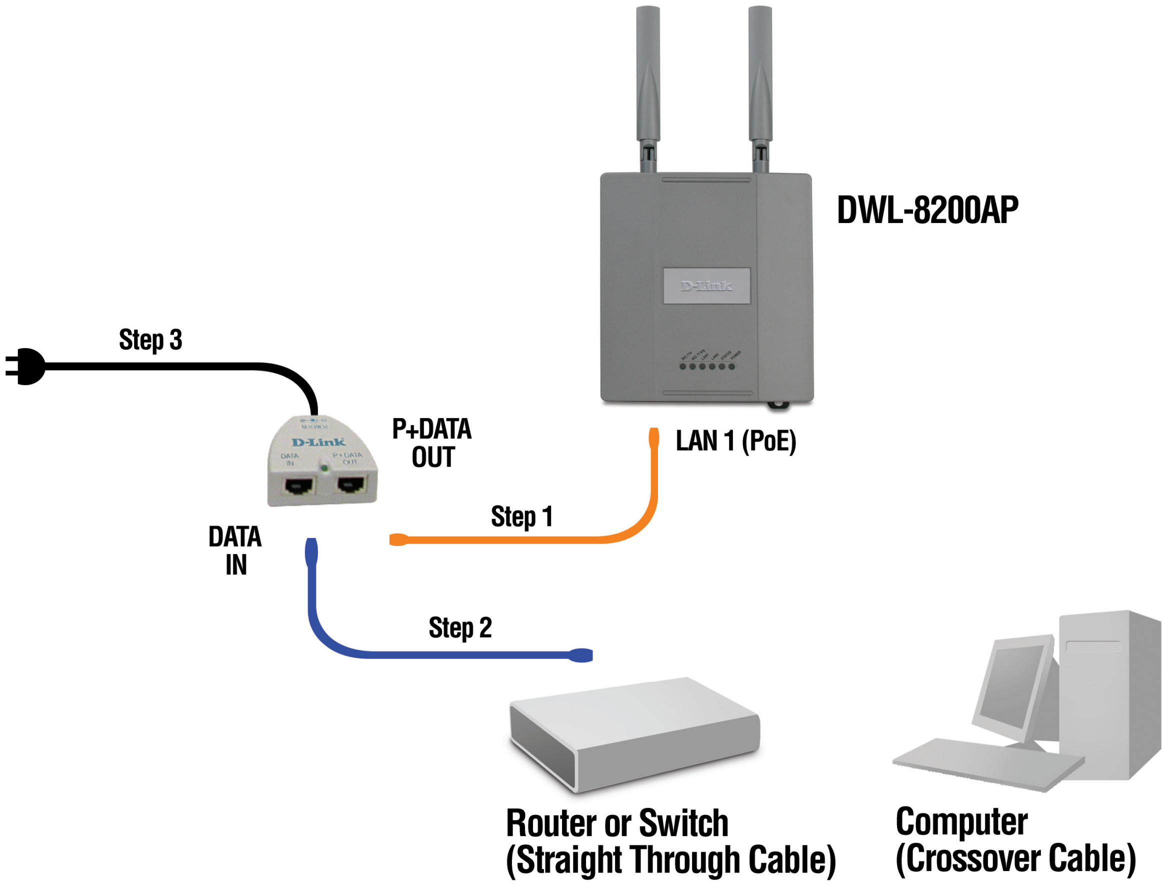
4 Connect the Ethernet Broadband Router to the PoE base unit.
(*See the printed Quick Installation Guide included with the **DWL-8200AP**.*)

5 Connect the **DWL-8200AP** to the PoE base unit.
(*See the printed Quick Installation Guide included with the **DWL-8200AP**.*)

6 If you are connecting a desktop computer to your network, install the D-Link DWL-AG530 wireless PCI adapter into an available PCI slot on your desktop computer.
(See the printed Quick Installation Guide included with the DWL-AG530.)

7 Install the drivers for the D-Link DWL-AG660 wireless Cardbus adapter into a laptop computer.
(*See the printed Quick Installation Guide included with the DWL-AG660.*)

Connecting PoE (Power over Ethernet)

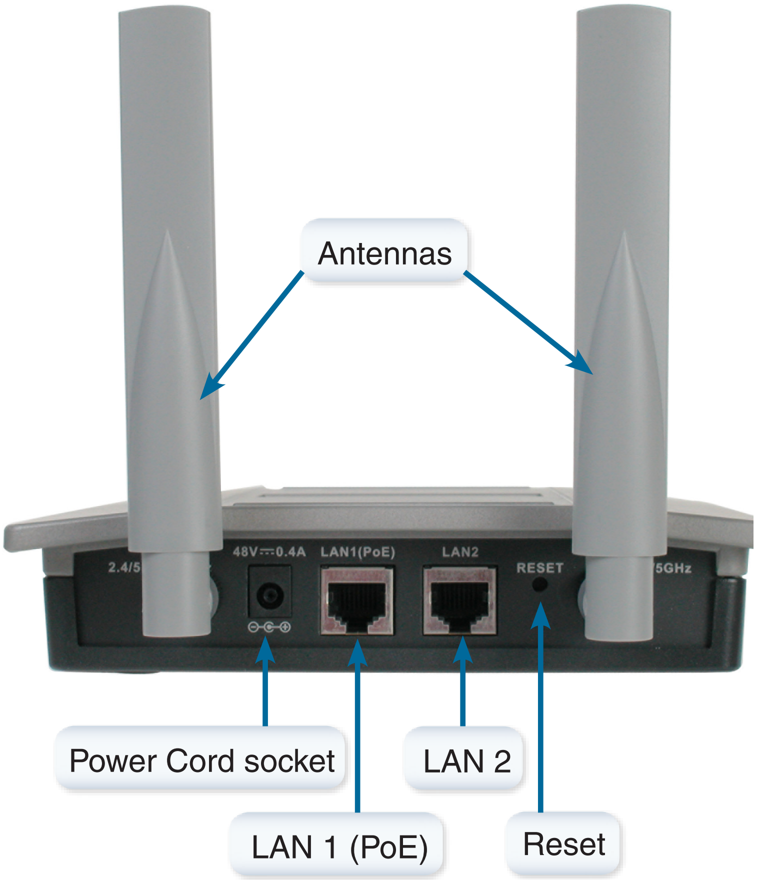

DWL-8200AP
Step 3
P+DATA OUT
LAN 1 (PoE)
Step 1
DATA IN
Step 2
Router or Switch (Straight Through Cable)
Computer (Crossover Cable)

Step 1 Connect one end of an Ethernet cable (included with your package) to the **LAN port** on the **DWL-8200AP** and the other end of the Ethernet cable to the port labeled **P+DATA OUT** on the PoE base unit.

Step 2 Connect another Ethernet cable from the **DATA IN** port on the PoE base unit to your router/switch or to a PC.

Step 3 Attach the power adapter to the connector on the PoE base unit. Attach the power cord to the power adapter and into an electrical outlet.

Hardware Overview



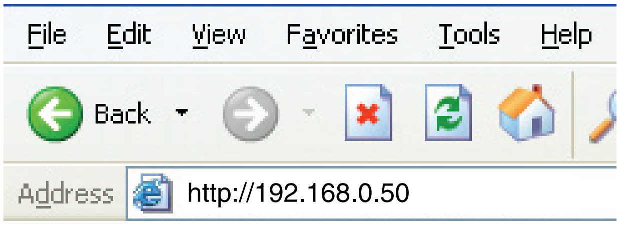
Configuration

To configure the **DWL-8200AP**, use a computer which is connected to the **DWL-8200AP** with an Ethernet cable (see the *Network Layout* diagram).

First, disable the ***Access the Internet using a proxy server*** function. To disable this function, go to **Control Panel > Internet Options > Connections > LAN Settings** and uncheck the enable box.

Start your web browser program (Internet Explorer, Netscape Navigator) .

Type the IP address of the **DWL-8200AP** in the address field (http://192.168.0.50) and press **Enter**. Make sure that the IP addresses of the **DWL-8200AP** and your computer are in the same subnet. **DWL-8200AP** also supports HTTPS Browsing by using the Secure Socket Layer (SSL) Protocol. Just change your Browser's address line from "http://..." to "https://..." and log into the AP again.

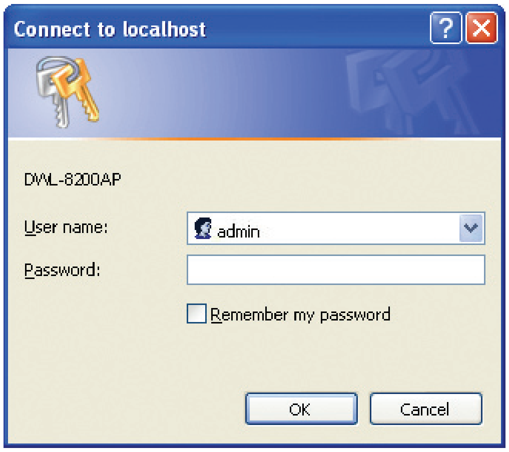


http://192.168.0.50

After the connection is established, you will see the user identification window as shown.

*Note: If you have changed the default IP address assigned to the **DWL-8200AP**, make sure to enter the correct IP address.*

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



Connect to localhost

DWL-8200AP

User name: admin

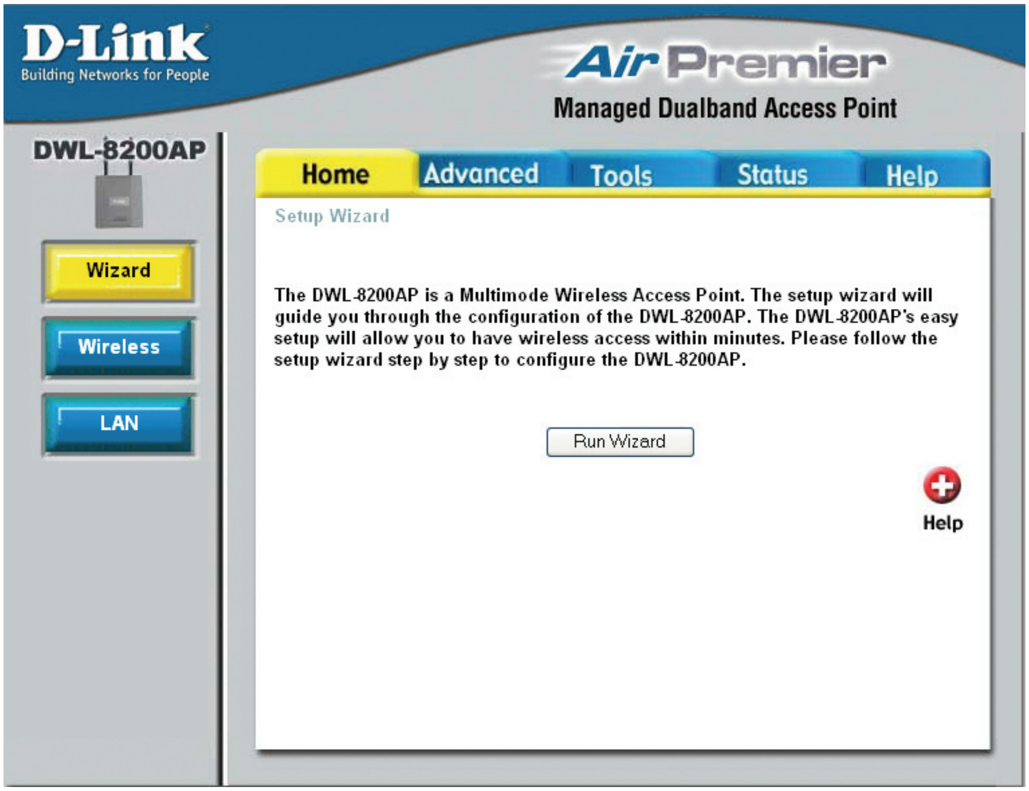
Password:

☐ Remember my password

Note: If you have changed the password, make sure to enter the correct password.

Setup Wizard

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



The DWL-8200AP is a Multimode Wireless Access Point. The setup wizard will guide you through the configuration of the DWL-8200AP. The DWL-8200AP's easy setup will allow you to have wireless access within minutes. Please follow the setup wizard step by step to configure the DWL-8200AP.

These buttons appear on most of the configuration screens in this section. Please click on the appropriate button at the bottom of each screen after you have made a configuration change.

Apply — Clicking **Apply** will save changes made to the page

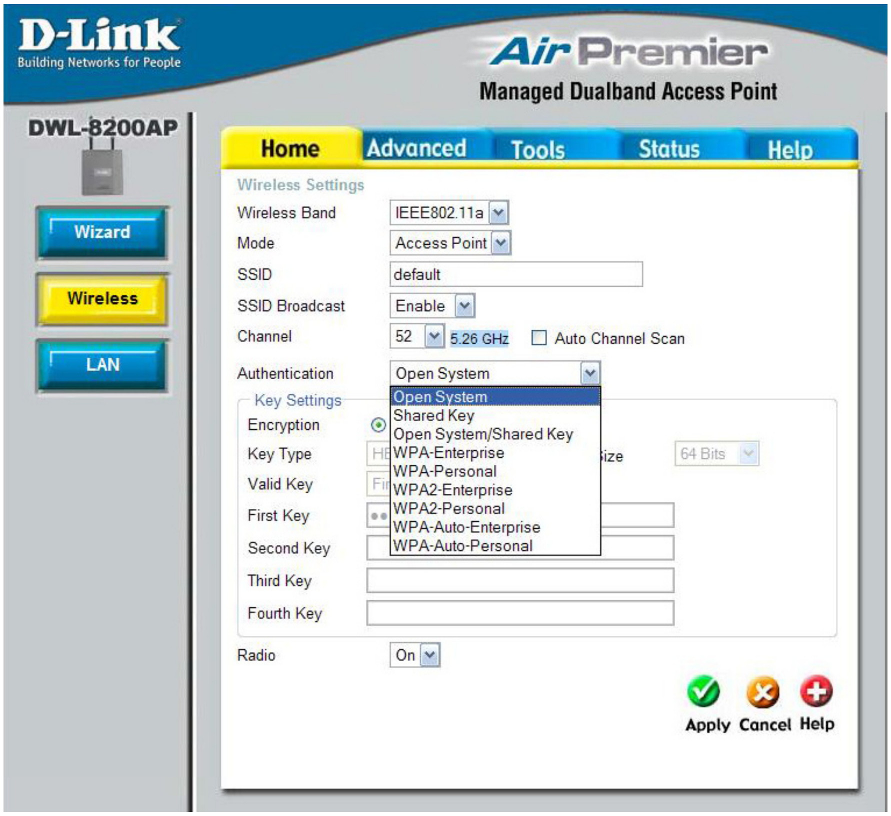
Cancel — Clicking **Cancel** will clear changes made to the page

Help — Clicking **Help** will bring up helpful information regarding the page

Restart — Clicking **Restart** will restart the router. (Necessary for some changes.)

Wireless Settings

Access Point Mode



Wireless Settings

Wireless Band: IEEE802.11a

Mode: Access Point

SSID: default

SSID Broadcast: Enable

Channel: 52 5.26 GHz □ Auto Channel Scan

Authentication: Open System

Key Settings

Encryption ●

Key Type

Valid Key

First Key

Second Key

Third Key

Fourth Key

Key Size: 64 Bits

Radio: On

Wireless Band: Select either IEEE 802.11a or IEEE 802.11g

Mode: **Access Point** is selected from the pull-down menu.

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.

SSID Broadcast: Enable or Disable SSID broadcast. Enabling this feature broadcasts the SSID across the network.

Channel: **52** is the default channel for IEEE 802.11a, and **6** is the default channel for IEEE 802.11g. All devices on the network must share the same channel. The channel of an 802.11a network may not be set manually in certain regions (e.g. Europe) in order to comply with DFS (Dynamic Frequency Selection).

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

Auto Channel Scan: Select Enable or Disable. Enable this feature to auto-select the channel for best wireless performance. To comply with DFS (Dynamic Frequency Selection), this function is not available to use in certain regions (e.g. Europe).

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

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

Select **Open System/Shared Key** to allow either form of data encryption.

Select **WPA-Enterprise** to secure your network with the inclusion of a RADIUS server.

Select **WPA-Personal** to secure your network using a password and dynamic key changes. (No RADIUS server required.)

Select **WPA2-Enterprise** to secure your network with the inclusion of a RADIUS server and upgrade the encryption of data with the Advanced Encryption Standard (AES).

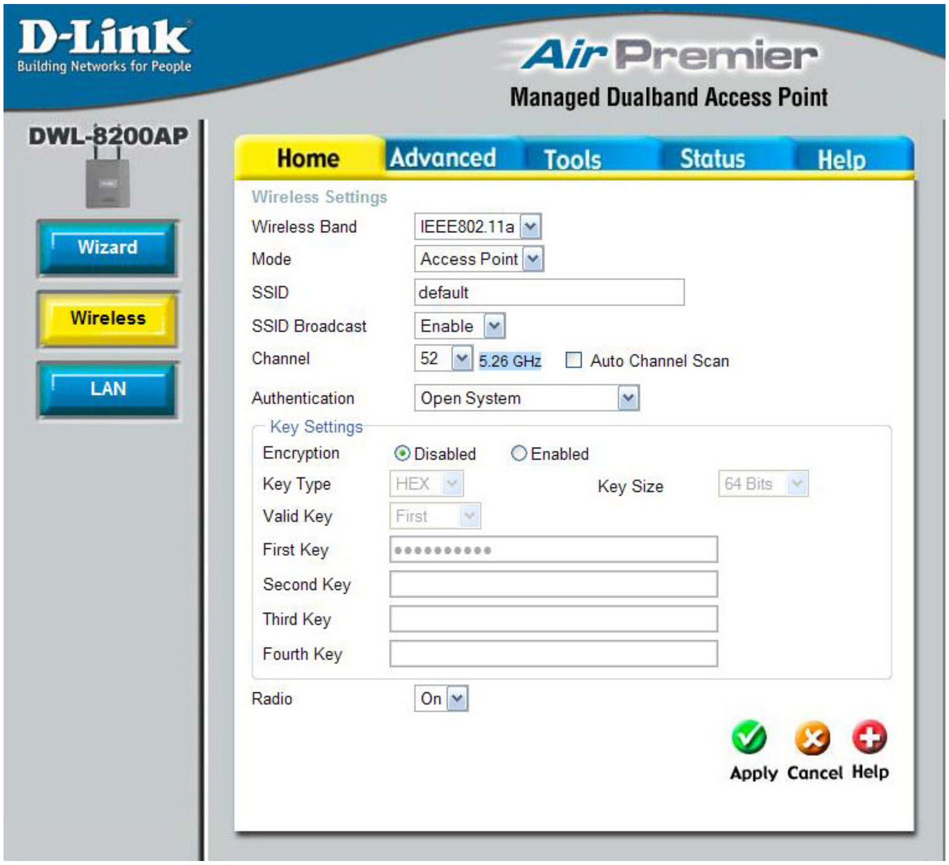
Select **WPA2-Personal** to secure your network using a password and dynamic key changes. No RADIUS server required and encryption of data is upgraded with the Advanced Encryption Standard (AES).

Select **WPA-Auto-Enterprise** to allow the client to either use **WPA-Enterprise** or **WPA2-Enterprise**.

Select **WPA-Auto-Enterprise** to allow the client to either use **WPA-Personal** or **WPA2-Personal**.

Radio: Select On or Off. Selecting Off will turn off all wireless functions.

WEP Encryption



Wireless Settings

Wireless Band	IEEE802.11a
Mode	Access Point
SSID	default
SSID Broadcast	Enable
Channel	52 5.26 GHz □ Auto Channel Scan
Authentication	Open System

Key Settings

Encryption	● Disabled ○ Enabled		
Key Type	HEX	Key Size	64 Bits
Valid Key	First		
First Key	••••••••••		
Second Key			
Third Key			
Fourth Key			

Radio	On

Encryption: Select **Disabled** or **Enabled**. (**Disabled** is selected here).

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

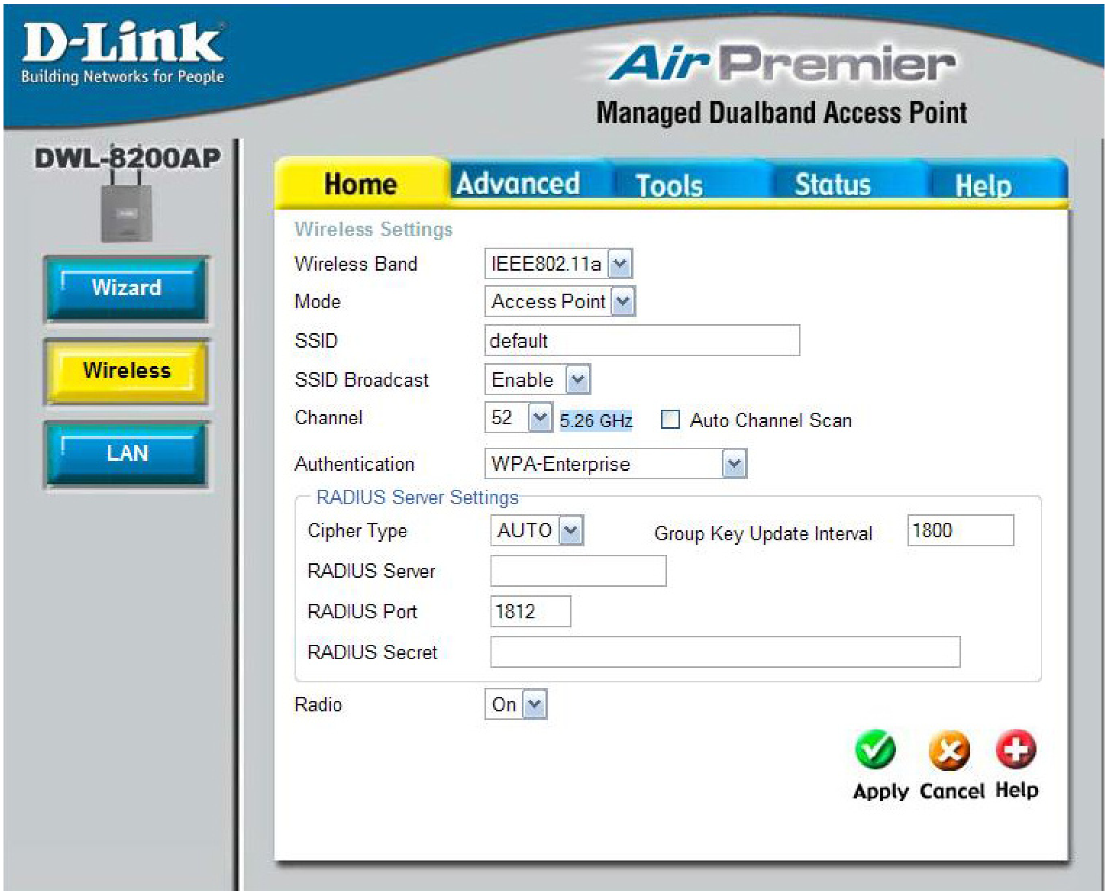
Key Size: Select **64-bit, 128-bit,** or **152 bits.**

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

First through Fourth keys: Input up to four keys for encryption. You will select one of these keys in the valid key field.

* **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 0-127.

WPA/WPA2 Enterprise



Wireless Settings

Wireless Band: IEEE802.11a

Mode: Access Point

SSID: default

SSID Broadcast: Enable

Channel: 52 5.26 GHz □ Auto Channel Scan

Authentication: WPA-Enterprise

RADIUS Server Settings

Cipher Type: AUTO Group Key Update Interval: 1800

RADIUS Server:

RADIUS Port: 1812

RADIUS Secret:

Radio: On

Cipher Type: When you select **WPA-Enterprise**, **WPA2-Enterprise** or **WPA-Auto-Enterprise**, you must select **AUTO**, **AES**, or **TKIP** from the pull-down menu.

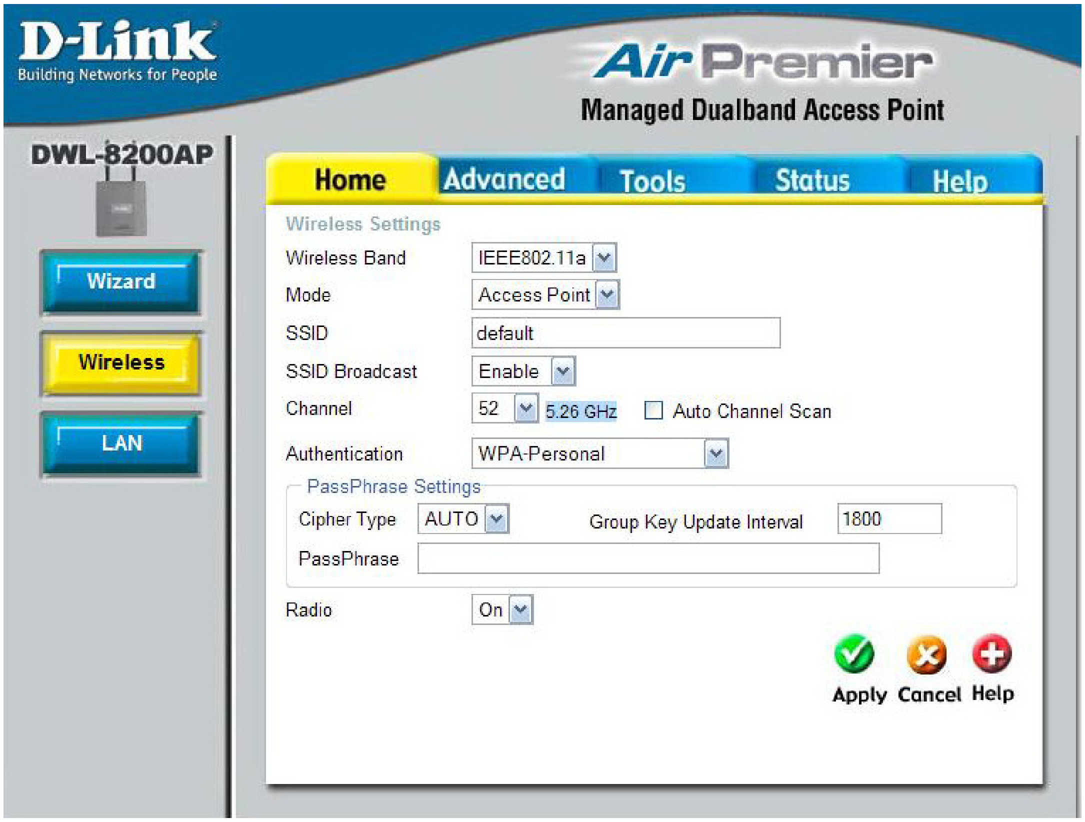
Group Key Update Interval: Select the interval during which the group key will be valid. 1800 is the recommended value. A lower interval may reduce transfer data rate.

Radius Server: Enter the IP address of the Radius server.

Radius Port: Enter the Radius port.

Radius Secret: Enter the Radius secret.

WPA/WPA2 Personal



Wireless Settings

Wireless Band: IEEE802.11a

Mode: Access Point

SSID: default

SSID Broadcast: Enable

Channel: 52 5.26 GHz □ Auto Channel Scan

Authentication: WPA-Personal

PassPhrase Settings

Cipher Type: AUTO   Group Key Update Interval: 1800

PassPhrase:

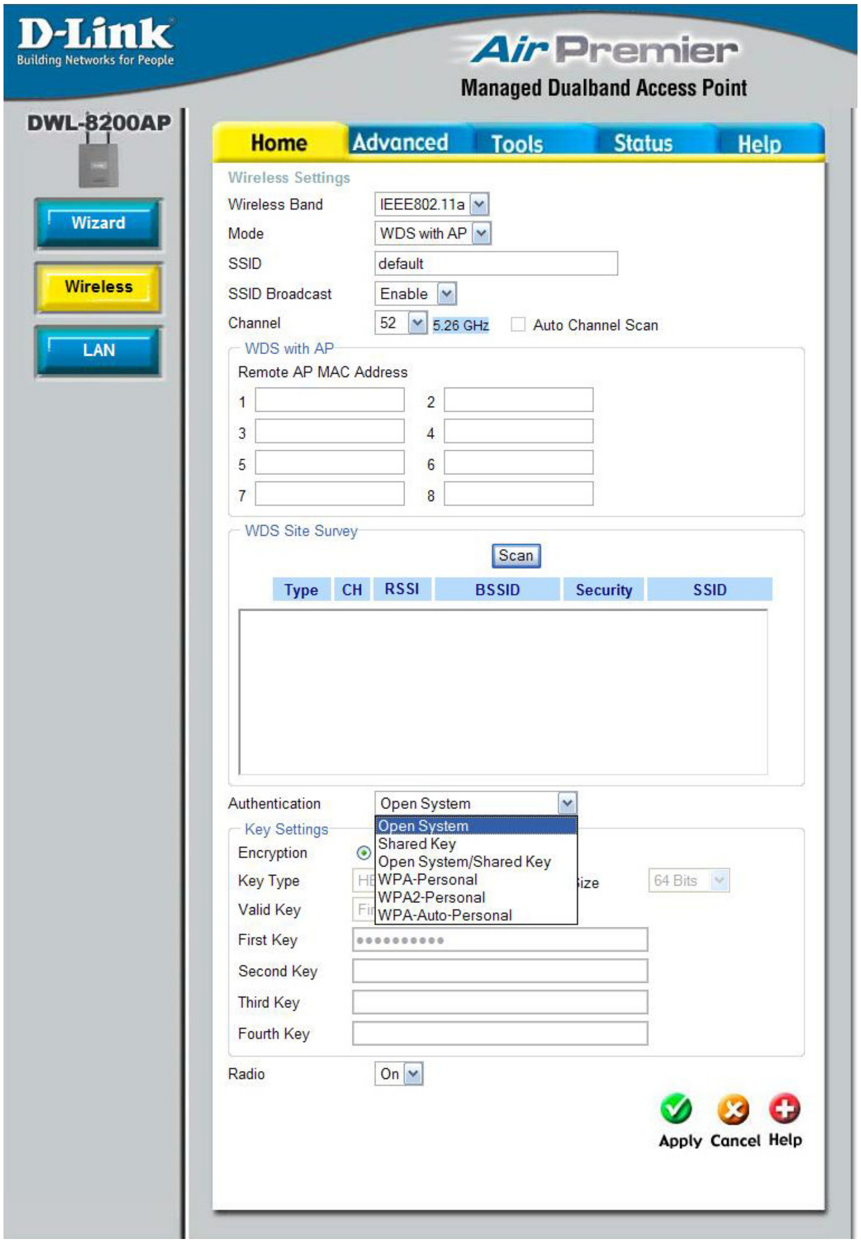
Radio: On

Cipher Type: When you select **WPA-Personal**, **WPA2-Personal,** or **WPA-Auto-Personal**, you must select **AUTO**, **AES**, or **TKIP** from the pull-down menu.

Group Key Update Interval: Select the interval during which the group key will be valid. The default value of 1800 is reommended.

PassPhrase: When you select **WPA-Personal**, **WPA2-Personal**, or **WPA-Auto-Personal**, please enter a **PassPhrase** in the corresponding field.

WDS with AP Mode



Wireless Settings

Wireless Band	IEEE802.11a
Mode	WDS with AP
SSID	default
SSID Broadcast	Enable
Channel	52 5.26 GHz □ Auto Channel Scan

WDS with AP

Remote AP MAC Address

1		2	
3		4	
5		6	
7		8	

WDS Site Survey

Scan

Type	CH	RSSI	BSSID	Security	SSID

Authentication: Open System
- Open System
- Shared Key
- Open System/Shared Key
- WPA-Personal
- WPA2-Personal
- WPA-Auto-Personal

Key Settings

Encryption	●
Key Type	HE
Valid Key	Fi
ize	64 Bits
First Key	••••••••••
Second Key	
Third Key	
Fourth Key	

Radio: On

In WDS with AP mode, the **DWL-8200AP** wirelessly connects multiple networks, while still functioning as a wireless AP.

Wireless Band: Select either IEEE 802.11a or IEEE 802.11g

Mode: **WDS with AP** is selected from the pull-down menu.

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.

SSID Broadcast: Enable or Disable SSID broadcast. Enabling this feature broadcasts the SSID across the network.

Channel: **52** is the default channel for IEEE 802.11a, and **6** is the default channel for IEEE 802.11g. All devices on the network must share the same channel. The channel of an 802.11a network may not be set manually in certain regions (e.g. Europe) in order to comply with DFS (Dynamic Frequency Selection).

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

Auto Channel Scan: This option is unavailable in WDS with AP mode.

Remote AP MAC Address: Enter the MAC addresses of the APs in your network that will serve as bridges to wirelessly connect multiple networks.

Radio: Select **On** or **Off**.

WDS Site Survey: Click on the **Scan** button to search for available wireless networks. Click on the network you want to connect to.

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

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

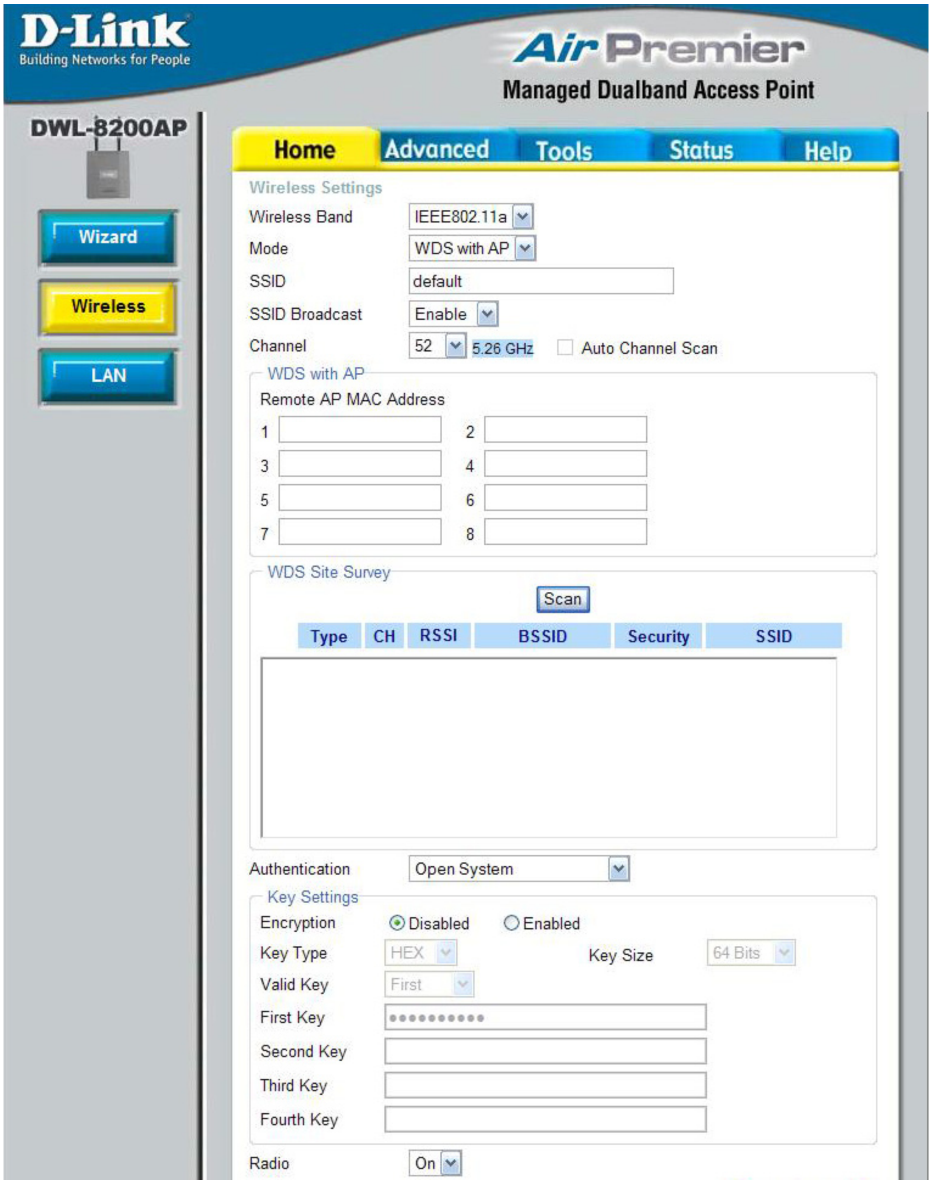
Select **Open System/Shared Key** to allow either form of data encryption.

Select **WPA-Personal** to secure your network using a password and dynamic key changes. (No RADIUS server required.)

Select **WPA2-Personal** to secure your network using a password and dynamic key changes. No RADIUS server required and encryption of data is upgraded with the Advanced Encryption Standard (AES).

Select **WPA-Auto-Personal** to allow the client to either use **WPA-Personal** or **WPA2-Personal**.

WEP Encryption



Wireless Settings

Wireless Band: IEEE802.11a

Mode: WDS with AP

SSID: default

SSID Broadcast: Enable

Channel: 52 5.26 GHz □ Auto Channel Scan

WDS with AP

Remote AP MAC Address

1		2	
3		4	
5		6	
7		8	

WDS Site Survey

Authentication: Open System

Key Settings

Encryption: ● Disabled ○ Enabled

Key Type: HEX   Key Size: 64 Bits

Valid Key: First

First Key: ●●●●●●●●●●

Second Key:

Third Key:

Fourth Key:

Radio: On

Encryption: Select **Disabled** or **Enabled**. (**Disabled** is selected here).

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

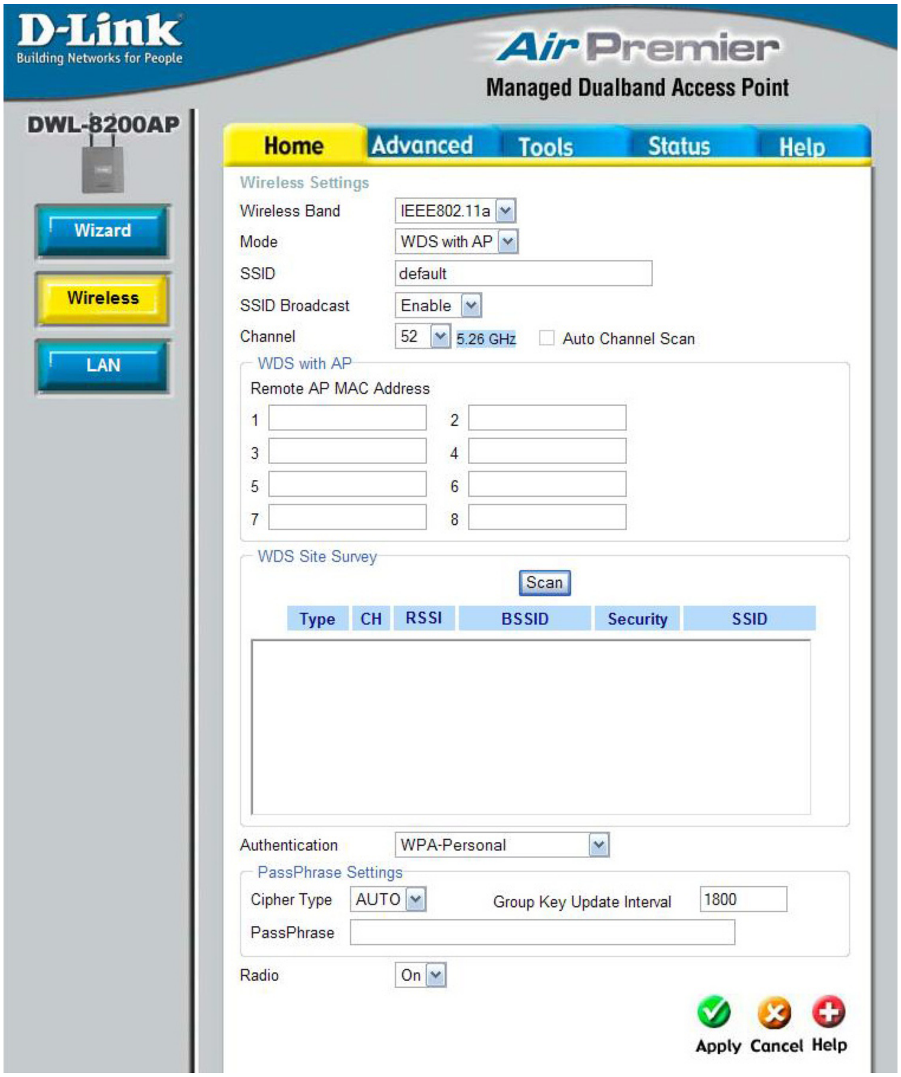
Key Size: Select **64-bit, 128-bit,** or **152 bits.**

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

First through Fourth keys: Input up to four keys for encryption. You will select one of these keys in the valid key field.

* **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 0-127.

WPA/WPA2 - Personal



Wireless Settings

Wireless Band	IEEE802.11a
Mode	WDS with AP
SSID	default
SSID Broadcast	Enable
Channel	52 5.26 GHz □ Auto Channel Scan

WDS with AP

Remote AP MAC Address

1		2	
3		4	
5		6	
7		8	

WDS Site Survey

Scan

Type	CH	RSSI	BSSID	Security	SSID

Authentication	WPA-Personal

PassPhrase Settings

Cipher Type	AUTO	Group Key Update Interval	1800
PassPhrase			

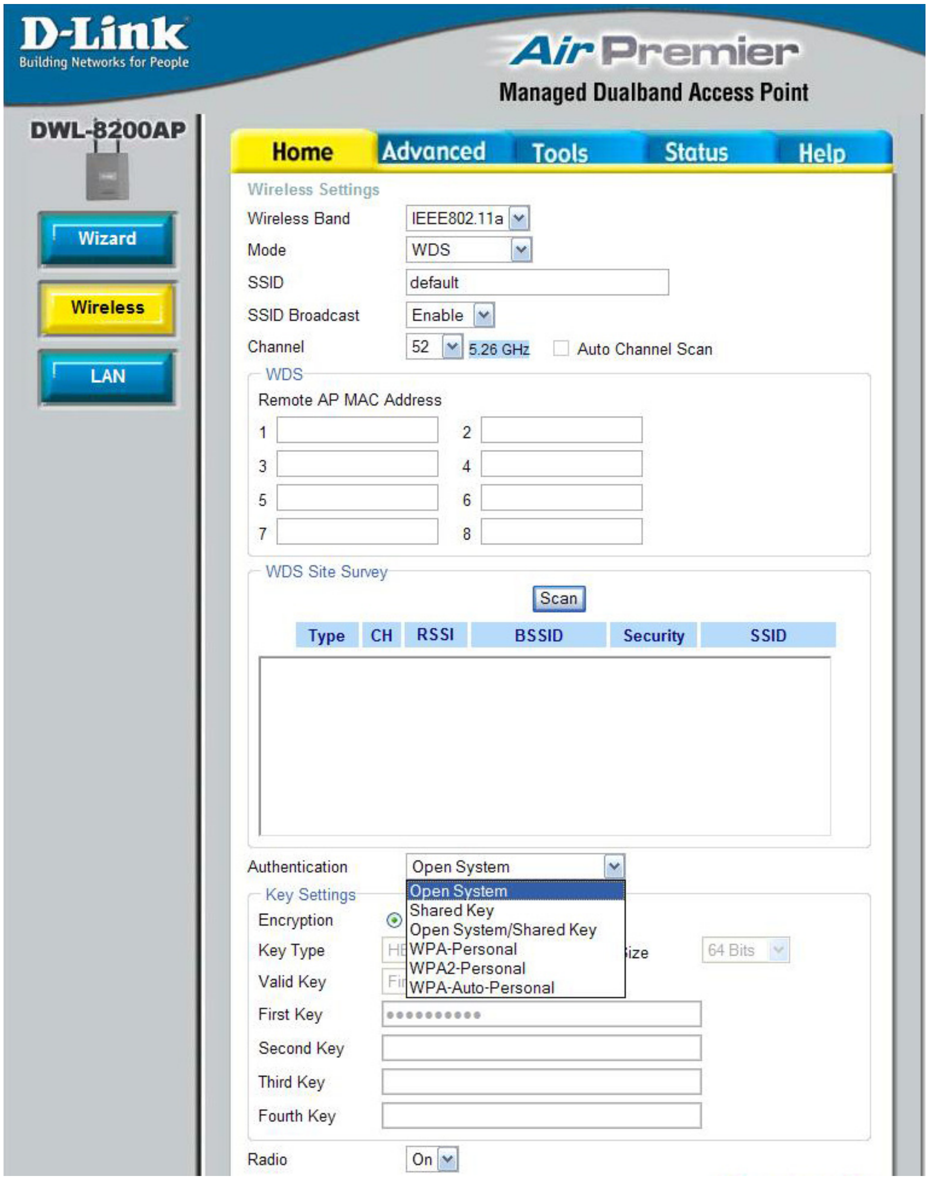
Radio	On

Cipher Type: When you select **WPA-Personal**, **WPA2-Personal**, or **WPA-Auto-Personal** you must select **AUTO**, **AES**, or **TKIP** from the pull-down menu.

Group Key Update Interval: Select the interval during which the group key will be valid. The default value of 1800 is reommended.

PassPhrase: When you select **WPA-Personal**, **WPA2-Personal**, or **WPA-Auto-Personal** please enter a **PassPhrase** in the corresponding field.

WDS Mode



Wireless Settings

Wireless Band	IEEE802.11a
Mode	WDS
SSID	default
SSID Broadcast	Enable
Channel	52 5.26 GHz □ Auto Channel Scan

WDS

Remote AP MAC Address

1		2	
3		4	
5		6	
7		8	

WDS Site Survey

Type	CH	RSSI	BSSID	Security	SSID

Authentication	Open System

Key Settings

Encryption	●		
Key Type	HE	ize	64 Bits
Valid Key	Fi		
First Key	••••••••••		
Second Key			
Third Key			
Fourth Key			

Radio	On

In WDS, the **DWL-8200AP** wirelessly connects multiple networks, without functioning as a wireless AP.

Wireless Band: Select either IEEE 802.11a or IEEE 802.11g

Mode: **WDS** is selected from the pull-down menu.

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.

SSID Broadcast: Enable or Disable SSID broadcast. Enabling this feature broadcasts the SSID across the network.

Channel: **52** is the default channel for IEEE 802.11a, and **6** is the default channel for IEEE 802.11g. All devices on the network must share the same channel.

Auto Channel Scan: This option is unavailable in WDS mode.

Remote AP MAC Address: Enter the MAC addresses of the APs in your network that will serve as bridges to wirelessly connect multiple networks.

WDS Site Survey: Click on the **Scan** button to search for available wireless networks. Click on the network you want to connect to.

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

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

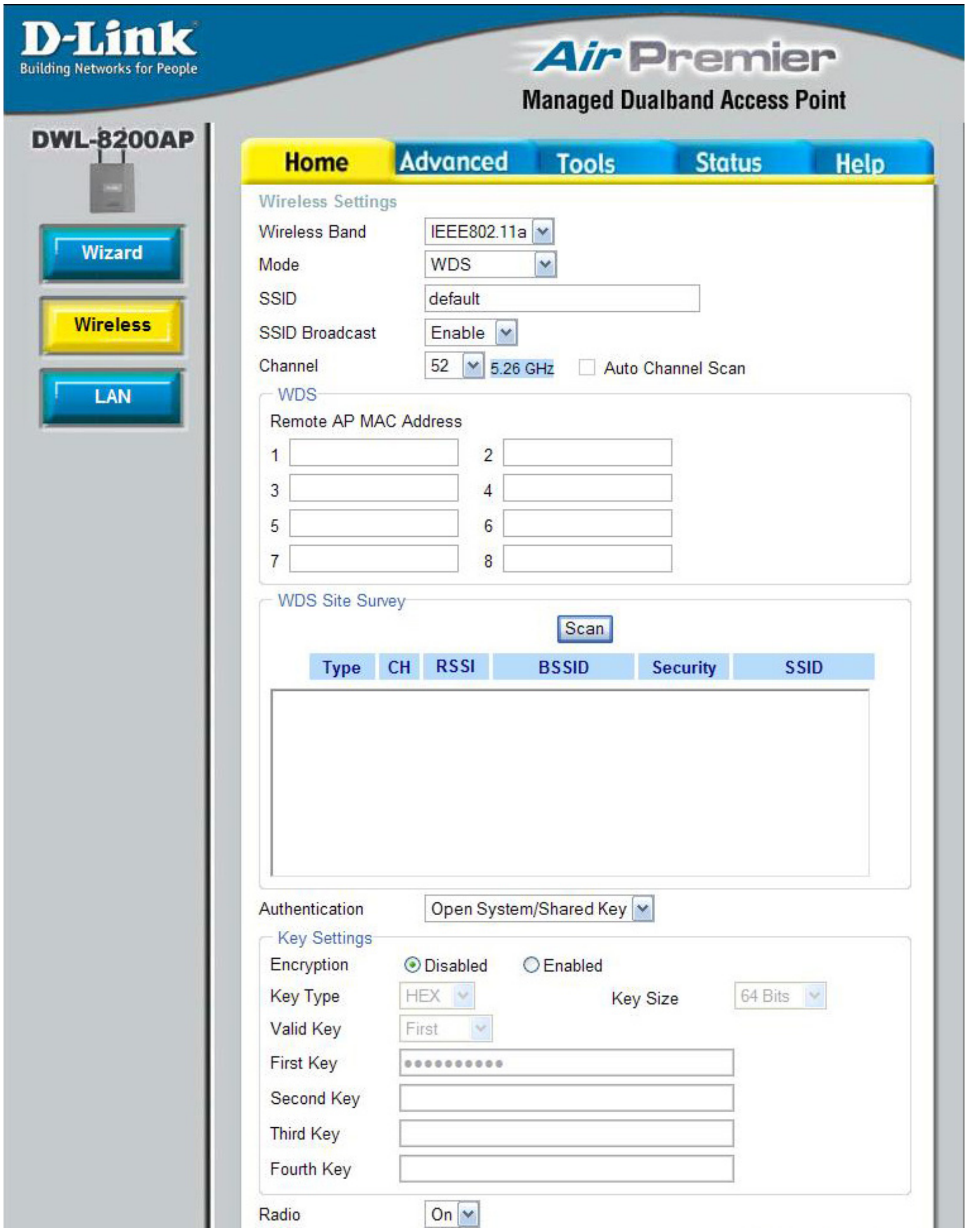
Select **Open System/Shared Key** to allow either form of data encryption.

Select **WPA-Personal** to secure your network using a password and dynamic key changes. (No RADIUS server required.)

Select **WPA2-Personal** to secure your network using a password and dynamic key changes. No RADIUS server required and encryption of data is upgraded with the Advanced Encryption Standard (AES).

Select **WPA-Auto-Personal** to allow the client to either use **WPA-Personal** or **WPA2-Personal**.

WEP Encryption



Wireless Settings

Wireless Band: IEEE802.11a

Mode: WDS

SSID: default

SSID Broadcast: Enable

Channel: 52 5.26 GHz □ Auto Channel Scan

WDS

Remote AP MAC Address: 1 2 3 4 5 6 7 8

WDS Site Survey

Authentication: Open System/Shared Key

Key Settings

Encryption: ● Disabled ○ Enabled

Key Type: HEX Key Size: 64 Bits

Valid Key: First

First Key: ••••••••••

Second Key:

Third Key:

Fourth Key:

Radio: On

Encryption: Select **Disabled** or **Enabled**. (**Disabled** is selected here).

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

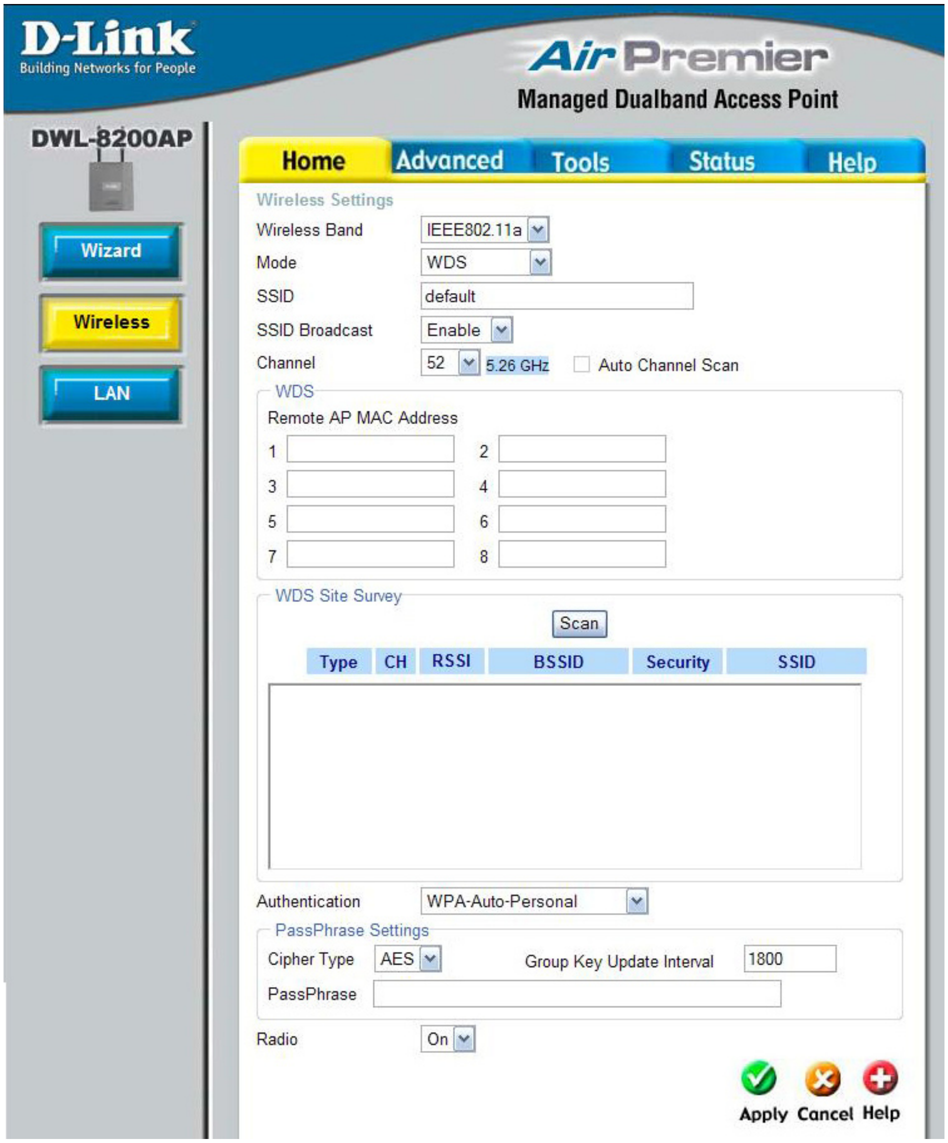
Key Size: Select **64-bit, 128-bit,** or **152 bits.**

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

First through Fourth keys: Input up to four keys for encryption. You will select one of these keys in the valid key field.

* **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 0-127.

WPA/WPA2 Personal



Wireless Settings

Wireless Band	IEEE802.11a
Mode	WDS
SSID	default
SSID Broadcast	Enable
Channel	52 5.26 GHz □ Auto Channel Scan

WDS

Remote AP MAC Address

1		2	
3		4	
5		6	
7		8	

WDS Site Survey

Scan

Type	CH	RSSI	BSSID	Security	SSID

Authentication	WPA-Auto-Personal

PassPhrase Settings

Cipher Type	AES	Group Key Update Interval	1800
PassPhrase			

Radio	On

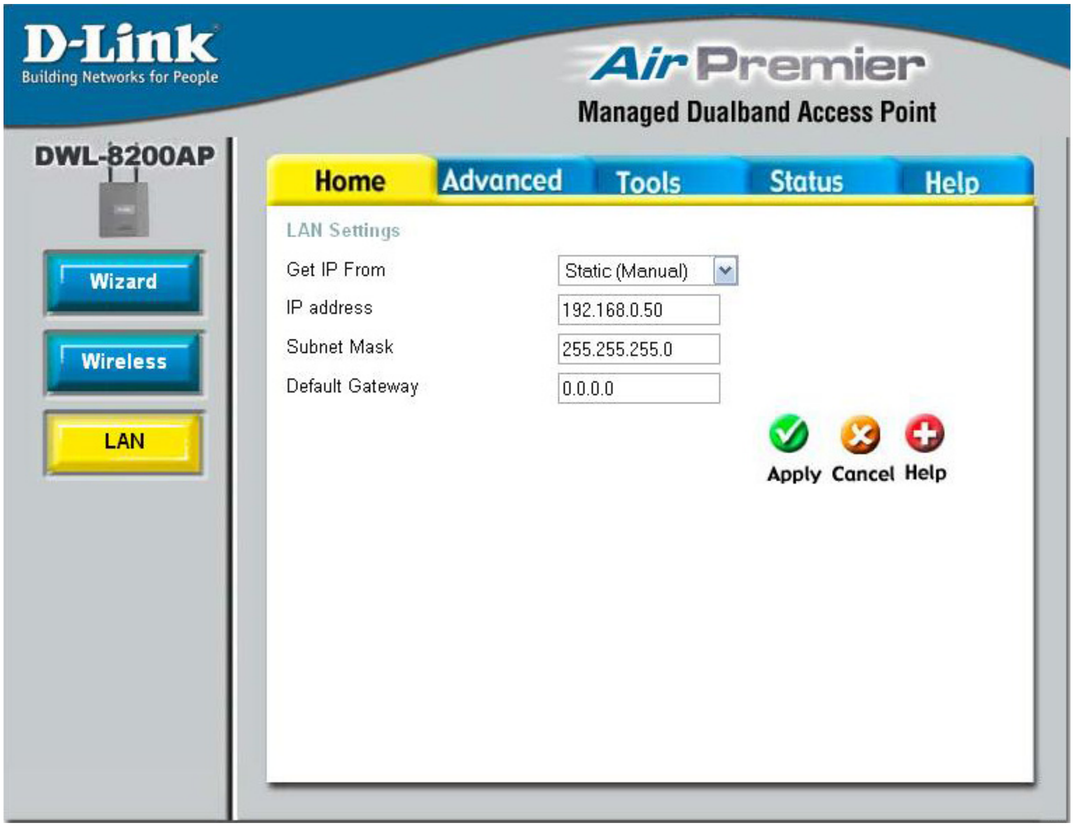
Cipher Type: AES is selected.

Group Key Update Interval: Select the interval during which the group key will be valid. The default value of 1800 is reommended.

PassPhrase: When you select **WPA-Personal**, **WPA2-Personal,** or **WPA-Auto-Personal**, please enter a **PassPhrase** in the corresponding field.

AP Mode	Authentication Available
Access Point	Open System
	Shared Key
	Open System/Shared Key
	WPA-Enterprise
	WPA-Personal
	WPA2-Enterprise
	WPA2-Personal
	WPA-Auto-Enterprise
	WPA-Auto-Personal
WDS with AP	Open System
	Shared Key
	Open System/Shared Key
	WPA-Personal
	WPA2-Personal
	WPA-Auto-Personal
WDS	Open System
	Shared Key
	Open System/Shared Key
	WPA-Personal
	WPA2-Personal
	WPA-Auto-Personal

LAN Settings



LAN Settings

Get IP From: Static (Manual)

IP address: 192.168.0.50

Subnet Mask: 255.255.255.0

Default Gateway: 0.0.0.0

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-8200AP**. These settings may be referred to as private settings. You may change the LAN IP address if needed. The LAN IP address is private to your internal network and cannot be seen on the Internet.

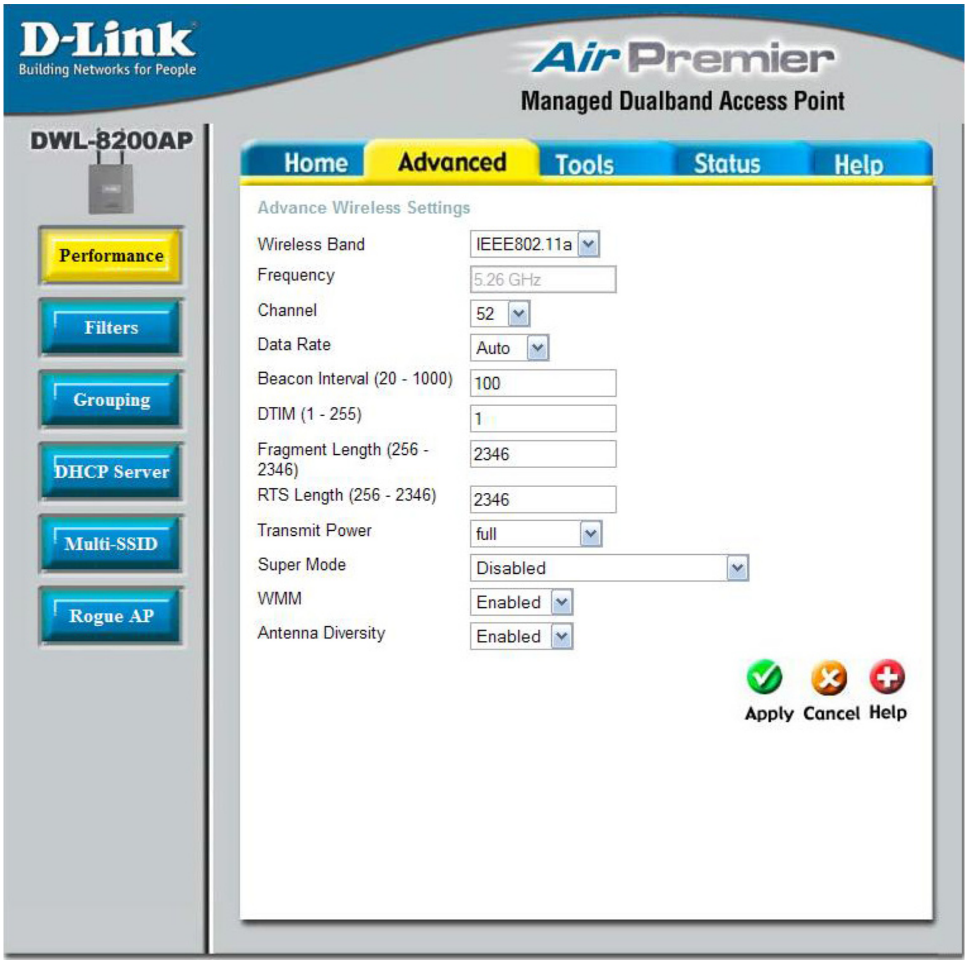
Get IP From: **Static (Manual)** is chosen here. Choose this option if you do not have a DHCP server in your network, or if you wish to assign a static IP address to the **DWL-8200AP**. When **Dynamic (DHCP)** is selected the other fields here will be greyed out.

IP Address: The default IP address is 192.168.0.50. Assign a static IP address that is within the IP address range of your network.

Subnet Mask: Enter the subnet mask. All devices in the network must share the same subnet mask.

Default Gateway: Enter the IP address of the gateway in your network. If there isn't a gateway in your network, please enter an IP address within the range of your network.

Performance Settings



Advance Wireless Settings

Wireless Band	IEEE802.11a
Frequency	5.26 GHz
Channel	52
Data Rate	Auto
Beacon Interval (20 - 1000)	100
DTIM (1 - 255)	1
Fragment Length (256 - 2346)	2346
RTS Length (256 - 2346)	2346
Transmit Power	full
Super Mode	Disabled
WMM	Enabled
Antenna Diversity	Enabled

By changing radio parameters in the performance section, you can customize the radio network to fit your needs. Performance functions are designed for more advanced users who are familiar with 802.11 wireless networks and radio configuration.

Wireless Band: Select IEEE 802.11a or IEEE 802.11g from this pull-down menu.

Frequency: The frequency is 2.437GHz for Channel **6,** and 5.26GHz for Channel **52.**

Channel: Indicates the channel setting for the **DWL-8200AP**. By default the channel for IEEE 802.11g is set to **6**, and the default channel for IEEE 802.11a is set to **52**. The Channel can be changed to fit the channel setting for an existing wireless network or to customize the wireless network. The channel of an 802.11a network may not be set manually in certain regions (e.g. Europe) in order to comply with DFS (Dynamic Frequency Selection).

Super A/G Mode

Data Rate*: The default value is set to “**Auto**”, which adjusts the base transfer rate depending on the base rate of the connecting device. The **Data Rates** are **Auto**, **6Mbps**, **9Mbps**, **12Mbps**, **18Mbps**, **24Mbps**, **36Mbps**, **48Mbps**, **54Mbps**.

Beacon Interval (20-1000): Beacons are packets sent by an Access Point to synchronize a wireless network. Specify a Beacon interval value between 20 and 1000. The default value is set to 100 milliseconds.

DTIM (1-255): *(Delivery Traffic Indication Message)* - Select a setting between 1 and 255. 1 is the default setting. DTIM is a countdown informing clients of the next window for listening to broadcast and multicast messages.

Fragmentation Length (256-2346): The fragmentation threshold, which is specified in bytes, determines whether packets will be fragmented. Packets exceeding the 2346 byte setting will be fragmented before transmission. 2346 is the default setting.

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

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

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

Disabled: Standard 802.11a and 802.11g support, no enhanced capabilities.

*Maximum wireless signal rate derived from IEEE Standard 802.11a and 802.11g specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead lower actual data throughput rate.

Super Mode without Turbo: Capable of Packet Bursting, FastFrames, Compression, and no Turbo mode.

Super Mode with Static Turbo: Capable of Packet Bursting, FastFrames, Compression, and Static Turbo. This setting is not backwards compatible with non-Turbo (legacy) devices. Static turbo mode is always on and is only enabled when all the devices on the wireless network are configured with Super Mode with Static Turbo enabled.

Note: Super Mode with Static Turbo is only available for 802.11a.

Super Mode with Dynamic Turbo: Capable of Packet Bursting, FastFrames, Compression, and Dynamic Turbo. This setting is backwards compatible with non-Turbo (legacy) devices. Dynamic Turbo Mode is only enabled when all devices on the wireless network are configured with Super Mode with Dynamic Turbo enabled.

WMM: (Wi-Fi Multimedia) Improves the user experience for audio, video, and voice applications over a Wi-Fi network. WMM is based on a subset of the IEEE 802.11e WLAN QoS draft standard.

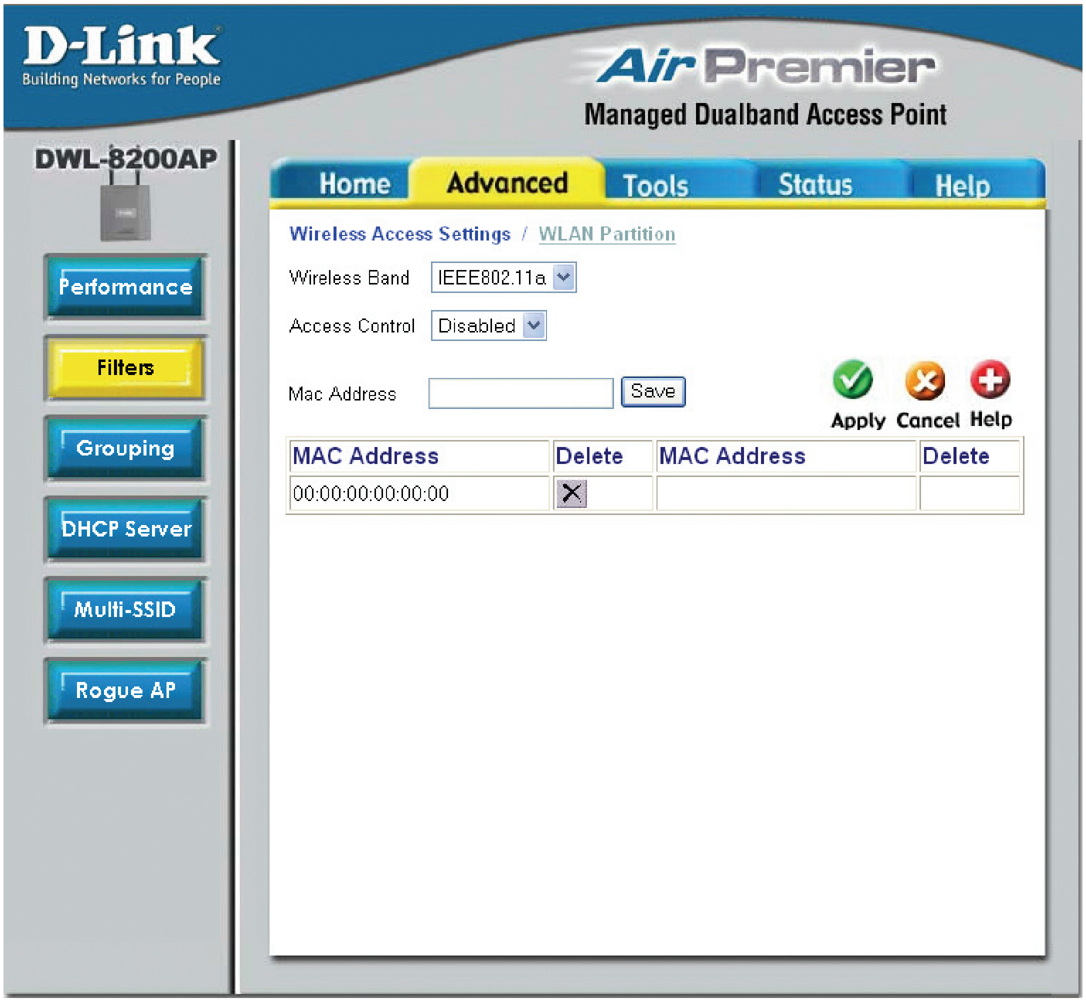
Preamble: (For 802.11g only) Select **Long Only** or **Short and Long**. A short preamble is recommended for high-traffic networks.

Wireless B/G Mode: (802.11g only) Select **Mixed** if you are using 802.11b and 802.11g wireless devices; **802.11g Only** if you are using all 802.11g wireless devices; or **802.11b Only** if you are using all 802.11b wireless devices.

Antenna Diversity: This option is enabled by default. When enabled, each radio (5g/2.4g) will automatically switch to the antenna with the greatest RSSI value. When disabled, each radio will use its main antenna - when facing the AP, 5GHz will use the right antenna to transmit and receive packets while the 2.4GHz radio will use the left.

Filters

Wireless Access Settings



Wireless Access Settings / WLAN Partition

Wireless Band: IEEE802.11a

Access Control: Disabled

Mac Address: Save

MAC Address	Delete	MAC Address	Delete
00:00:00:00:00:00	☒		

Wireless Band: Select IEEE 802.a or IEEE 802.11g from this pull-down menu.

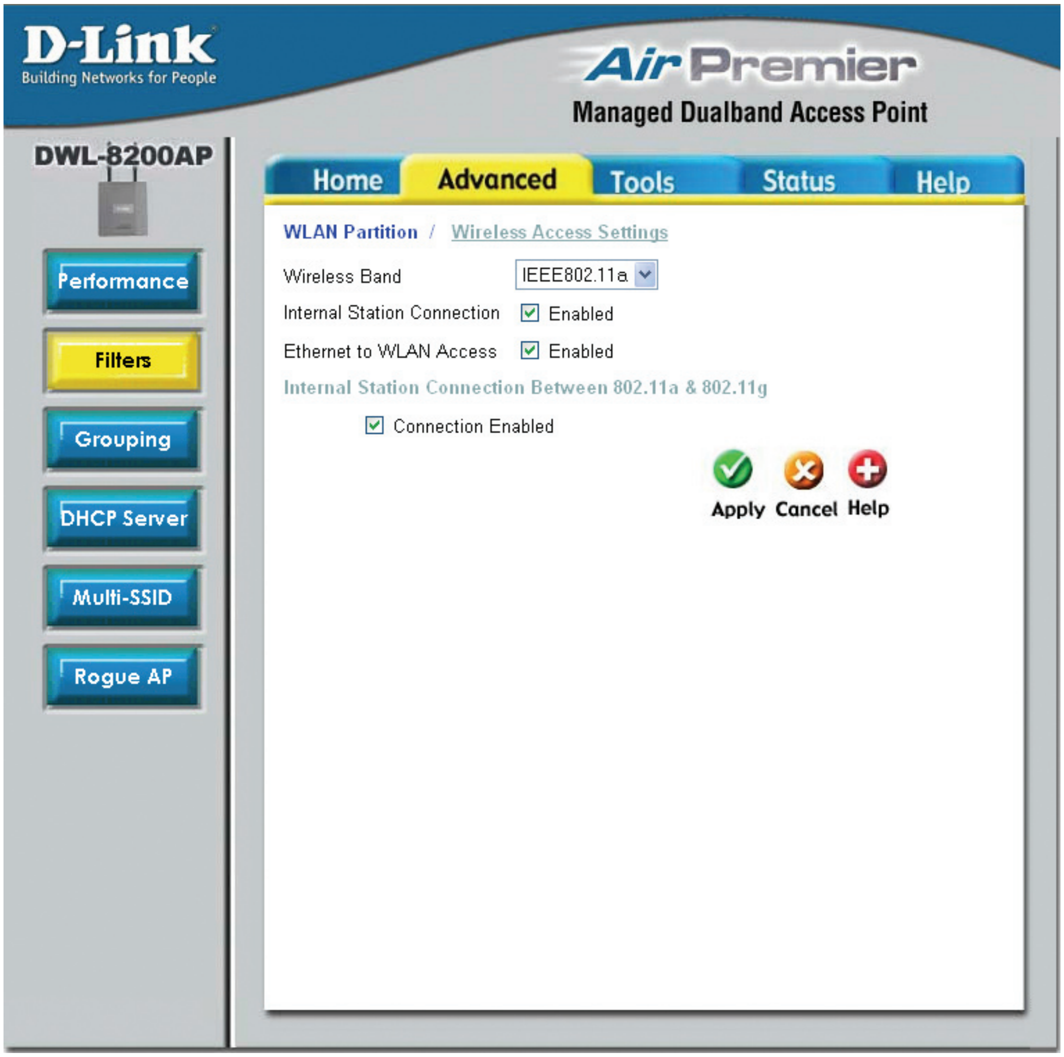
Access Control: Select **Disabled** to disable the filters function.
Select **Accept** to accept only those devices with MAC addresses in the Access Control List.
Select **Reject** to reject the devices with MAC addresses in the Access Control List.

MAC Address: Enter the MAC addresses that you wish to include in your filters list, and click **Save**.

MAC Address List: When you enter a MAC address, it appears in this list. Click **Delete** to remove it from the list.

Filters

WLAN Partition



Wireless Band: IEEE802.11a

Internal Station Connection: ☑ Enabled

Ethernet to WLAN Access: ☑ Enabled

Internal Station Connection Between 802.11a & 802.11g

☑ Connection Enabled

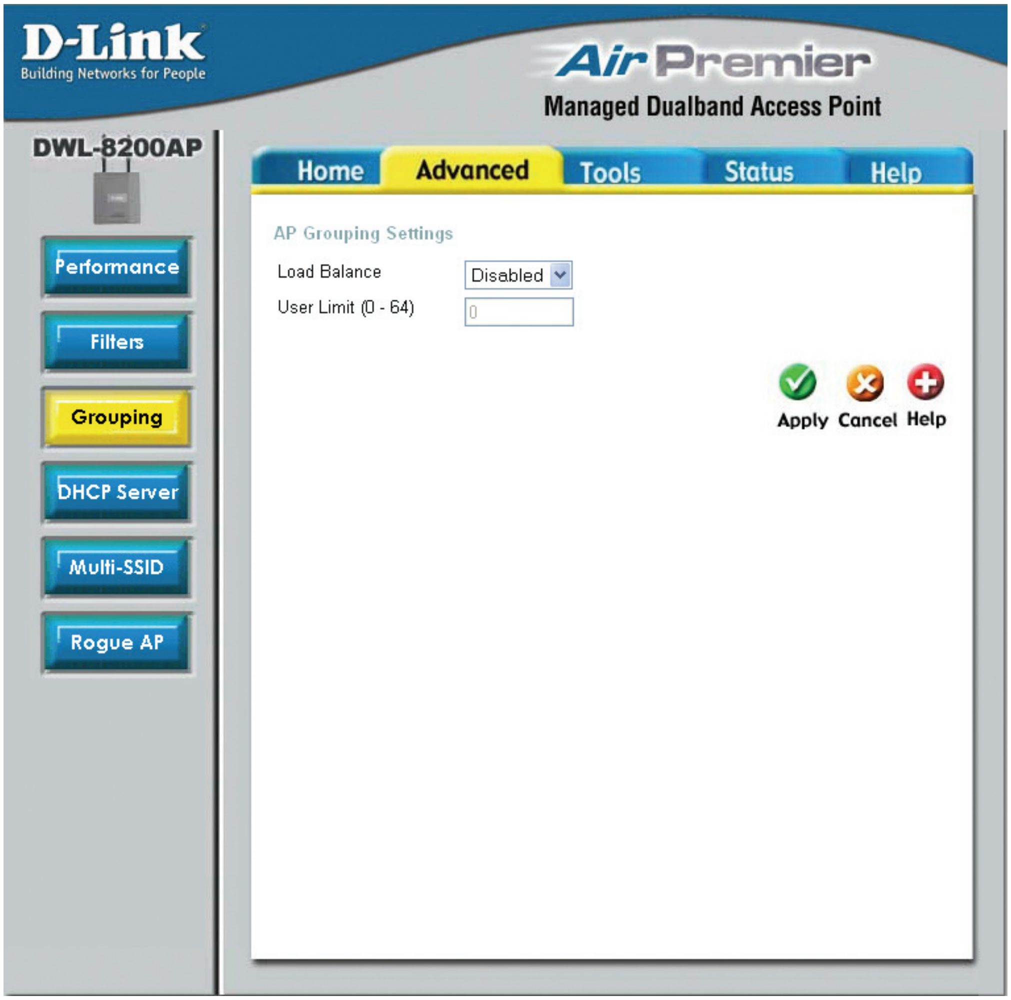
Wireless Band: Select IEEE 802.11a or IEEE 802.11g from this pull-down menu.

Internal Station Connection: Enabling this feature allows wireless clients to communicate with each other. If this is disabled, wireless stations of the selected band are not allowed to exchange data through the access point.

Ethernet to WLAN Access: Enabling this feature allows Ethernet devices to communicate with wireless clients. If this is disabled, all data from the Ethernet to associated wireless devices is blocked. Wireless devices can still send data to the Ethernet.

Internal Station Connection between 802.11a & 802.11g: Enabling this feature allows devices on the 802.11a network, to exchange data with devices on the 802.11g network through Access Point. If disabled, a partition is created between the networks within the Access Point. This feature is only available when both 11a and 11g are both in Access Point mode.

AP Grouping Settings



AP Grouping Settings

Load Balance: Disabled

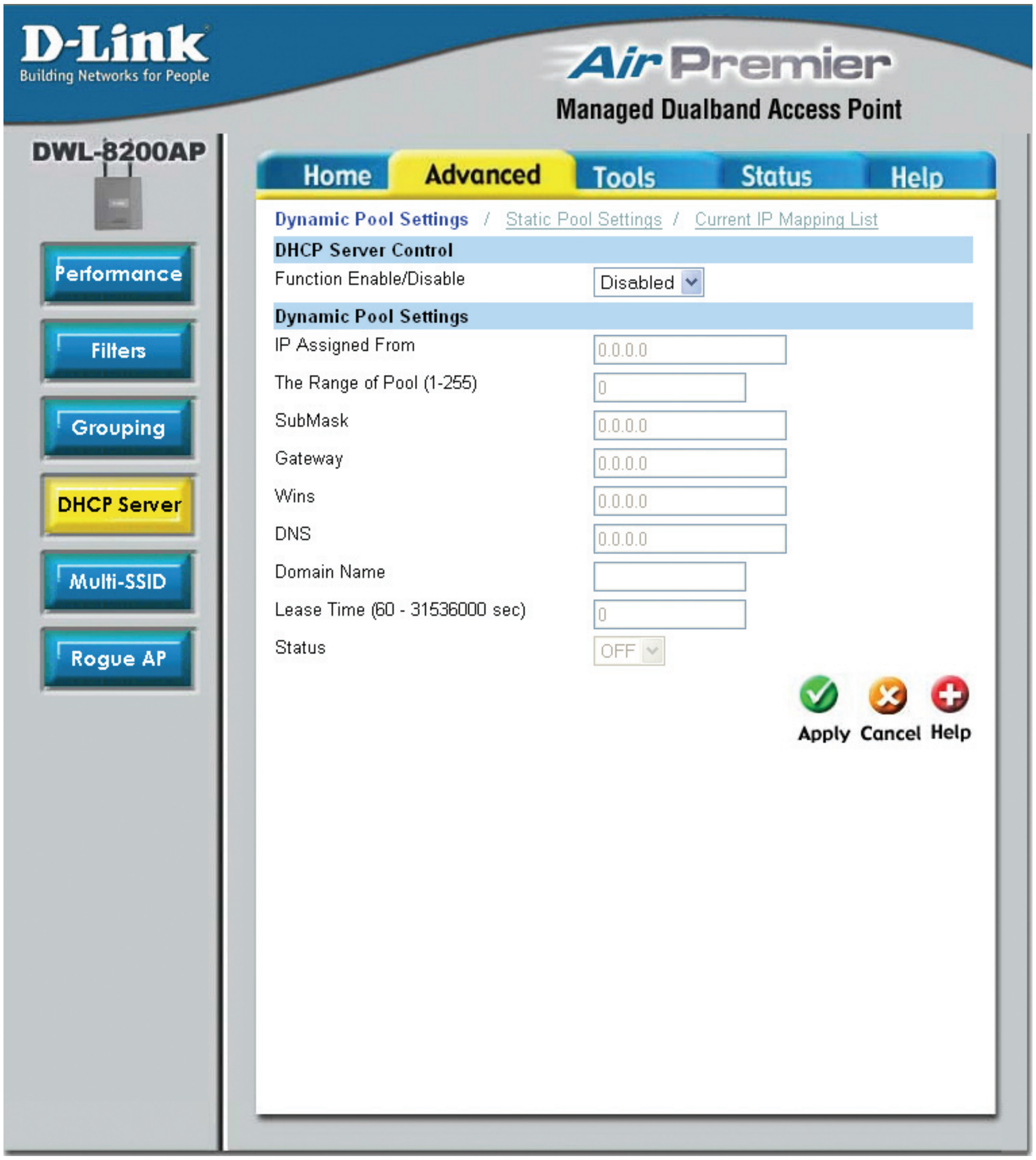
User Limit (0 - 64): 0

Load Balance: When **Enabled**, you allow several **DWL-8200APs** to balance wireless network traffic and wireless clients among **DWL-8200APs** in the network. Assign each access point a different **non-overlapping channel** (e.g., 1, 6, 11).

User Limit (0-64): Set the **User Limit** in this field (0-64).

DHCP Server

Dynamic Pool Settings


D-Link
Building Networks for People
AirPremier
Managed Dualband Access Point
DWL-8200AP
Home
Advanced
Tools
Status
Help
Performance
Filters
Grouping
DHCP Server
Multi-SSID
Rogue AP
Dynamic Pool Settings / Static Pool Settings / Current IP Mapping List
Apply
Cancel
Help

DHCP Server Control

Function Enable/Disable	Disabled

Dynamic Pool Settings

IP Assigned From	0.0.0.0
The Range of Pool (1-255)	0
SubMask	0.0.0.0
Gateway	0.0.0.0
Wins	0.0.0.0
DNS	0.0.0.0
Domain Name	
Lease Time (60 - 31536000 sec)	0
Status	OFF

DHCP Server Control: **Dynamic Host Configuration Protocol** assigns dynamic IP addresses to devices on the network. This protocol simplifies network management and allows new wireless devices to receive IP addresses automatically without the need to manually assign new IP addresses.
Select **Enable** to allow the **DWL-8200AP** to function as a DHCP server.

IP Assigned From: Input the first IP address available for assignment in your network.

The Range of Pool (1-255): Enter the number of IP addresses available for assignment.

SubMask: All devices in the network must have the same subnet mask to communicate. Enter the submask for the network here.

Gateway: Enter the IP address of the gateway on the network.

Wins: **Windows Internet Naming Service** is a system that determines the IP address of a network computer that has a dynamically assigned IP address.

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

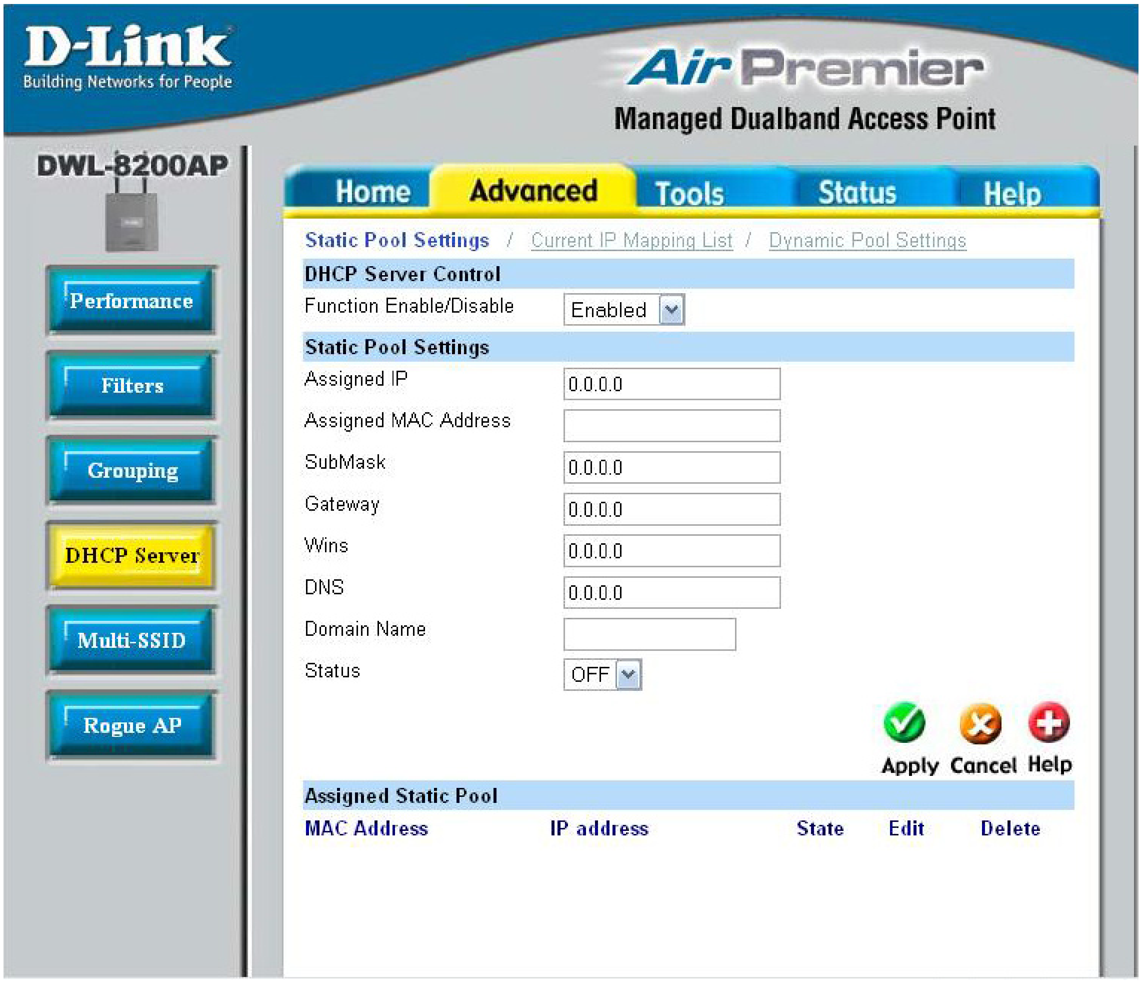
Domain Name: Enter the domain name of the **DWL-8200AP**, if applicable. (An example of a domain name is: www.dlink.com.)

Lease Time (60-31536000 sec.): The Lease Time is the period of time before the DHCP server will assign new IP addresses.

Status: Turn the **Dynamic Pool Settings ON** or **OFF** here.

DHCP Server

Static Pool Settings


D-Link
Building Networks for People
AirPremier
Managed Dualband Access Point
DWL-8200AP
Home
Advanced
Tools
Status
Help
Performance
Filters
Grouping
DHCP Server
Multi-SSID
Rogue AP
Static Pool Settings / Current IP Mapping List / Dynamic Pool Settings
Apply
Cancel
Help

DHCP Server Control

Function Enable/Disable: Enabled

Static Pool Settings

Assigned IP: 0.0.0.0

Assigned MAC Address:

SubMask: 0.0.0.0

Gateway: 0.0.0.0

Wins: 0.0.0.0

DNS: 0.0.0.0

Domain Name:

Status: OFF

Assigned Static Pool

MAC Address	IP address	State	Edit	Delete

DHCP Server Control: **Dynamic Host Configuration Protocol** assigns IP addresses to wireless devices on the network. This protocol simplifies network management and allows new wireless devices to receive IP addresses automatically without the need to manually assign IP addresses.
Select **Enable** to allow the **DWL-8200AP** to function as a DHCP server.

Assigned IP: Use the **Static Pool Settings** to assign the same IP address to a device at every restart. The IP addresses assigned in the Static Pool list must NOT be in the same IP range as the Dynamic Pool. After you have assigned a static IP address to a device via its MAC address, click **Apply**; the device will appear in the **Assigned Static Pool** at the bottom of the screen. Edit or delete the device in this list.

Assigned MAC Address: Enter the MAC address of the device here.

SubMask: Enter the subnet mask here.

Gateway: Enter the IP address of the gateway on the network.

Wins: **Windows Internet Naming Service** is a system that determines the IP address of a network computer with a dynamically assigned IP address, if applicable.

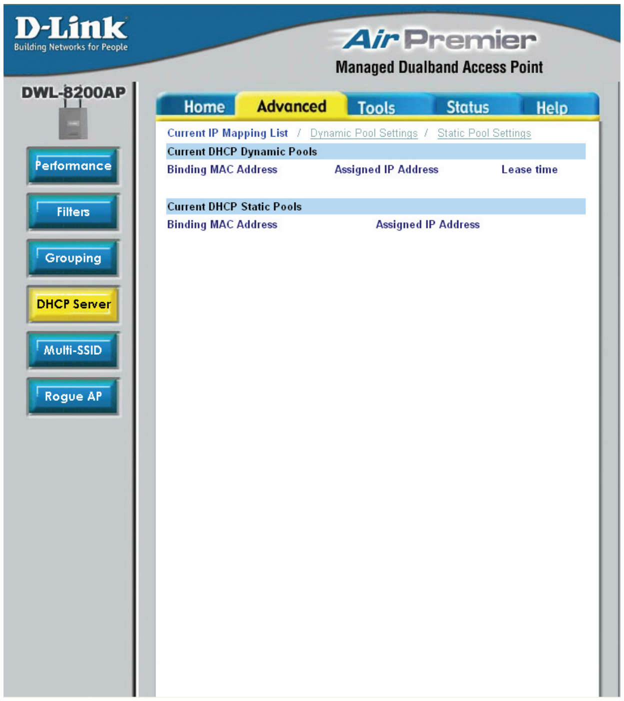
DNS: Enter the IP address of the Domain Name Server, if applicable. The DNS translates domain names such as www.dlink.com into IP addresses.

Domain Name: Enter the domain name of the **DWL-8200AP**, if applicable.

Status: This option turns the Static Pool settings ON or OFF.

DHCP Server

IP Mapping List



Current IP Mapping List / Dynamic Pool Settings / Static Pool Settings

Current DHCP Dynamic Pools

Binding MAC Address	Assigned IP Address	Lease time

Current DHCP Static Pools

Binding MAC Address	Assigned IP Address

This screen displays information about the current DHCP dynamic and static IP address pools. This information is available when you enable the DHCP function of the **DWL-8200AP** and assign dynamic and static IP address pools.

Current DHCP Dynamic Pools: These are IP address pools to which the DHCP server function has assigned dynamic IP addresses.

Binding MAC address: The MAC address of a device on the network that is within the DHCP dynamic IP address pool.

Assigned IP address: The current corresponding DHCP-assigned dynamic IP address of the device.

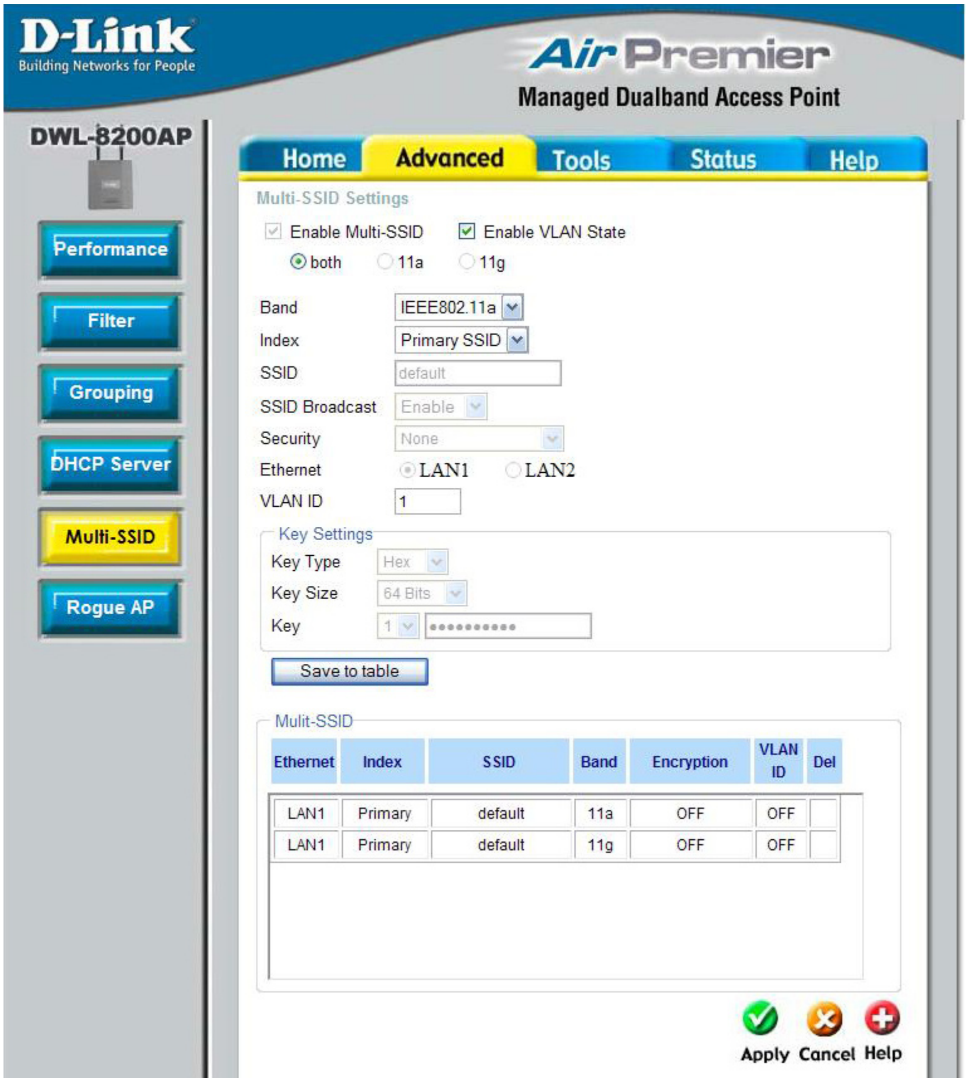
Lease Time: The length of time that the dynamic IP address will be valid.

Current DHCP Static Pools: These are IP address pools to which the DHCP server function has assigned static IP addresses.

Binding MAC address: The MAC address of a device on the network that is within the DHCP static IP address pool.

Assigned IP address: The current corresponding DHCP-assigned static IP address of the device.

Multi-SSID



Multi-SSID Settings

☑ Enable Multi-SSID ☑ Enable VLAN State

● both ○ 11a ○ 11g

Band	IEEE802.11a
Index	Primary SSID
SSID	default
SSID Broadcast	Enable
Security	None
Ethernet	● LAN1 ○ LAN2
VLAN ID	1

Key Settings

Key Type	Hex
Key Size	64 Bits
Key	1 ••••••••••

Mulit-SSID

Ethernet	Index	SSID	Band	Encryption	VLAN ID	Del
LAN1	Primary	default	11a	OFF	OFF	
LAN1	Primary	default	11g	OFF	OFF	

Enable Multi-SSID: When Multi-SSID is enabled, you can configure your SSIDs for either **both**, **11a** only, or **11g** only networks.

Enable VLAN Status: Check to use a VLAN.

Band: Select the wireless band (**IEEE802.11a** or **IEEE802.11g**).

Index: You can select up to 7 multi-SSIDs per band, the default multi-SSIDs is the primary, which puts the total to 8 multi-SSIDs per band.

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.

SSID Broadcast: Select Disable to prevent the SSID name to be broadcast.

Security: The Multi-SSIDs security can be WPA/WPA2-Enterprise or WPA-Auto-Enterprise only when the Primary SSID's security is at the same security level. Also, they must connect to the same RADIUS server.

Ethernet: Select "**LAN1**" if you wish to configure the network on LAN 1 (PoE). Select "**LAN2**" to set up the network on LAN 2.

VLAN ID: Enter the VLAN ID you want to use (0 - 4094)

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

Key Size: Select **64-bit**, **128-bit**, or **152-bit**.

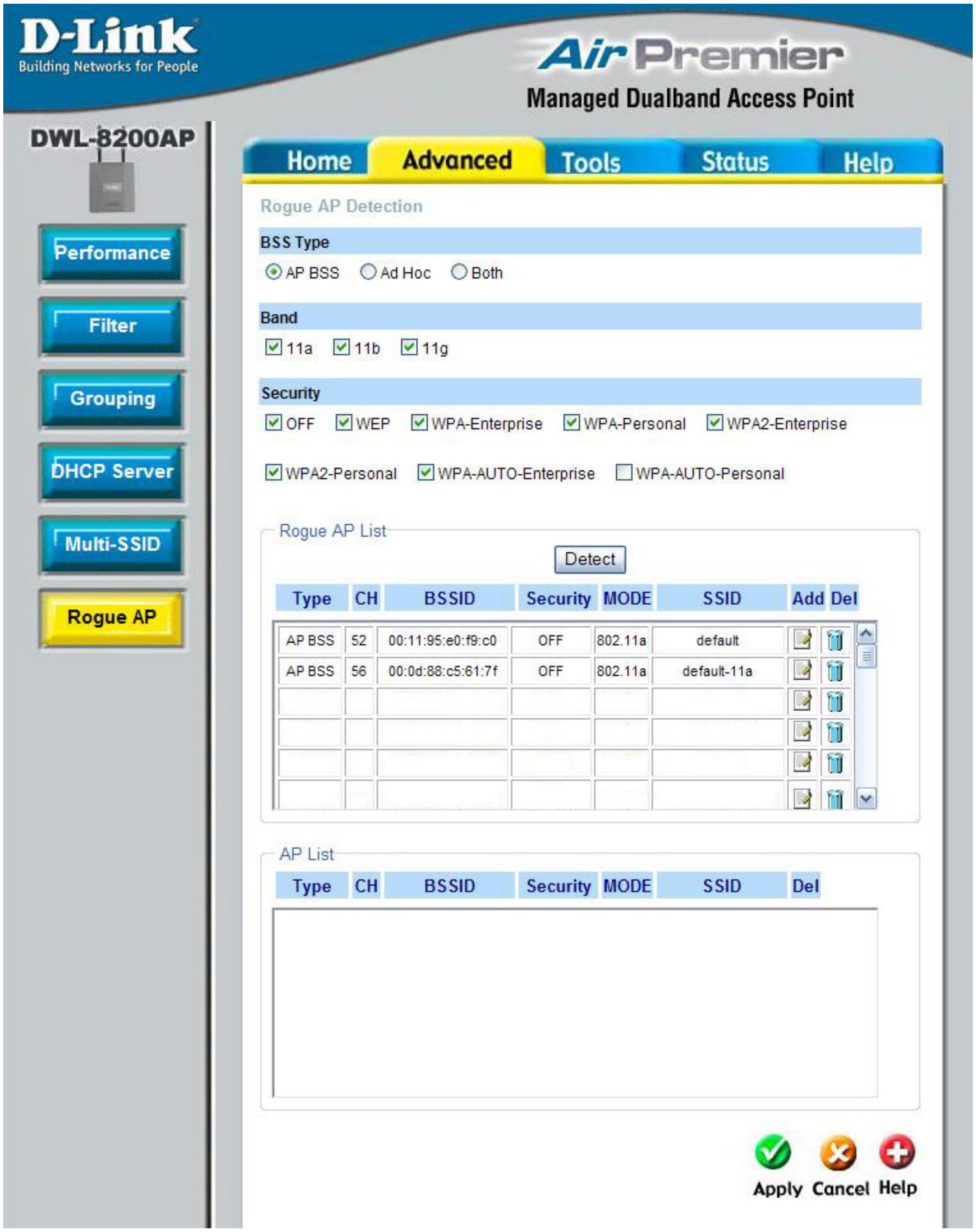
Key: Select the 1st key all the way through the 4th key, to be set as the active key. Enter key here.

When Primary SSID is set to any of the following security levels:	Multi-SSID can use any of these security levels:
None Open System (WEP) Shared Key (WEP) WPA-Personal WPA2-Personal WPA-Auto-Personal	None Open System (WEP) Shared Key (WEP) WPA-Personal WPA2-Personal WPA-Auto-Personal
WPA-Enterprise WPA2-Enterprise WPA-Auto-Enterprise	None Open System (WEP) Shared Key (WEP) WPA-Personal WPA2-Personal WPA-Auto-Personal WPA-Enterprise WPA2-Enterprise WPA-Auto-Enterprise

Note: If WPA or WPA2 is being used, it will occupy the key space 2 and 3, which will leave key 1 and 4 for other SSIDs to use for WEP.

When you configure one Multi-SSID, you must click **Save to Table** and then click **Apply** to save your settings.

Rogue AP



Rogue AP Detection

BSS Type

● AP BSS ○ Ad Hoc ○ Both

Band

☑ 11a ☑ 11b ☑ 11g

Security

☑ OFF ☑ WEP ☑ WPA-Enterprise ☑ WPA-Personal ☑ WPA2-Enterprise

☑ WPA2-Personal ☑ WPA-AUTO-Enterprise ☐ WPA-AUTO-Personal

Rogue AP List

Detect

Type	CH	BSSID	Security	MODE	SSID	Add	Del
AP BSS	52	00:11:95:e0:f9:c0	OFF	802.11a	default		
AP BSS	56	00:0d:88:c5:61:7f	OFF	802.11a	default-11a		

AP List

Type	CH	BSSID	Security	MODE	SSID	Del

BSS Type: The Basic Service Set Type allows you to select from **AP BSS**, **Ad Hoc**, or **Both**.

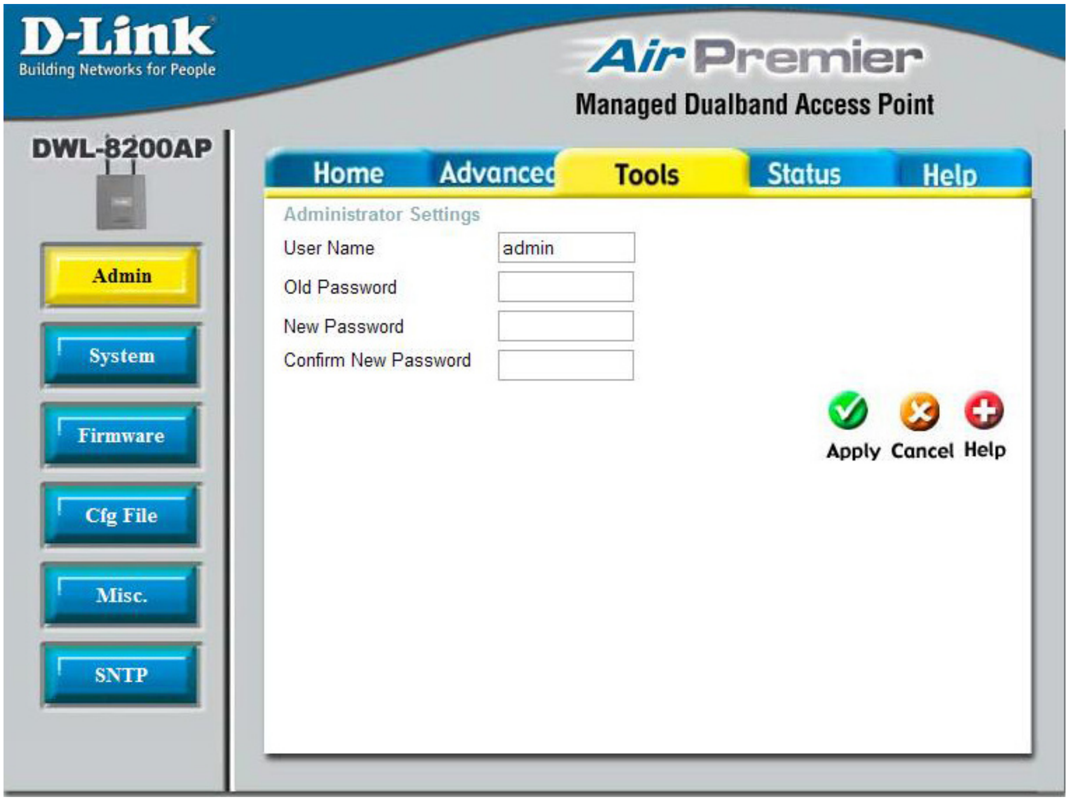
Band: Select the type of network (bands **11a**, **11b**, and **11g)** that you would like the AP detection to search on.

Security: Select the Security type (**Off**, **WEP**, **WPA, or WPA2)** that you would like to be consider during AP detection.

Rogue AP List: This window shows all of the neighbor APs detected, which is based on your criteria from above (BSS Type, Band, and Security). If the AP is in the same network, or if you know the AP, just click on "**Add**" to save it to the AP list.

AP List: This window shows all of the APs that are allowed access on the network.

Change Password



Administrator Settings

User Name	admin
Old Password	
New Password	
Confirm New Password	

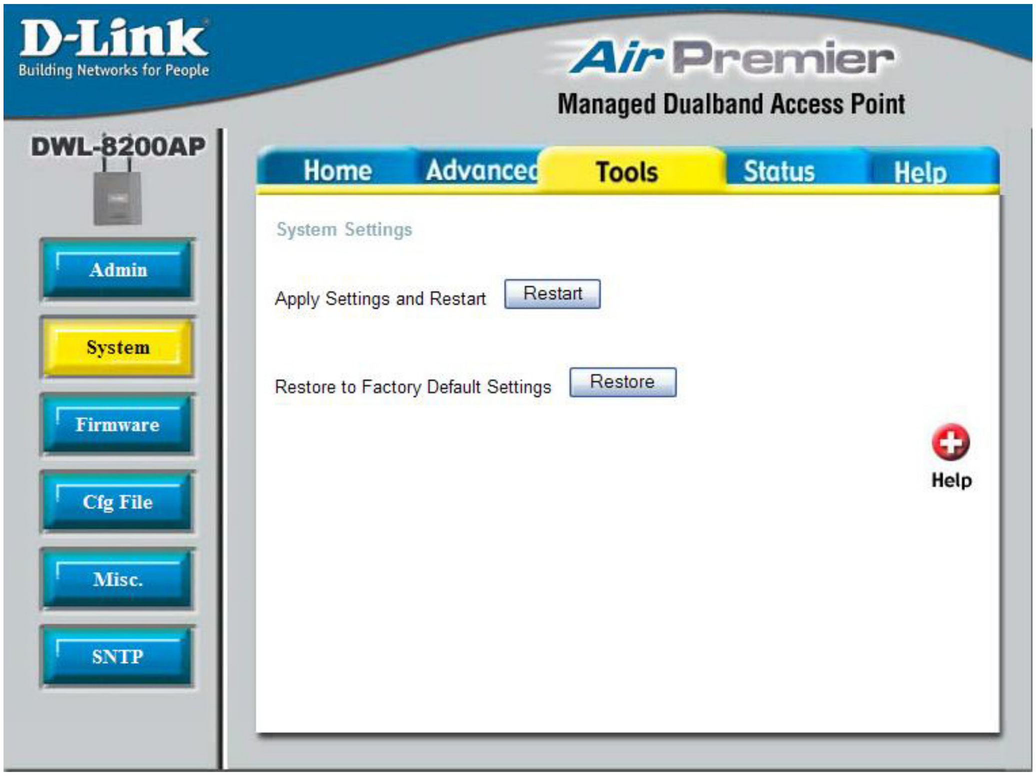
User Name: Enter a user name. The default setting is **admin**.

Old Password: To change your password, enter the old password here.

New Password: Enter your new password here.

Confirm New Password: Enter your new password again.

System Settings



System Settings

Apply Settings and Restart

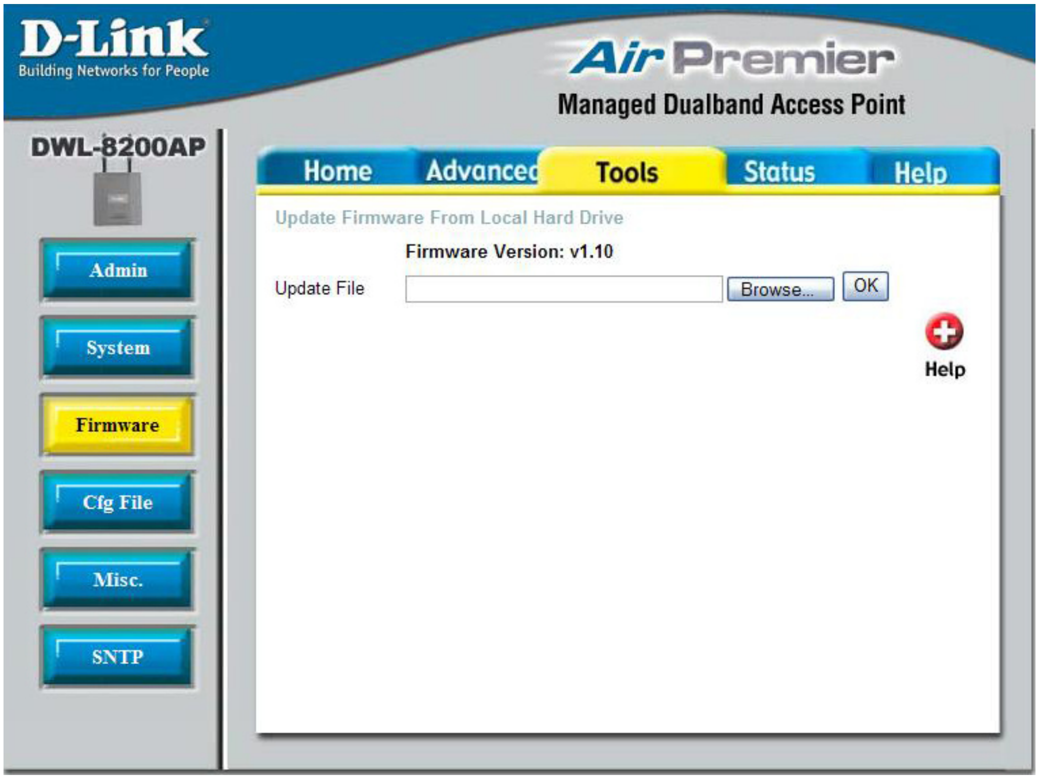
Restore to Factory Default Settings

You may restart the **DWL-8200AP** with the changed settings or reset the **DWL-8200AP** back to factory settings.

Apply Settings and Restart: Click **Restart** to apply the system settings and restart the **DWL-8200AP**.

Restore to Factory Default Settings: Click **Restore** to return the **DWL-8200AP** to its factory default settings.

Firmware Upgrade



Update Firmware From Local Hard Drive

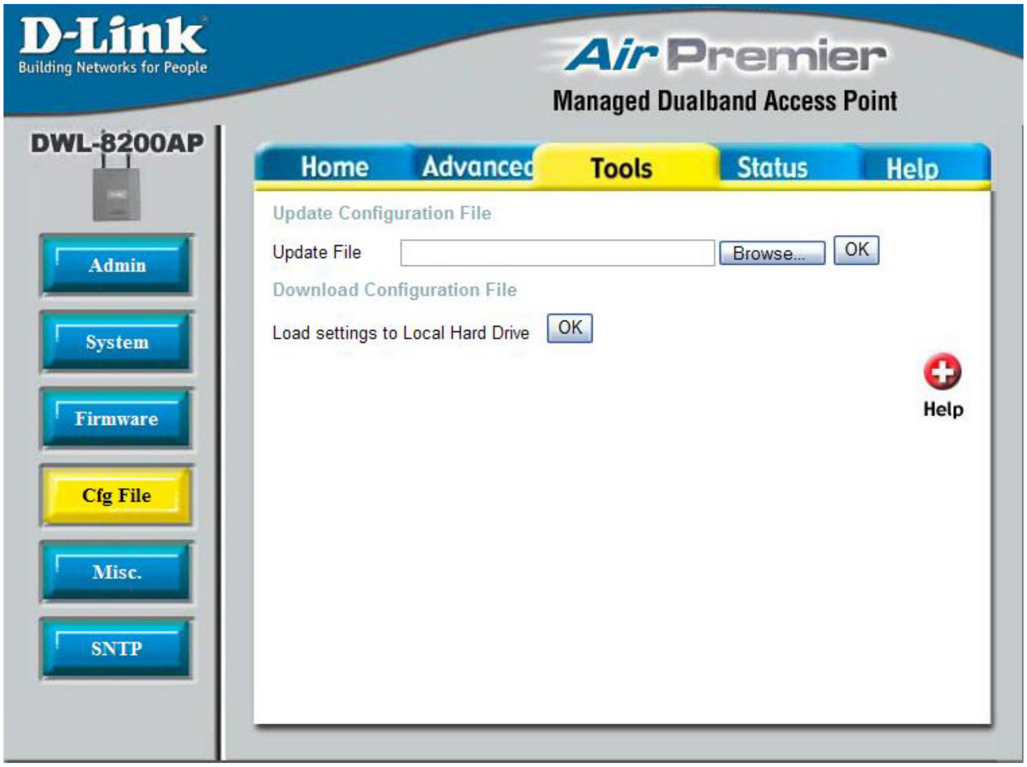
Firmware Version: v1.10

Update File [ ] Browse... OK

The firmware of the **DWL-8200AP** can be upgraded to resolve any compatibility or system conflicts. Please visit http://support.dlink.com for the latest firmware for this device.

Update File: After you have downloaded the most recent version of the firmware from http://support.dlink.com to your hard drive, you can **Browse** your hard drive to locate the downloaded file. Select the file and click **OK** to update the firmware. The AP will automatically restart after the firmware upgrade.

Configuration File



Update Configuration File

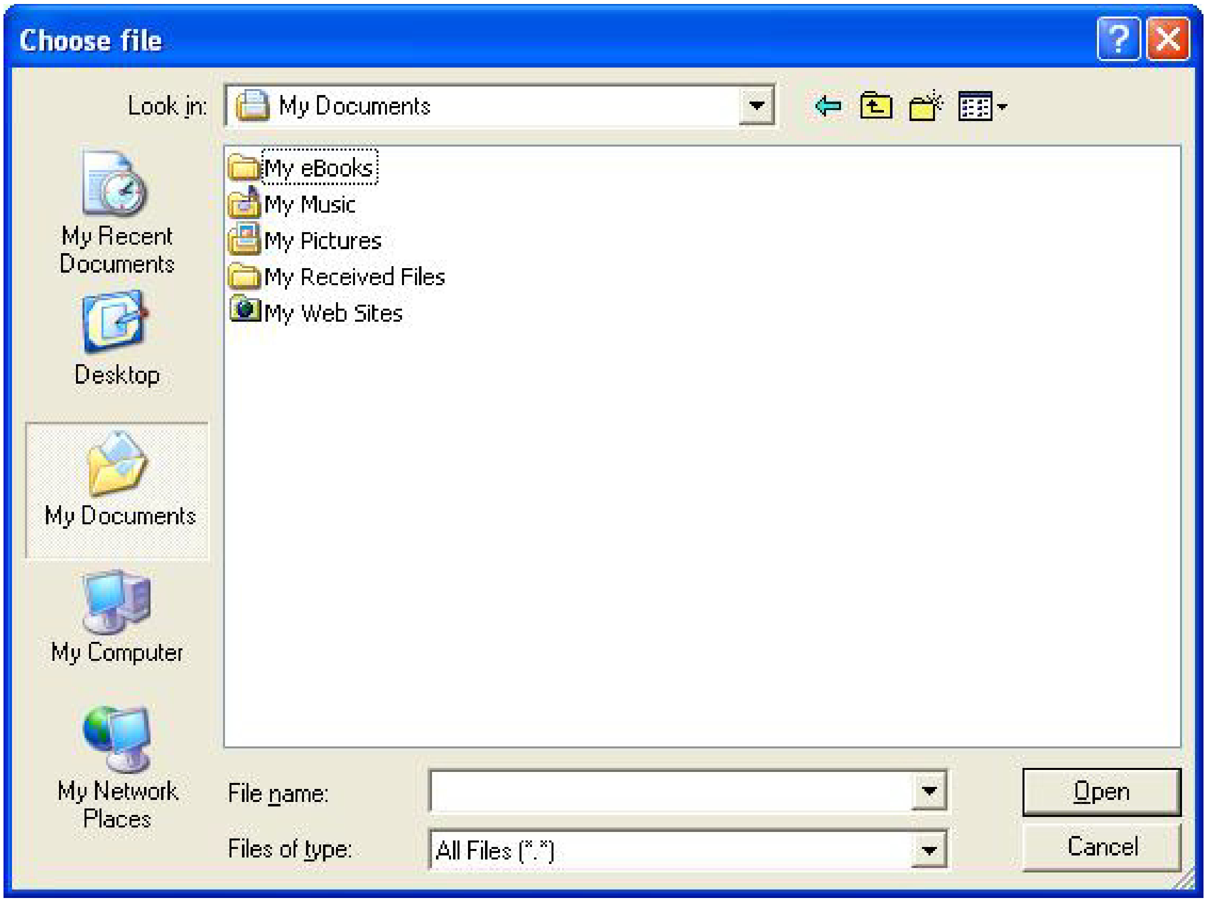
Update File [ ] Browse... OK

Download Configuration File

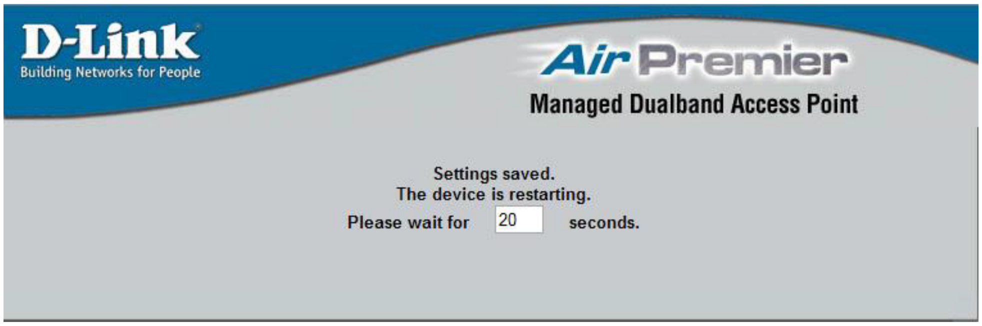
Load settings to Local Hard Drive OK

Update File: Browse for the configuration settings that you have saved to your hard drive. Click **OK** after you have selected the settings file.

Load Settings to the Local Hard Drive: Click **OK** to save the selected settings to your hard drive.



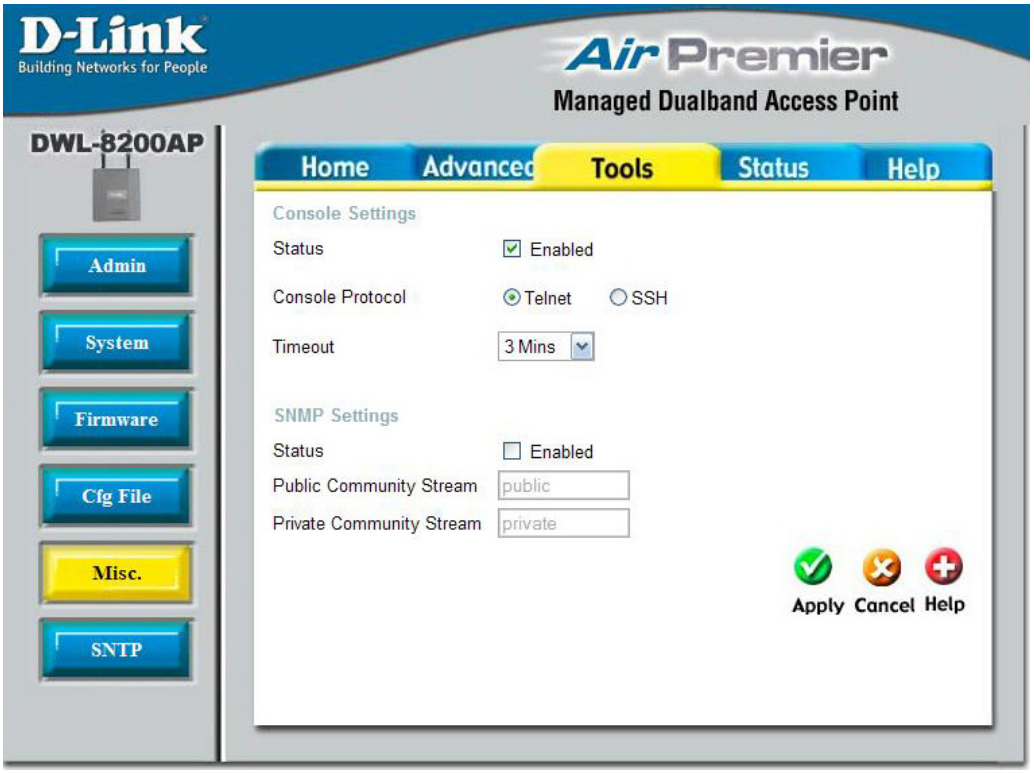
When you click **Browse** in the previous screen, the dialog box shown above appears. Select the file you wish to download and click **Open**.



Settings saved.
The device is restarting.
Please wait for 20 seconds.

The dialog box above will appear as the device restarts. Please wait for a few seconds.

Telnet Settings



Console Settings

Status ☑ Enabled

Console Protocol ● Telnet ○ SSH

Timeout 3 Mins

SNMP Settings

Status □ Enabled

Public Community Stream public

Private Community Stream private

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

Status: Check **Enabled** to support Telnet or SSH.

Console Protocol: Select either **Telnet** or **SSH**. **Telnet** is enabled by default.

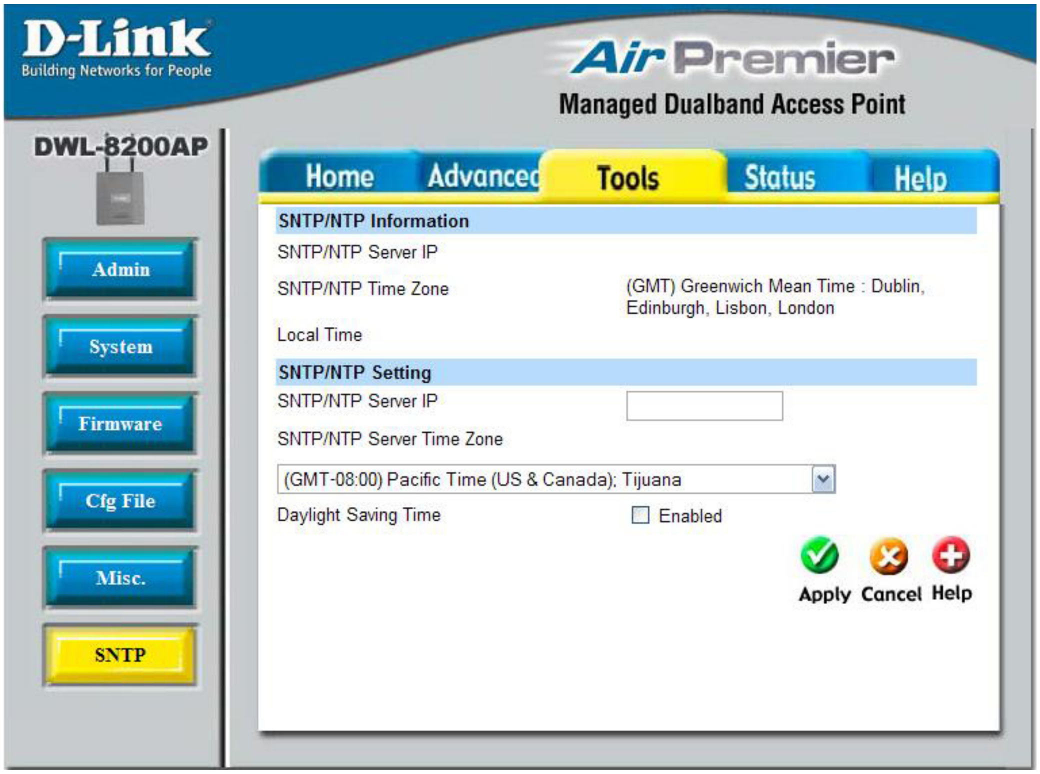
Timeout: Select a time period after which a session timeout will occur. Your choices are **1 minute, 3 minutes, 5 minutes, 10 minutes, 15 minutes,** or **Never.**

Status: Check **Enabled** to support SNMP. SNMP is disabled by default.

Public Community String: When SNMP is enabled, you can change the Public Community Name here.

Private Community String: When SNMP is enabled, you can change the Private Community Name here.

SNTP/NTP Server Settings



SNTP/NTP Information

SNTP/NTP Server IP

SNTP/NTP Time Zone: (GMT) Greenwich Mean Time : Dublin, Edinburgh, Lisbon, London

Local Time

SNTP/NTP Setting

SNTP/NTP Server IP:

SNTP/NTP Server Time Zone: (GMT-08:00) Pacific Time (US & Canada); Tijuana

Daylight Saving Time: □ Enabled

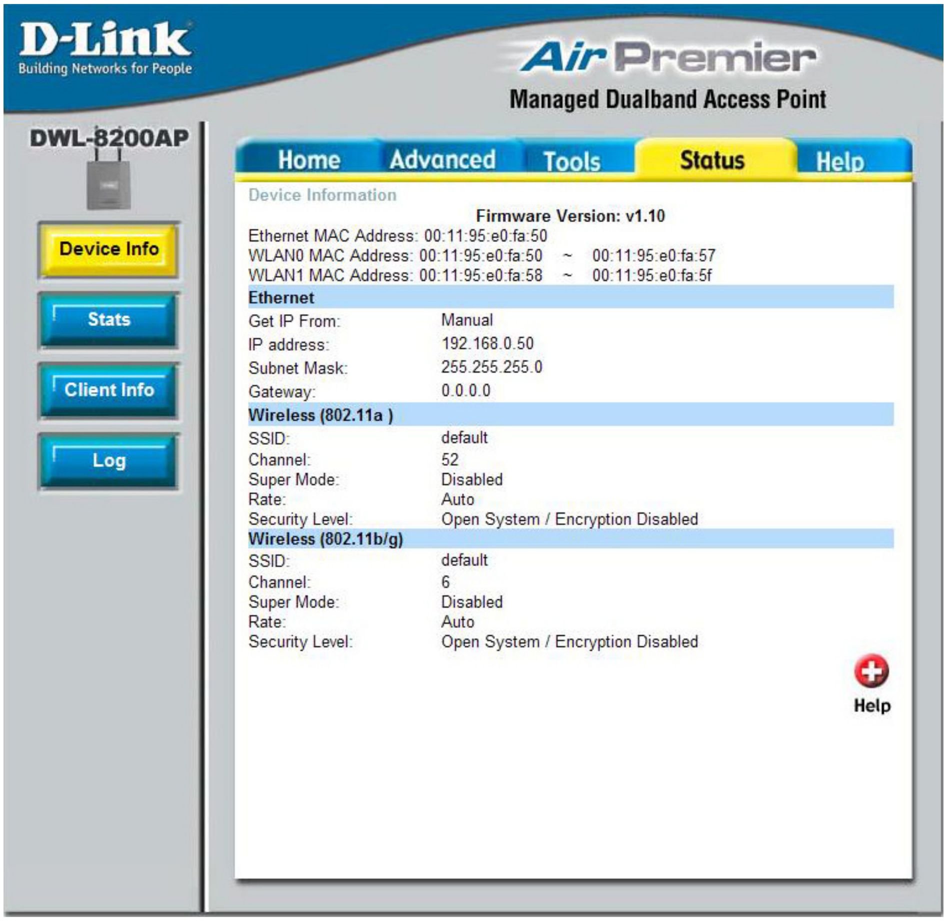
SNTP/NTP Information: The time server IP address, time zone, and the local time will be displayed here.

Server IP Address: Enter the IP address of a SNTP/NTP server.

Time Zone: Select your time zone from the drop-down menu.

Daylight Saving Time: Check the box to enable daylight savings time.

Device Info



Device Information

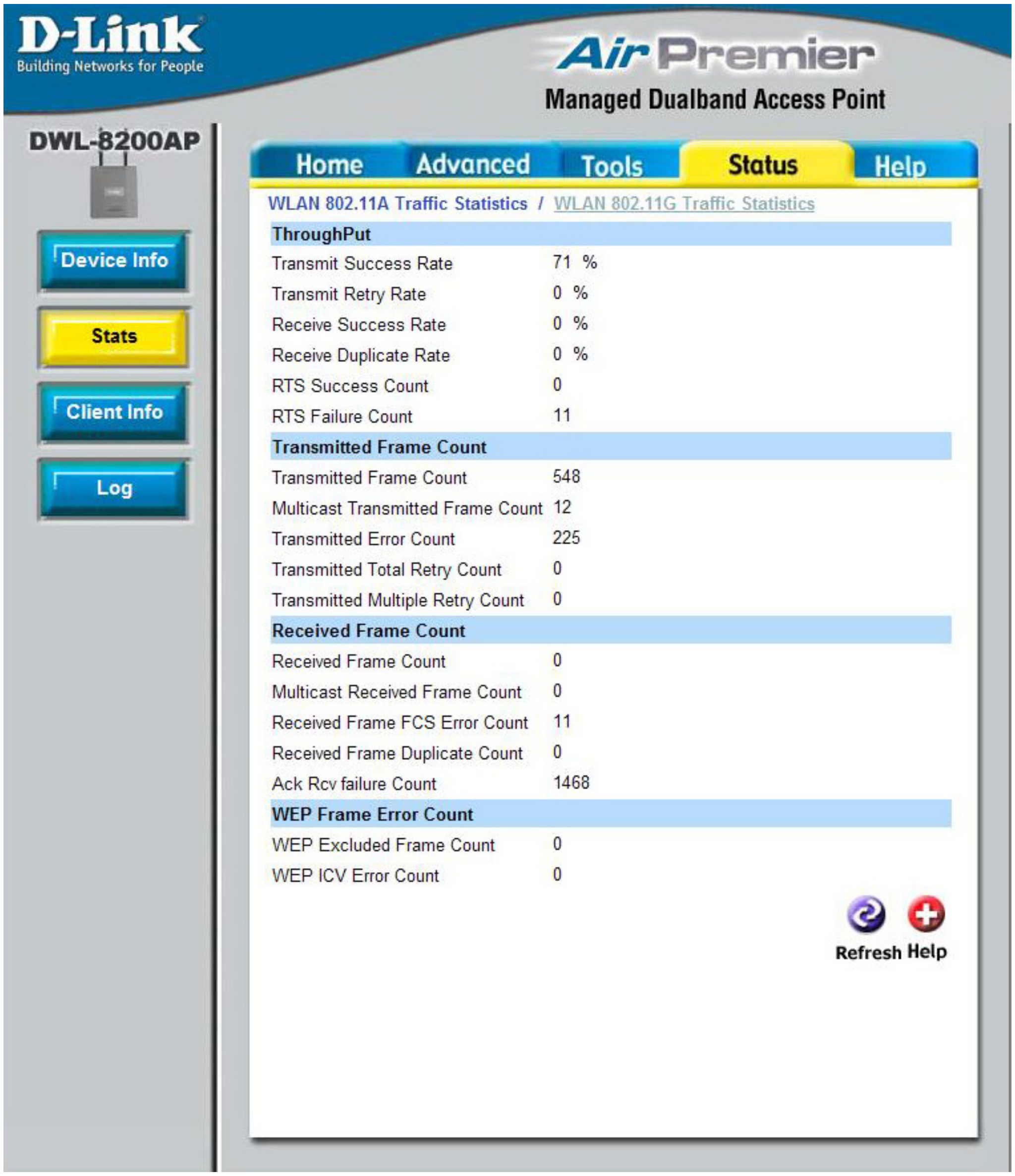
Firmware Version: v1.10

Ethernet MAC Address: 00:11:95:e0:fa:50
WLAN0 MAC Address: 00:11:95:e0:fa:50 ~ 00:11:95:e0:fa:57
WLAN1 MAC Address: 00:11:95:e0:fa:58 ~ 00:11:95:e0:fa:5f

Ethernet	
Get IP From:	Manual
IP address:	192.168.0.50
Subnet Mask:	255.255.255.0
Gateway:	0.0.0.0
Wireless (802.11a)	
SSID:	default
Channel:	52
Super Mode:	Disabled
Rate:	Auto
Security Level:	Open System / Encryption Disabled
Wireless (802.11b/g)	
SSID:	default
Channel:	6
Super Mode:	Disabled
Rate:	Auto
Security Level:	Open System / Encryption Disabled

Device Information: This window displays the settings of the **DWL-8200AP**, the firmware version and the MAC address.

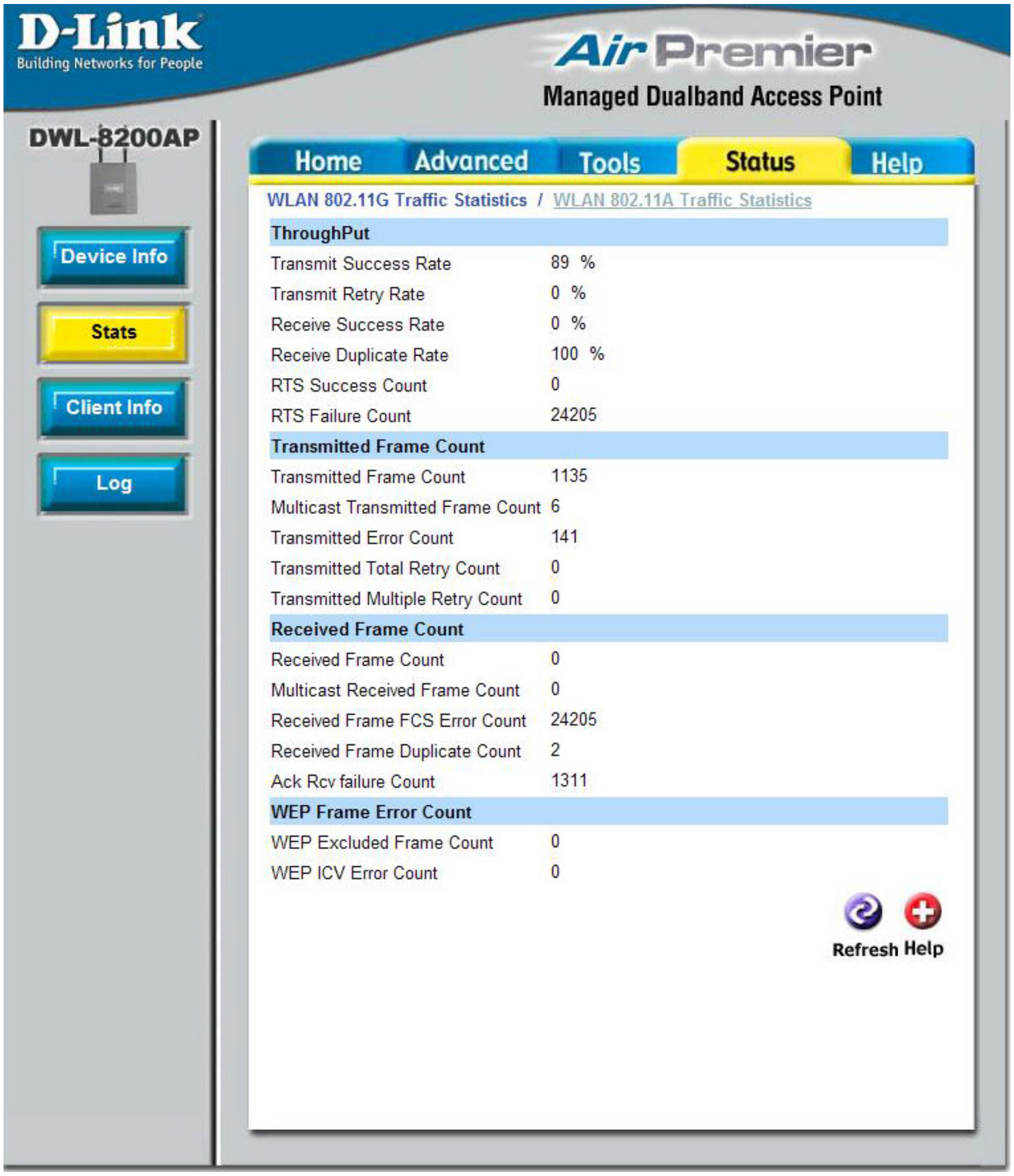
802.11a Traffic Statistics


D-Link
Building Networks for People
AirPremier
Managed Dualband Access Point
DWL-8200AP
Home
Advanced
Tools
Status
Help
Device Info
Stats
Client Info
Log
WLAN 802.11A Traffic Statistics / WLAN 802.11G Traffic Statistics
Refresh
Help

ThroughPut	
Transmit Success Rate	71 %
Transmit Retry Rate	0 %
Receive Success Rate	0 %
Receive Duplicate Rate	0 %
RTS Success Count	0
RTS Failure Count	11
Transmitted Frame Count	
Transmitted Frame Count	548
Multicast Transmitted Frame Count	12
Transmitted Error Count	225
Transmitted Total Retry Count	0
Transmitted Multiple Retry Count	0
Received Frame Count	
Received Frame Count	0
Multicast Received Frame Count	0
Received Frame FCS Error Count	11
Received Frame Duplicate Count	0
Ack Rcv failure Count	1468
WEP Frame Error Count	
WEP Excluded Frame Count	0
WEP ICV Error Count	0

WLAN 802.11A Traffic Statistics: This window displays the statistics data of throughput, transmitted frame, received frame, and WEP frame error for the IEEE 802.11a network.

802.11g Traffic Statistics

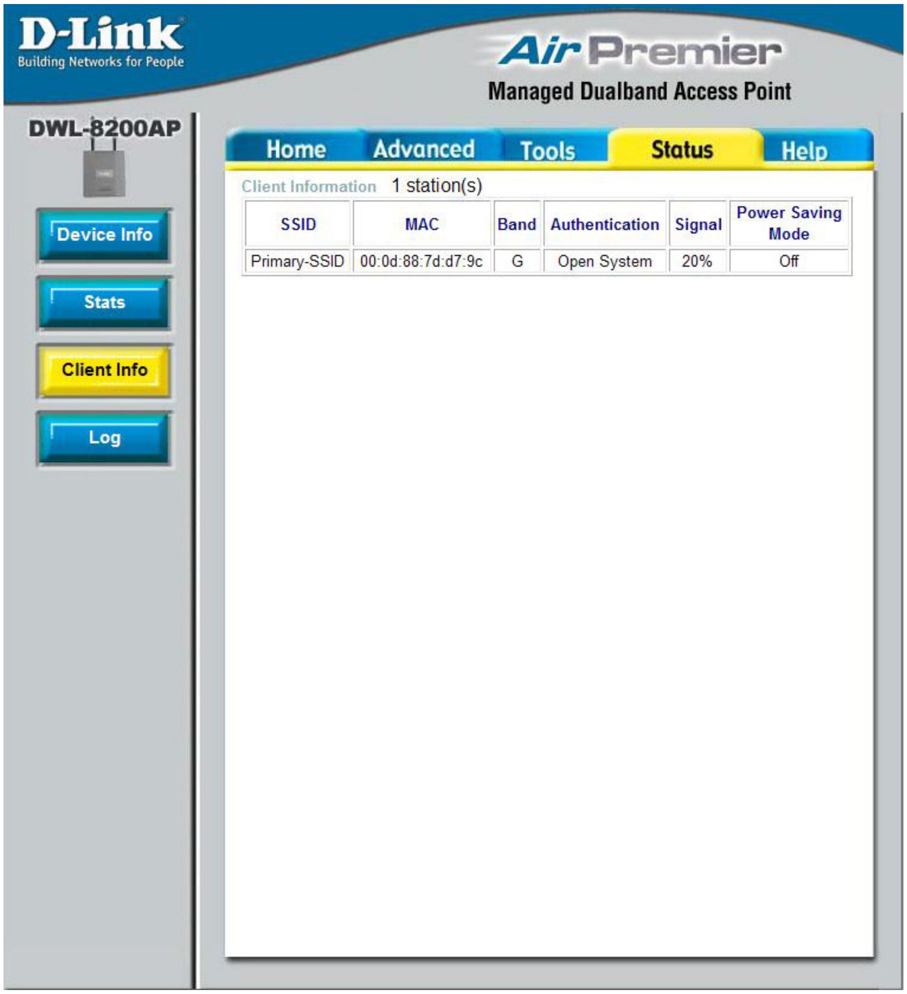


WLAN 802.11G Traffic Statistics / WLAN 802.11A Traffic Statistics

ThroughPut	
Transmit Success Rate	89 %
Transmit Retry Rate	0 %
Receive Success Rate	0 %
Receive Duplicate Rate	100 %
RTS Success Count	0
RTS Failure Count	24205
Transmitted Frame Count	
Transmitted Frame Count	1135
Multicast Transmitted Frame Count	6
Transmitted Error Count	141
Transmitted Total Retry Count	0
Transmitted Multiple Retry Count	0
Received Frame Count	
Received Frame Count	0
Multicast Received Frame Count	0
Received Frame FCS Error Count	24205
Received Frame Duplicate Count	2
Ack Rcv failure Count	1311
WEP Frame Error Count	
WEP Excluded Frame Count	0
WEP ICV Error Count	0

WLAN 802.11G Traffic Statistics: This window displays the statistics data of throughput, transmitted frame, received frame, and WEP frame error for the IEEE 802.11g network.

Client Info



Client Information 1 station(s)

SSID	MAC	Band	Authentication	Signal	Power Saving Mode
Primary-SSID	00:0d:88:7d:d7:9c	G	Open System	20%	Off

Client Information: Select this option to obtain information on wireless clients. (A client is a device on the network that is communicating with the **DWL-8200AP**.)

The following information is available for each client that is communicating with the **DWL-8200AP**.

MAC: Displays the MAC address of the client.

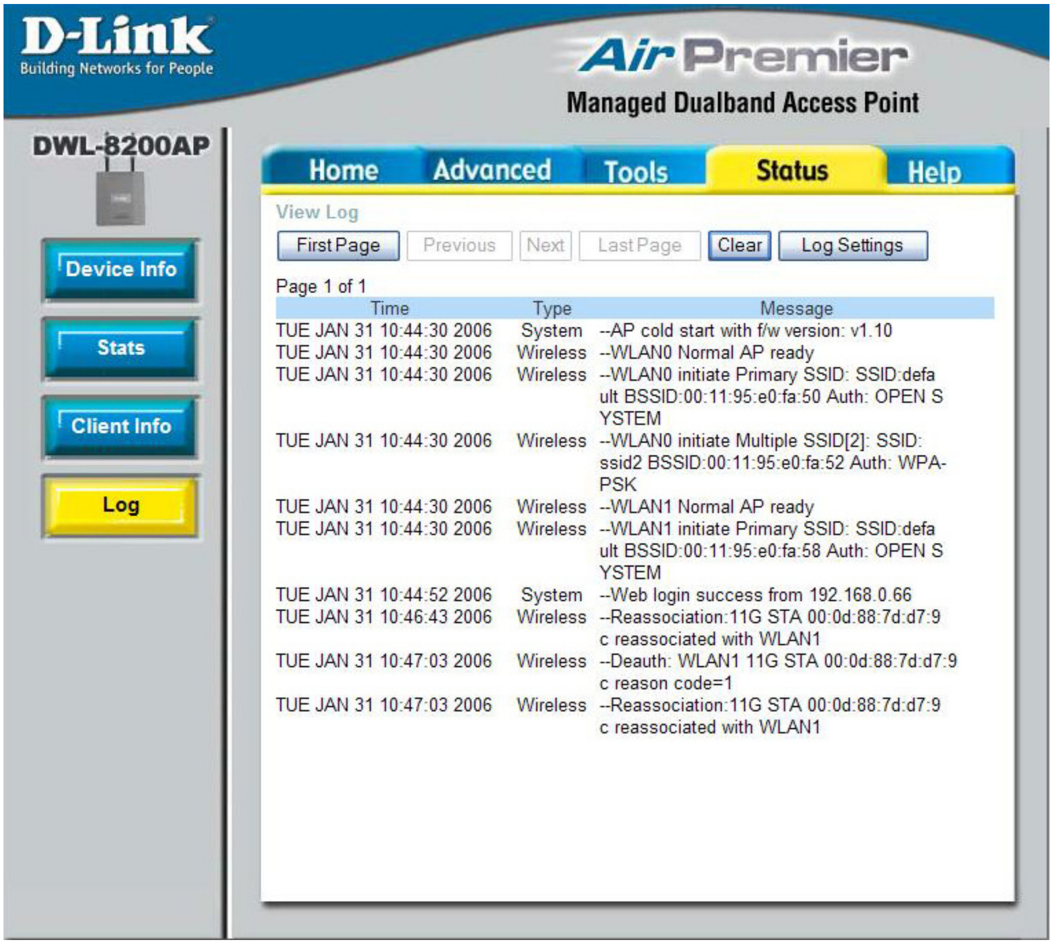
Band: Displays the wireless band.

Authentication: Displays the type of authentication that is enabled.

Signal: Indicates the strength of the signal

Power Saving Mode: Displays the status of the power saving feature.

Log



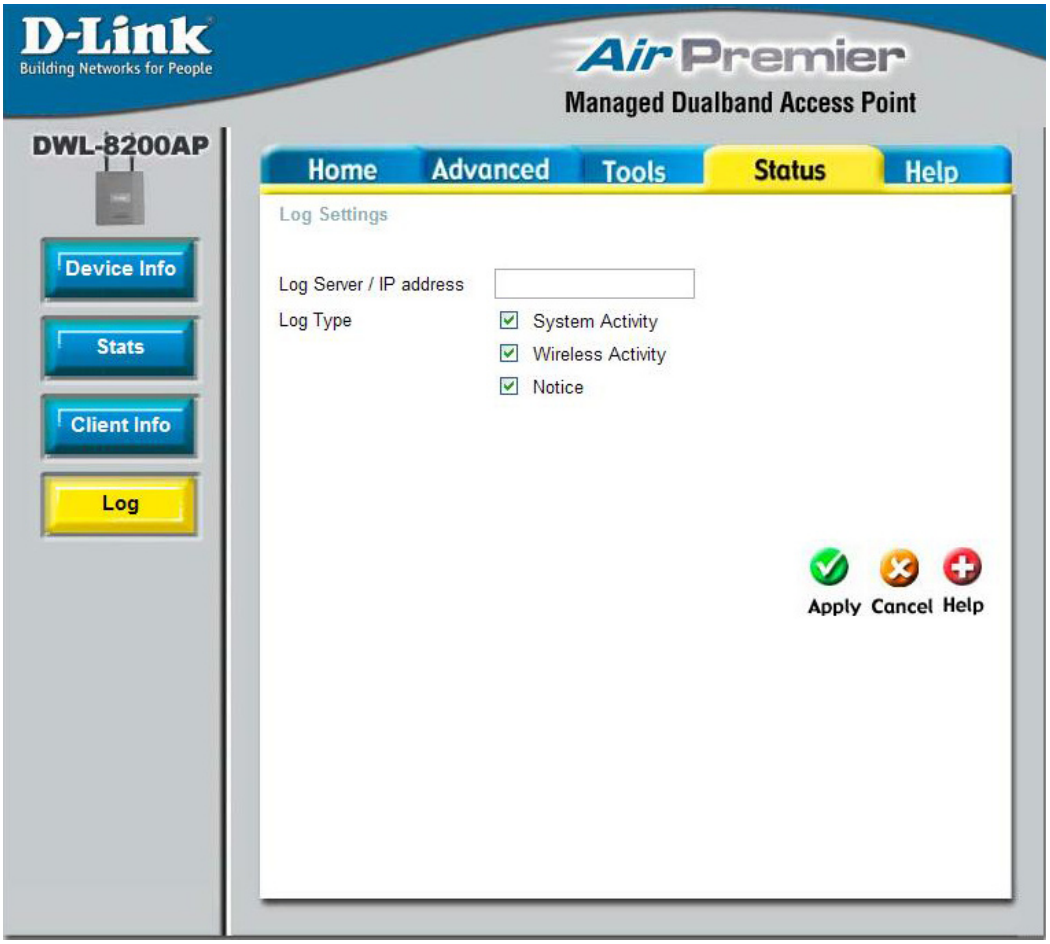
```
Page 1 of 1
          Time              Type                   Message
TUE JAN 31 10:44:30 2006   System    --AP cold start with f/w version: v1.10
TUE JAN 31 10:44:30 2006   Wireless  --WLAN0 Normal AP ready
TUE JAN 31 10:44:30 2006   Wireless  --WLAN0 initiate Primary SSID: SSID:defa
                                     ult BSSID:00:11:95:e0:fa:50 Auth: OPEN S
                                     YSTEM
TUE JAN 31 10:44:30 2006   Wireless  --WLAN0 initiate Multiple SSID[2]: SSID:
                                     ssid2 BSSID:00:11:95:e0:fa:52 Auth: WPA-
                                     PSK
TUE JAN 31 10:44:30 2006   Wireless  --WLAN1 Normal AP ready
TUE JAN 31 10:44:30 2006   Wireless  --WLAN1 initiate Primary SSID: SSID:defa
                                     ult BSSID:00:11:95:e0:fa:58 Auth: OPEN S
                                     YSTEM
TUE JAN 31 10:44:52 2006   System    --Web login success from 192.168.0.66
TUE JAN 31 10:46:43 2006   Wireless  --Reassociation:11G STA 00:0d:88:7d:d7:9
                                     c reassociated with WLAN1
TUE JAN 31 10:47:03 2006   Wireless  --Deauth: WLAN1 11G STA 00:0d:88:7d:d7:9
                                     c reason code=1
TUE JAN 31 10:47:03 2006   Wireless  --Reassociation:11G STA 00:0d:88:7d:d7:9
                                     c reassociated with WLAN1
```

The log information will include, but not limited to, the following items:

- Upgrade Firmware
- Client Associate and Disassociate with AP
- Web login

The embedded memory can hold up to 500 logs.

Log Settings



Log Settings

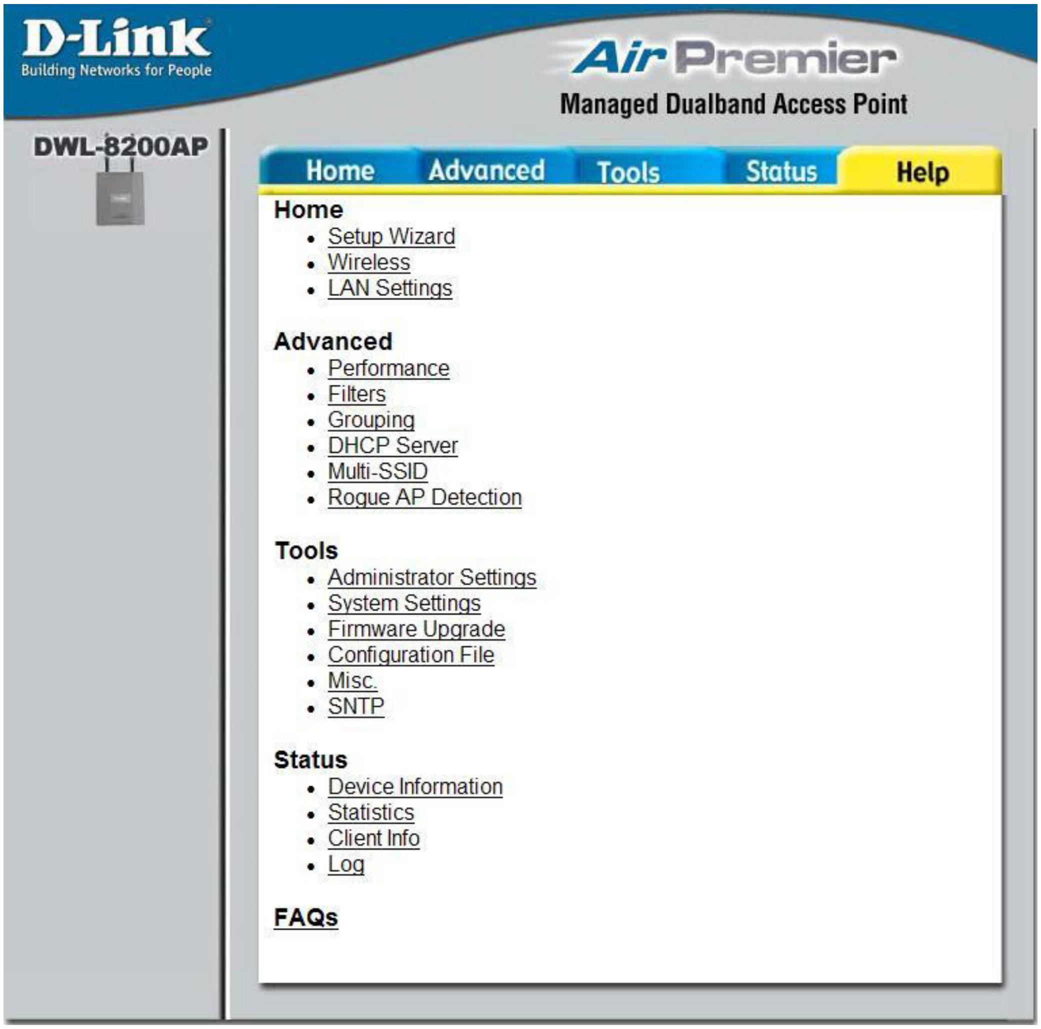
Log Server / IP address

Log Type ☑ System Activity ☑ Wireless Activity ☑ Notice

Log Server/IP Address: If you want to record log events on a remote log server, enter the IP address of the log server here.

Log Type: Select the log types that you want to be logged.

Help



Home

- Setup Wizard
- Wireless
- LAN Settings

Advanced

- Performance
- Filters
- Grouping
- DHCP Server
- Multi-SSID
- Rogue AP Detection

Tools

- Administrator Settings
- System Settings
- Firmware Upgrade
- Configuration File
- Misc.
- SNTP

Status

- Device Information
- Statistics
- Client Info
- Log

FAQs

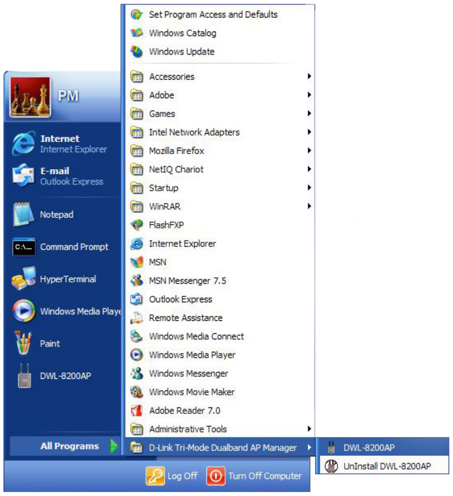
Help: Click on any item in the Help screen for more information.

Using the AP Manager

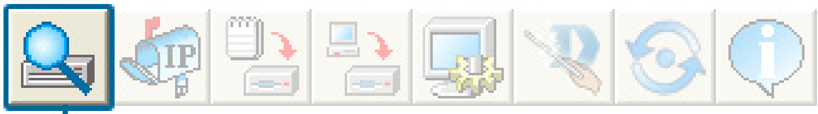
The AP Manager is a convenient tool to manage the configuration of your network from a central computer. With AP Manager there is no need to configure devices individually.

To launch the **AP Manager**:

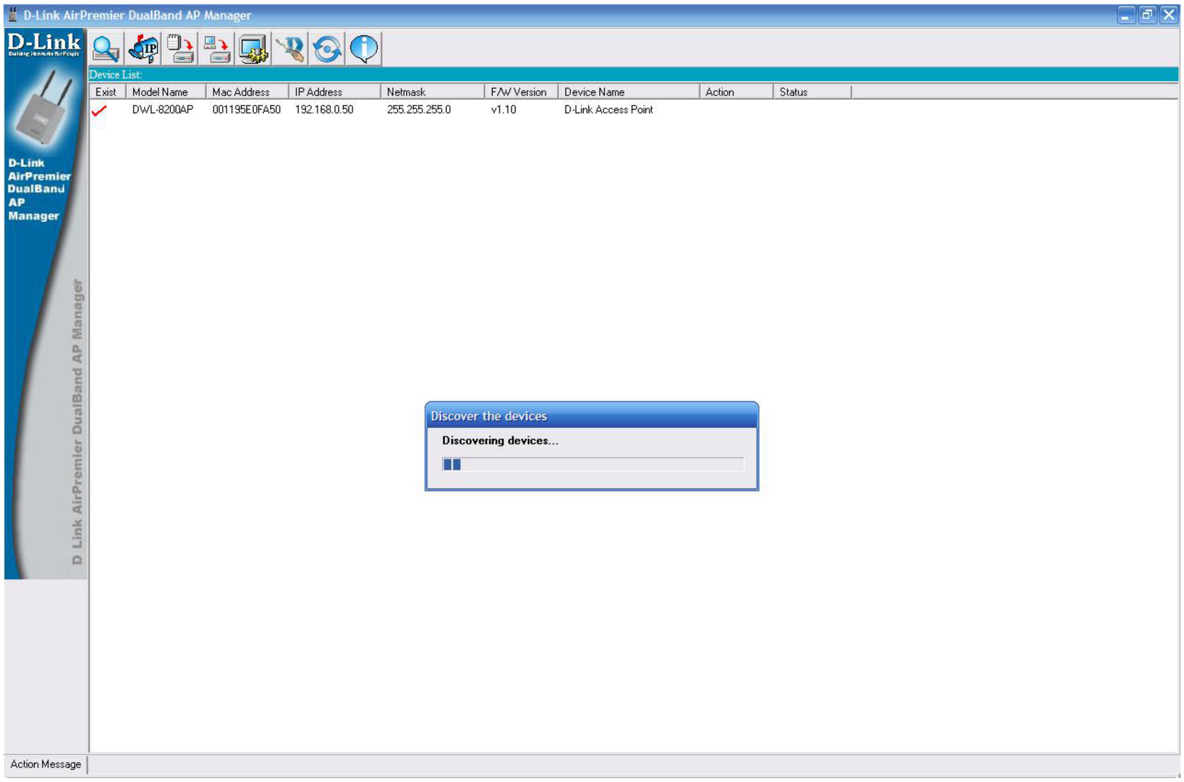
- Go to the **Start Menu**
- Select **Programs**
- Select **D-Link Tri-Mode Dualband AP Manager**
- Select **DWL-8200AP**



Discovering Devices



Click on this button to **discover the devices** available on the network.


D-Link AirPremier DualBand AP Manager
D-Link
Building Networks for People
D-Link AirPremier DualBand AP Manager
D Link AirPremier DualBand AP Manager
Device List
Action Message

Exist	Model Name	Mac Address	IP Address	Netmask	F/W Version	Device Name	Action	Status
✓	DWL-8200AP	001195E0FA50	192.168.0.50	255.255.255.0	v1.10	D-Link Access Point		

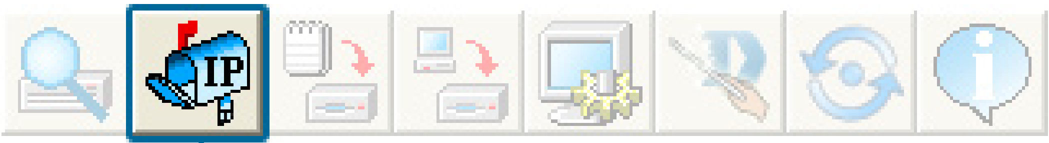
Discover the devices

Discovering devices...

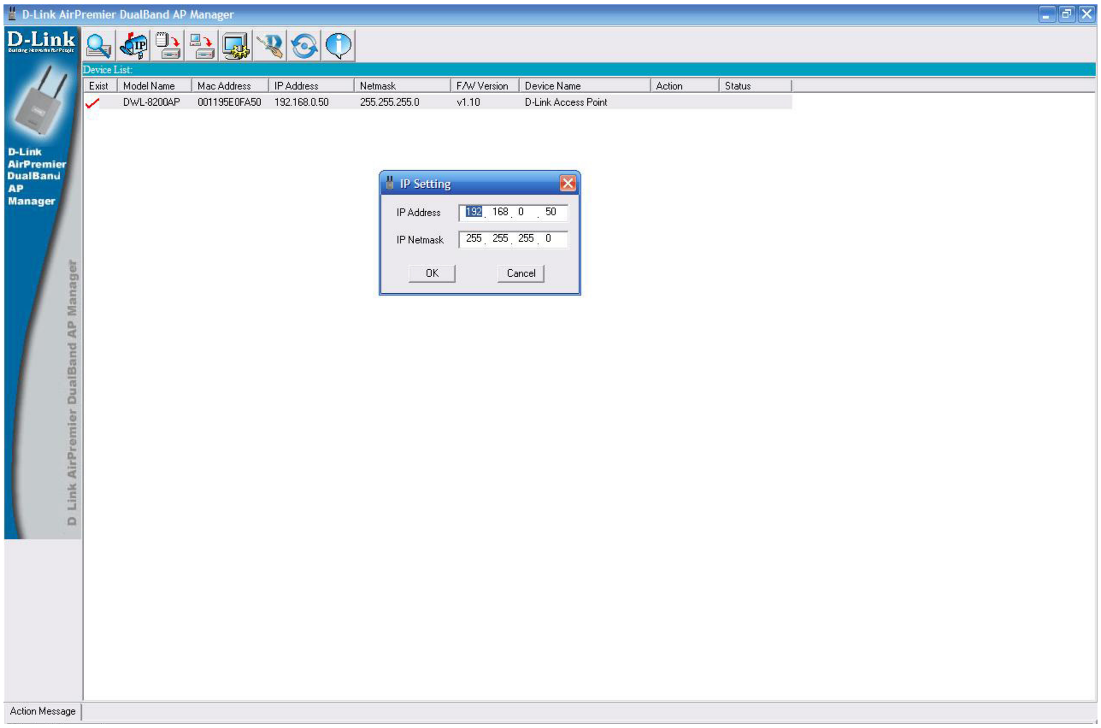
Selecting Devices

The AP Manager allows you to configure multiple devices all at once. To select a single device, simply click on the device you want to select. To select multiple devices, hold down the **Ctrl** key while clicking on each additional device. To select an entire list, hold the **Shift** key, click on the first AP on the list and then click on the last AP on the list.

IP Configuration



You can assign an IP address to an AP or assign IP addresses to multiple AP's by clicking on this button after selecting the device(s).


D-Link AirPremier DualBand AP Manager
D-Link
D-Link AirPremier DualBand AP Manager
D-Link AirPremier DualBand AP Manager
Action Message

Device List:

Exist	Model Name	Mac Address	IP Address	Netmask	F/W Version	Device Name	Action	Status
✓	DWL-8200AP	001195E0FA50	192.168.0.50	255.255.255.0	v1.10	D-Link Access Point		

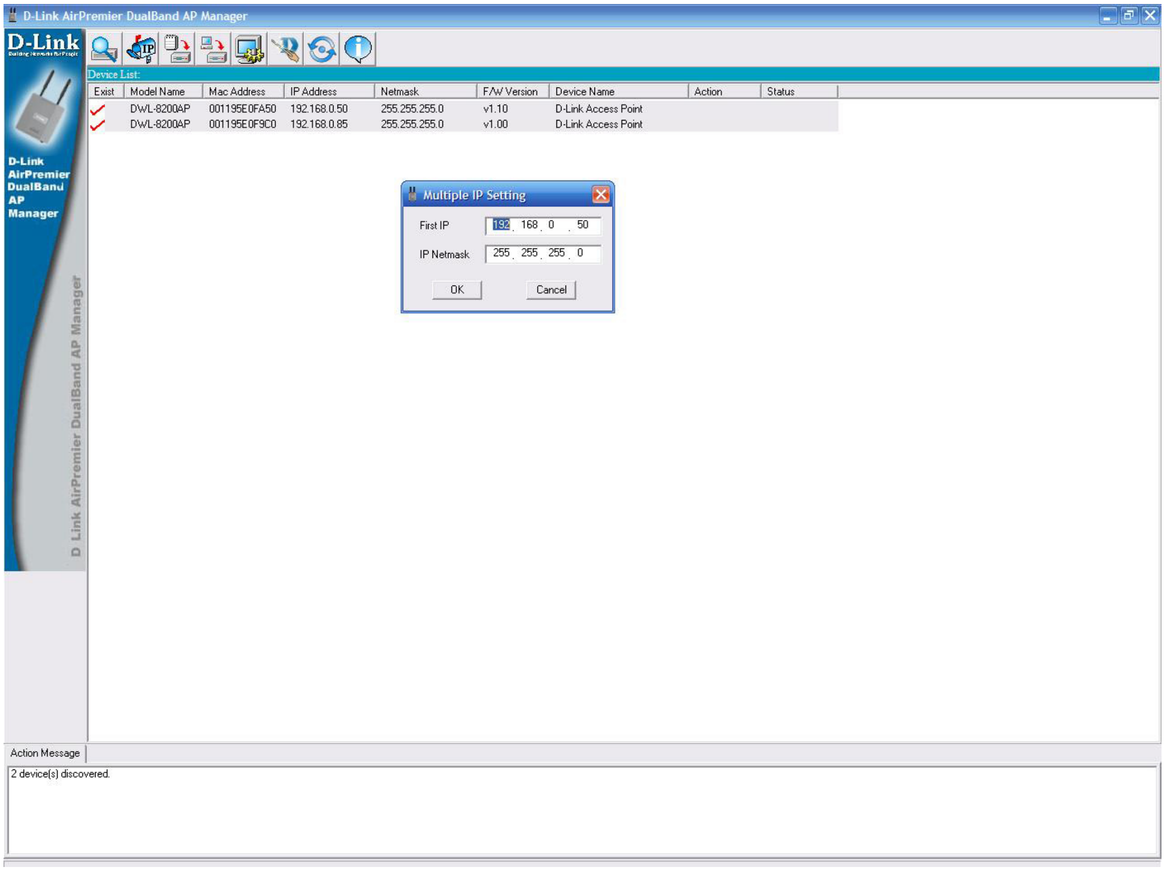
IP Setting

IP Address: 192 . 168 . 0 . 50

IP Netmask: 255 . 255 . 255 . 0

OK Cancel

Select the AP that you want to assign an IP address to and click the IP button. Enter the IP address and IP netmask for the selected device and click OK.


D-Link AirPremier DualBand AP Manager
D-Link
D-Link AirPremier DualBand AP Manager
D Link AirPremier DualBand AP Manager
Multiple IP Setting
OK
Cancel
Action Message

Device List:

Exist	Model Name	Mac Address	IP Address	Netmask	F/W Version	Device Name	Action	Status
✓	DWL-8200AP	001195E0FA50	192.168.0.50	255.255.255.0	v1.10	D-Link Access Point		
✓	DWL-8200AP	001195E0F9C0	192.168.0.85	255.255.255.0	v1.00	D-Link Access Point		

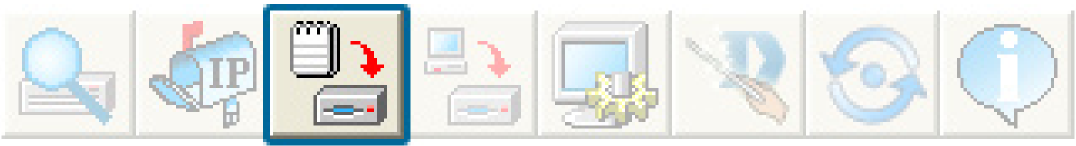
First IP: 192 . 168 . 0 . 50

IP Netmask: 255 . 255 . 255 . 0

2 device(s) discovered.

You can configure multiple AP’s with IP addresses all at once. Click on the IP button after you’ve selected all of the AP’s you want to assign an IP address. Enter the IP address you want to assign the first unit and the AP manager will automatically assign sequential IP addresses.

Device Configuration



Click on this button to access the configuration properties of the selected device(s).

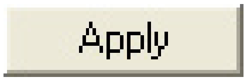
The device configuration window allows you to configure settings but does not actually apply the settings to the device unless you click the **Apply** button. You can also save and load configuration files from this window. When you load a configuration file, you must click **Apply** if you want the settings to be applied to the selected device(s).

You can configure a single device by highlighting one device in the list, or you can configure multiple devices by highlighting multiple devices before clicking on the Device Configuration icon pictured above. The examples in this section show single device configuration. When you select multiple devices for configuration the procedure will be similar.

The Check All button will select all configurable options. Any setting that has a checkmark next to it is applied to the device or saved to the configuration file.

The Clear Checks button deselects all configurable options. This feature is useful if you only want to change a few settings. Deselect all items and only check the items that you want to modify.

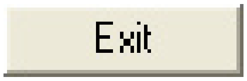
Refresh will revert to the actual device settings of the selected device(s).



To save settings to the device, you must click the Apply button. Only settings that have a checkmark next to them will be applied.

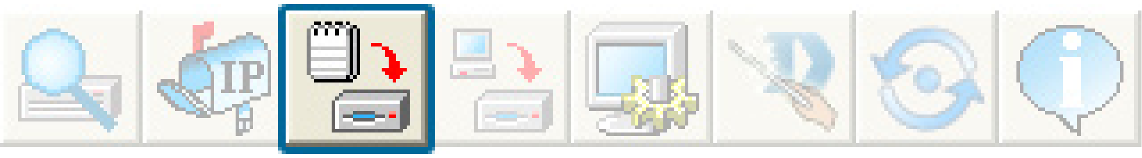
The open button is used to load a previously saved configuration file. After opening a configuration file, you must click the Apply button to save the settings to the selected device(s).

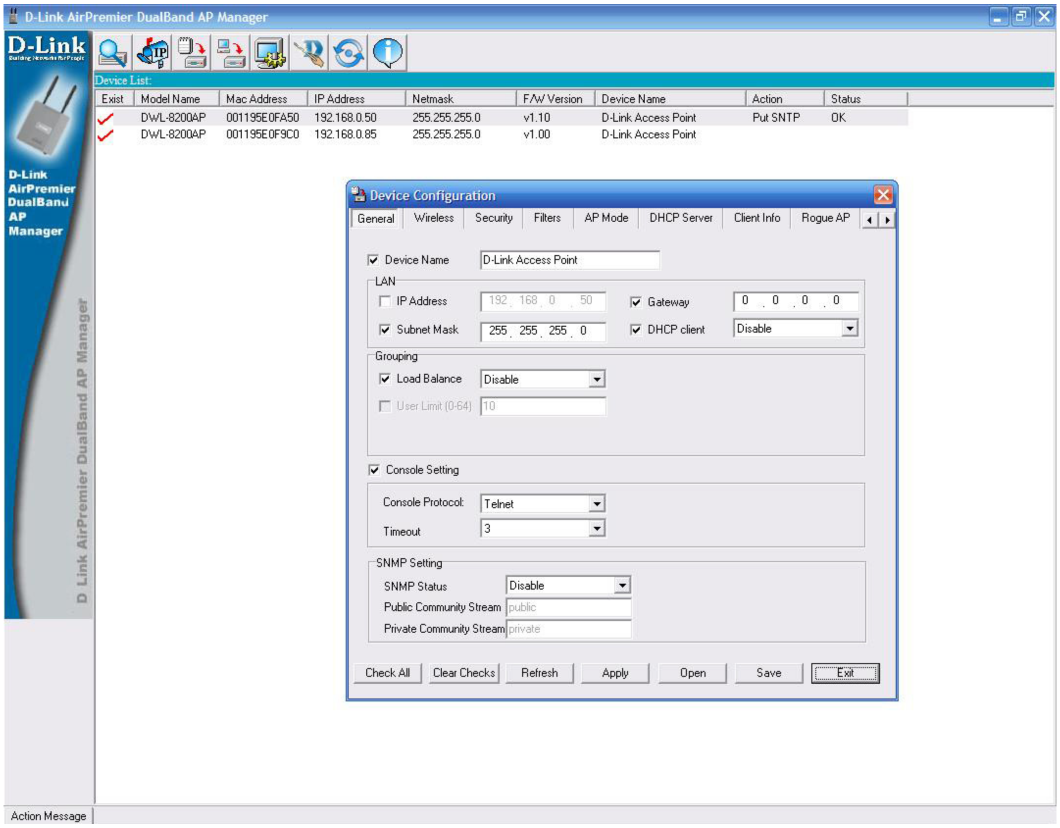
The save button allows you to save a configuration file of the selected device settings. Only settings that have a checkmark next to them are saved. You cannot save a configuration file if you selected more than one device in the device list.



The Exit button will close the device configuration window. Any settings that haven't been applied will be lost.

General Settings





D-Link AirPremier DualBand AP Manager
D-Link
D-Link AirPremier DualBand AP Manager
D Link AirPremier DualBand AP Manager

Device List:

Exist	Model Name	Mac Address	IP Address	Netmask	F/W Version	Device Name	Action	Status
✓	DWL-8200AP	001195E0FA50	192.168.0.50	255.255.255.0	v1.10	D-Link Access Point	Put SNTP	OK
✓	DWL-8200AP	001195E0F9C0	192.168.0.85	255.255.255.0	v1.00	D-Link Access Point		

Device Configuration

General
Wireless
Security
Filters
AP Mode
DHCP Server
Client Info
Rogue AP

☑ Device Name: D-Link Access Point

LAN

☐ IP Address: 192.168.0.50

☑ Gateway: 0.0.0.0

☑ Subnet Mask: 255.255.255.0

☑ DHCP client: Disable

Grouping

☑ Load Balance: Disable

☐ User Limit (0-64): 10

☑ Console Setting

Console Protocol: Telnet

Timeout: 3

SNMP Setting

SNMP Status: Disable

Public Community Stream: public

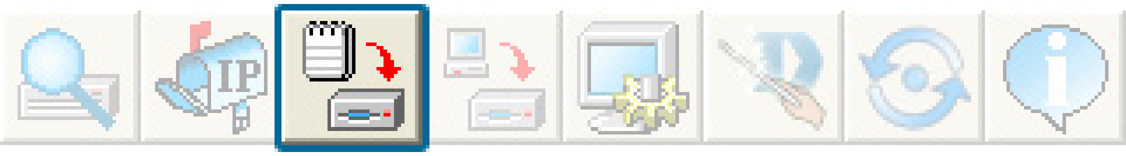
Private Community Stream: private

When selecting multiple devices for configuration, some options are unavailable for configuration by default as noted(*) below:

Device Name(*): This allows you to change the device name for the selected access point. You must place a checkmark in the Device Name box to change the name. This option should only be configured when one access point is selected for configuration.

IP address and Subnet Mask(*): If you've selected one device for configuration and you want to change the IP address of the device, check the IP Address box. You can then enter an IP address and Subnet Mask for the selected access point. This option should only be configurable when one access point is selected for configuration. To configure multiple devices with an IP address at one time, please reference the previous page.

Gateway: Enter the IP address of your gateway, typically your router address.



DHCP client: There is a pull-down menu to select enabled or disabled. When enabled, the selected device(s) will function as a DHCP client(s). This allows them to receive IP configuration information from a DHCP server. When disabled, the access point(s) must have a static IP address assigned to them.

Load Balance: This pull-down selection enables or disables load balancing. When you enable load balance you allow several access points to balance wireless network traffic and wireless clients among the access points with the same SSID. All the APs that share Load Balancing must have the same SSID. Assign each access point a different non-overlapping channel (e.g., 1, 6, 11).

User Limit: Enter the number of the limit of load balancing users, from 0-64.

Console Protocol: From the pull-down selection, choose either **Telnet** or **SSH** for Console protocol.

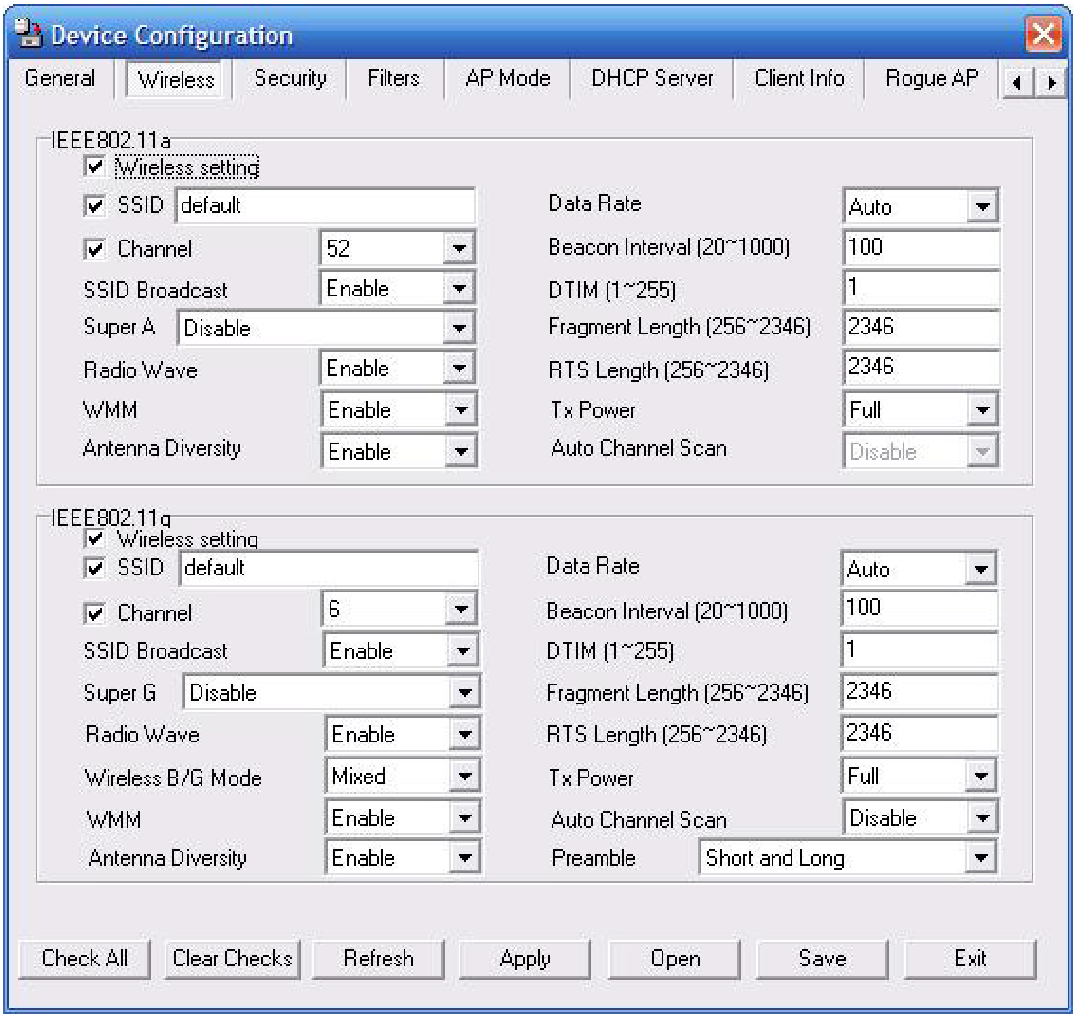
Telnet Timeout: This pull-down selection defines the timeout period during a Telnet session with the selected device(s).

SNMP: Select **Enable** to set the SNMP setting.
SNMP is disabled by default.

Public Community Stream: When SNMP is enabled, you can change the Public Community Name here.

Private Community Stream: When SNMP is enabled, you can change the Private Community Name here.

Wireless Settings



IEEE802.11a

☑ Wireless setting

☑ SSID: default

☑ Channel: 52

SSID Broadcast: Enable

Super A: Disable

Radio Wave: Enable

WMM: Enable

Antenna Diversity: Enable

Data Rate: Auto

Beacon Interval (20~1000): 100

DTIM (1~255): 1

Fragment Length (256~2346): 2346

RTS Length (256~2346): 2346

Tx Power: Full

Auto Channel Scan: Disable

IEEE802.11g

☑ Wireless setting

☑ SSID: default

☑ Channel: 6

SSID Broadcast: Enable

Super G: Disable

Radio Wave: Enable

Wireless B/G Mode: Mixed

WMM: Enable

Antenna Diversity: Enable

Data Rate: Auto

Beacon Interval (20~1000): 100

DTIM (1~255): 1

Fragment Length (256~2346): 2346

RTS Length (256~2346): 2346

Tx Power: Full

Auto Channel Scan: Disable

Preamble: Short and Long

IEEE 802.11a:

Wireless: Check to enable wireless mode.

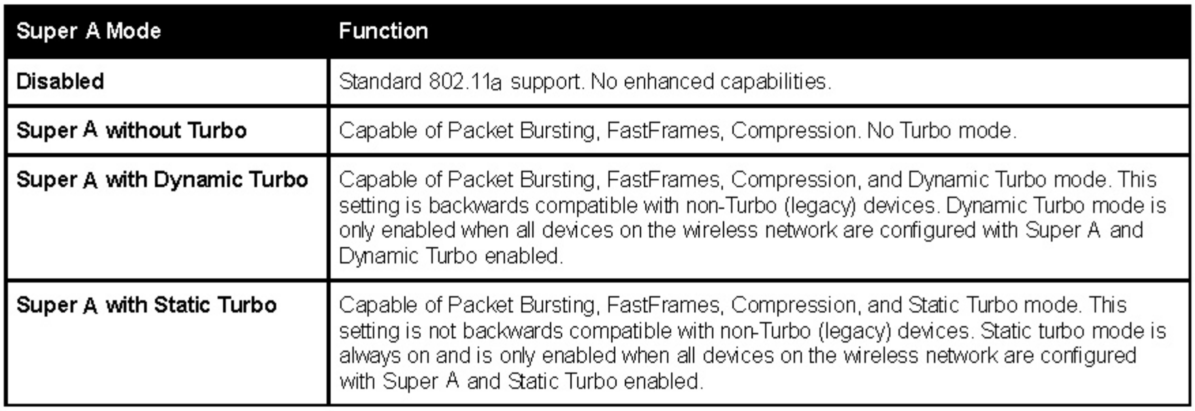
SSID: The Service Set (network) Identifier of your wireless network.

Channel: Allows you to select a channel. **52** is the default setting for 802.11a.

The channel of an 802.11a network may not be set manually in certain regions (e.g. Europe) in order to comply with DFS (Dynamic Frequency Selection).

SSID Broadcast: Allows you to **enable** or **disable** the broadcasting of the SSID to network clients.

Super A: Select this option to enable a wireless signal rate of up to 108Mbps. **Super A** is a group of performance enhancement features that increase end user application throughput in an 802.11a network. **Super A** is backwards compatible with standard 802.11a devices. For ideal performance, all wireless devices on the network should be **Super A** capable.



Super A Mode	Function
Disabled	Standard 802.11a support. No enhanced capabilities.
Super A without Turbo	Capable of Packet Bursting, FastFrames, Compression. No Turbo mode.
Super A with Dynamic Turbo	Capable of Packet Bursting, FastFrames, Compression, and Dynamic Turbo mode. This setting is backwards compatible with non-Turbo (legacy) devices. Dynamic Turbo mode is only enabled when all devices on the wireless network are configured with Super A and Dynamic Turbo enabled.
Super A with Static Turbo	Capable of Packet Bursting, FastFrames, Compression, and Static Turbo mode. This setting is not backwards compatible with non-Turbo (legacy) devices. Static turbo mode is always on and is only enabled when all devices on the wireless network are configured with Super A and Static Turbo enabled.

Radio Wave: Select **Enable** or **Disable**.

WMM: (Wi-Fi Multimedia) Improves the user experience for audio, video, and voice applications over a Wi-Fi network. WMM is based on a subset of the IEEE 802.11e WLAN QoS draft standard.

Antenna Diversity: This option is enabled by default. When enabled, each radio (5g/2.4g) will automatically switch to the antenna with the greatest RSSI value. When disabled, each radio will use its main antenna - when facing the AP, 5GHz will use the right antenna to transmit and receive packets while the 2.4GHz radio will use the left.

Data Rate*: A pull-down menu to select the maximum wireless signal rate for the selected device(s).

Beacon Interval (20~1000): Beacons are packets sent by an access point to synchronize a network. Specify the beacon value for the selected device(s) here. The default value of **100** is recommended.

DTIM (1~255): DTIM (Delivery Traffic Indication Message) is a countdown informing clients of the next listening window for broadcast and multicast messages.

Fragment Length (256~2346): This sets the fragmentation threshold (specified in bytes). Packets exceeding the value set here will be fragmented. The default is **2346**.

RTS Length (256~2346): The RTS value should not be changed unless you encounter inconsistent data flow. The default value is **2346**.

Tx Power: Choose **full**, **half (-3dB)**, **quarter (-6dB)**, **eighth (-9dB)**, **minimum power**. This tool can be helpful for security purposes if you wish to limit the transmission range.

Auto Channel: **Enable** this option to automatically select the most optimal channel available for wireless networking and to scan for the least populated channel.

*Maximum wireless signal rate derived from IEEE Standard 802.11a and 802.11g specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead lower actual data throughput rate.

IEEE 802.11g:

Wireless: Check to enable wireless mode.

SSID: The Service Set (network) Identifier of your wireless network.

Channel: Allows you to select a channel. **6** is the default setting.

SSID Broadcast: Allows you to enable or disable the broadcasting of the SSID to network clients.

Super G: Select this option to enable a wireless signal rate of up to 108Mbps*.

Radio Wave: Select **Enable** or **Disable**.

Wireless B/G Mode: Select **Mixed**, **11g Only**, or **11b Only**.

WMM: Enabled by default. Refer to the previous page for information.

Antenna Diversity: Enabled by default. Refer to the previous page for information.

Data Rate*: A pull-down menu to select the maximum wireless signal rate for the selected device(s).

Beacon Interval (20~1000): Beacons are packets sent by an access point to synchronize a network. Specify the beacon value for the selected device(s) here. The default value of **100** is recommended.

DTIM (1~255): DTIM (Delivery Traffic Indication Message) is a countdown informing clients of the next listening window for broadcast and multicast messages.

Fragment Length (256~2346): This sets the fragmentation threshold (specified in bytes). Packets exceeding the value set here will be fragmented. The default is **2346**.

RTS Length (256~2346): The RTS value should not be changed unless you encounter inconsistent data flow. The default value is **2346**.

Tx Power: Choose **full**, **half (-3dB)**, **quarter (-6dB)**, **eighth (-9dB)**, **minimum power**. This tool can be helpful for security purposes if you wish to limit the transmission range.

Auto Channel Scan: Select this option to automatically select the most optimal channel available for wireless networking.

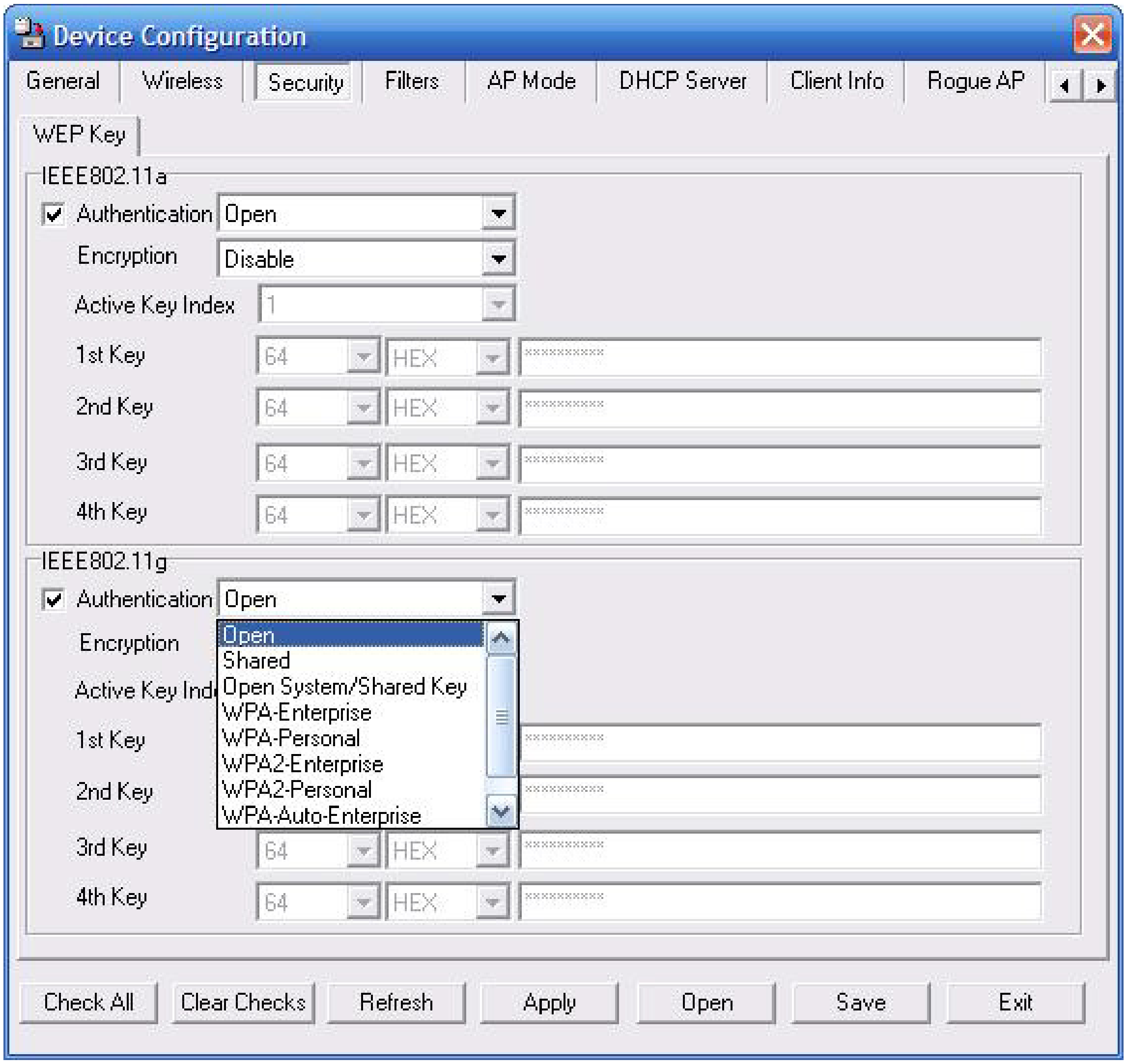
Preamble: Select **Short and Long** (recommended) or **Long-Only**.

*Maximum wireless signal rate derived from IEEE Standard 802.11a and g specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate. Environmental factors may adversely affect wireless signal range.

Security

AP Mode	Authentication Available
Access Point	Open System Shared Key Open System/Shared Key WPA-Enterprise WPA-Personal WPA2-Enterprise WPA2-Personal WPA-Auto-Enterprise WPA-Auto-Personal
WDS with AP	Open System Shared Key Open System/Shared Key WPA-Personal WPA2-Personal WPA-Auto-Personal
WDS	Open System Shared Key Open System/Shared Key WPA-Personal WPA2-Personal WPA-Auto-Personal

Authentication



IEEE802.11a

☑ Authentication: Open

Encryption: Disable

Active Key Index: 1

1st Key: 64 HEX **********

2nd Key: 64 HEX **********

3rd Key: 64 HEX **********

4th Key: 64 HEX **********

IEEE802.11g

☑ Authentication: Open

Open
Shared
Open System/Shared Key
WPA-Enterprise
WPA-Personal
WPA2-Enterprise
WPA2-Personal
WPA-Auto-Enterprise

Encryption

Active Key Ind

1st Key: **********

2nd Key: **********

3rd Key: 64 HEX **********

4th Key: 64 HEX **********

Open: The key is communicated across the network.

Shared: Limited to communication with devices that share the same WEP settings.

Both: The key is communicated and identical WEP settings are required.

Authentication: Select **Open System/Shared Key** to allow either form of data encryption.

Select **WPA-Enterprise** to secure your network with the inclusion of a RADIUS server.

Authentication *(continued)*:

Select **WPA-Personal** to secure your network using a password and dynamic key changes. (No RADIUS server required.)

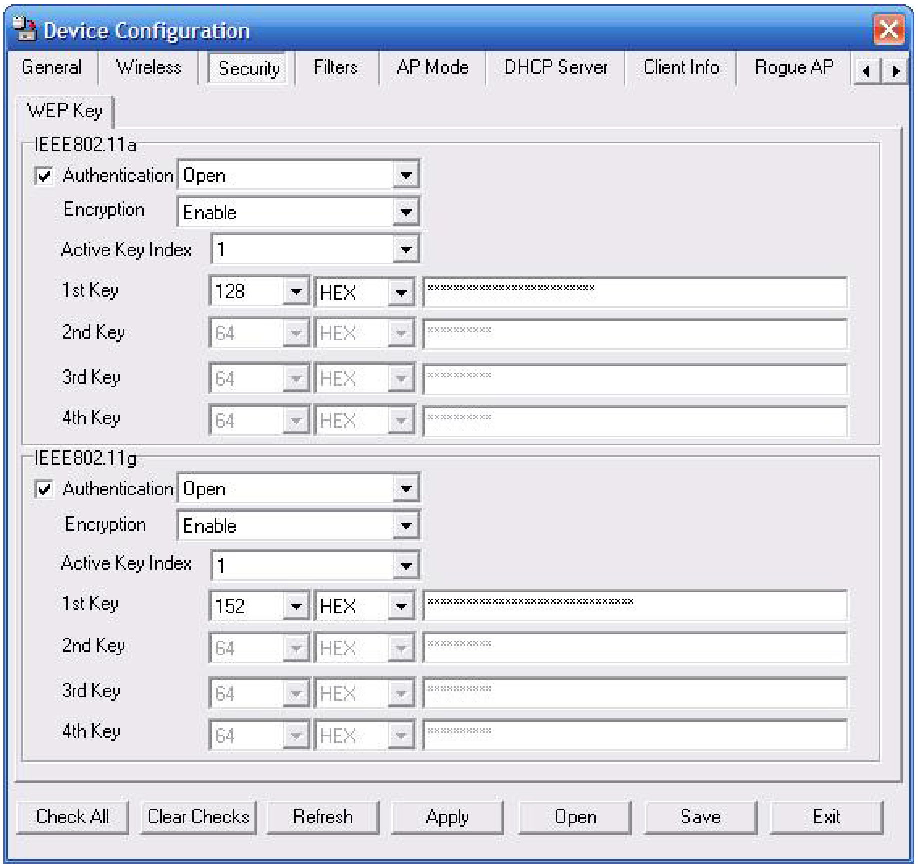
Select **WPA2-Enterprise** to secure your network with the inclusion of a RADIUS server and upgrade the encryption of data with the Advanced Encryption Standard (AES).

Select **WPA2-Personal** to secure your network using a password and dynamic key changes. No RADIUS server required and encryption of data is upgraded with the Advanced Encryption Standard (AES).

Select **WPA-Auto-Enterprise** to allow the client to either use **WPA-Enterprise** or **WPA2-Enterprise**.

Select **WPA-Auto-Enterprise** to allow the client to either use **WPA-Personal** or **WPA2-Personal**.

WEP Encryption



IEEE802.11a

☑ Authentication: Open

Encryption: Enable

Active Key Index: 1

1st Key: 128 HEX **************************

2nd Key: 64 HEX **********

3rd Key: 64 HEX **********

4th Key: 64 HEX **********

IEEE802.11g

☑ Authentication: Open

Encryption: Enable

Active Key Index: 1

1st Key: 152 HEX ********************************

2nd Key: 64 HEX **********

3rd Key: 64 HEX **********

4th Key: 64 HEX **********

The Security tab contains the WEP configuration settings on the initial page. If you select WPA as the authentication type, an additional tab will appear with the WPA configuration options based on your selection.

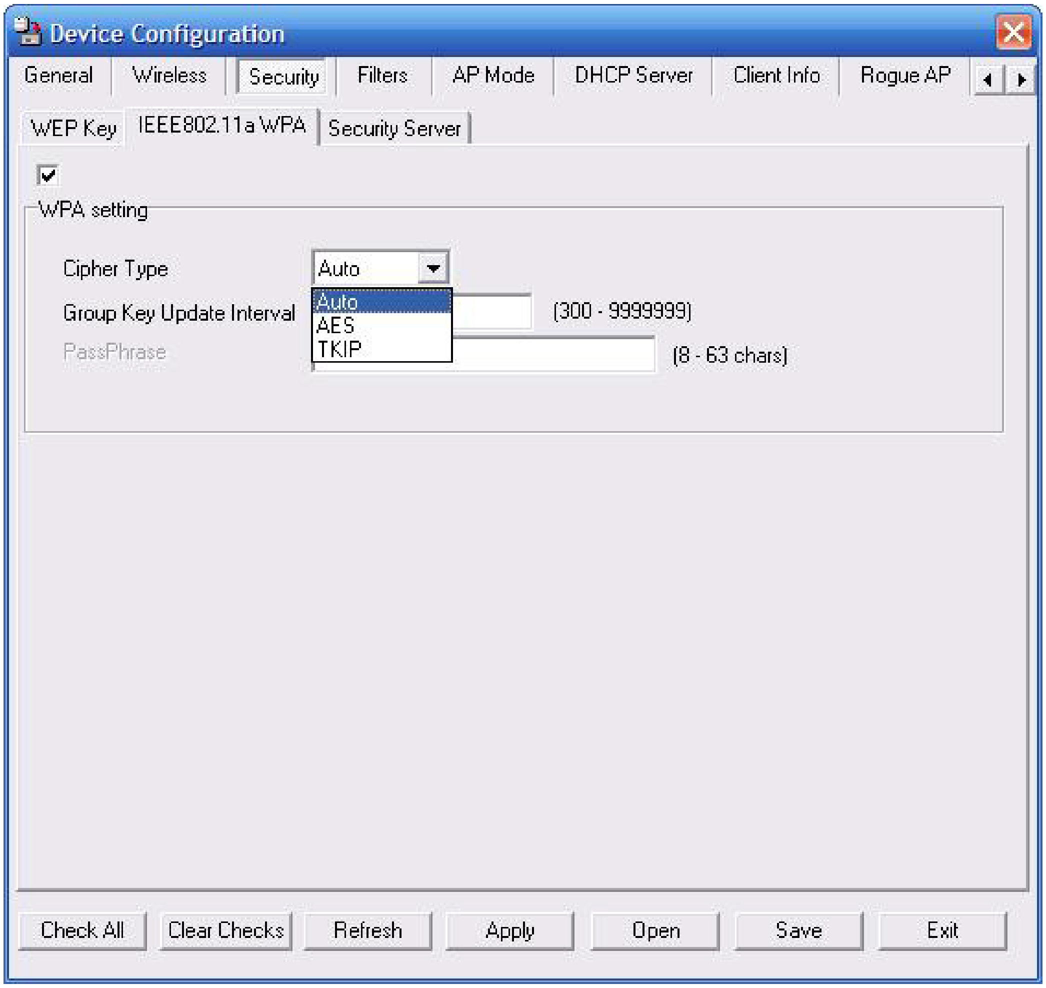
Authentication Type: Select from the pull-down menu the type of authentication to be used on the selected device(s). In this example you may select **Open**, **Shared**, or **Open System/Shared Key**.

Encryption: **Enable** or **Disable** encryption on the selected device(s). This option will only be available when security is set to **Open** or **Open System/ Shared Key**.

Active Key Index: Select which defined key is active on the selected device(s). This option will only be available when security is set to **Open, Shared,** or **Open System/Shared Key**.

Key Values: Select the key size (**64-bit, 128-bit,** or **152-bit**) and key type (**HEX** or **ASCII**) and then enter a string to use as the key. The key length is automatically adjusted based on the settings you choose. This option will only be available when security is set to **Open, Shared,** or **Open System/Shared Key**.

WPA/WPA2 - Enterprise



☑

Cipher Type: Auto (Auto, AES, TKIP)

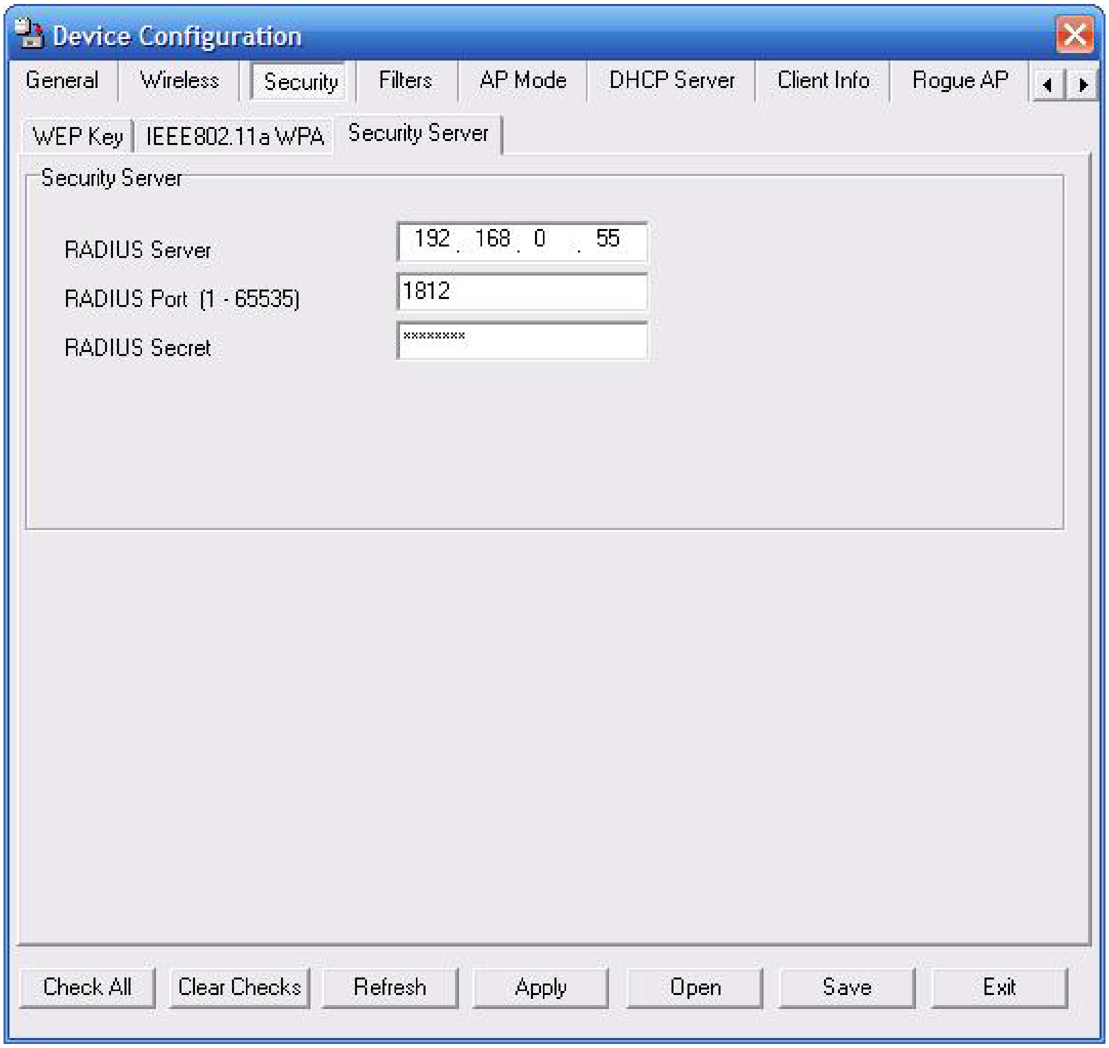
Group Key Update Interval: (300 - 9999999)

PassPhrase: (8 - 63 chars)

Cipher Type: Select **Auto**, **TKIP**, or **AES** from the pull-down menu.

Group Key Update Interval: Select the interval during which the group key will be valid. **1800** is the recommended setting. A lower interval may reduce transfer rates.

WPA/WPA2 - Enterprise - Security Server



Security Server

RADIUS Server: 192 . 168 . 0 . 55

RADIUS Port (1 - 65535): 1812

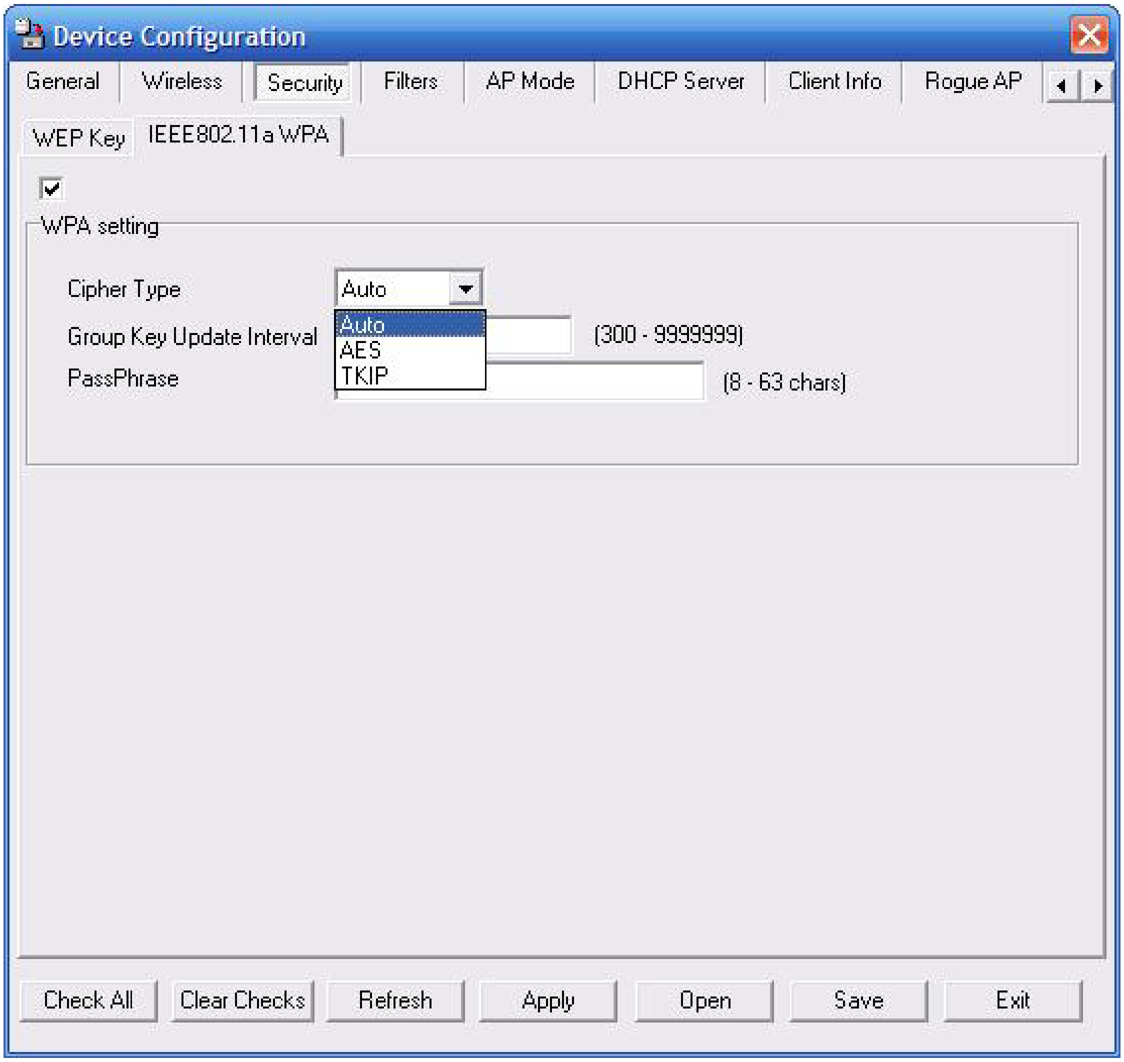
RADIUS Secret: *********

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

RADIUS Port: Enter the port used on the RADIUS server.

RADIUS Secret: Enter the RADIUS secret.

WPA/WPA2 - Personal



☑

WPA setting

Cipher Type: Auto

Group Key Update Interval (300 - 9999999)

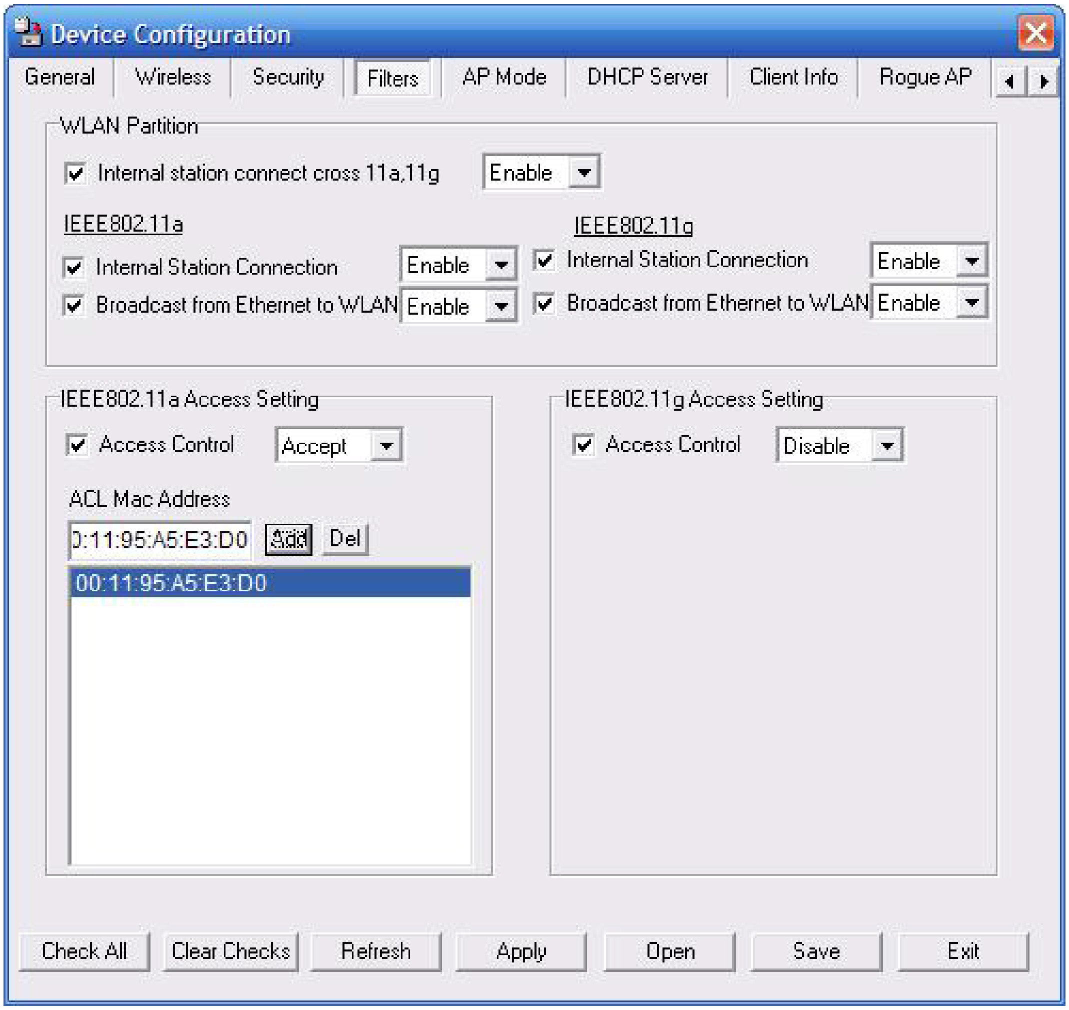
PassPhrase (8 - 63 chars)

Cipher Type: Select **Auto**, **TKIP**, or **AES** from the pull-down menu.

Group Key Update Interval: Select the interval during which the group key will be valid. **1800** is the recommended setting. A lower interval may reduce transfer rates.

PassPhrase: Enter a **PassPhrase** between 8-63 characters in length.

Filters



WLAN Partition

☑ Internal station connect cross 11a,11g: Enable

IEEE802.11a

☑ Internal Station Connection: Enable

☑ Broadcast from Ethernet to WLAN: Enable

IEEE802.11g

☑ Internal Station Connection: Enable

☑ Broadcast from Ethernet to WLAN: Enable

IEEE802.11a Access Setting

☑ Access Control: Accept

ACL Mac Address: 0:11:95:A5:E3:D0

00:11:95:A5:E3:D0

IEEE802.11g Access Setting

☑ Access Control: Disable

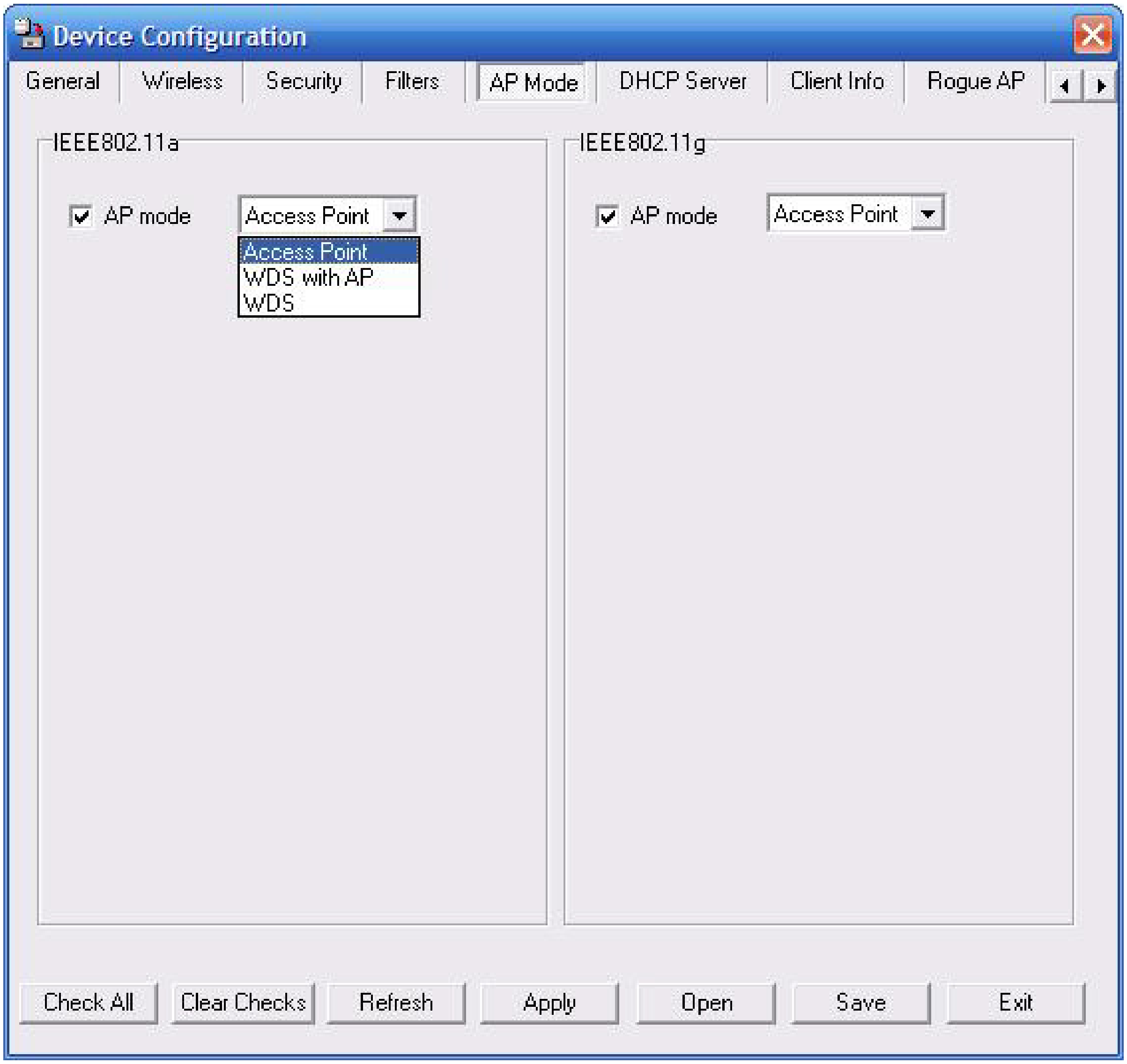
Internal Station Connection: Enabling this allows wireless clients to communicate with each other. When this option is disabled, wireless stations are not allowed to exchange data through the access point.

Ethernet to WLAN Access: Enabling this option allows Ethernet devices to communicate with wireless clients. When this option is disabled, all data from Ethernet to wireless clients is blocked. Wireless devices can still send data to the Ethernet devices when this is disabled.

Access Control: When disabled access control is not filtered based on the MAC address. If Accept or Reject is selected, then a box appears for entering MAC addresses. When **Accept** is selected, only devices with a MAC address in the list are granted access. When **Reject** is selected, devices in the list of MAC addresses are not granted access.

Access Control List: **Add** or **Delete** MAC addresses in the Access Control List.

AP Mode



IEEE802.11a

☑ AP mode: Access Point

Access Point
WDS with AP
WDS

IEEE802.11g

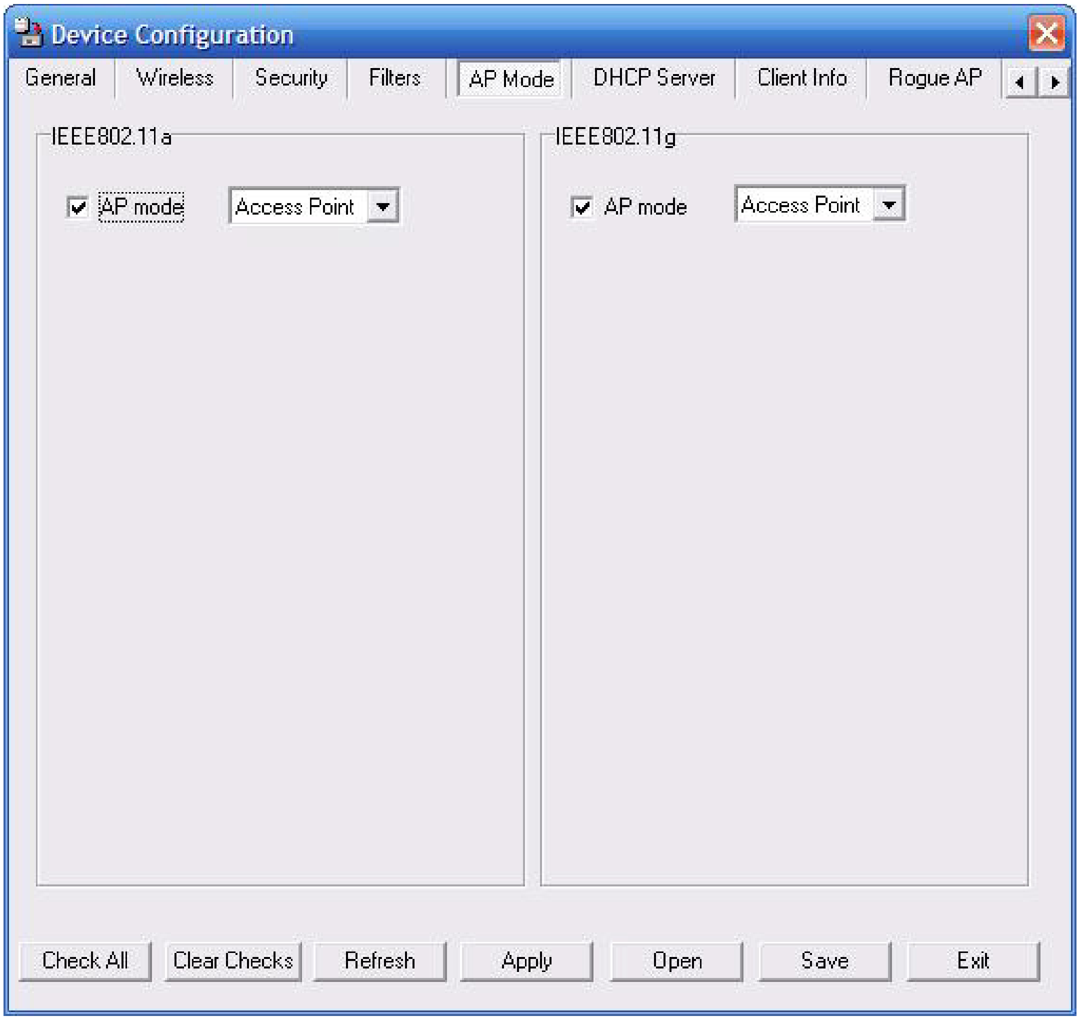
☑ AP mode: Access Point

AP Mode: There are 3 AP modes:

Access Point
WDS with AP
WDS

Please see the following pages for an explanation of all the AP modes.

AP Mode



IEEE802.11a

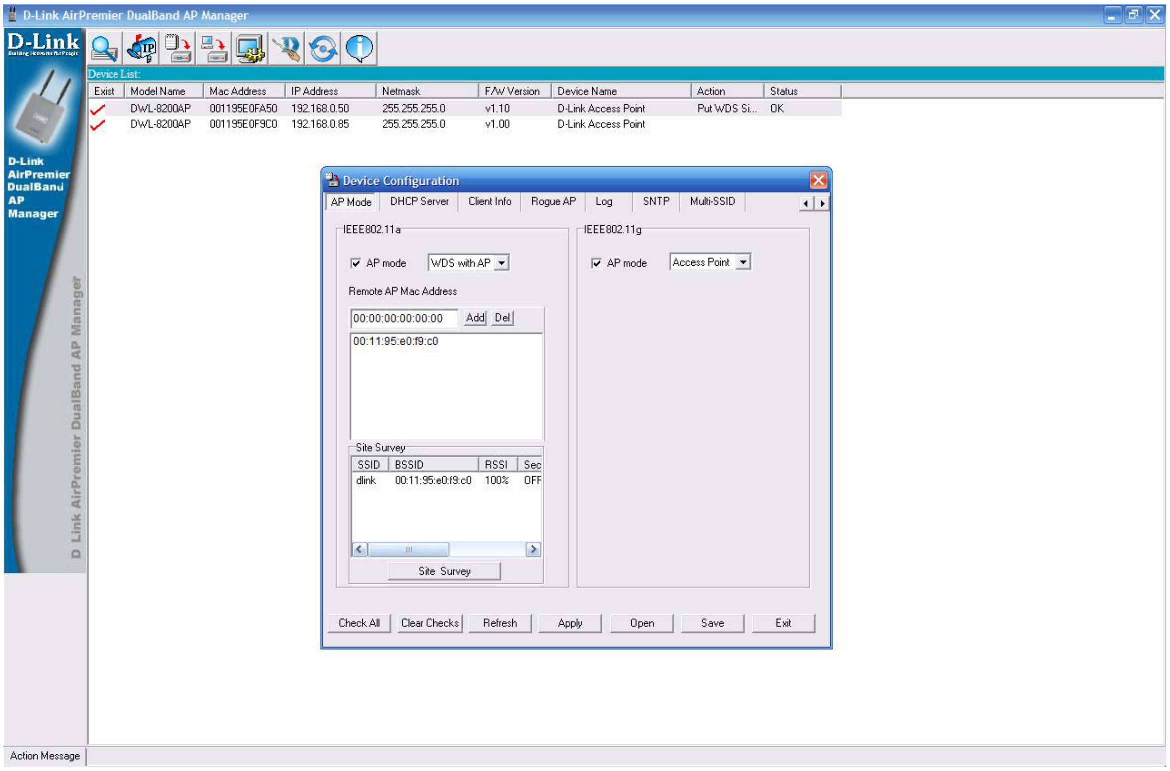
☑ AP mode: Access Point

IEEE802.11g

☑ AP mode: Access Point

Access Point: Creates a Wireless LAN.

WDS with AP



Exist	Model Name	Mac Address	IP Address	Netmask	F/W Version	Device Name	Action	Status
✓	DWL-8200AP	001195E0FA50	192.168.0.50	255.255.255.0	v1.10	D-Link Access Point	Put WDS Si...	OK
✓	DWL-8200AP	001195E0F9C0	192.168.0.85	255.255.255.0	v1.00	D-Link Access Point		

IEEE802.11a

☑ AP mode: WDS with AP

Remote AP Mac Address: 00:00:00:00:00:00

00:11:95:e0:f9:c0

Site Survey

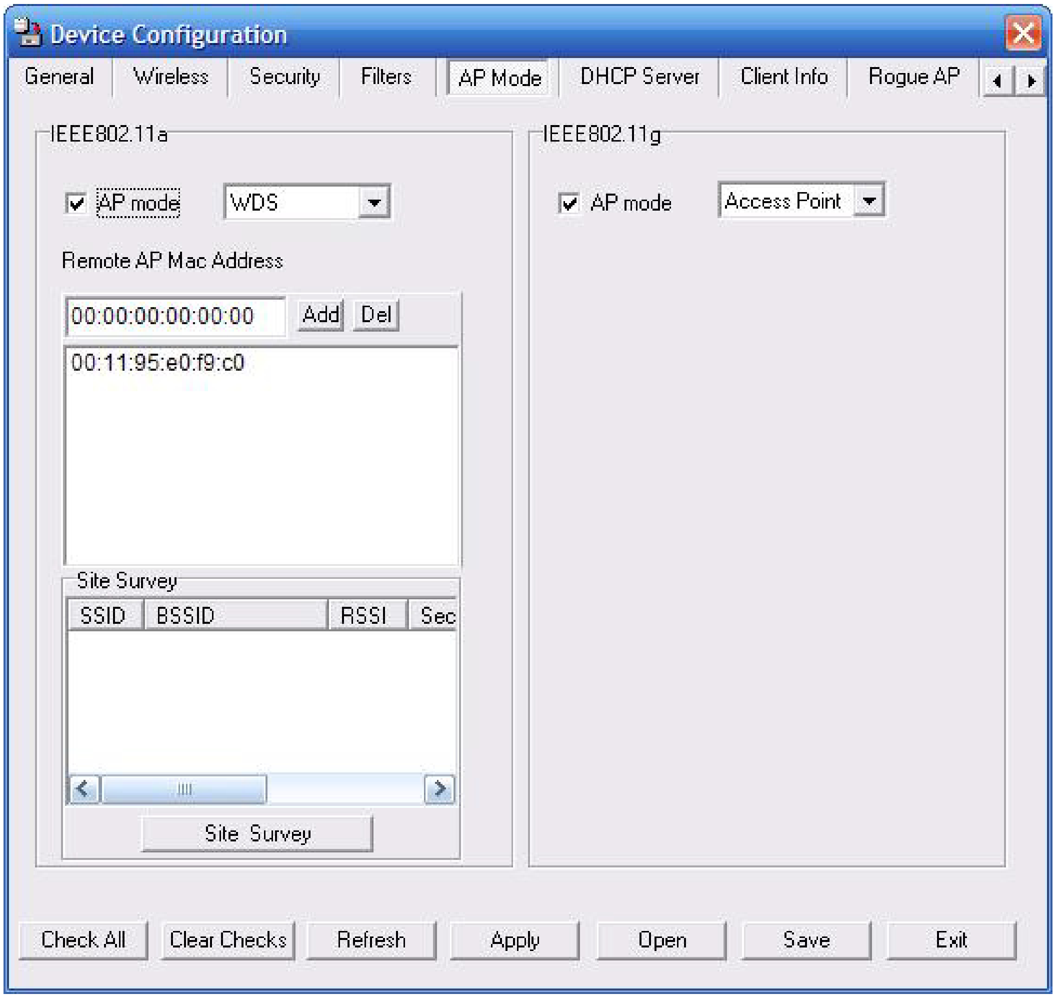
SSID	BSSID	RSSI	Sec
dlink	00:11:95:e0:f9:c0	100%	OFF

IEEE802.11g

☑ AP mode: Access Point

WDS with AP: Wireless Distribution System with Access Points. APs in a network are wirelessly wired together and connected via a Distribution System. The **DWL-8200AP** wirelessly connects multiple networks, while still functioning as a wireless AP.

WDS



IEEE802.11a

☑ AP mode: WDS

Remote AP Mac Address: 00:00:00:00:00:00

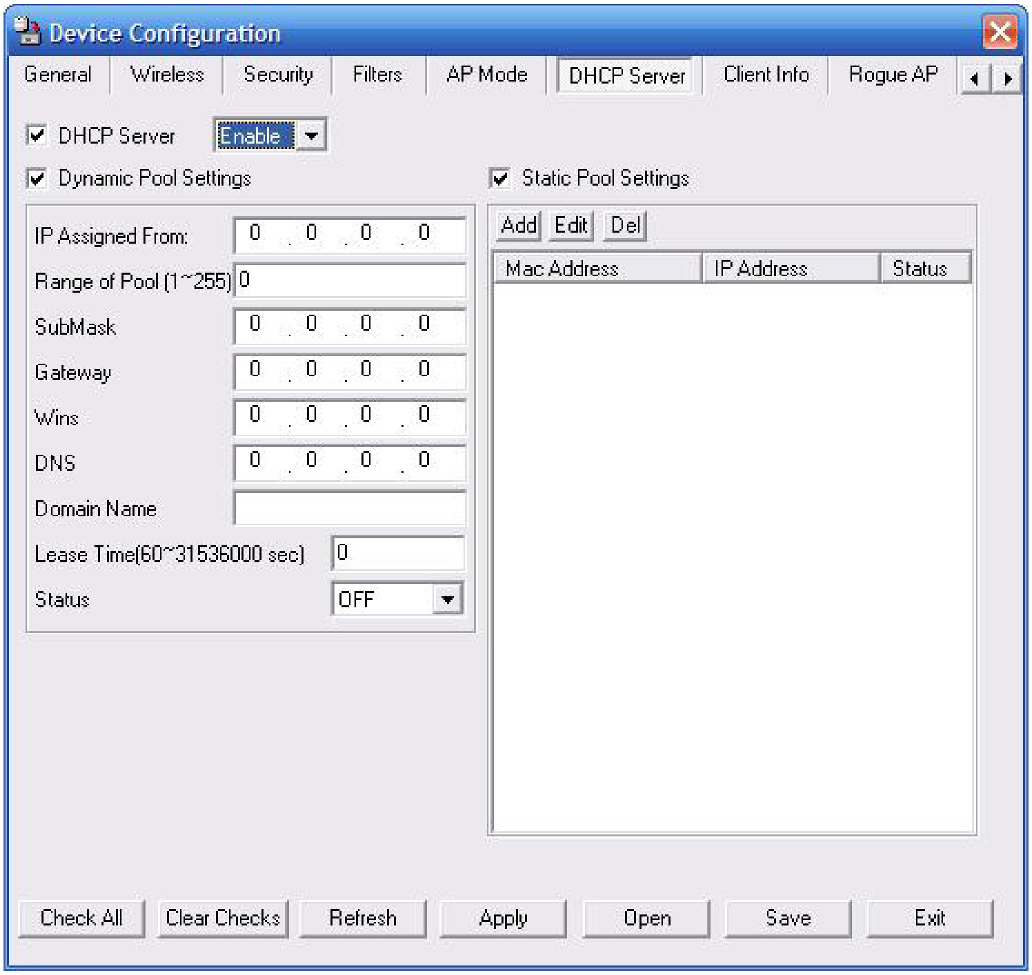
00:11:95:e0:f9:c0

IEEE802.11g

☑ AP mode: Access Point

WDS: A Wireless Distribution System that interconnects so called Basic Service Sets (BSS). It bridges two or more wired networks together over wireless. The **DWL-8200AP** wirelessly connects multiple networks without functioning as a wireless AP.

DHCP Server



☑ DHCP Server: Enable

☑ Dynamic Pool Settings

IP Assigned From: 0 . 0 . 0 . 0

Range of Pool (1~255): 0

SubMask: 0 . 0 . 0 . 0

Gateway: 0 . 0 . 0 . 0

Wins: 0 . 0 . 0 . 0

DNS: 0 . 0 . 0 . 0

Domain Name:

Lease Time(60~31536000 sec): 0

Status: OFF

☑ Static Pool Settings

DHCP Server: Enable or disable the DHCP server function.

Dynamic Pool Settings: Click to enable Dynamic Pool Settings. Configure the IP address pool in the fields below.

Static Pool Settings: Click to enable Static Pool Settings. Use this function to assign the same IP address to a device at every restart. The IP addresses assigned in the Static Pool list must NOT be in the same IP range as the Dynamic Pool.

IP Assigned From: Enter the initial IP address to be assigned by the DHCP server.

Range of Pool (1~255): Enter the number of allocated IP addresses.

SubMask: Enter the subnet mask.

Gateway: Enter the gateway IP address, typically a router.

Wins: Wins (Windows Internet Naming Service) is a system that determines the IP address of a network computer with a dynamically assigned IP address, if applicable.

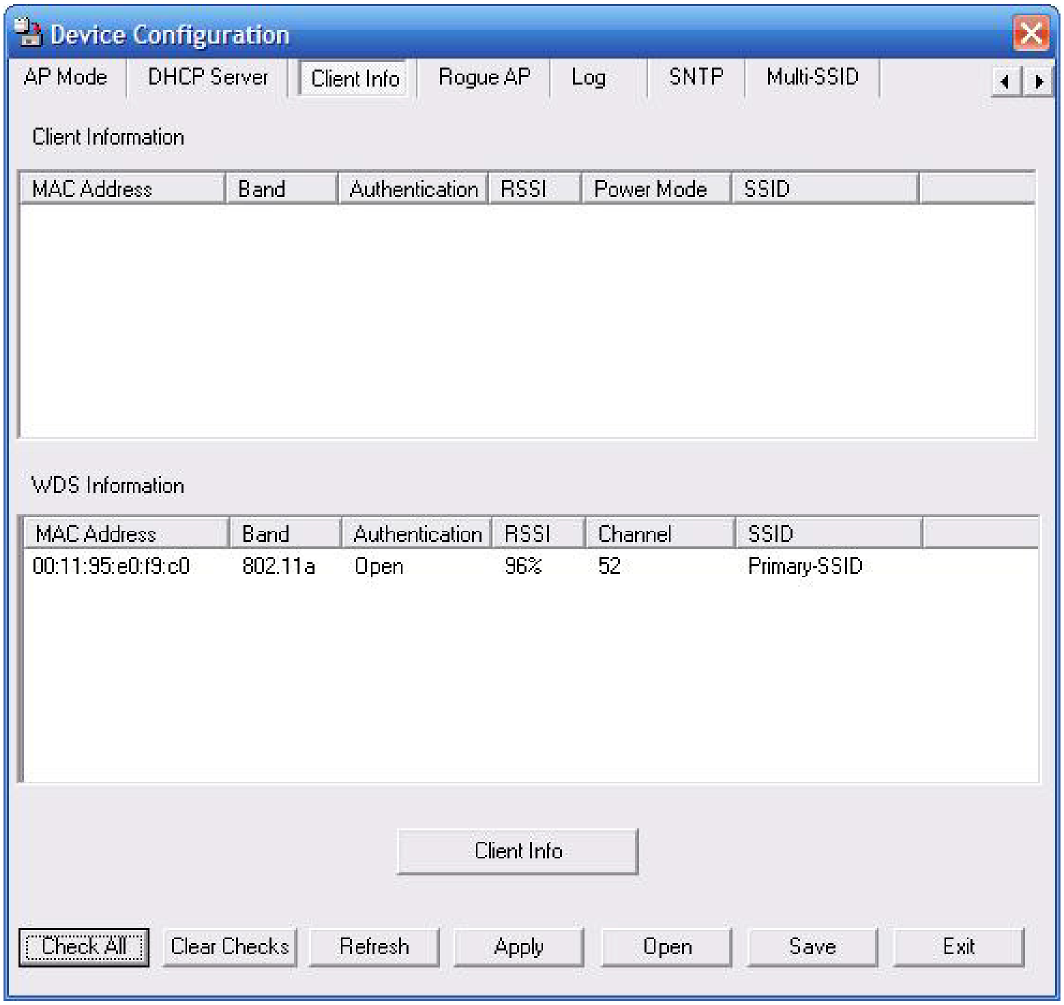
DNS: The IP address of the DNS server, if applicable.

Domain Name: Enter the domain name of the **DWL-8200AP**, if applicable.

Lease Time: The period of time that the client will retain the assigned IP address.

Status: This option turns the dynamic pool settings on or off.

Client Info



Client Information

MAC Address	Band	Authentication	RSSI	Power Mode	SSID

WDS Information

MAC Address	Band	Authentication	RSSI	Channel	SSID
00:11:95:e0:f9:c0	802.11a	Open	96%	52	Primary-SSID

MAC Address: Displays the MAC address of the client.

Band: Displays the wireless band.

Authentication: Displays the type of authentication that is enabled.

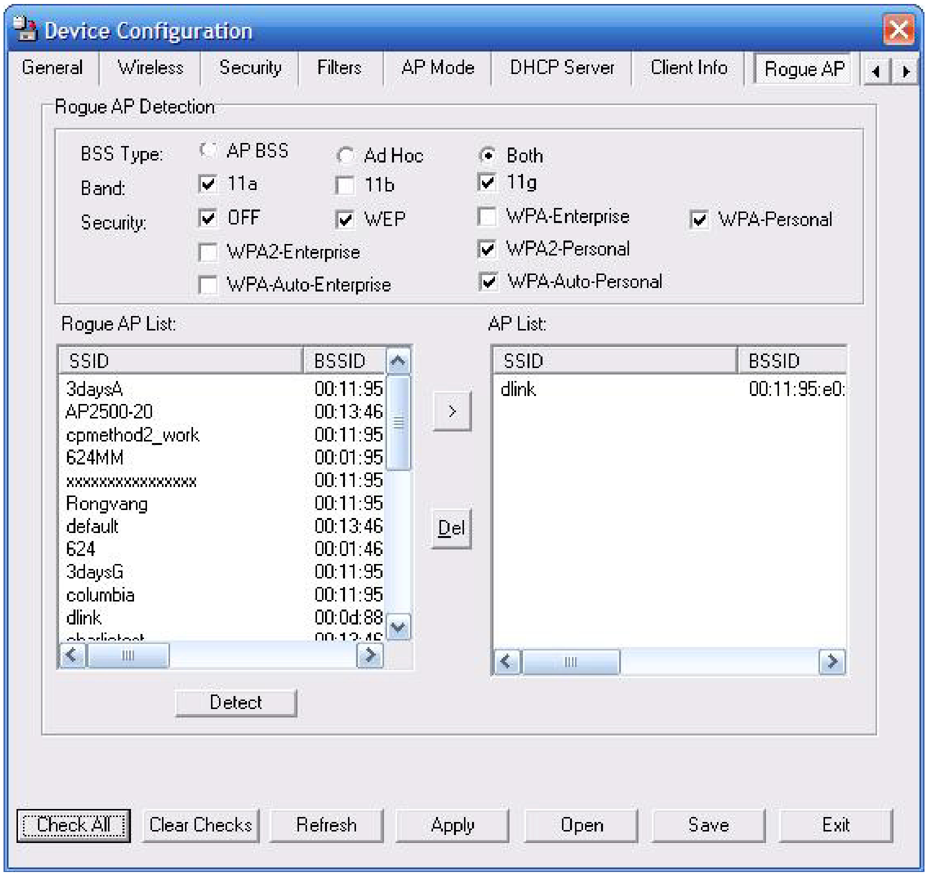
RSSI: Indicates the strength of the signal

Power Mode: Displays the status of the power saving feature.

Channel: Display the channel used.

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.

Rogue AP



BSS Type: ○ AP BSS ○ Ad Hoc ● Both

Band: ☑ 11a □ 11b ☑ 11g

Security: ☑ OFF ☑ WEP □ WPA-Enterprise ☑ WPA-Personal □ WPA2-Enterprise ☑ WPA2-Personal □ WPA-Auto-Enterprise ☑ WPA-Auto-Personal

Rogue AP List:

SSID	BSSID
3daysA	00:11:95
AP2500-20	00:13:46
cpmethod2_work	00:11:95
624MM	00:01:95
xxxxxxxxxxxxxxxx	00:11:95
Rongvang	00:11:95
default	00:13:46
624	00:01:46
3daysG	00:11:95
columbia	00:11:95
dlink	00:0d:88

AP List:

SSID	BSSID
dlink	00:11:95:e0:

BSS Type: The Basic Service Set Type allows you to select from **AP BSS**, **Ad Hoc**, or **Both**.

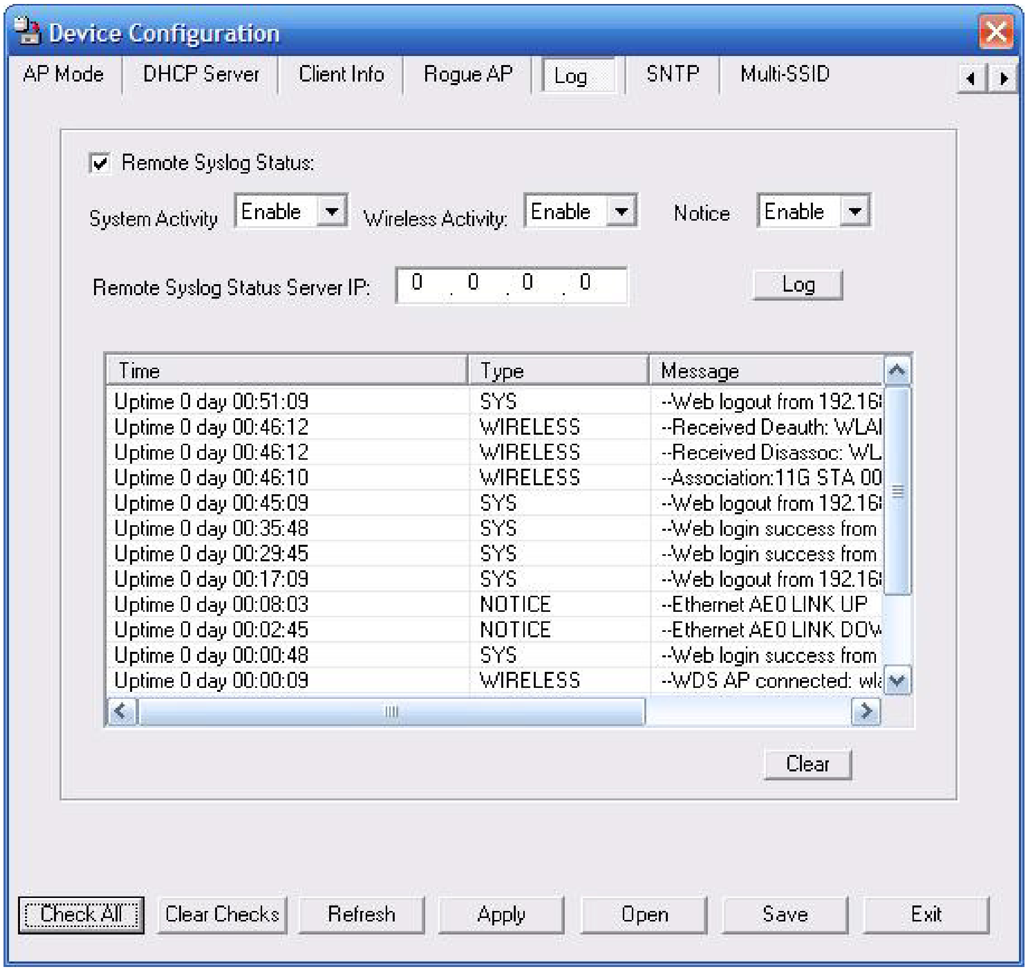
Band: Select the type of network (bands **11a**, **11b**, and **11g)** that you would like the AP detection to search on.

Security: Select the Security type - **Off**, **WEP**, **WPA-Enterprise**, **WPA-Personal, WPA2-Enterprise, WPA2-Personal, WPA-Auto-Enterprise, and WPA2-Auto-Personal** that you would like to be consider during AP detection.

Rogue AP List: This window shows all of the neighbor APs detected, which is based on your criteria from above (BSS Type, Band, and Security). If the AP is in the same network, or if you know the AP, just click on "**>**" to save it to the AP list.

AP List: This window shows all of the APs that are allowed access on the network.

Log



☑ Remote Syslog Status:

System Activity: Enable

Wireless Activity: Enable

Notice: Enable

Remote Syslog Status Server IP: 0 . 0 . 0 . 0

Time	Type	Message
Uptime 0 day 00:51:09	SYS	--Web logout from 192.16
Uptime 0 day 00:46:12	WIRELESS	--Received Deauth: WLAI
Uptime 0 day 00:46:12	WIRELESS	--Received Disassoc: WL
Uptime 0 day 00:46:10	WIRELESS	--Association:11G STA 00
Uptime 0 day 00:45:09	SYS	--Web logout from 192.16
Uptime 0 day 00:35:48	SYS	--Web login success from
Uptime 0 day 00:29:45	SYS	--Web login success from
Uptime 0 day 00:17:09	SYS	--Web logout from 192.16
Uptime 0 day 00:08:03	NOTICE	--Ethernet AE0 LINK UP
Uptime 0 day 00:02:45	NOTICE	--Ethernet AE0 LINK DOV
Uptime 0 day 00:00:48	SYS	--Web login success from
Uptime 0 day 00:00:09	WIRELESS	--WDS AP connected: wl

RemoteSyslogStatus: Check this option to enable the log and the Remote Syslog Status Server IP.

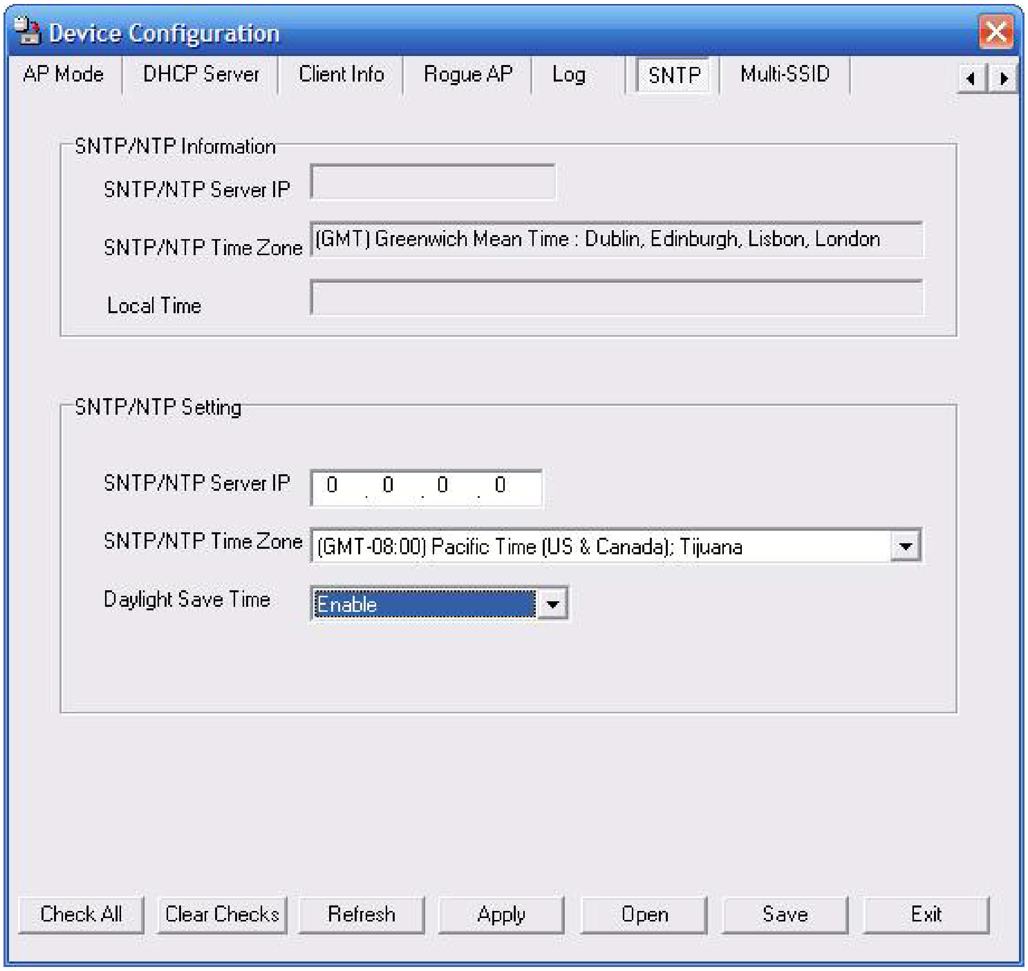
System Activity: Select **Enable** to allow the logging of system actions, such as logging a firmware upgrade.

Wireless Activity: Select **Enable** to allow the logging of any wireless clients that connect to the AP.

Notice: Select **Enable** to allow all other information to be logged.

Remote Syslog Status Server IP: If you require more space to hold your logs, please provide the IP address of the Server that will store your logs. The embedded memory can only have up to 500 logs.

SNTP



SNTP/NTP Information

SNTP/NTP Server IP:

SNTP/NTP Time Zone: (GMT) Greenwich Mean Time : Dublin, Edinburgh, Lisbon, London

Local Time:

SNTP/NTP Setting

SNTP/NTP Server IP: 0 . 0 . 0 . 0

SNTP/NTP Time Zone: (GMT-08:00) Pacific Time (US & Canada); Tijuana

Daylight Save Time: Enable

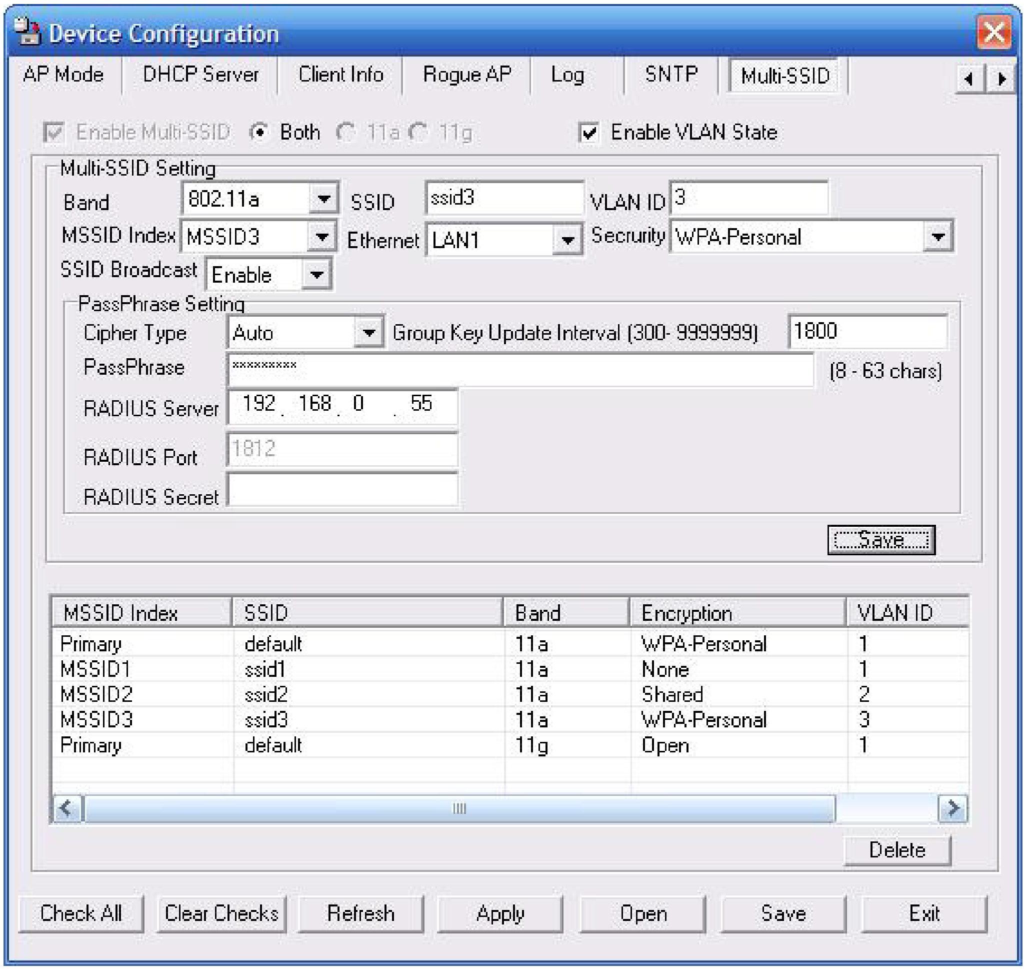
SNTP/NTP Information: The time server IP address, time zone, and the local time will be displayed here.

Server IP Address: Enter the IP address of a SNTP/NTP server.

Time Zone: Select your time zone from the drop-down menu.

Daylight Saving Time: Check the box to enable daylight savings time.

Multi-SSID



☑ Enable Multi-SSID ● Both ○ 11a ○ 11g ☑ Enable VLAN State

Multi-SSID Setting

Band: 802.11a SSID: ssid3 VLAN ID: 3

MSSID Index: MSSID3 Ethernet: LAN1 Security: WPA-Personal

SSID Broadcast: Enable

PassPhrase Setting

Cipher Type: Auto Group Key Update Interval (300- 9999999): 1800

PassPhrase: ********* (8 - 63 chars)

RADIUS Server: 192 . 168 . 0 . 55

RADIUS Port: 1812

RADIUS Secret:

MSSID Index	SSID	Band	Encryption	VLAN ID
Primary	default	11a	WPA-Personal	1
MSSID1	ssid1	11a	None	1
MSSID2	ssid2	11a	Shared	2
MSSID3	ssid3	11a	WPA-Personal	3
Primary	default	11g	Open	1

Enable Multi-SSID: When Multi-SSID is enabled, you can configure your SSIDs for either **Both**, **11a** only, or **11g** only networks.

Enable VLAN: Check to use VLAN.

Band: Select the wireless band (**IEEE802.11a** or **IEEE802.11g**).

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

VLAN ID: Enter a VLAN number (0 - 4094).

MSSID Index: You can select up to 7 MSSIDs per band, the default MSSID is the primary, which puts the total to 8 MSSIDs per band.

Ethernet: Select “**Main**” if you wish to configure the network on LAN 1 (PoE). Select “**Guest**” to set up the network on LAN 2.

Security: Select the security level from the drop-down menu.

SSID Broadcast: For each SSID, select to enable or disable the broadcast of the SSID.

WEP Encryption

Key Index: Select which defined key is active on the selected device(s).

WEP Key: In the first drop-down menu select **HEX** or **ASCII**. Select the level of encryption (64, 128, or 162-bit) from the second drop-down box, and then enter the WEP key in the box.

WPA/WPA2 Personal

Cipher Type: Select **Auto**, **AES**, or **TKIP**.

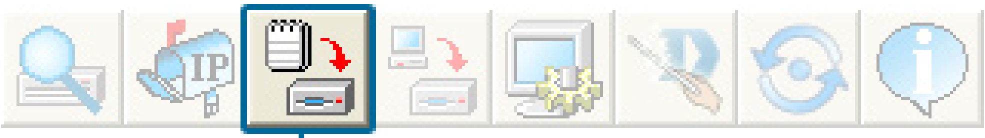
Group Key Update Inteval: Enter the Group Key Interval (1800 is default).

Passphrase: Enter the WPA passphrase (between 8-63 characters).

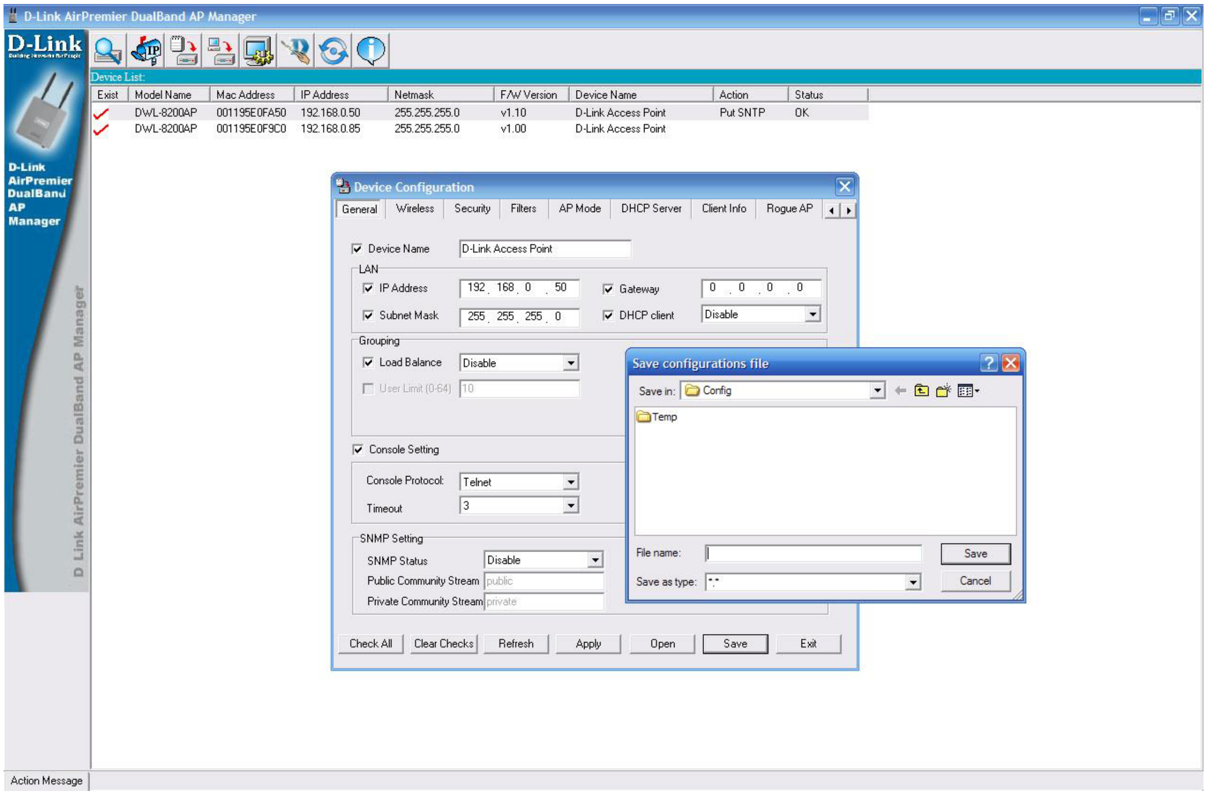
Configuration Files

The **DWL-8200AP** allows you to save the device settings to a configuration file. To save a configuration file follow these steps:

- Select a device from the Device List on the main screen of the AP Manager.
- Click the device configuration button.
- Click the Save button after you have all the settings as you want them.
- A popup window will appear prompting you for a file name and location. Enter the file name, choose a file destination, and click Save.



Device Configuration button.



D-Link AirPremier DualBand AP Manager
D-Link
D-Link AirPremier DualBand AP Manager
D Link AirPremier DualBand AP Manager

Device List:

Exist	Model Name	Mac Address	IP Address	Netmask	F/W Version	Device Name	Action	Status
✓	DWL-8200AP	001195E0FA50	192.168.0.50	255.255.255.0	v1.10	D-Link Access Point	Put SNTP	OK
✓	DWL-8200AP	001195E0F9C0	192.168.0.85	255.255.255.0	v1.00	D-Link Access Point		

Device Configuration

General
Wireless
Security
Filters
AP Mode
DHCP Server
Client Info
Rogue AP

☑ Device Name: D-Link Access Point

LAN

☑ IP Address: 192 . 168 . 0 . 50

☑ Gateway: 0 . 0 . 0 . 0

☑ Subnet Mask: 255 . 255 . 255 . 0

☑ DHCP client: Disable

Grouping

☑ Load Balance: Disable

□ User Limit (0-64): 10

☑ Console Setting

Console Protocol: Telnet

Timeout: 3

SNMP Setting

SNMP Status: Disable

Public Community Stream: public

Private Community Stream: private

Save configurations file

Save in: Config

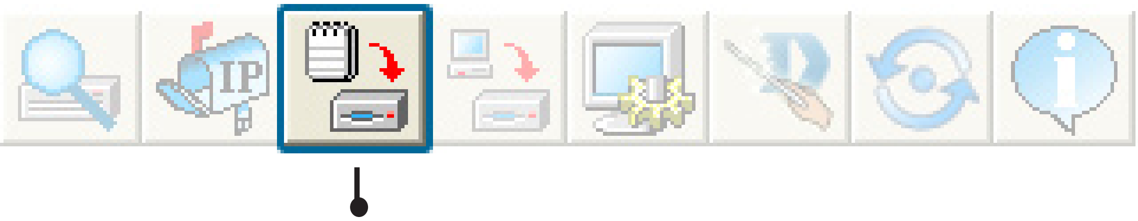
Temp

File name:

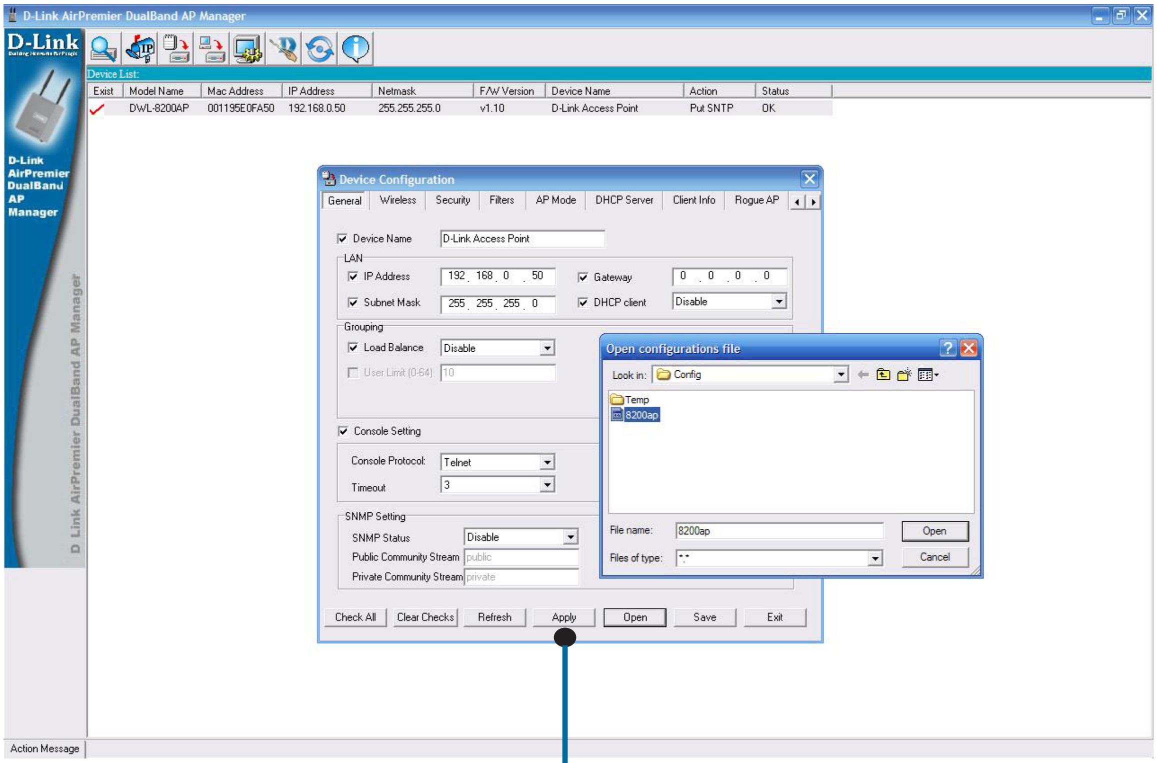
Save as type: *.*

To load a previously saved configuration file, follow these steps:

- Select a device from the Device List on the main screen of the AP Manager.
- Click the device configuration button.
- Click the **Open** button.
- A popup window will appear prompting you to locate the configuration file. Locate the file and click **Open**.
- The configuration file is loaded into the AP Manager but has not actually been written to the device(s). If you want to use the newly loaded configuration for the selected device(s), click **Apply** and the configuration settings will be written to the device(s).



Device Configuration button.



D-Link AirPremier DualBand AP Manager

Device List:

Exist	Model Name	Mac Address	IP Address	Netmask	F/W Version	Device Name	Action	Status
✓	DWL-8200AP	001195E0FA50	192.168.0.50	255.255.255.0	v1.10	D-Link Access Point	Put SNTP	OK

Device Configuration

General | Wireless | Security | Filters | AP Mode | DHCP Server | Client Info | Rogue AP

☑ Device Name: D-Link Access Point

LAN

☑ IP Address: 192 . 168 . 0 . 50

☑ Gateway: 0 . 0 . 0 . 0

☑ Subnet Mask: 255 . 255 . 255 . 0

☑ DHCP client: Disable

Grouping

☑ Load Balance: Disable

□ User Limit (0-64): 10

☑ Console Setting

Console Protocol: Telnet

Timeout: 3

SNMP Setting

SNMP Status: Disable

Public Community Stream: public

Private Community Stream: private

Open configurations file

Look in: Config

Temp

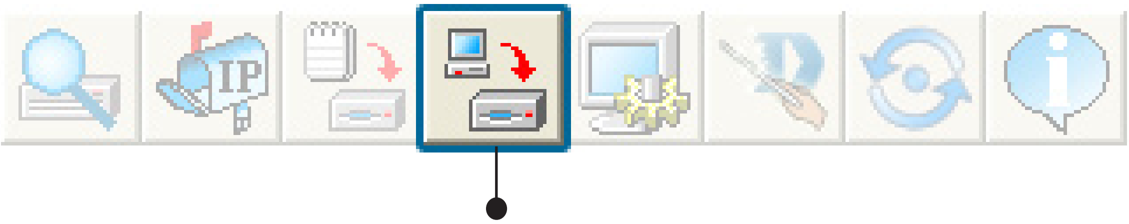
8200ap

File name: 8200ap

Files of type: *.*

You must always click **Apply** in the Configuration window if you want the settings to take effect.

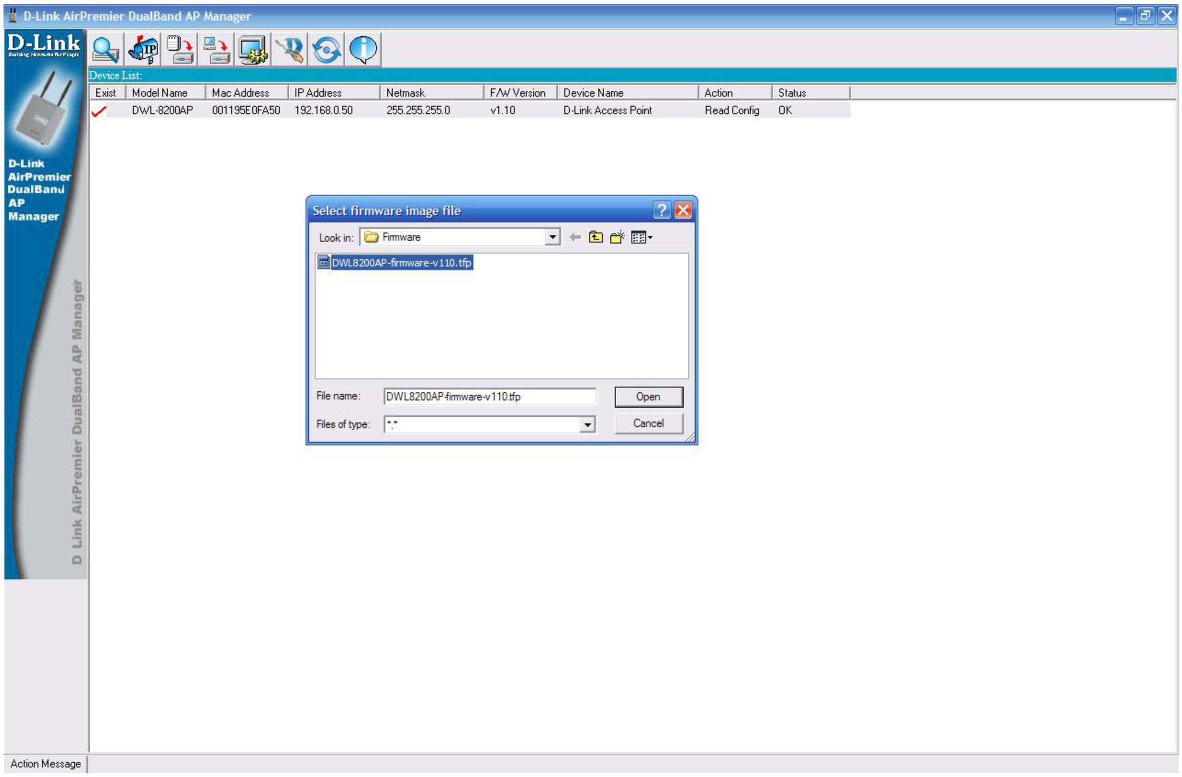
Firmware Upgrade



You can upgrade the firmware by clicking on this button after selecting the device(s).

To upgrade the firmware:

- Download the latest firmware upgrade from http://support.dlink.com to an easy to find location on your hard drive.
- Click on the firmware button as shown above.
- A popup window will appear. Locate the firmware upgrade file and click **Open**.



D-Link AirPremier DualBand AP Manager

Device List:

Exist	Model Name	Mac Address	IP Address	Netmask	F/W Version	Device Name	Action	Status
✓	DWL-8200AP	001195E0FA50	192.168.0.50	255.255.255.0	v1.10	D-Link Access Point	Read Config	OK

Select firmware image file

Look in: Firmware

DWL8200AP-firmware-v110.tfp

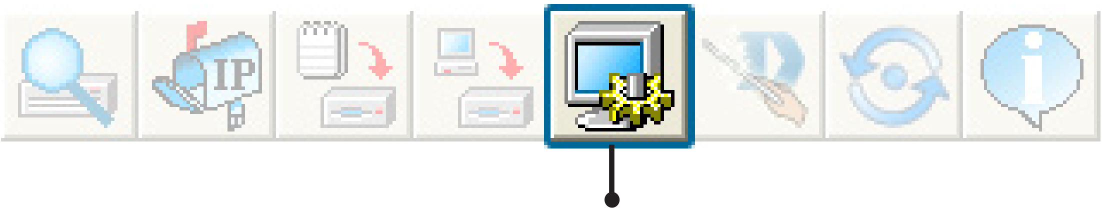
File name: DWL8200AP-firmware-v110.tfp

Files of type: *.*

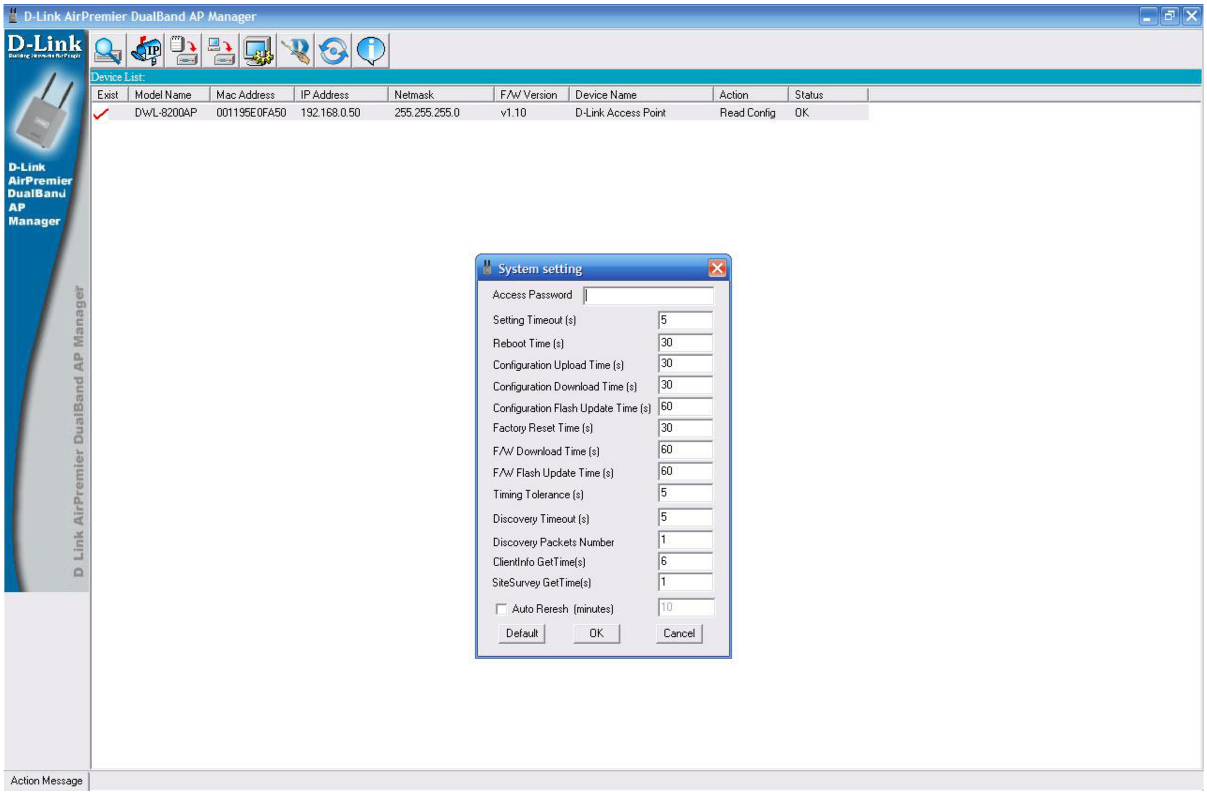
D-Link
Building Networks for People
D-Link AirPremier DualBand AP Manager
Open
Cancel
Action Message

IMPORTANT! DO NOT DISCONNECT POWER FROM THE UNIT WHILE THE FIRMWARE IS BEING UPGRADED.

System Settings



You can customize the basic System Settings for the **DWL-8200AP** by clicking on this button.



D-Link AirPremier DualBand AP Manager
D-Link
Building Networks for People
D-Link AirPremier DualBand AP Manager
D Link AirPremier DualBand AP Manager
Device List:
Action Message

Exist	Model Name	Mac Address	IP Address	Netmask	F/W Version	Device Name	Action	Status
✓	DWL-8200AP	001195E0FA50	192.168.0.50	255.255.255.0	v1.10	D-Link Access Point	Read Config	OK

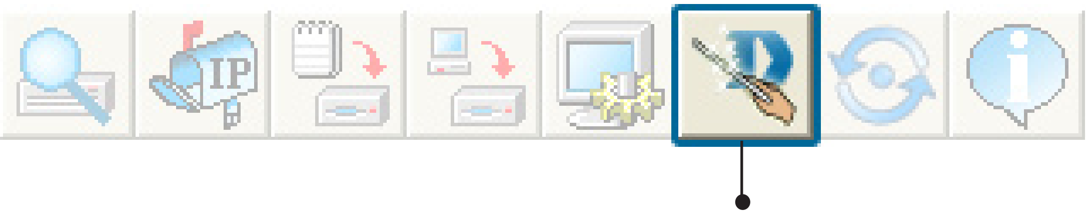
System setting

Access Password	
Setting Timeout (s)	5
Reboot Time (s)	30
Configuration Upload Time (s)	30
Configuration Download Time (s)	30
Configuration Flash Update Time (s)	60
Factory Reset Time (s)	30
F/W Download Time (s)	60
F/W Flash Update Time (s)	60
Timing Tolerance (s)	5
Discovery Timeout (s)	5
Discovery Packets Number	1
ClientInfo GetTime(s)	6
SiteSurvey GetTime(s)	1
☐ Auto Reresh (minutes)	10

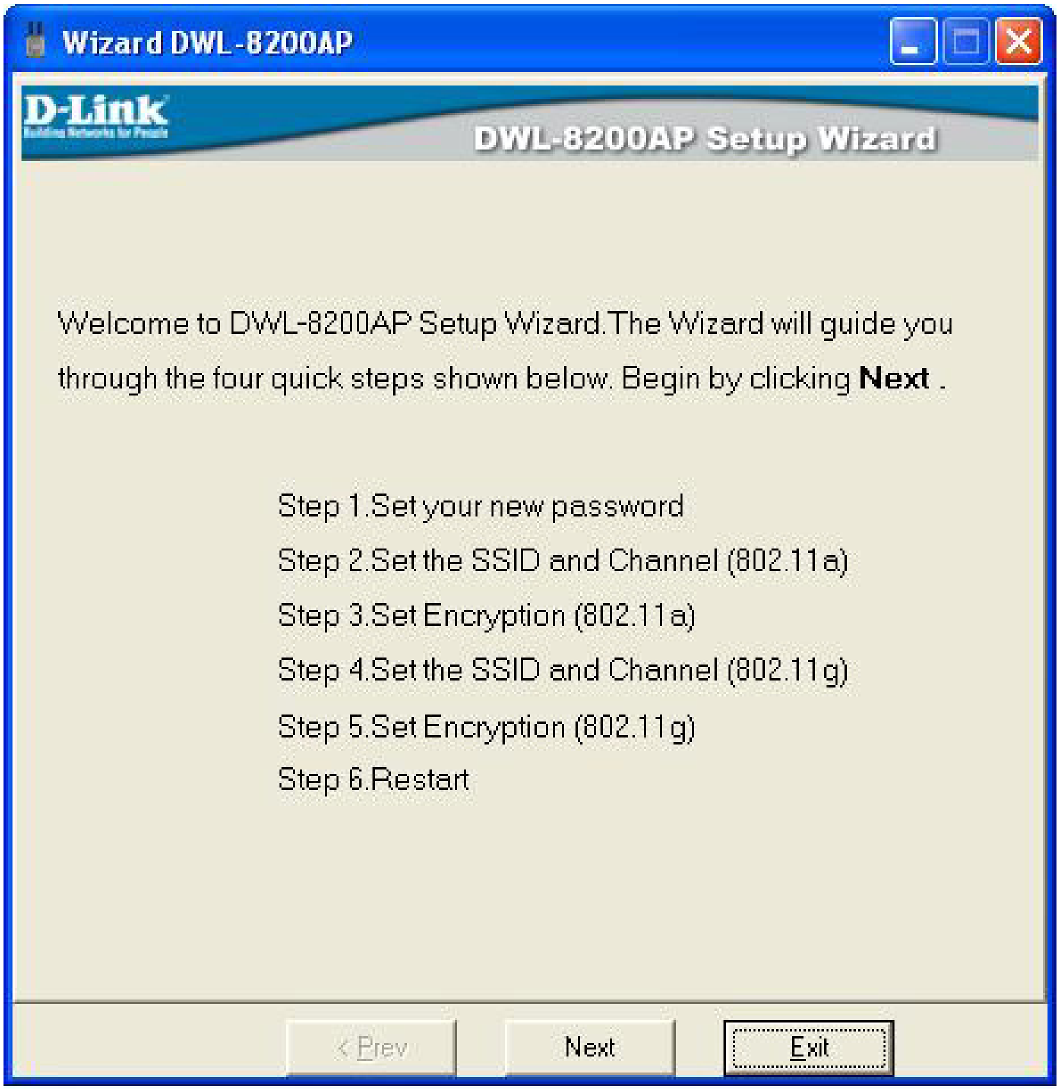
- **Access Password**: This sets the admin password for the selected device(s).
- **Auto Refresh**: This setting allows you to enable auto refreshing of the network device list. By default this option is disabled. If you choose to enable it, you must enter the refresh interval in seconds.

All other settings on this screen should be left at the default setting.

Setup Wizard



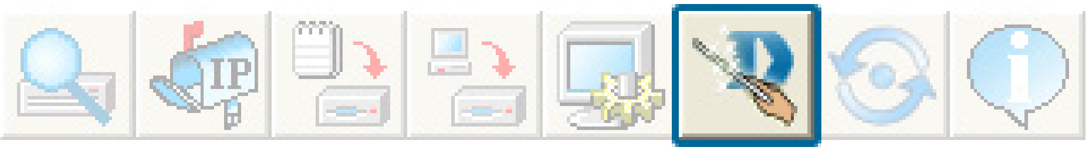
This button will launch the Setup Wizard that will guide you through device configuration.



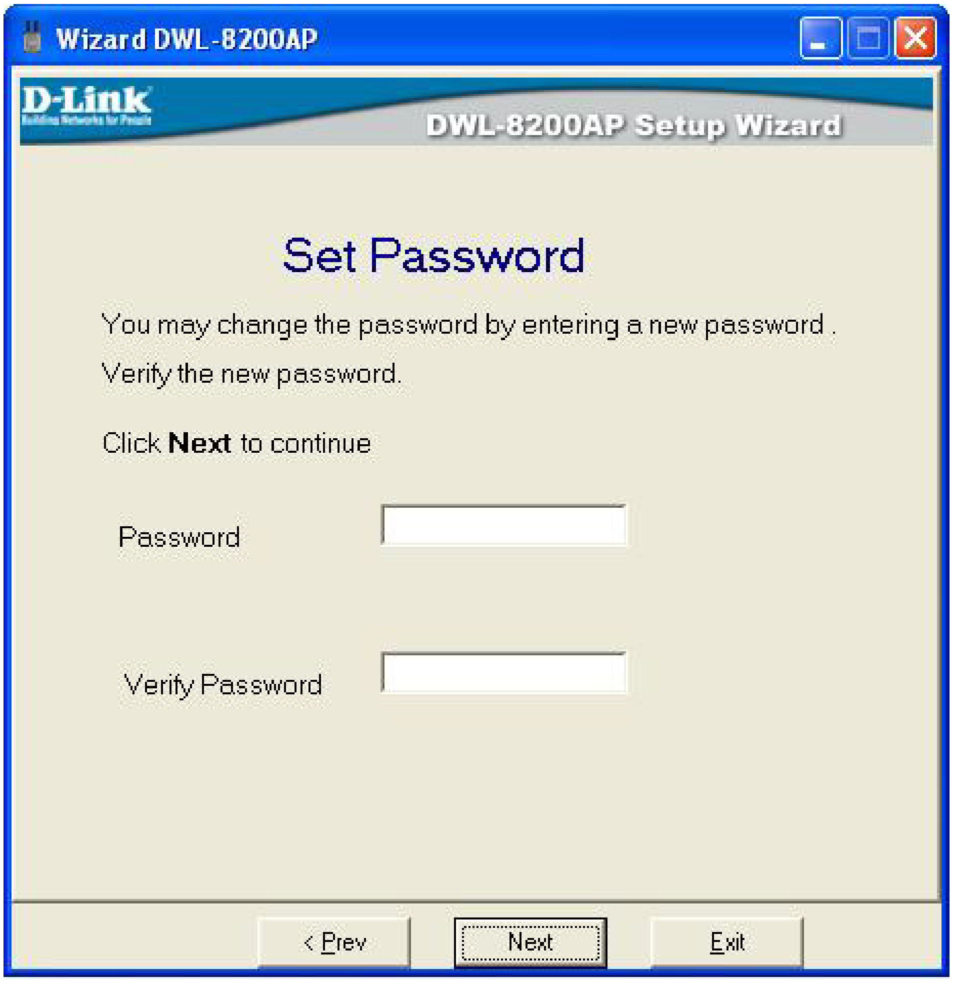
Welcome to DWL-8200AP Setup Wizard.The Wizard will guide you through the four quick steps shown below. Begin by clicking **Next** .

Step 1.Set your new password
Step 2.Set the SSID and Channel (802.11a)
Step 3.Set Encryption (802.11a)
Step 4.Set the SSID and Channel (802.11g)
Step 5.Set Encryption (802.11g)
Step 6.Restart

Click **Next.**



Enter a **Password** and retype it in the V**erify Password** field.



Set Password

You may change the password by entering a new password .

Verify the new password.

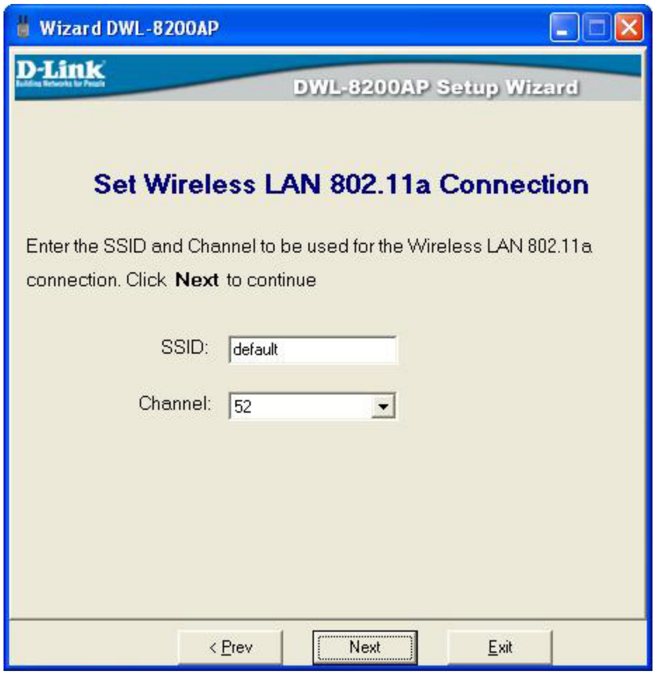
Click **Next** to continue

Password

Verify Password

Click **Next**.

Enter the **SSID** and the **Channel** for the IEEE 802.11a network.


Wizard DWL-8200AP

D-Link

DWL-8200AP Setup Wizard

Set Wireless LAN 802.11a Connection

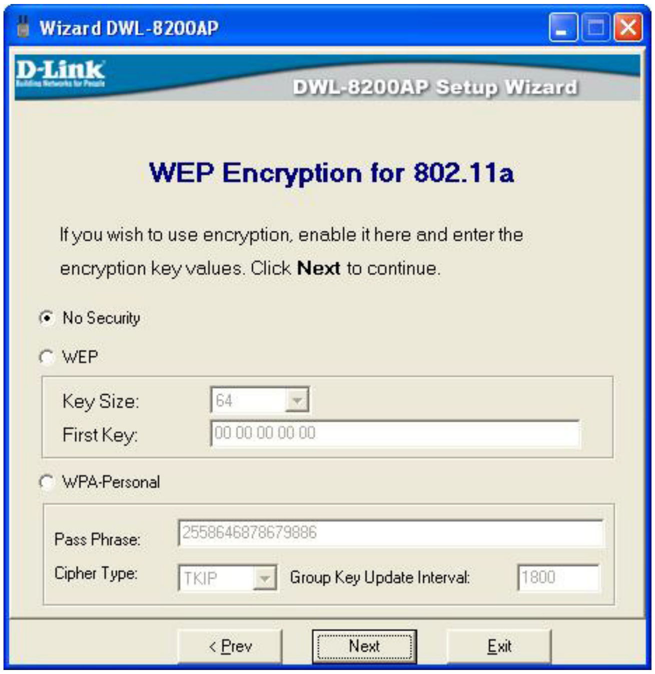
Enter the SSID and Channel to be used for the Wireless LAN 802.11a connection. Click **Next** to continue

SSID: default

Channel: 52

Click **Next**.

Select **No Security,** if you do not require a method of encryption.


Wizard DWL-8200AP

D-Link

DWL-8200AP Setup Wizard

WEP Encryption for 802.11a

If you wish to use encryption, enable it here and enter the encryption key values. Click **Next** to continue.

● No Security

○ WEP

Key Size: 64

First Key: 00 00 00 00 00

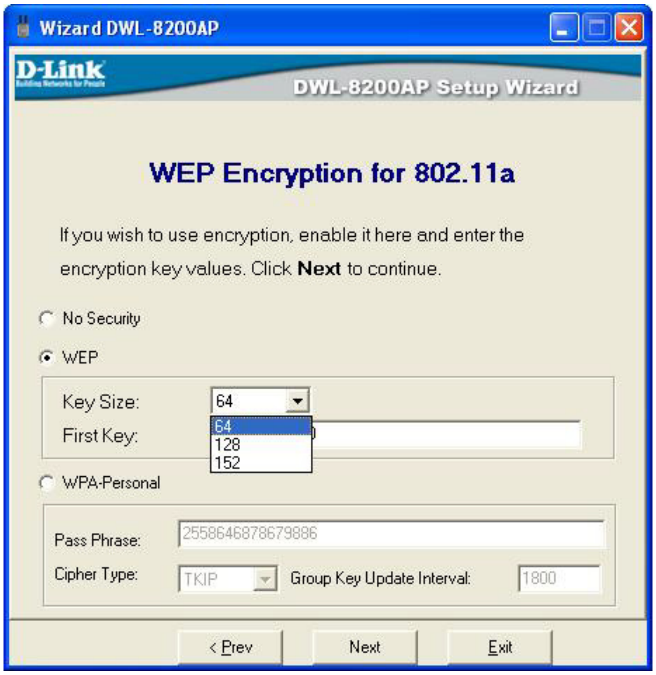
○ WPA-Personal

Pass Phrase: 2558646878679886

Cipher Type: TKIP Group Key Update Interval: 1800

Click **Next**.

Select **WEP**, as your method of encryption. A **Key Size** and **First Key** value are required.


Wizard DWL-8200AP

DWL-8200AP Setup Wizard

WEP Encryption for 802.11a

If you wish to use encryption, enable it here and enter the encryption key values. Click **Next** to continue.

○ No Security

● WEP

Key Size: 64 (64, 128, 152)

First Key:

○ WPA-Personal

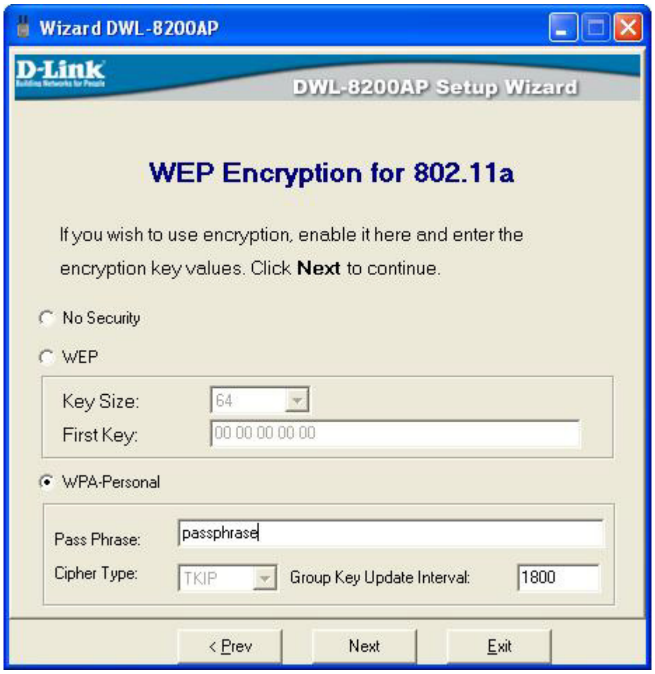
Pass Phrase: 2558646878679886

Cipher Type: TKIP

Group Key Update Interval: 1800

Click **Next**.

Select **WPA-Personal**, as your method of encryption. A **Pass Phrase**, and **Group Key Update Interval** are required.


Wizard DWL-8200AP

DWL-8200AP Setup Wizard

WEP Encryption for 802.11a

If you wish to use encryption, enable it here and enter the encryption key values. Click **Next** to continue.

○ No Security

○ WEP

Key Size: 64

First Key: 00 00 00 00 00

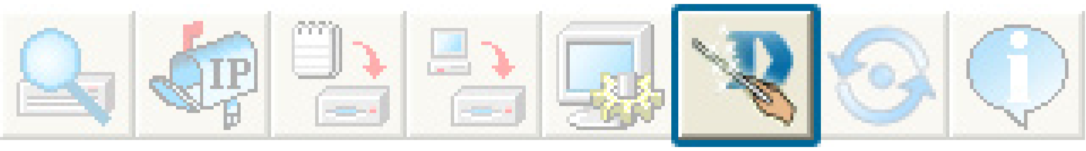
● WPA-Personal

Pass Phrase: passphrase

Cipher Type: TKIP

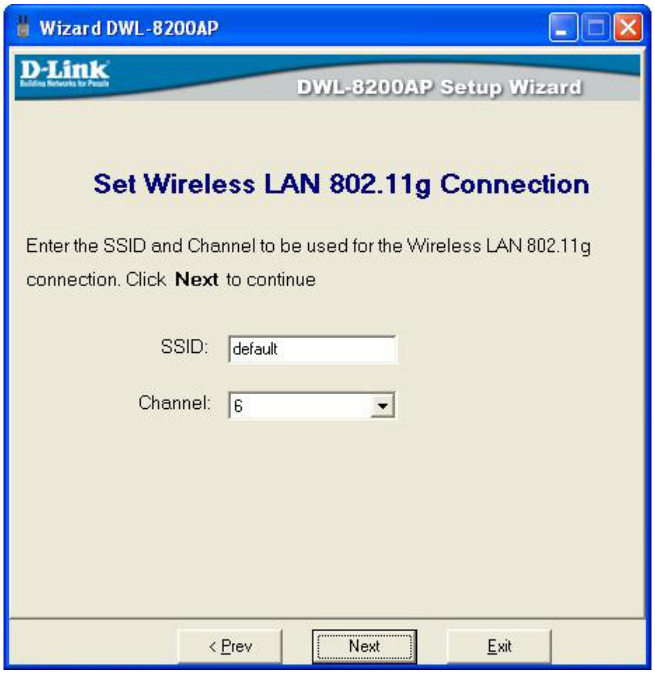
Group Key Update Interval: 1800

Click **Next**.



Enter the **SSID** and the **Channel** for the IEEE 802.11g network.

Click **Next**.



Set Wireless LAN 802.11g Connection

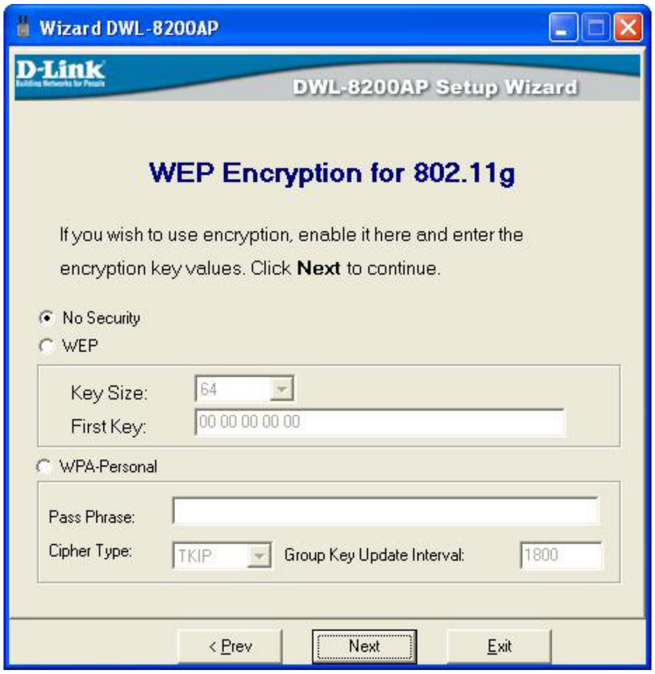
Enter the SSID and Channel to be used for the Wireless LAN 802.11g connection. Click **Next** to continue

SSID: default

Channel: 6

Select **No Security,** if you do not require a method of encryption.

Click **Next**.



WEP Encryption for 802.11g

If you wish to use encryption, enable it here and enter the encryption key values. Click **Next** to continue.

● No Security

○ WEP

Key Size: 64

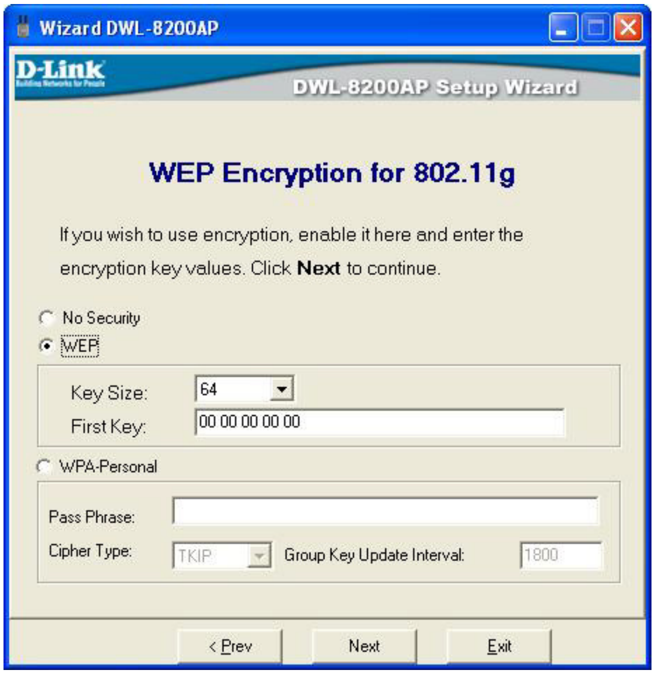
First Key: 00 00 00 00 00

○ WPA-Personal

Pass Phrase:

Cipher Type: TKIP Group Key Update Interval: 1800

Select **WEP**, as your method of encryption. A **Key Size** and **First Key** value are required.



WEP Encryption for 802.11g

If you wish to use encryption, enable it here and enter the encryption key values. Click **Next** to continue.

○ No Security
● WEP

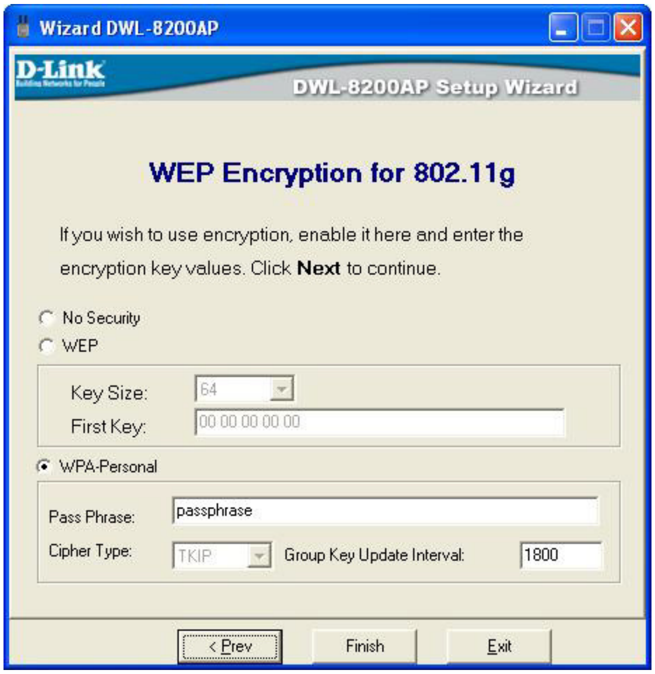
Key Size: 64
First Key: 00 00 00 00 00

○ WPA-Personal

Pass Phrase:
Cipher Type: TKIP Group Key Update Interval: 1800

Click **Next**.

Select **WPA-Personal**, as your method of encryption. A **Pass Phrase**, and **Group Key Update Interval** are required.



WEP Encryption for 802.11g

If you wish to use encryption, enable it here and enter the encryption key values. Click **Next** to continue.

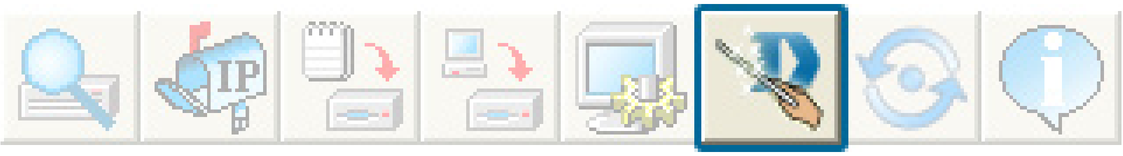
○ No Security
○ WEP

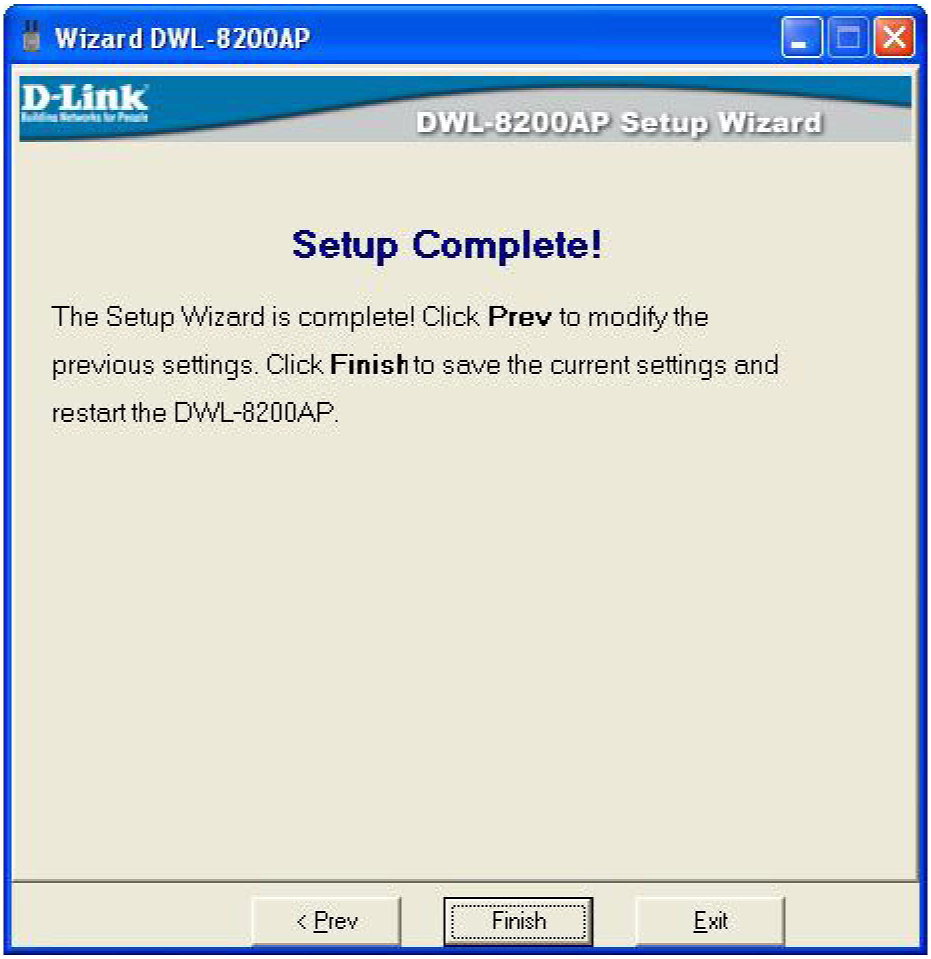
Key Size: 64
First Key: 00 00 00 00 00

● WPA-Personal

Pass Phrase: passphrase
Cipher Type: TKIP Group Key Update Interval: 1800

Click **Next**.





Wizard DWL-8200AP

D-Link

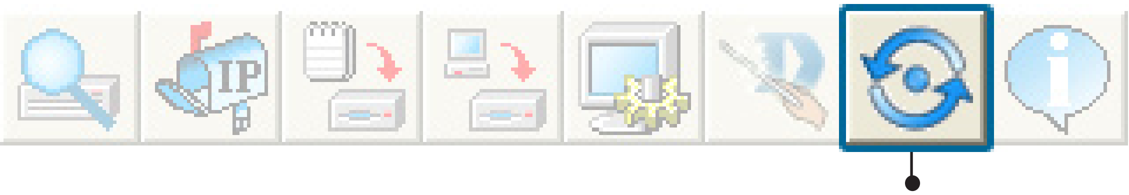
DWL-8200AP Setup Wizard

Setup Complete!

The Setup Wizard is complete! Click **Prev** to modify the previous settings. Click **Finish** to save the current settings and restart the DWL-8200AP.

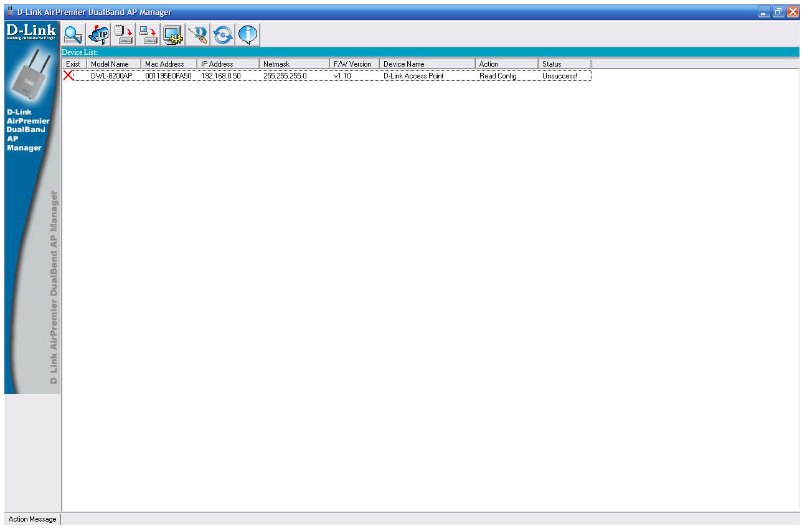
The **DWL-8200AP** setup is complete!

Refresh



Click on this button to **refresh the list of devices** available on the network.

Devices with a checkmark next to them are still available on the network. Devices with an X are no longer available on the network.



D-Link AirPremier DualBand AP Manager

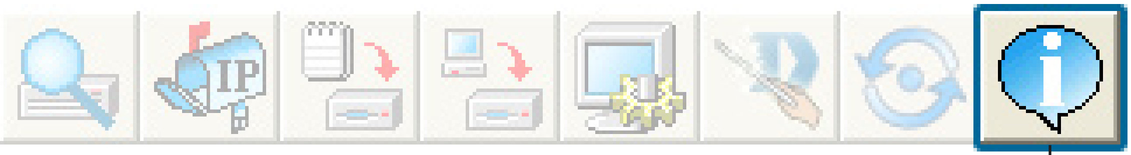
Device List:

Exist	Model Name	Mac Address	IP Address	Netmask	F/W Version	Device Name	Action	Status
✗	DWL-8200AP	001195E0FA50	192.168.0.50	255.255.255.0	v1.10	D-Link Access Point	Read Config	Unsuccess!

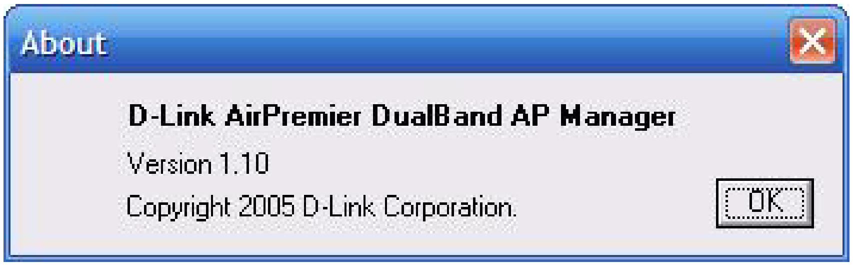
Action Message

D-Link
Building Networks for People
D-Link AirPremier DualBand AP Manager
D Link AirPremier DualBand AP Manager

About



Click on this button to view the version of AP Manager.



About

D-Link AirPremier DualBand AP Manager

Version 1.10

Copyright 2005 D-Link Corporation.

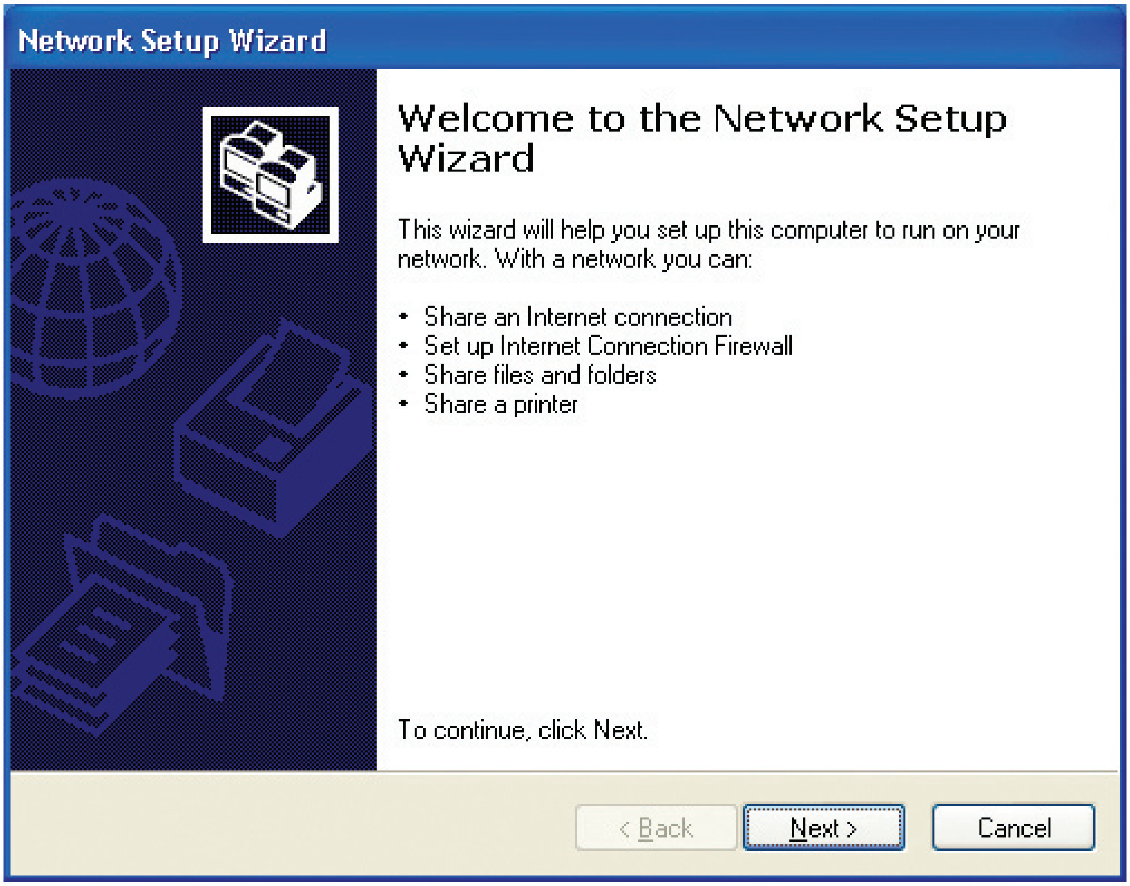
Networking Basics

Using the Network Setup Wizard in Windows® XP

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

Note: Please refer to websites such as http://www.homenethelp.com and http://www.microsoft.com/windows2000 for information about networking computers using Windows® 2000.

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



Welcome to the Network Setup Wizard

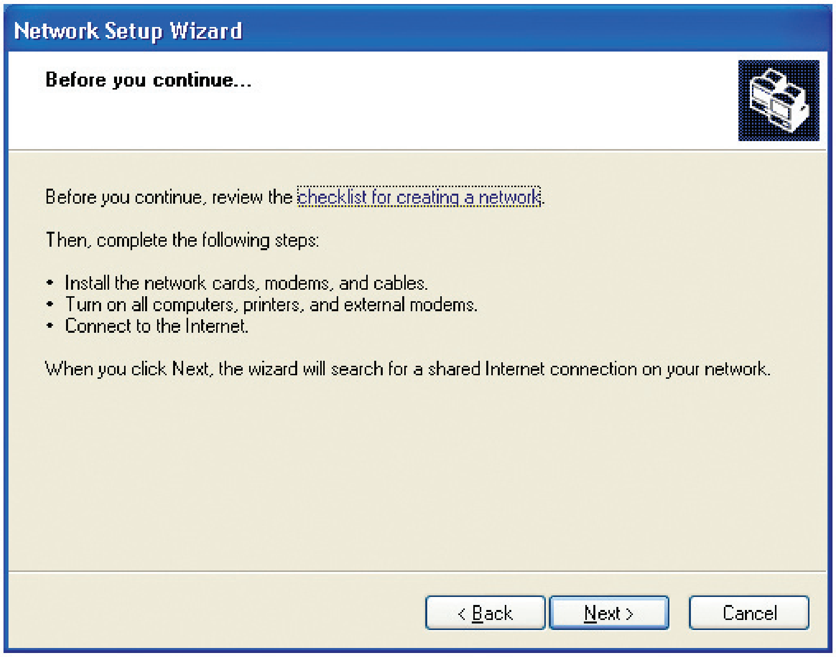
This wizard will help you set up this computer to run on your network. With a network you can:

- Share an Internet connection
- Set up Internet Connection Firewall
- Share files and folders
- Share a printer

To continue, click Next.

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

Please follow all the instructions in this window:



Network Setup Wizard

Before you continue...

Before you continue, review the checklist for creating a network.

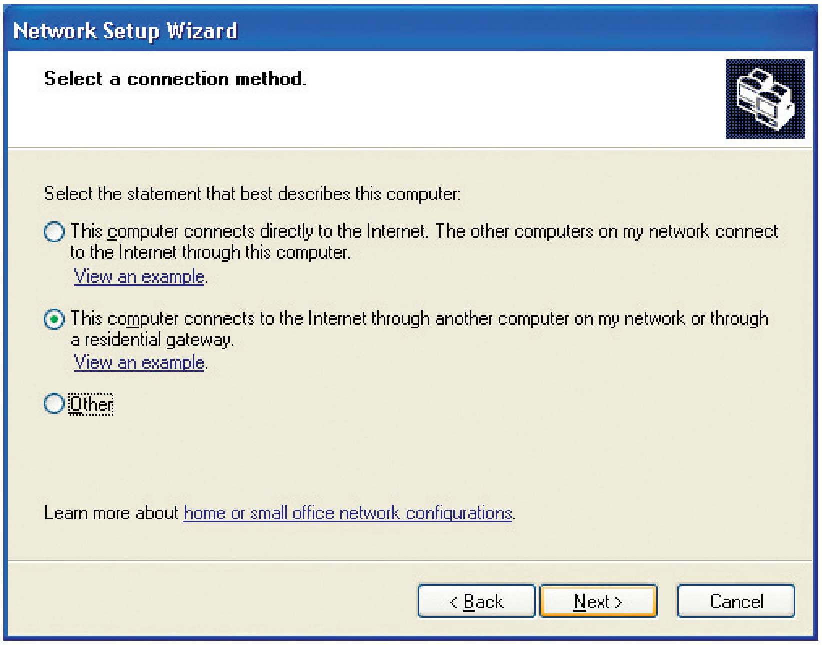
Then, complete the following steps:

- Install the network cards, modems, and cables.
- Turn on all computers, printers, and external modems.
- Connect to the Internet.

When you click Next, the wizard will search for a shared Internet connection on your network.

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.



Network Setup Wizard

Select a connection method.

Select the statement that best describes this computer:

○ This computer connects directly to the Internet. The other computers on my network connect to the Internet through this computer.
View an example.

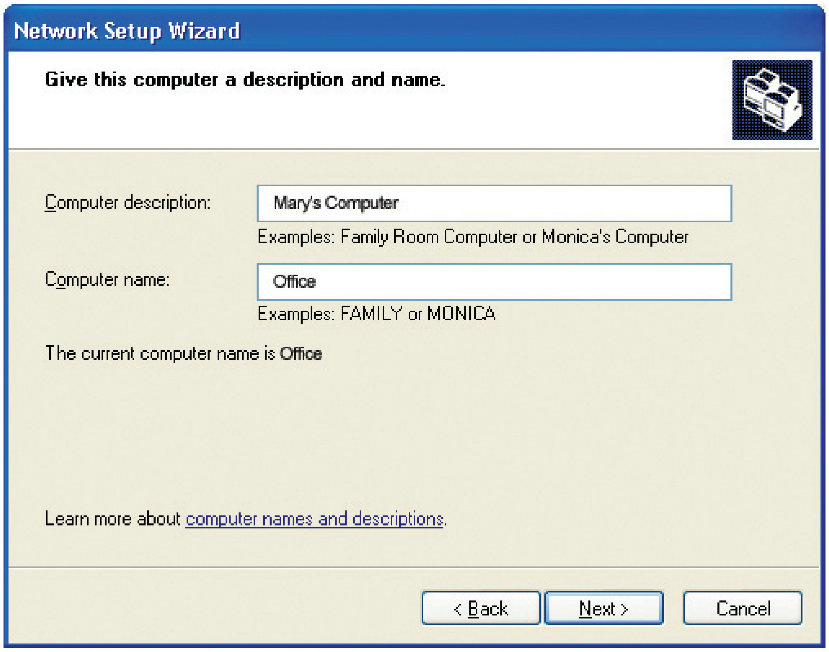
● This computer connects to the Internet through another computer on my network or through a residential gateway.
View an example.

○ Other

Learn more about home or small office network configurations.

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

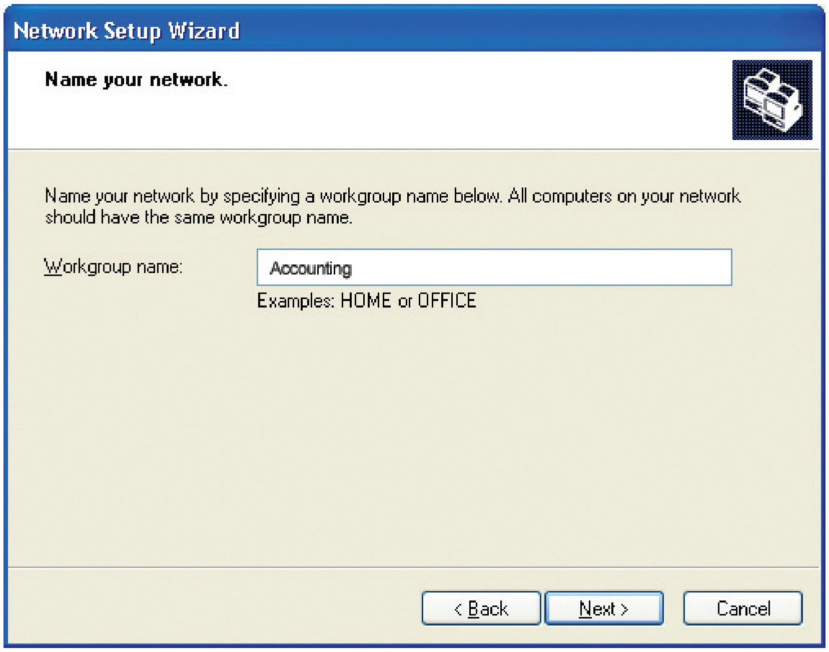
Examples: FAMILY or MONICA

The current computer name is Office

Learn more about computer names and descriptions.

Click **Next**.

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



Network Setup Wizard

Name your network.

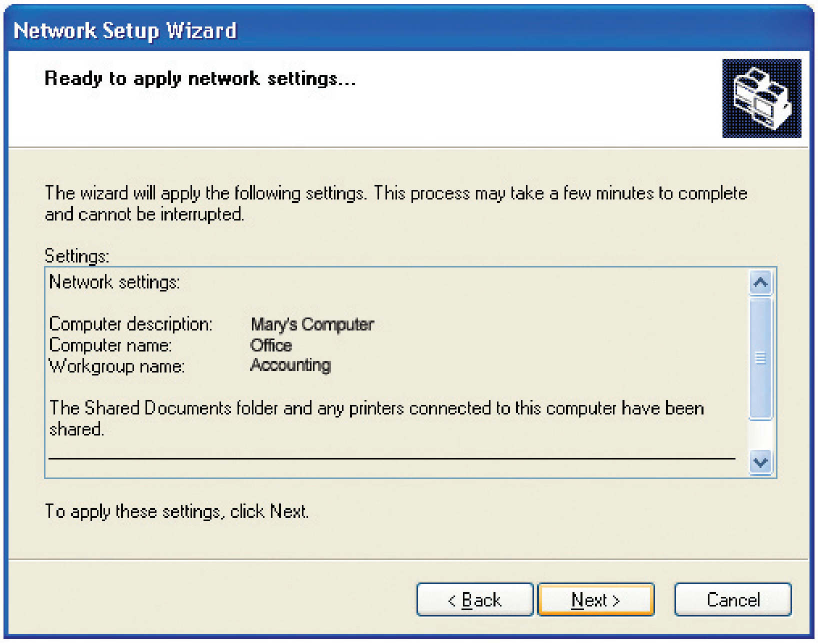
Name your network by specifying a workgroup name below. All computers on your network should have the same workgroup name.

Workgroup name: Accounting

Examples: HOME or OFFICE

Click **Next**.

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



Network Setup Wizard

Ready to apply network settings...

The wizard will apply the following settings. This process may take a few minutes to complete and cannot be interrupted.

Settings:

Network settings:

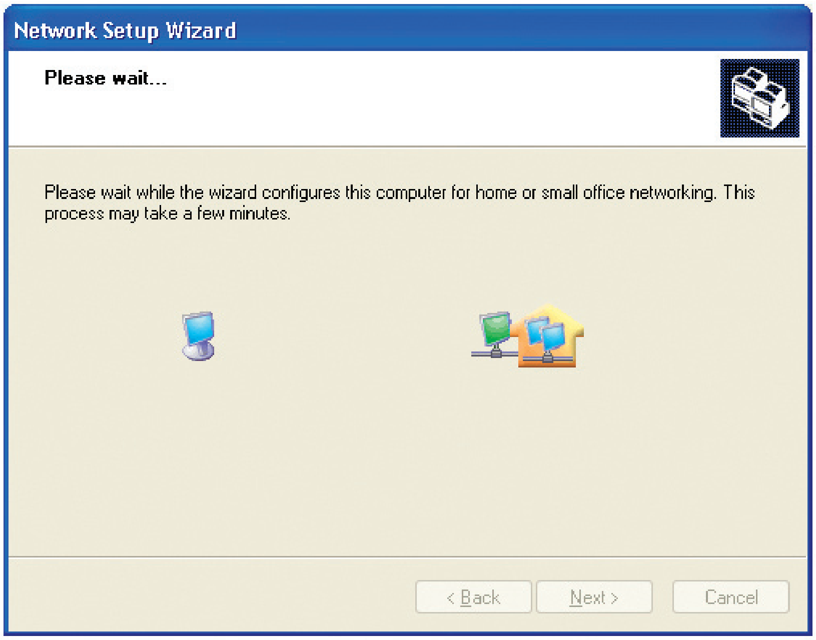
Computer description: Mary's Computer
Computer name: Office
Workgroup name: Accounting

The Shared Documents folder and any printers connected to this computer have been shared.

To apply these settings, click Next.

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

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

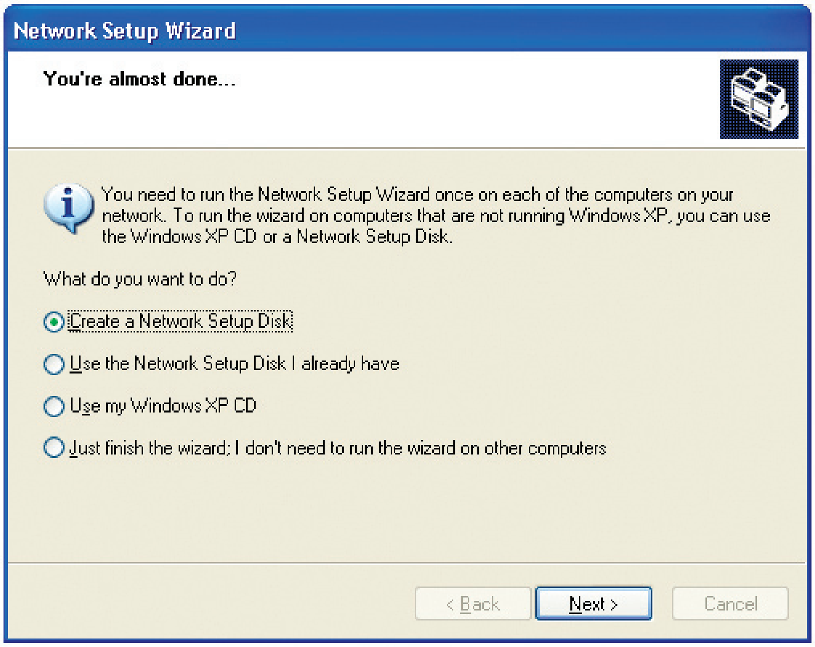


Network Setup Wizard

Please wait...

Please wait while the wizard configures this computer for home or small office networking. This process 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**.



You're almost done...

You need to run the Network Setup Wizard once on each of the computers on your network. To run the wizard on computers that are not running Windows XP, you can use the Windows XP CD or a Network Setup Disk.

What do you want to do?

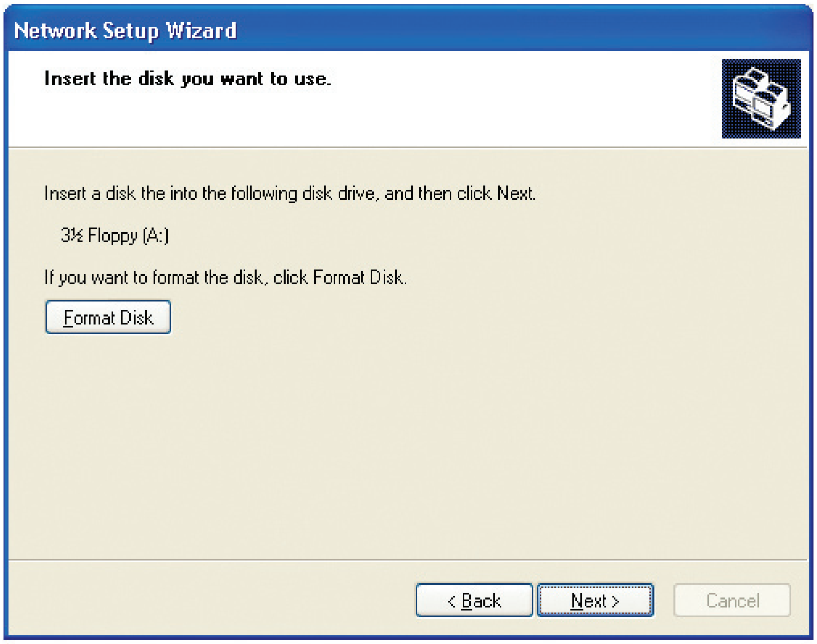
● Create a Network Setup Disk

○ Use the Network Setup Disk I already have

○ Use my Windows XP CD

○ Just finish the wizard; I don't need to run the wizard on other computers

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



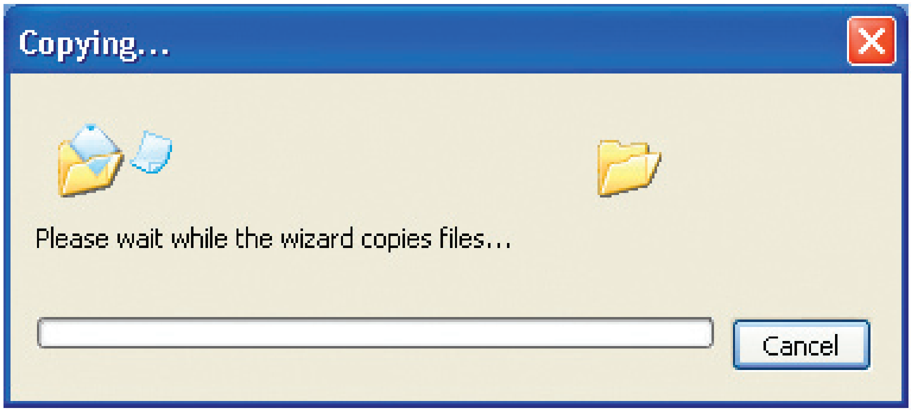
Insert the disk you want to use.

Insert a disk the into the following disk drive, and then click Next.

3½ Floppy (A:)

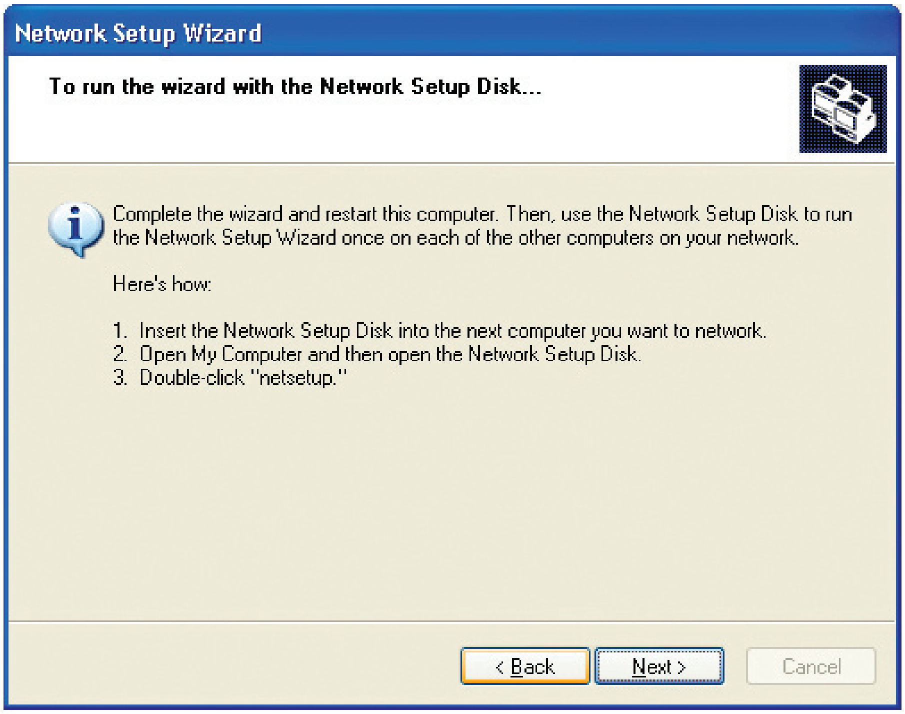
If you want to format the disk, click Format Disk.

Click **Next**.



Please wait while the wizard copies files...

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



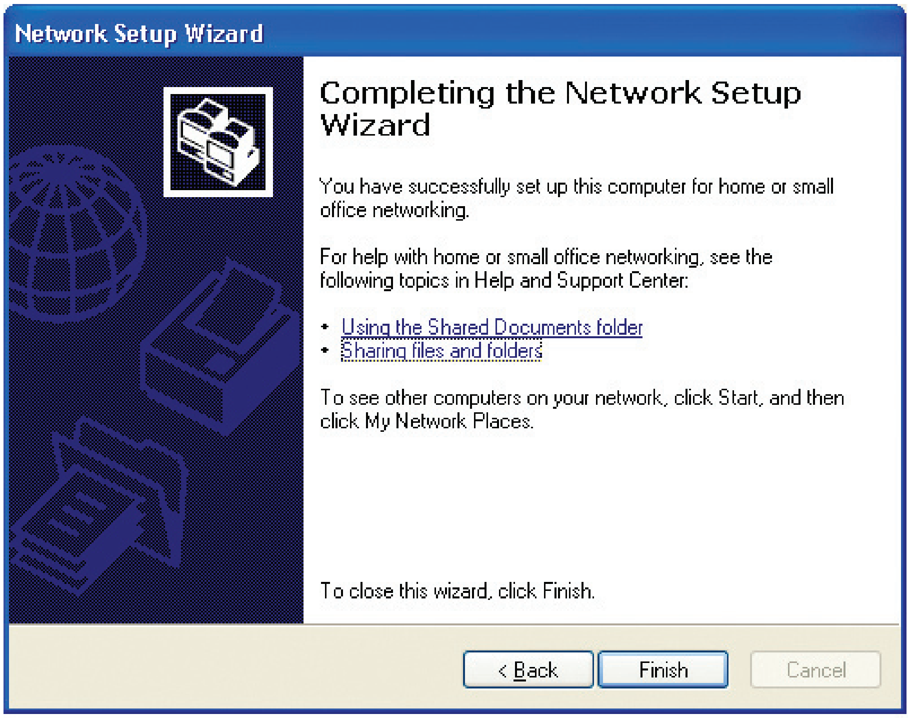
To run the wizard with the Network Setup Disk...

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."

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



Completing the Network Setup Wizard

You have successfully set up this computer for home or small office networking.

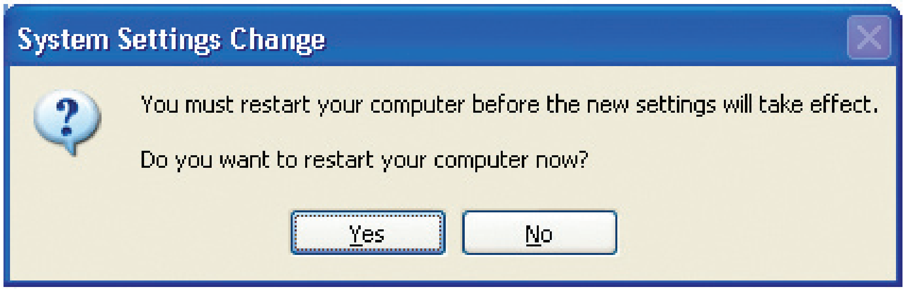
For help with home or small office networking, see the following topics in Help and Support Center:

- Using the Shared Documents folder
- 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.

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



You must restart your computer before the new settings will take effect.

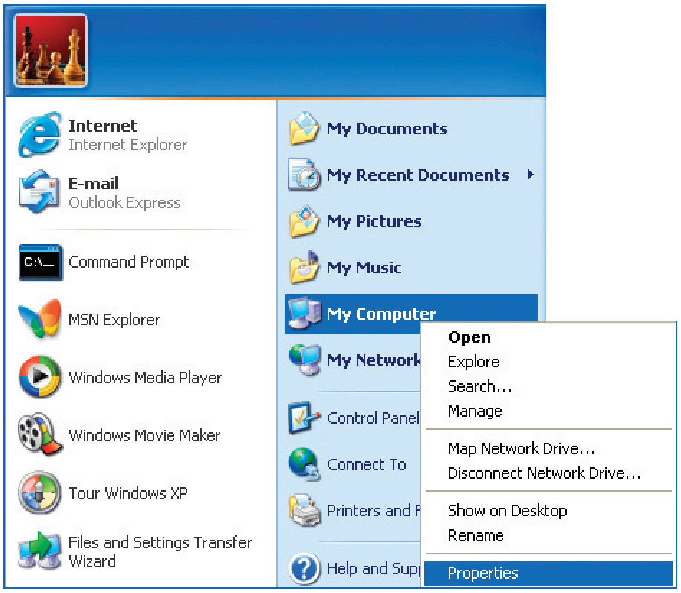
Do you want to restart your computer now?

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.

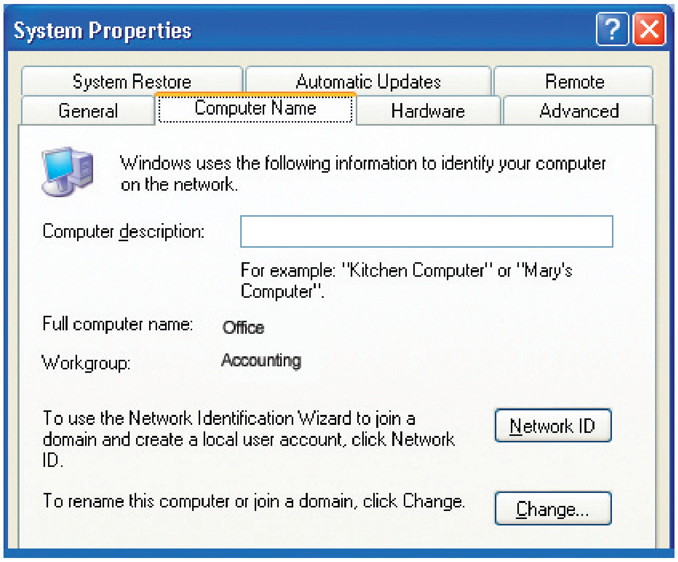
Naming Your Computer

To name your computer in **Windows® XP**, please follow these directions.

- 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**.



Windows uses the following information to identify your computer on the network.

Computer description:

For example: "Kitchen Computer" or "Mary's Computer".

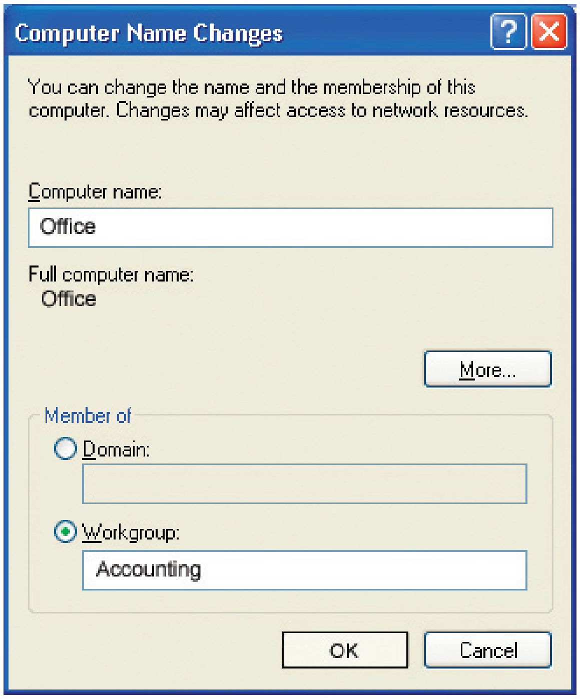
Full computer name: Office

Workgroup: Accounting

To use the Network Identification Wizard to join a domain and create a local user account, click Network ID.

To rename this computer or join a domain, click Change.

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



You can change the name and the membership of this computer. Changes may affect access to network resources.

Computer name: Office

Full computer name: Office

Member of

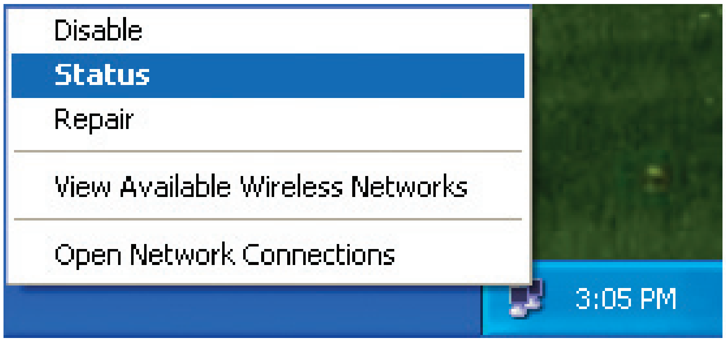
○ Domain:

● Workgroup: Accounting

Checking the IP Address in Windows® XP

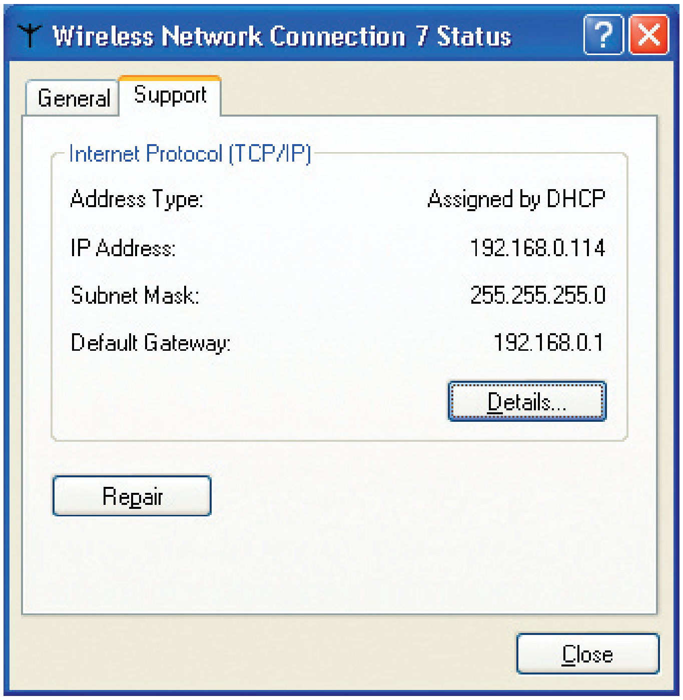
The wireless adapter-equipped computers in your network must be in the same IP Address range (see Getting Started in this manual for a definition of IP Address Range.) To check on the IP Address of the adapter, please do the following:

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



This window will appear:

- Click the **Support tab**.
- Click **Close**.



Wireless Network Connection 7 Status

Internet Protocol (TCP/IP)

Address Type: Assigned by DHCP

IP Address: 192.168.0.114

Subnet Mask: 255.255.255.0

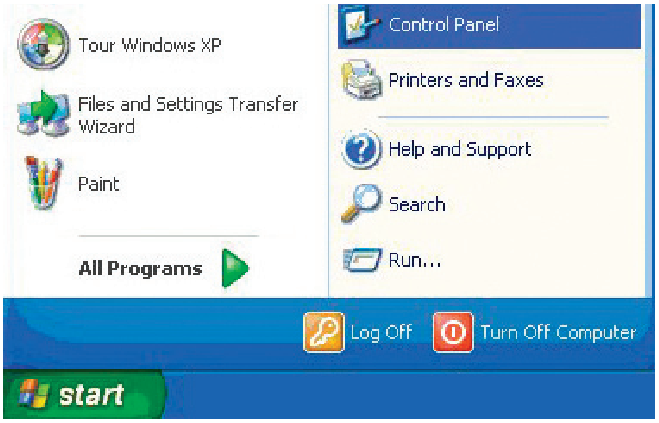
Default Gateway: 192.168.0.1

Assigning a Static IP Address in Windows® XP/2000

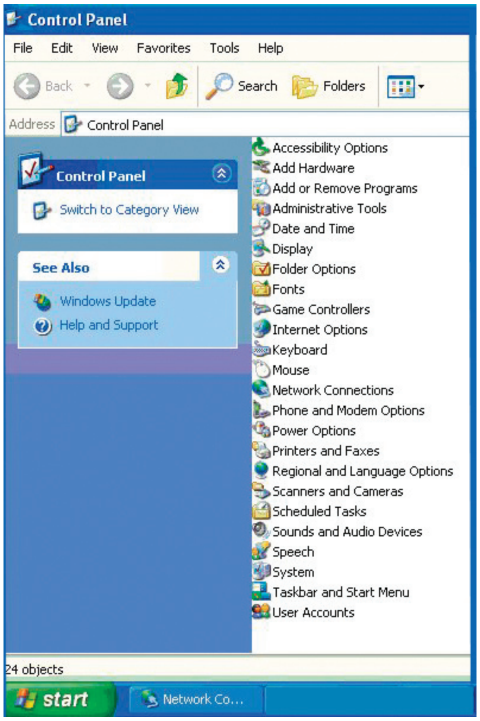
Note: DHCP-enabled routers will automatically assign IP addresses to the computers on the network, using DHCP (Dynamic Host Configuration Protocol) technology. If you are using a DHCP-capable router you will not need to assign static IP addresses.

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

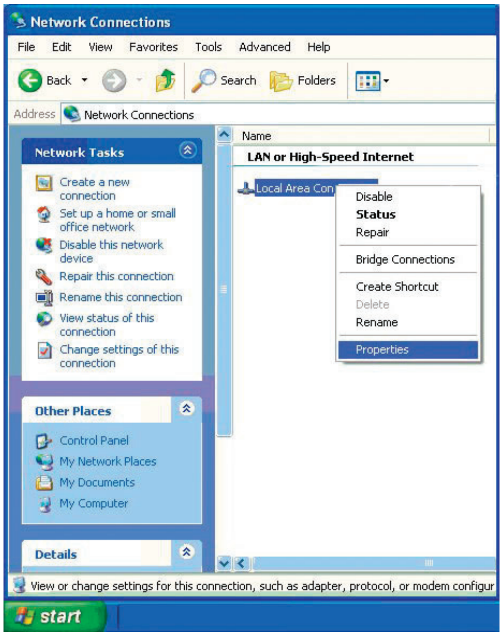
- Go to **Start**.
- Double-click on **Control Panel**.



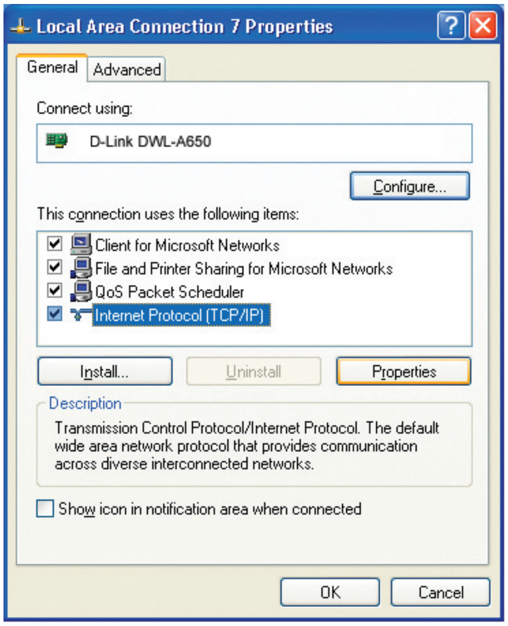
- Double-click on **Network Connections**.



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


Network Connections
File Edit View Favorites Tools Advanced Help
Back Search Folders
Address Network Connections
Network Tasks
Create a new connection
Set up a home or small office network
Disable this network device
Repair this connection
Rename this connection
View status of this connection
Change settings of this connection
Other Places
Control Panel
My Network Places
My Documents
My Computer
Details
Name
LAN or High-Speed Internet
Local Area Con
Disable
Status
Repair
Bridge Connections
Create Shortcut
Delete
Rename
Properties
View or change settings for this connection, such as adapter, protocol, or modem configur
start

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

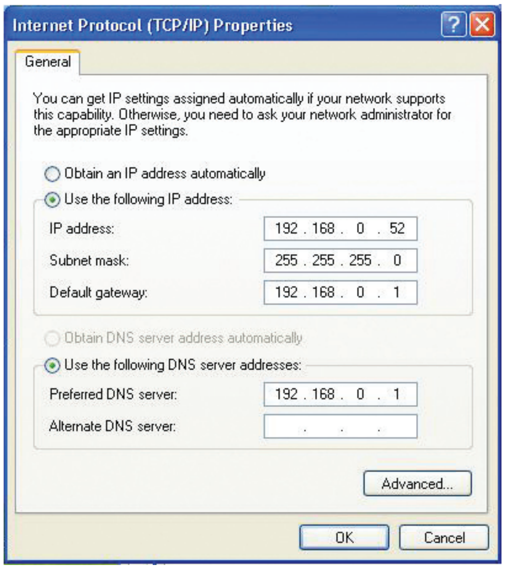

Local Area Connection 7 Properties
General
Advanced
Connect using:
D-Link DWL-A650
Configure...
This connection uses the following items:
☑ Client for Microsoft Networks
☑ File and Printer Sharing for Microsoft Networks
☑ QoS Packet Scheduler
☑ Internet Protocol (TCP/IP)
Install...
Uninstall
Properties
Description
☐ Show icon in notification area when connected
OK
Cancel

Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.

- Input your **DNS server addresses**. **(Note: If you are entering a DNS server, you must enter the IP address of the default gateway.)**

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

- Click **OK**.



Internet Protocol (TCP/IP) Properties

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

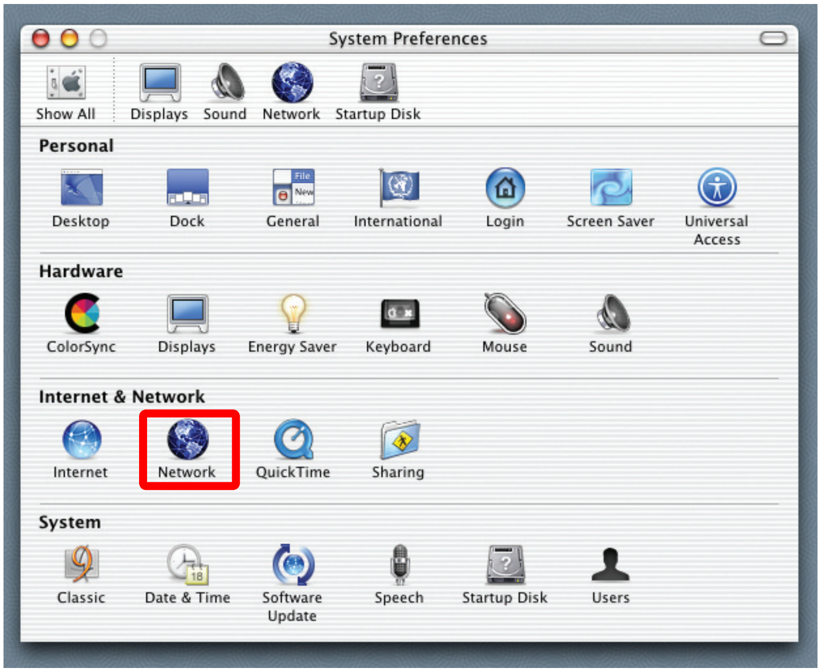
● Use the following DNS server addresses:

Preferred DNS server: 192 . 168 . 0 . 1

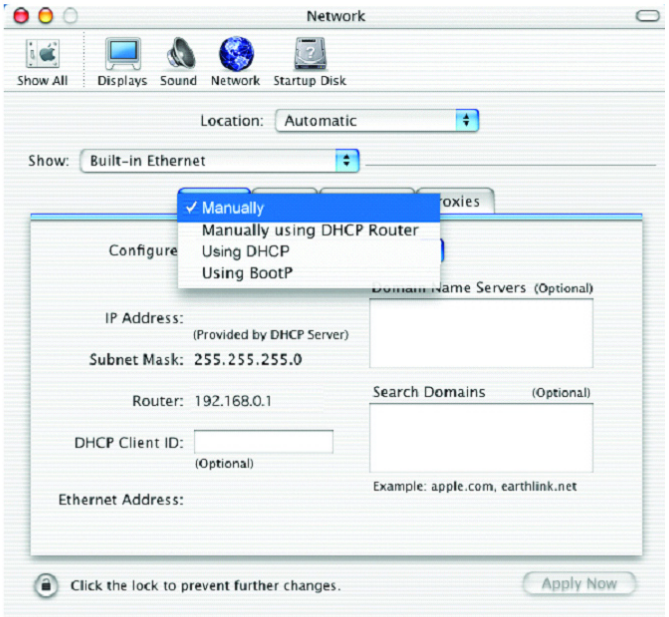
Alternate DNS server: . . .

Assigning a Static IP Address in Macintosh® OSX

- Go to the **Apple Menu** and select **System Preferences**.
- Click on **Network**.



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



Location: Automatic

Show: Built-in Ethernet

Configure

IP Address:
(Provided by DHCP Server)

Subnet Mask: 255.255.255.0

Router: 192.168.0.1

DHCP Client ID:
(Optional)

Ethernet Address:

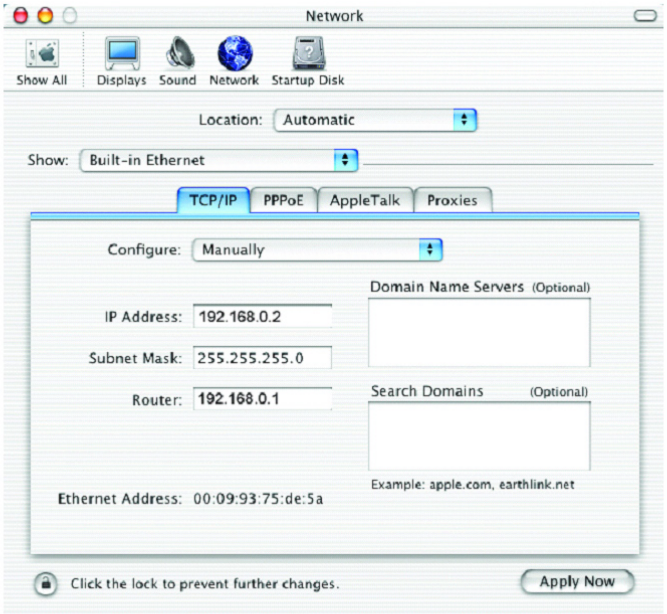
Domain Name Servers (Optional)

Search Domains (Optional)

Example: apple.com, earthlink.net

Click the lock to prevent further changes.

- Input the **Static IP Address**, the **Subnet Mask** and the **Router IP Address** in the appropriate fields.
- Click **Apply Now**.



Location: Automatic

Show: Built-in Ethernet

Configure: Manually

IP Address: 192.168.0.2

Subnet Mask: 255.255.255.0

Router: 192.168.0.1

Ethernet Address: 00:09:93:75:de:5a

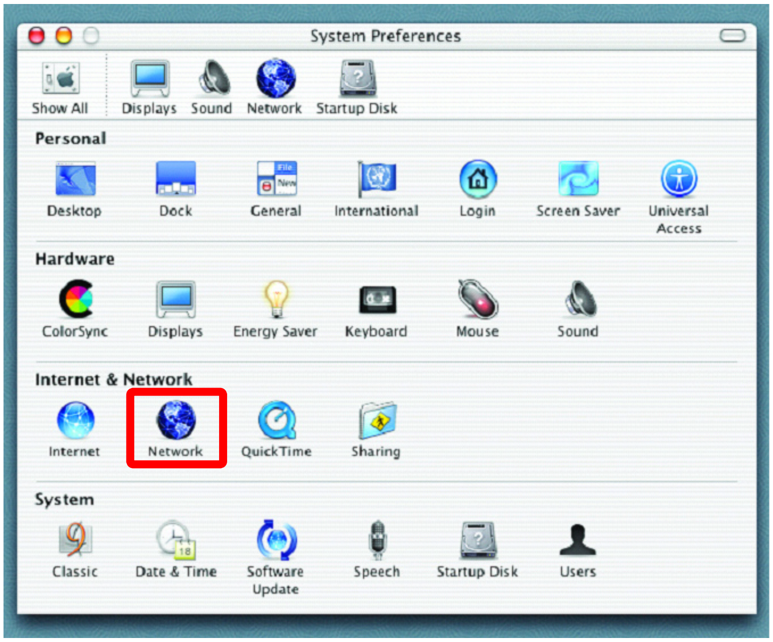
Domain Name Servers (Optional)

Search Domains (Optional)

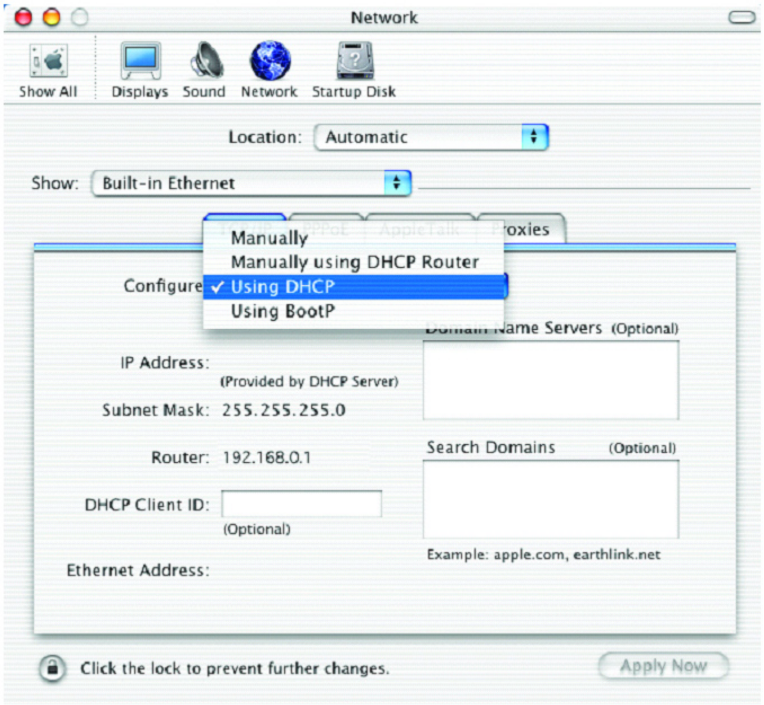
Example: apple.com, earthlink.net

Click the lock to prevent further changes.

- Go to the **Apple Menu** and select **System Preferences**.
- Click on **Network**.



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



Location: Automatic

Show: Built-in Ethernet

Configure: ✓ Using DHCP

IP Address:
(Provided by DHCP Server)

Subnet Mask: 255.255.255.0

Router: 192.168.0.1

DHCP Client ID:
(Optional)

Ethernet Address:

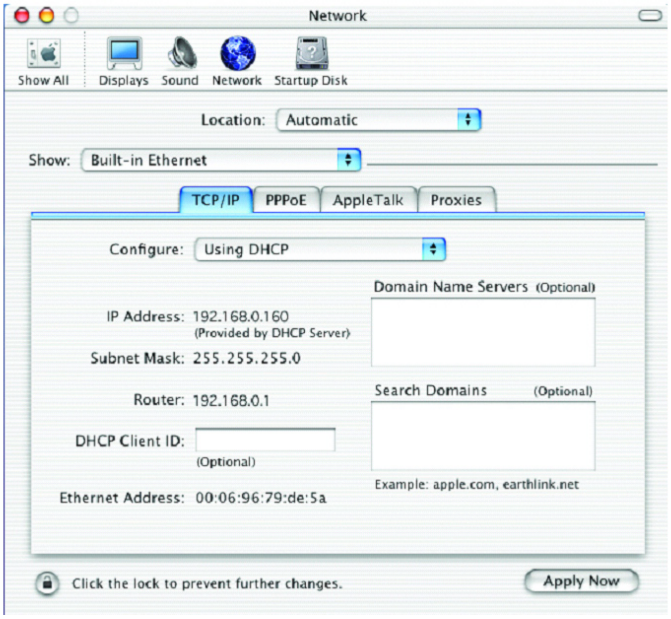
Domain Name Servers (Optional)

Search Domains (Optional)

Example: apple.com, earthlink.net

Click the lock to prevent further changes.

- Click **Apply Now**.
- The **IP Address, Subnet mask**, and the **Router's IP Address** will appear in a few seconds.



Location: Automatic

Show: Built-in Ethernet

Configure: Using DHCP

IP Address: 192.168.0.160 (Provided by DHCP Server)

Subnet Mask: 255.255.255.0

Router: 192.168.0.1

DHCP Client ID: (Optional)

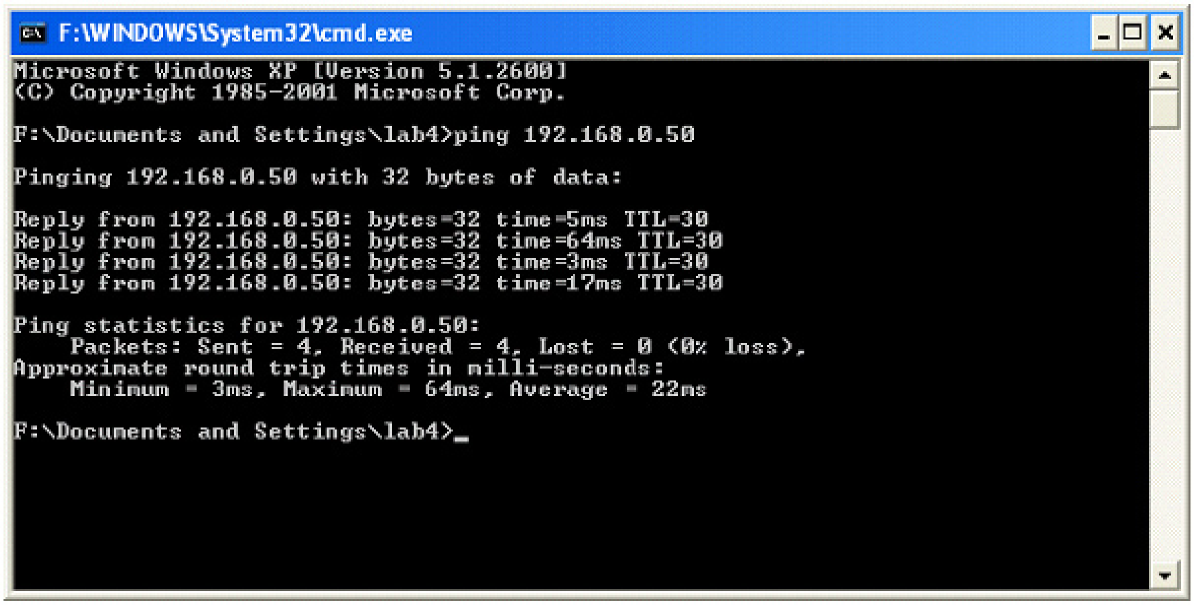
Ethernet Address: 00:06:96:79:de:5a

Example: apple.com, earthlink.net

Click the lock to prevent further changes.

Checking the Wireless Connection by Pinging in Windows® XP & 2000

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



```
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

F:\Documents and Settings\lab4>ping 192.168.0.50

Pinging 192.168.0.50 with 32 bytes of data:

Reply from 192.168.0.50: bytes=32 time=5ms TTL=30
Reply from 192.168.0.50: bytes=32 time=64ms TTL=30
Reply from 192.168.0.50: bytes=32 time=3ms TTL=30
Reply from 192.168.0.50: bytes=32 time=17ms TTL=30

Ping statistics for 192.168.0.50:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 3ms, Maximum = 64ms, Average = 22ms

F:\Documents and Settings\lab4>_
```

Troubleshooting

This Chapter provides solutions to problems that can occur during the installation and operation of the **DWL-8200AP** Wireless Access Point. We cover various aspects of the network setup, including the network adapters. Please read the following if you are having problems.

Note: It is recommended that you use an Ethernet connection to ***configure the DWL-8200AP .***

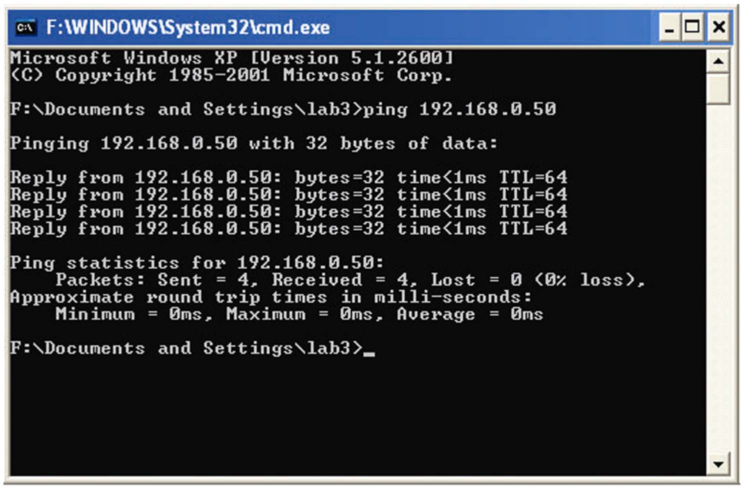
1. The computer used to configure the DWL-8200AP cannot access the Configuration menu.

- Check that the **Ethernet LED** on the **DWL-8200AP** is **ON**. If the **LED** is not **ON**, check that the cable for the Ethernet connection is securely inserted.
- Check that the Ethernet Adapter is working properly. Please see item 3 (***Check that the drivers for the network adapters are installed properly***) in this **Troubleshooting** section to check that the drivers are loaded properly.
- Check that the **IP address** is in the same range and subnet as the **DWL-8200AP**. Please see ***Checking the IP Address in Windows XP*** in the **Networking Basics** section of this manual.

Note: The IP address of the **DWL-8200AP** is 192.168.0.50. All the computers on the network must have a unique IP address in the same range, e.g., 192.168.0.x. Any computers that have identical IP addresses will not be visible on the network. They must all have the same subnet mask, e.g., 255.255.255.0.

- Do a **Ping test** to make sure that the **DWL-8200AP** is responding. Go to **Start**>**Run**>Type **Command**>Type **ping 192.168.0.50.** A successful ping will show four replies.

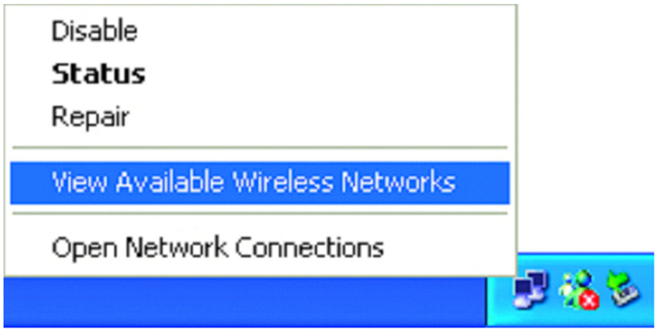
Note: If you have changed the default IP address, make sure to ping the correct IP address assigned to the **DWL-8200AP**.

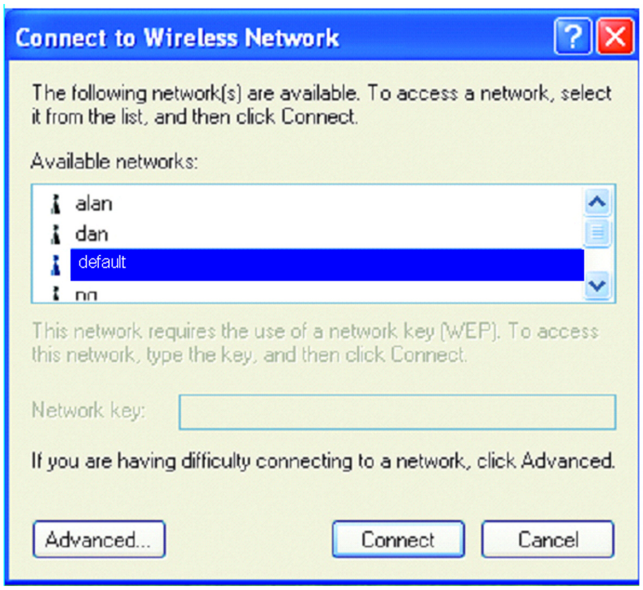


```
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

F:\Documents and Settings\lab3>ping 192.168.0.50

Pinging 192.168.0.50 with 32 bytes of data:

Reply from 192.168.0.50: bytes=32 time<1ms TTL=64
Reply from 192.168.0.50: bytes=32 time<1ms TTL=64
Reply from 192.168.0.50: bytes=32 time<1ms TTL=64
Reply from 192.168.0.50: bytes=32 time<1ms TTL=64

Ping statistics for 192.168.0.50:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

F:\Documents and Settings\lab3>_
```

2. The wireless client cannot access the Internet in the Infrastructure mode.

Make sure the wireless client is associated and joined with the correct access point. To check this connection: **Right-click** on the **Local Area Connection icon** in the taskbar and select **View Available Wireless Networks**. The **Connect to Wireless Network** screen will appear. Please make sure you have selected the correct available network, as shown in the illustrations below.




Connect to Wireless Network

The following network(s) are available. To access a network, select it from the list, and then click Connect.

Available networks:

- alan
- dan
- default
- nn

This network requires the use of a network key (WEP). To access this network, type the key, and then click Connect.

Network key:

If you are having difficulty connecting to a network, click Advanced.

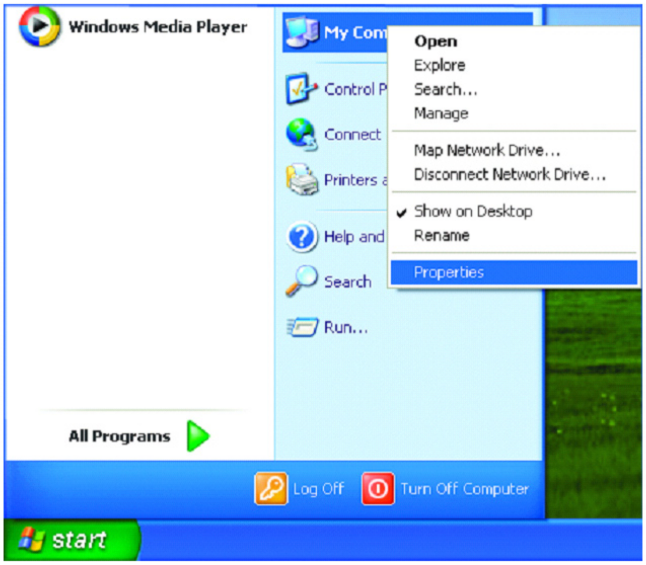
- Check that the **IP address** assigned to the wireless adapter is within the same **IP address range** as the access point and gateway. *Since the **DWL-8200AP** has an IP address of 192.168.0.50, wireless adapters must have an IP address in the same range, e.g., 192.168.0.x. Each device must have a unique IP address; no two devices may have the same IP address. The subnet mask must be the same for all the computers on the network.)* To check the **IP address** assigned to the wireless adapter: **double-click** on the **Local Area Connection icon** in the taskbar > select the **Support tab** and the **IP address** will be displayed. *Please refer to **Checking the IP Address** in the **Networking Basics** section of this manual.)*

- If it is necessary to assign a **Static IP Address** to the wireless adapter, please refer to the appropriate section in **Networking Basics**. If you are entering a **DNS Server address** you must also enter the **Default Gateway Address.** *(Remember that if you have a DHCP-capable router, you will not need to assign a static IP address. See **Networking Basics: Assigning a Static IP Address**.)*

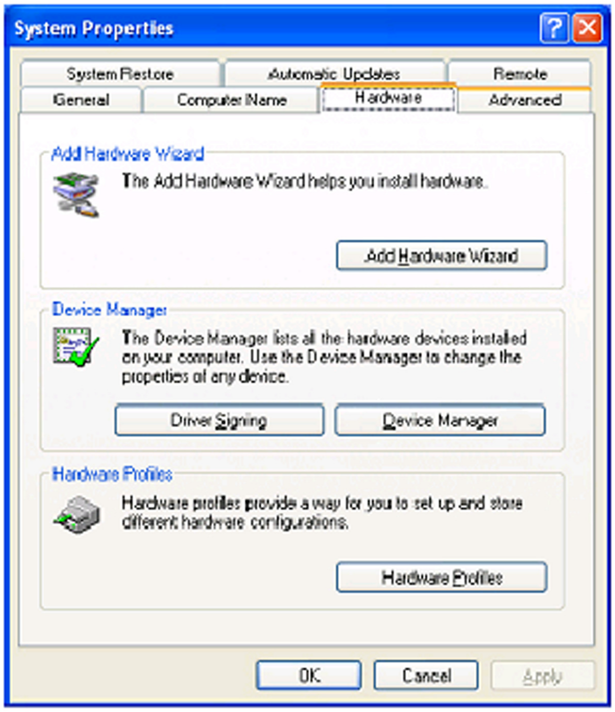
3. Check that the drivers for the network adapters are installed properly.

You may be using different network adapters than those illustrated here, but this procedure will remain the same, regardless of the type of network adapters you are using.

- Go to **Start > My Computer > Properties**.



- **Select** the **Hardware Tab**.
- Click **Device Manager**.

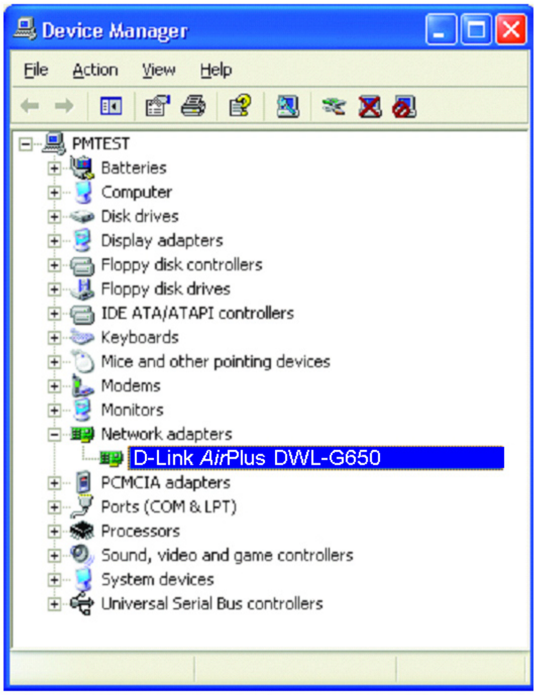


The Add Hardware Wizard helps you install hardware.

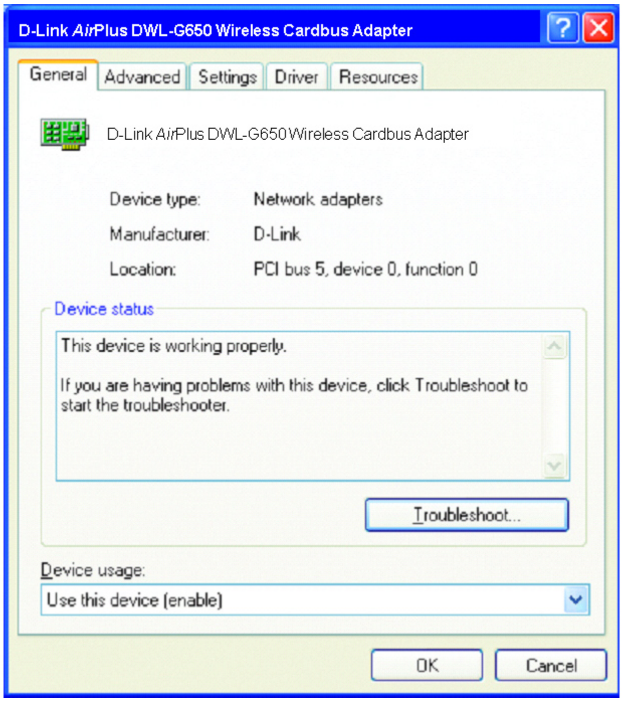
The Device Manager lists all the hardware devices installed on your computer. Use the Device Manager to change the properties of any device.

Hardware profiles provide a way for you to set up and store different hardware configurations.

- Double-click on **Network Adapters**.
- Right-click on **D-Link *Air*Plus DWL-G650 Wireless Cardbus Adapter**. (In this example we use the DWL-G650; you may be using other network adapters, but the procedure will remain the same.)
- Select **Properties** to check that the drivers are installed properly.



- Look under **Device Status** to check that the device is working properly.
- Click **OK**.



D-Link *Air*Plus DWL-G650 Wireless Cardbus Adapter

Device type: Network adapters

Manufacturer: D-Link

Location: PCI bus 5, device 0, function 0

Device status

This device is working properly.

If you are having problems with this device, click Troubleshoot to start the troubleshooter.

Device usage: Use this device (enable)

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

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

5. Why does my wireless connection keep dropping?

- Antenna Orientation- Try different antenna orientations for the **DWL-8200AP**. Try to keep the antenna at least 6 inches away from the wall or other objects.
- If you are using 2.4GHz cordless phones, X-10 equipment or other home security systems, ceiling fans, and lights, your wireless connection will degrade dramatically or drop altogether. Try changing the channel on your router, access point and wireless adapter to a different channel to avoid interference.
- Keep your product away (at least 3-6 feet) from electrical devices that generate RF noise, like microwaves, monitors, electric motors, etc.

6. Why can't I get a wireless connection?

If you have enabled encryption on the **DWL-8200AP**, you must also enable encryption on all wireless clients in order to establish a wireless connection.

- Make sure that the SSID on the router and the wireless client are exactly the same. If they are not, wireless connection will not be established.
- Move the **DWL-8200AP** and the wireless client into the same room and then test the wireless connection.
- Disable all security settings.
- Turn off your **DWL-8200AP** and the client. Turn the **DWL-8200AP** back on again, and then turn on the client.
- Make sure that all devices are set to **Infrastructure** mode.
- Check that the LED indicators are indicating normal activity. If not, check that the AC power and Ethernet cables are firmly connected.
- Check that the IP address, subnet mask, gateway and DNS settings are correctly entered for the network.
- If you are using 2.4GHz cordless phones, X-10 equipment or other home security systems, ceiling fans, and lights, your wireless connection will degrade dramatically or drop altogether. Try changing the channel on your **DWL-8200AP**, and on all the devices in your network to avoid interference.

- Keep your product away (at least 3-6 feet) from electrical devices that generate RF noise, like microwaves, monitors, electric motors, etc.

7. I forgot my encryption key.

- Reset the **DWL-8200AP** to its factory default settings and restore the other devices on your network to their default settings. You may do this by pressing the Reset button on the back of the unit. You will lose the current configuration settings.

Technical Specifications

Standards
- IEEE 802.11a
- IEEE 802.11b
- IEEE 802.11g
- IEEE 802.3
- IEEE 802.3af
- IEEE 802.3u
- IEEE 802.3x

Device Management
- Web-Based – Internet Explorer v6 or later; Netscape Navigator™ v7 or later; or other Java-enabled browsers.
- Telnet
- AP Manager
- SNMP v.3

Data Rate
For 802.11a/g:
- 108, 54, 48, 36, 24, 18, 12, 9 and 6Mbps

For 802.11b:
- 11, 5.5, 2, and 1Mbps

Security
- WPA – Enterprise
- WPA – Personal
- WPA2 – Enterprise
- WPA2 – Personal
- 64-bit, 128-bit, and 152-bit WEP
- MAC Address Access Control List

Wireless Frequency Range
- 2.4GHz to 2.4835GHz
- 5.15GHz to 5.35GHz and 5.725GHz to 5.825GHz

Wireless Operating Range*
802.11g (Full Power with 5dBi gain diversity dipole antenna)
Indoors:
- 98ft (30m) @ 54Mbps
- 105ft (32m) @ 48Mbps
- 121ft (37m) @ 36Mbps
- 148ft (45m) @ 24Mbps
- 203ft (62m) @ 18Mbps
- 223ft (68m) @ 12Mbps
- 253ft (77m) @ 9Mbps
- 302ft (92m) @ 6Mbps

Outdoors:
- 328ft (100m) @ 54Mbps
- 968ft (295m) @ 11Mbps
- 1378ft (420m) @ 6Mbps

Operating Voltage
- 48VDC +/- 10% for PoE

Radio and Modulation Type
For 802.11b:
DSSS :
- DBPSK @ 1Mbps
- DQPSK @ 2Mbps
- CCK @ 5.5 and 11Mbps

For 802.11a/g:
OFDM:
- BPSK @ 6 and 9Mbps
- QPSK @ 12 and 18Mbps
- 16QAM @ 24 and 36Mbps
- 64QAM @ 48, 54 and 108Mbps

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

Transmit Output Power

For 802.11a:
- 63mW (18dBm)
- 40mW (16dBm)
- 32mW (15dBm)
- 6mW (7dBm)
- 1mW (0dBm)

For 802.11b:
- 100mW (20dBm)
- 63mW (18dBm)
- 40mW (16dBm)
- 32mW (15dBm)
- 23mW (13dBm)
- 10mW (10dBm)
- 6mW (7dBm)
- 1mW (0dBm)

For 802.11g:
- 100mW (20dBm)
- 63mW (18dBm)
- 40mW (16dBm)
- 32mW (15dBm)
- 6mW (7dBm)
- 1mW (0dBm)

Receiver Sensitivity

For 802.11a:
- 6Mbps: -87dBm
- 9Mbps: -86dBm
- 11Mbps: -88dBm
- 12Mbps: -85dBm
- 18Mbps: -83dBm
- 24Mbps: -80dBm
- 36Mbps: -76dBm
- 48Mbps: -71dBm
- 54Mbps: -71dBm

For 802.11b:
- 1Mbps: -92dBm
- 2Mbps: -89dBm
- 5.5Mbps: -88dBm
- 11Mbps: -83dBm

For 802.11g:
- 1Mbps: -95dBm
- 2Mbps: -91dBm
- 5.5Mbps: -89dBm
- 6Mbps: -87dBm
- 9Mbps: -85dBm
- 11Mbps: -88dBm
- 12Mbps: -80dBm
- 18Mbps: -80dBm
- 24Mbps: -77dBm
- 36Mbps: -73dBm
- 48Mbps: -72dBm
- 54Mbps: -72dBm

LEDs
- Power
- Status
- LAN 1
- LAN 2
- 802.11b/g
- 802.11a

Temperature
- Operating: 32 ºF to 104ºF (0ºC to 40ºC)
- Storing: -4ºF to 149ºF (-20ºC to 65ºC)

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

Certifications
- FCC
- Wi-Fi

Dimensions
- L = 10.93 inches (277.7mm)
- W = 6.10 inches (155mm)
- H =1.77 inches (45mm)

- H = 1.77 inches (45mm)

Warranty
- 1 Year

* Maximum wireless signal rate derived from IEEE Standard 802.11a and 802.11g specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate.
** Environmental conditions may adversely affect wireless signal range.

Contacting Technical Support

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
Monday to Friday 8:00am - 5:00pm.

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 9:00pm EST

D-Link Technical Support over the Internet:
http://support.dlink.ca
email:support@dlink.ca

Warranty

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

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

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

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

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

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

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

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

· The customer must submit with the product as part of the claim a written description of the Hardware defect or Software nonconformance in sufficient detail to allow D-Link to confirm the same, along with proof of purchase of the product (such as a copy of the dated purchase invoice for the product) if the product is not registered.

· The customer must obtain a Case ID Number from D-Link Technical Support at 1-877-453-5465, who will attempt to assist the customer in resolving any suspected defects with the product. If the product is considered defective, the customer must obtain a Return Material Authorization ("RMA") number by completing the RMA form and entering the assigned Case ID Number at https://rma.dlink.com/.

· After an RMA number is issued, the defective product must be packaged securely in the original or other suitable shipping package to ensure that it will not be damaged in transit, and the RMA number must be prominently marked on the outside of the package. Do not include any manuals or accessories in the shipping package. D-Link will only replace the defective portion of the product and will not ship back any accessories.

· The customer is responsible for all in-bound shipping charges to D-Link. No Cash on Delivery ("COD") is allowed. Products sent COD will either be rejected by D-Link or become the property of D-Link. Products shall be fully insured by the customer and shipped to D-Link Systems, Inc., 17595 Mt. Herrmann, Fountain Valley, CA 92708. D-Link will not be held responsible for any packages that are lost in transit to D-Link. The repaired or replaced packages will be shipped to the customer via UPS Ground or any common carrier selected by D-Link. Return shipping charges shall be prepaid by D-Link if you use an address in the United States, otherwise we will ship the product to you freight collect. Expedited shipping is available upon request and provided shipping charges are prepaid by the customer.

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

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

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

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 you 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.

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

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 caused undesired operation.

IC Statement: The Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulation

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

For operation within 5.15 ~ 5.25GHz frequency range, it is restricted to indoor environment, and the antenna of this device must be integral.

IMPORTANT NOTE:
FCC Radiation Exposure Statement:
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

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

Registration

Register your product online at:
http://support.dlink.com/register

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

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