D-Link®
Building Networks for People



Manual

Version 2.0

DWL-2100AP

Wireless G Access Point

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Package Contents

- **D-Link DWL-2100AP**
  Wireless G Access Point
- Manual on CD
- Quick Installation Guide
- Power adapter
- CAT5 Ethernet cable



Note: *Using a power supply with a different voltage than the one included with the DWL-2100AP 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

Introduction

D-Link®, the industry pioneer in wireless networking, introduces a performance breakthrough in wireless connectivity – D-Link AirPlus Xtreme G™ series of high-speed devices now capable of delivering transfer rates up to 15x faster than the standard 802.11b with the new D-Link 108G. With the new AirPlus Xtreme G DWL-2100AP Wireless Access Point, D-Link sets a new standard for wireless access points.

With the D-Link 108G enhancement, the DWL-2100AP can achieve wireless speeds up to 108Mbps* in a pure D-Link 108G environment through the use of new wireless technologies such as Packet Bursting, Fast Frame, Compression & Encryption, and Turbo mode. These technologies enable a throughput high enough to handle video/audio streaming and future bandwidth-intense applications. The DWL-2100AP Wireless Access Point also supports SNMP v.3 for better network management with the provided Wireless AP Manager software that manages network configuration and firmware upgrades. For Enterprise networks, the DWL-2100AP supports network administration and real-time network traffic monitoring via D-Link's D-View Network Management software.

The DWL-2100AP features five modes: a Wireless Access Point, WDS with Access Point, WDS, a Repeater for range extension, or as a AP Client. The WDS feature makes the DWL-2100AP an ideal solution for quickly creating and extending a wireless local area network (WLAN) in offices or other workplaces, or even at hotspots.

The DWL-2100AP Wireless Access Point comes with a detachable antenna utilizing a reverse SMA connector. By simply attaching a D-Link wireless antenna, you can increase the wireless range of the DWL-2100AP.

Wireless security is addressed as the DWL-2100AP Wireless Access Point uses WPA (Wi-Fi Protected Access) and 802.1X authentication to provide a higher level of security for data communication amongst wireless clients. The DWL-2100AP is also fully compatible with the IEEE 802.11b and 802.11g standards. With great manageability, versatile operation modes, solid security enhancement, the cost-effective D-Link DWL-2100AP Wireless Access Point provides the ultra-fast 108Mbps* speed and everything else a network professional dreams of.

** Maximum wireless signal rate derived from IEEE Standard 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 factors will adversely affect wireless signal range.*

Features and Benefits

Faster Wireless Networking	Able to achieve a maximum wireless signal rate of up to 108Mbps*, increased speeds means increased productivity. With the DWL-2100AP in your home or business, colleagues, friends, or family can communicate with one another in real-time to download large files or to smoothly stream MPEG videos. The DWL-2100AP Wireless Access Point gives you the freedom of wireless networking at D-Link 108G speeds that save you time, money, and make your wireless networking experience more enjoyable.
SNMP Management	The DWL-2100AP is not only fast but it also supports SNMP v.3 for better network management. A Wireless AP Manager software is available with the DWL-2100AP for network configuration and firmware upgrades via a web-based configuration utility. For Enterprise networks, the DWL-2100AP supports network administration and real-time network traffic monitoring via D-Link's D-View Network Management software.
Better Security with 802.1X and WPA	With the DWL-2100AP, wireless clients can securely connect to the network using WPA (Wi-Fi Protected Access) and 802.1X authentication providing a much higher level of security for your data communication. AES (Advanced Encryption Standard) is also supported by the DWL-2100AP to maximize the network security with data encryption.
Five Different Operating Modes	The DWL-2100AP can operate in one of five different operational modes featuring WDS (Wireless Distribution System) to meet your wireless networking requirements:
Access Point	Create a wireless local area network.
WDS with AP	Wirelessly connect multiple wireless networks while still functioning as a wireless access point.
WDS	Wirelessly connect multi-networks.
AP Client	Wirelessly connect Ethernet devices. Provides immediate connection for Ethernet devices without the need for any drivers.
AP Repeater	Repeats radio frequency to extend the 2.4GHz range for your wireless LAN.

Front Panel

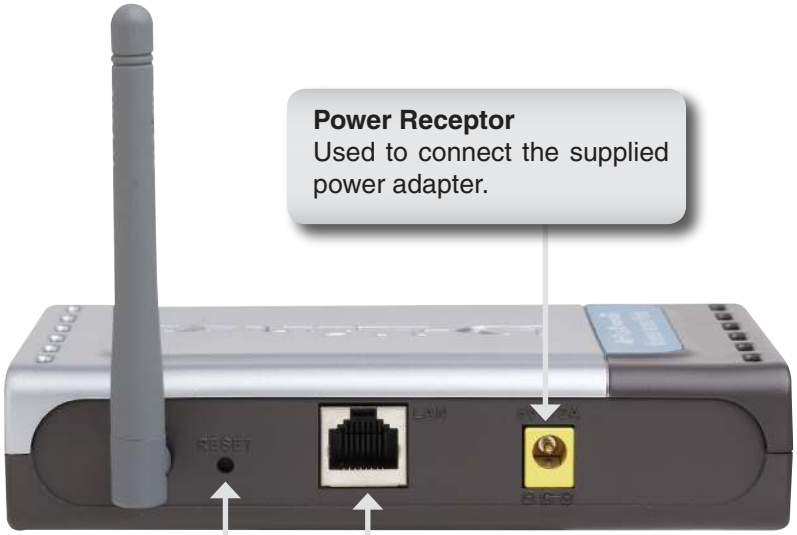


LAN
A blinking light indicates data is being transmitted via the Ethernet port.

Power
A solid light indicates the unit is properly powered.

WLAN
Blinking green indicates wireless network activity.

Rear Panel



Power Receptor
Used to connect the supplied power adapter.

Reset Button
Pressing this button restores the Access Point to its original factory default settings.

Ethernet Port
Connects the DWL-2100AP to a router or switch using an Ethernet cable.

Installation Considerations

D-Link Air lets you access your network from anywhere you want. However, keep in mind, that range is limited by the number of walls, ceilings, or other objects that the wireless signals must pass through. Typical ranges vary depending on the types of materials and background RF noise in your home or business. The key to maximizing range is to follow these basic principles:

1. Keep the number of walls and ceilings to a minimum - Each wall or ceiling can rob your D-Link Wireless product of 3-90 ft. of range. Position your Access Points, Residential Gateways, and computers so that the number of walls or ceilings is minimized.

2. Be aware of the direct line between access points, routers, and computers - A wall that is 1.5 feet thick, at a 45 degree angle, appears to be almost 3 feet thick. At a 2-degree angle it looks over 42 feet thick. Try to make sure that the access point and adapters are positioned so that the signal will travel straight through a wall or ceiling for better reception.

3. Building materials make a difference - A solid metal door or aluminum studs may have a negative effect on range. Try to position access points, routers, and computers so that the signal passes through drywall or open doorways and not other materials.

4. Make sure that the antenna is positioned for best reception by using the software signal strength tools included with your product.

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

6. If you are using 2.4GHz cordless phones or X-10 (wireless products such as ceiling fans, lights, and home security systems), your wireless connection will degrade dramatically or drop completely. Anything using the 2.4Ghz frequency will interfere with your wireless network.

Before You Begin

It's best to use a computer (with an Ethernet adapter) that is connected to a switch or router for configuring the DWL-2100AP. The default IP address for the DWL-2100AP is 192.168.0.50 with a Subnet Mask of 255.255.255.0.

You will need to assign your computer a Static IP address within the same range as the DWL-2100AP's IP address for the purpose of configuring the DWL-2100AP. See the Appendix if you need assistance in assigning a Static IP address for your network adapter.

Connect to Your Network

A. First, connect the power adapter to the receptor at the back panel of the DWL-2100AP and then plug the other end of the power adapter to a wall outlet or power strip. The Power LED will turn ON to indicate proper operation.

B. Insert one end of the cable to the Ethernet port on the back panel of the DWL-2100AP and the other end of the cable to your network (switch or router).

Note: You also have the option of connecting the DWL-2100AP directly to the computer that will be used for configuration. The Link LED light will illuminate to indicate a proper Ethernet connection. (Note: The Ethernet Port on the DWL-2100AP is Auto-MDI/MDIX. Meaning you can use a straight-through or crossover Ethernet cable to connect to the Ethernet port on the DWL-2100AP.)

C. The DWL-G650 Wireless Cardbus Adapter and the DWL-G520Wireless PCI Adapter will connect, out of the box, with the DWL-2100AP, using their default wireless settings. Computers with 802.11b wireless adapters can also connect to the DWL-2100AP.

Configuration

To configure the DWL-2100AP, use a computer which is connected to the DWL-2100AP with an Ethernet cable. You may use the web-based configuration or the AP Manager software to configure your access point. Please refer to page 52 to use the AP Manager software.

Web Configuration Utility

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.

Open your web browser program such as Internet Explorer. Type the IP address of the DWL-2100AP in the address field (**http://192.168.0.50**) and press **Enter**. Make sure that the IP addresses of the DWL-2100AP and your computer are in the same subnet.

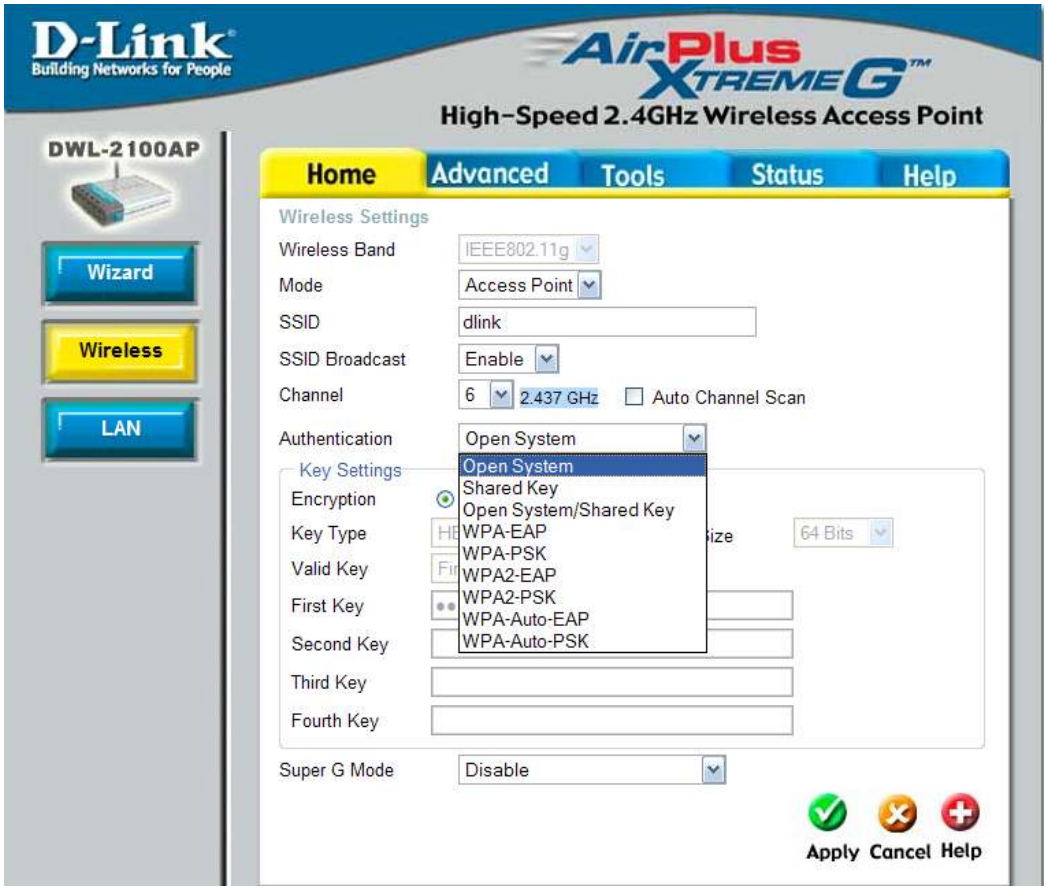


After the connection is established, Enter your user name (admin) and your password (leave blank by default). Click **OK** to continue.



Home

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



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

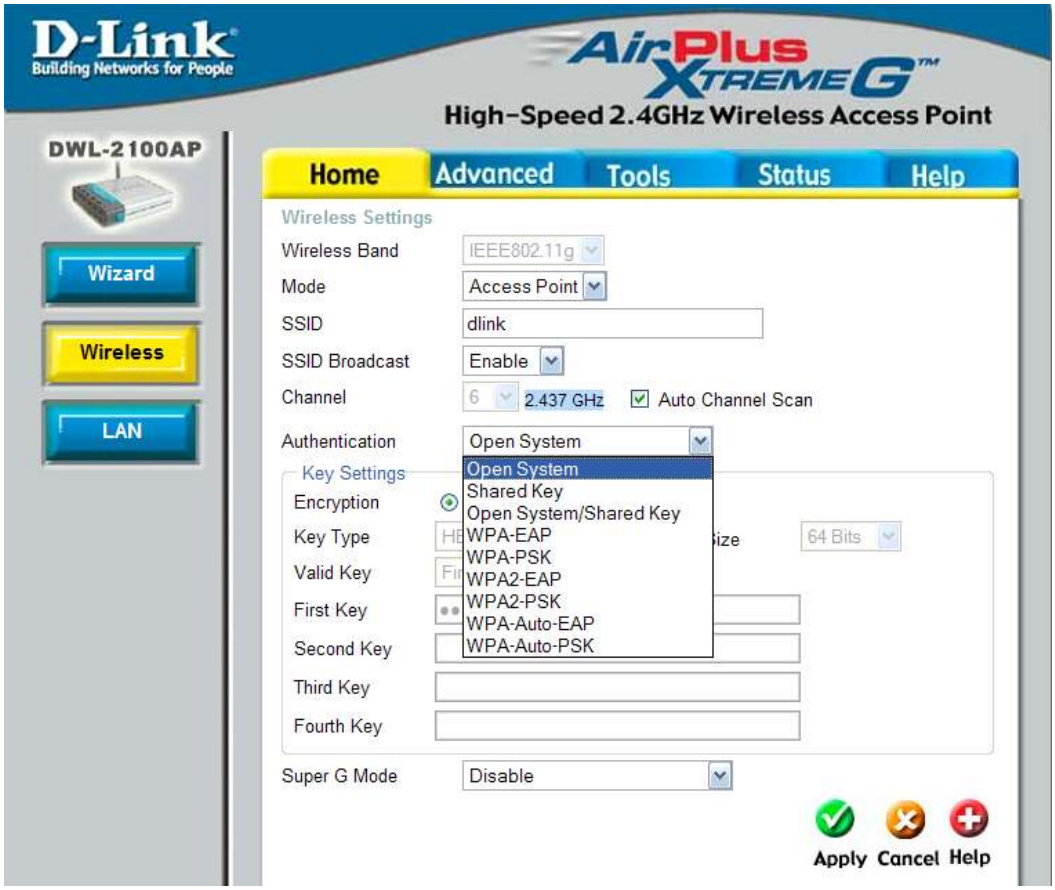
Help — Clicking **Help** will bring up helpful information regarding the page

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

Wireless Modes

AP Mode	Authentication Available
Access Point	Open System Shared Key Open System/Shared Key WPA-EAP WPA-PSK WPA2-EAP WPA2-PSK WPA-Auto-EAP WPA-Auto-PSK
WDS with AP	Open System Shared Key Open System/Shared Key WPA-PSK WPA2-PSK WPA-Auto-PSK
WDS	Open System Shared Key Open System/Shared Key WPA-PSK WPA2-PSK WPA-Auto-PSK
AP Repeater	Open System Shared Key
AP Client	Open System Shared Key WPA-PSK WPA2-PSK

Access Point Mode



Wireless Band: IEEE 802.11g.

Mode: Access Point is selected from the drop-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 **dlink**. The SSID can be easily changed to connect to an existing wireless network or to establish a new wireless network.

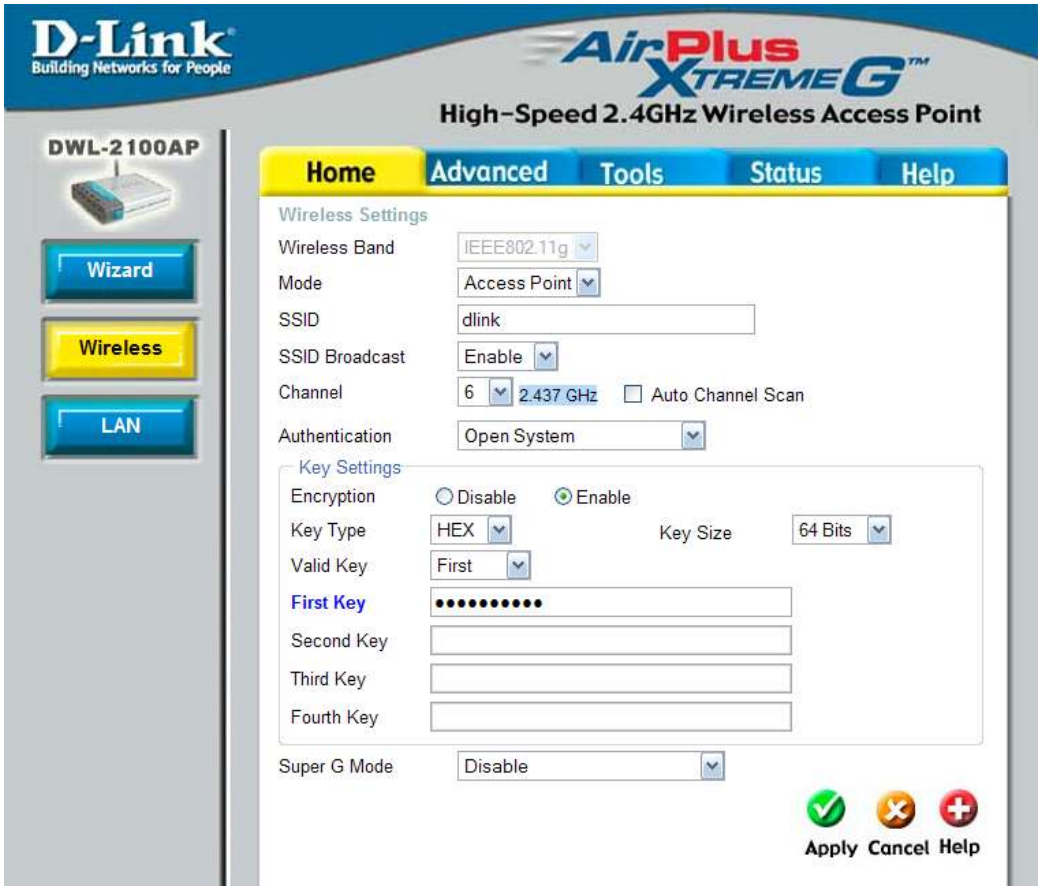
SSID Broadcast: **Enable** or **Disable** SSID broadcast. Enabling this feature broadcasts the SSID across the network.

Channel: **Auto Channel Scan** is enabled by default. All devices on the network must share the same channel.

Radio Frequency: The radio frequency will vary depending on the wireless channel that is chosen. The frequency in channel 6 is 2.437GHz.

Auto Channel Scan:	Select **Enable** or **Disable**. Enable this feature to auto-select the channel for best wireless performance.
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-EAP** to secure your network with the inclusion of a RADIUS server. Select **WPA-PSK** to secure your network using a password and dynamic key changes (No RADIUS server required). Select **WPA2-EAP** 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-PSK** 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-EAP** to allow the client to either use **WPA-EAP** or **WPA2-EAP**. Select **WPA-Auto-PSK** to allow the client to either use **WPA-PSK** or **WPA2-PSK**.
Super G Mode:	Disabled by default. You can select **Super G without Turbo** or **Super G with Dynamic Turbo**.

Access Point (WEP)



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

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

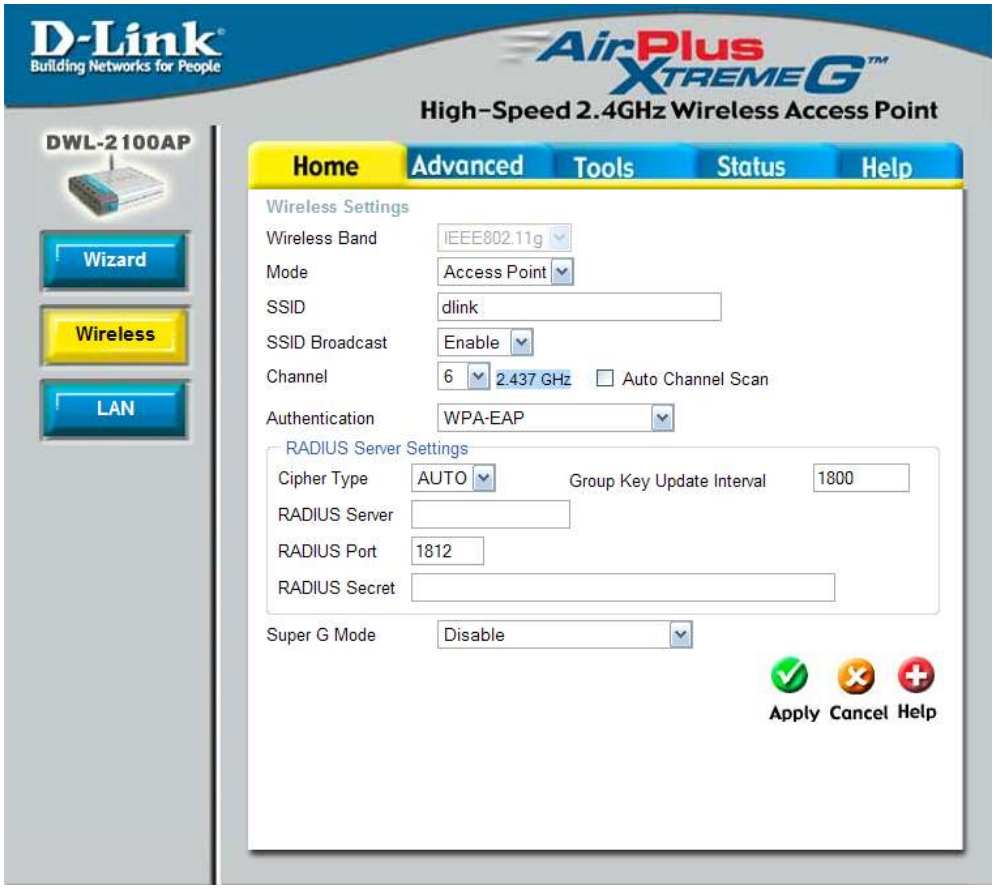
Key Size: Select **64-bit, 128-bit,** or **152 bits.**

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.

Access Point (WPA-EAP/WPA2-EAP)



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

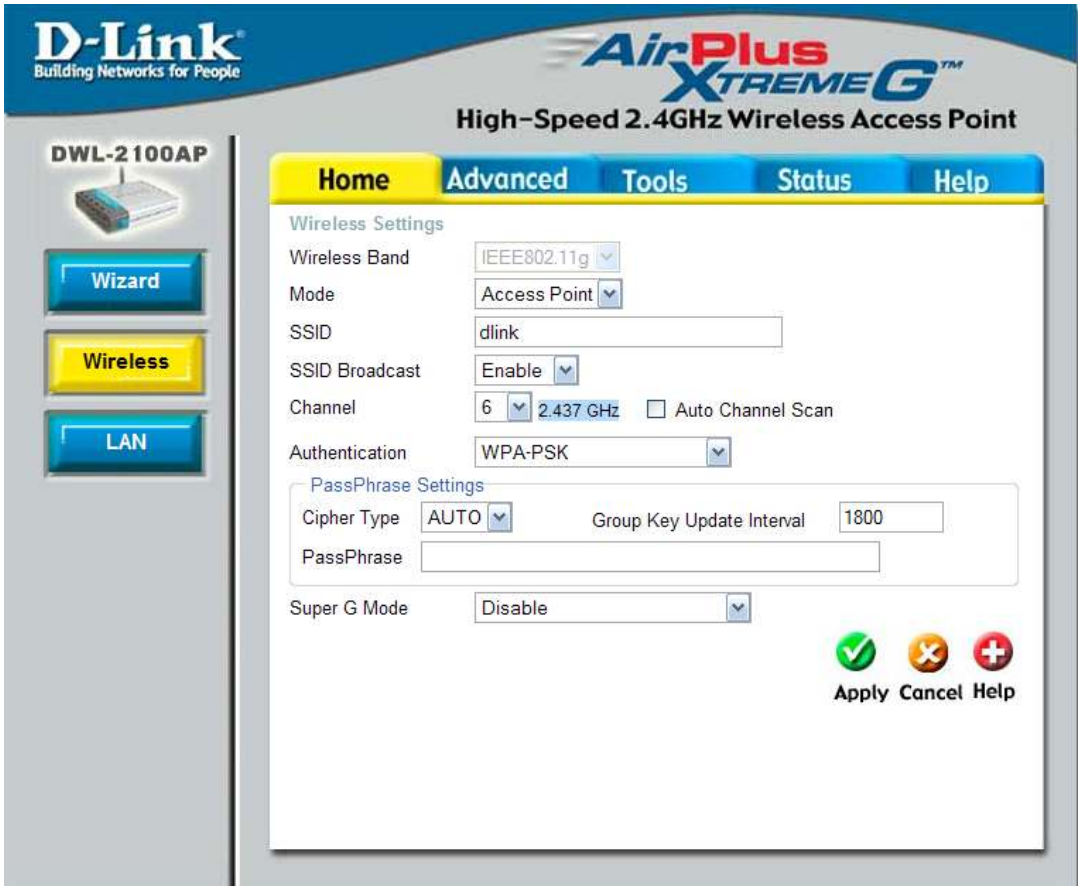
Group Key Update Interval: Select the interval during which the group key will be valid. 1800 is the recommended value. A lower interval may reduce transfer data rate.

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

Radius Port: Enter the Radius port.

Radius Secret: Enter the Radius secret.

Access Point (WPA-PSK/WPA2-PSK)

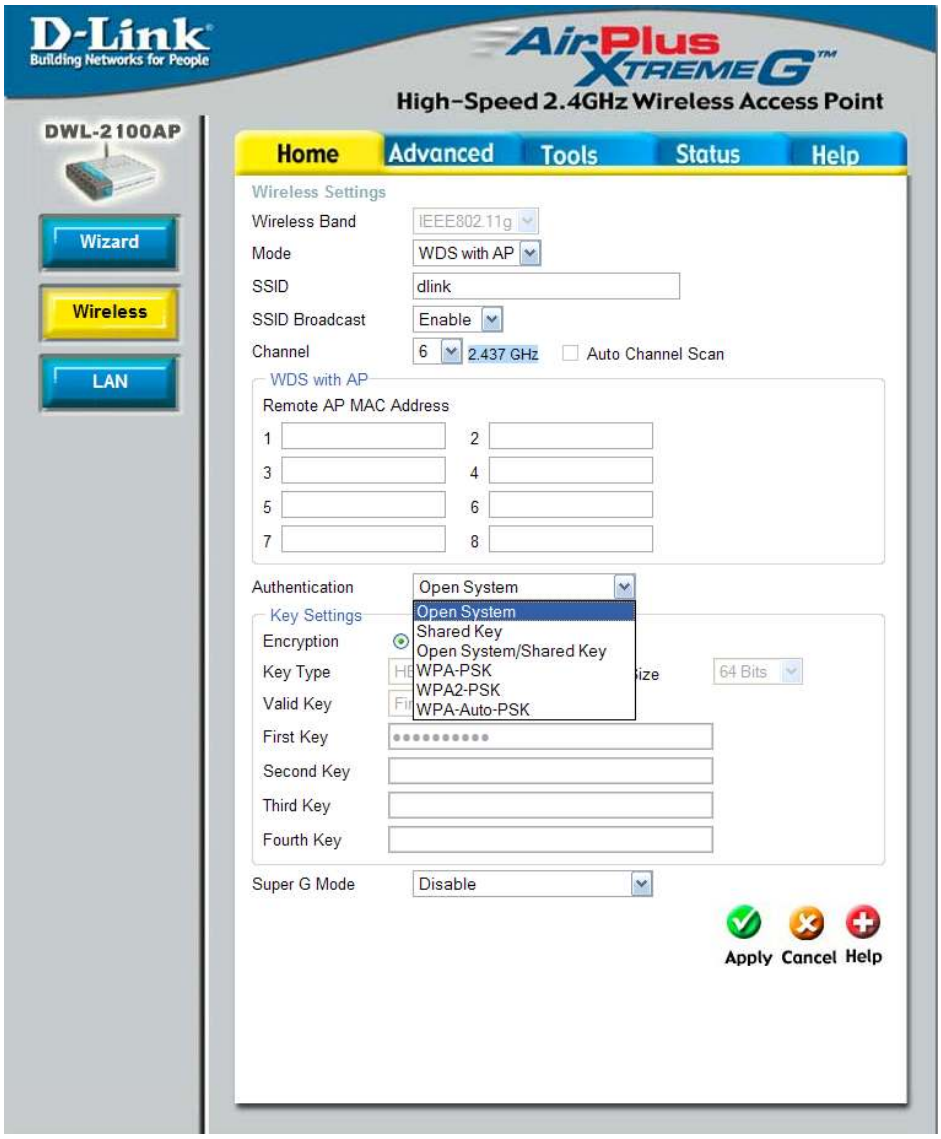


Cipher Type: When you select **WPA-PSK**, **WPA2-PSK,** or **WPA-Auto-PSK,** you must select **AUTO**, **AES**, or **TKIP** from the pull-down menu.

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

PassPhrase: Enter a passphrase. The passphrase is an alpha-numeric password between 8 and 63 characters long. The password can include symbols (!?*&_) and spaces. Make sure you enter this key exactly the same on all other wireless clients.

WDS with AP



In WDS with AP mode, the DWL-2100AP wirelessly connects multiple networks, while still functioning as a wireless AP. WDS (Wireless Distribution System) allows access points to communicate with one another wirelessly in a standardized way. It can also simplify the network infrastructure by reducing the amount of cabling required. Basically the access points will act as a client and an access point at the same time.

Wireless Band: IEEE 802.11g

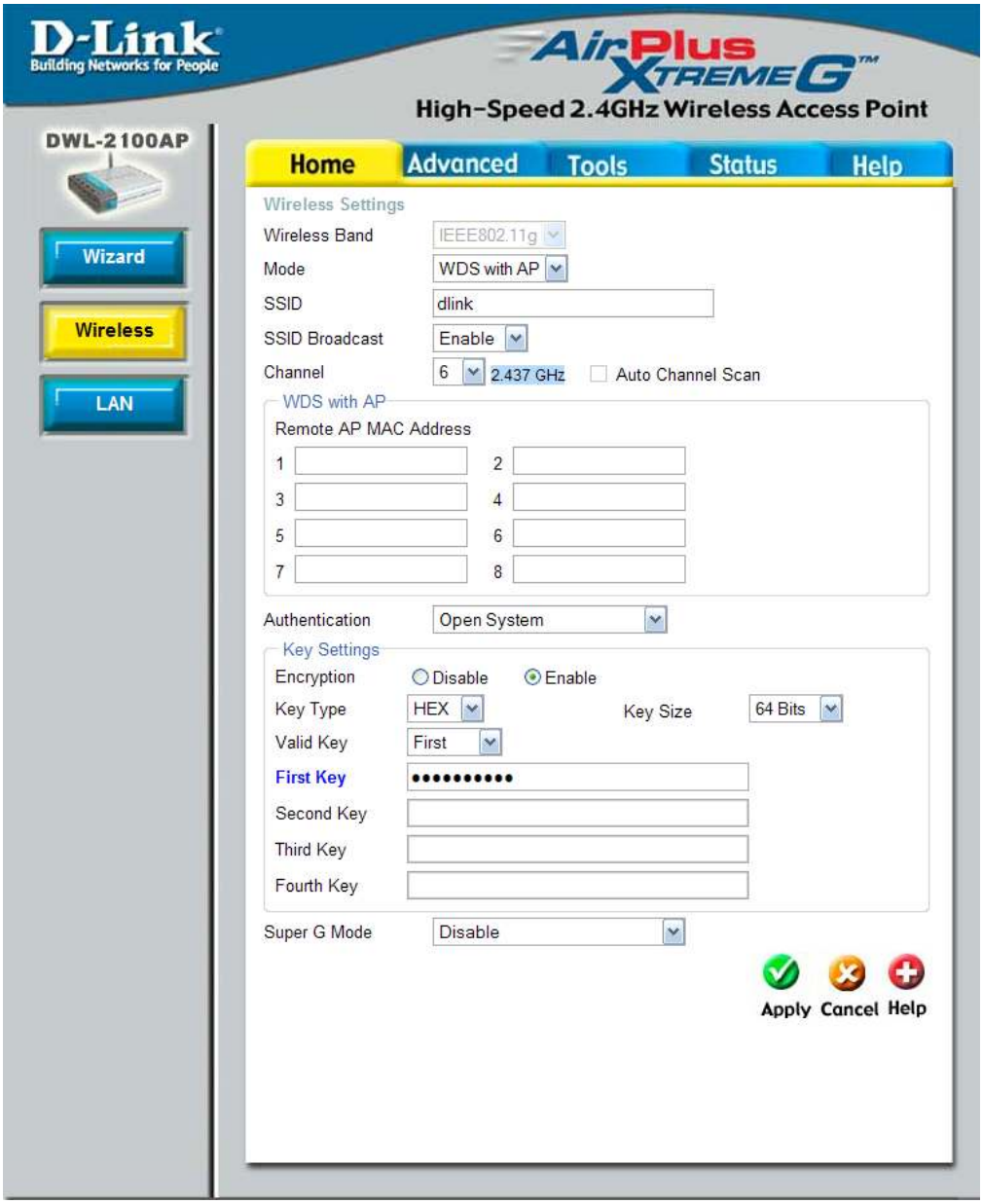
Mode: **WDS with AP** is selected from the pull-down menu.

SSID: Service Set Identifier (SSID) is the name designated for a specific wireless local area network (WLAN). The SSID's factory default setting is **dlink**. 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:	**6** is the default channel for IEEE 802.11g. All devices on the network must share the same channel. **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.
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-PSK, WPA2-PSK,** or **WPA-Auto-PSK** to secure your network using a password and dynamic key changes (No RADIUS server required).

Note: *WDS is not completely specified in WiFi or IEEE standards. Communication with other vendor´s access points is not guaranteed.*

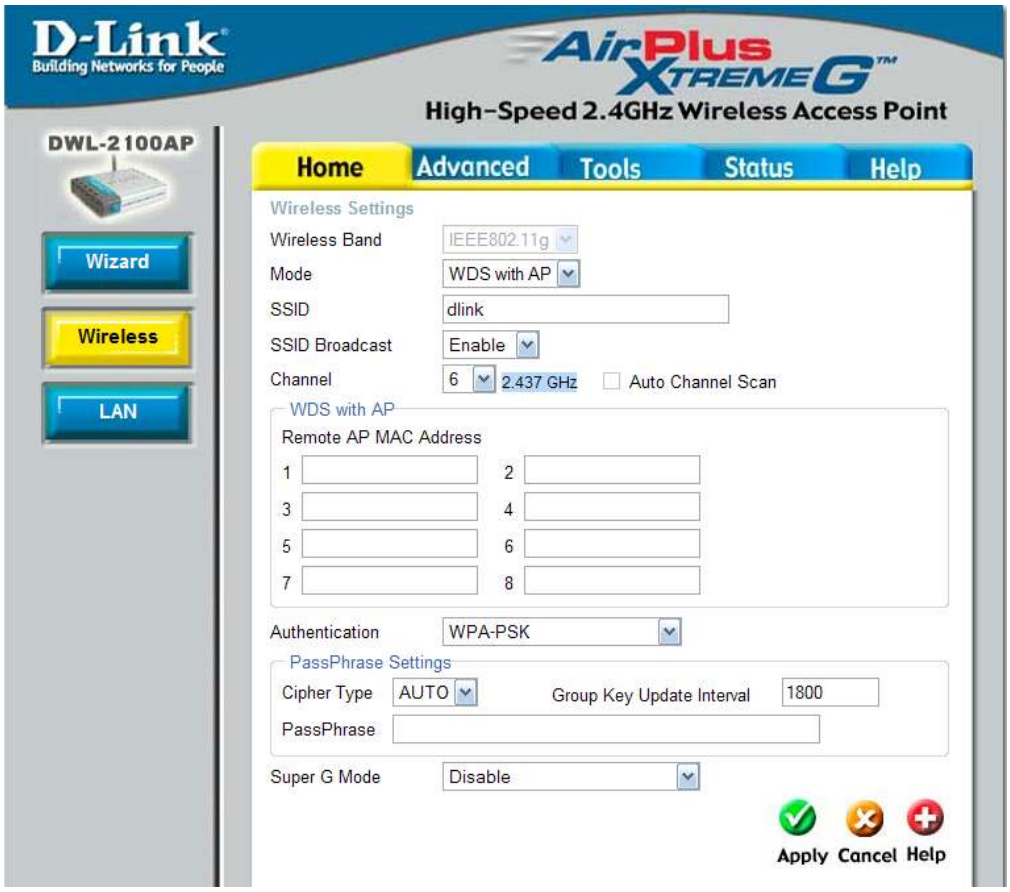
WDS with AP (WEP)



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.

WDS with AP (WPA-PSK/WPA2-PSK)

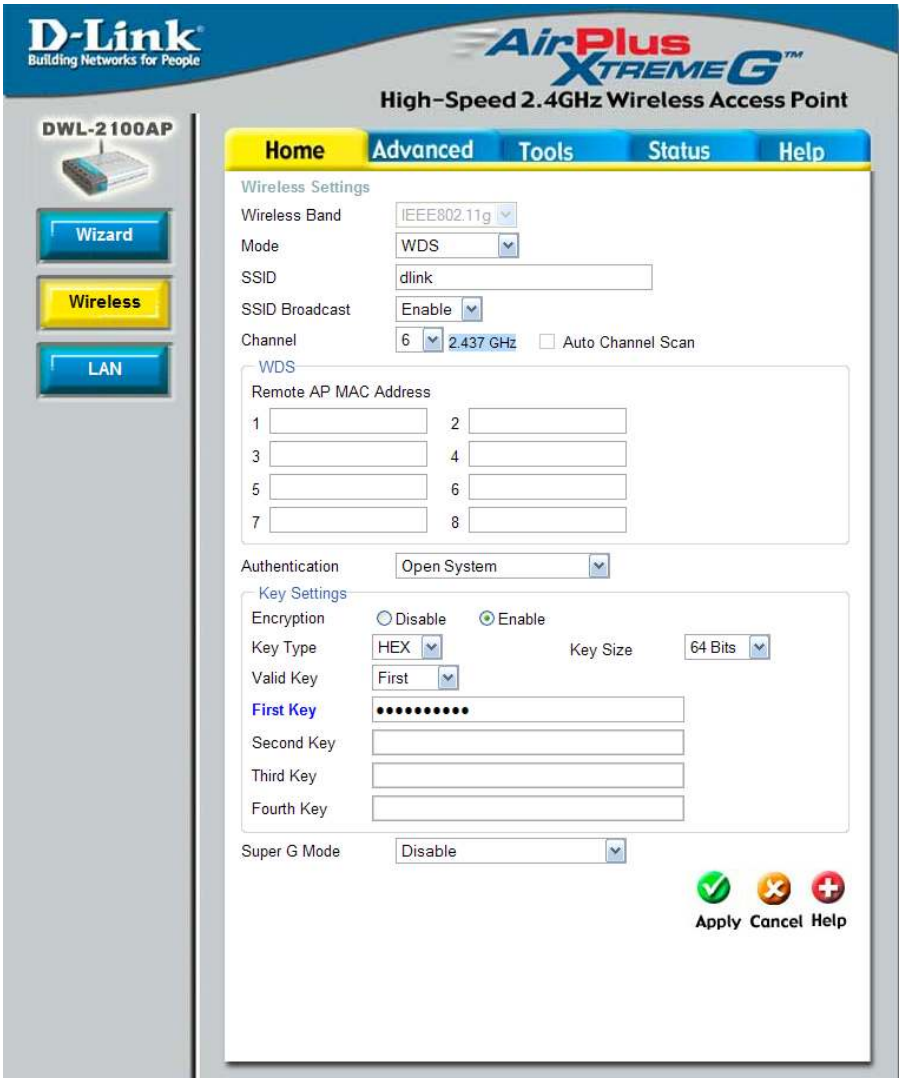


Cipher Type: When you select **WPA-PSK**, **WPA2-PSK**, or **WPA-Auto-PSK** you must select **AUTO** or **AES** from the pull-down menu.

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

PassPhrase: Enter a passphrase. The passphrase is an alpha-numeric password between 8 and 63 characters long. The password can include symbols (!?*&_) and spaces. Make sure you enter this key exactly the same on all other wireless clients.

WDS



In WDS, the **DWL-2100AP** wirelessly connects multiple networks, without functioning as a wireless AP.

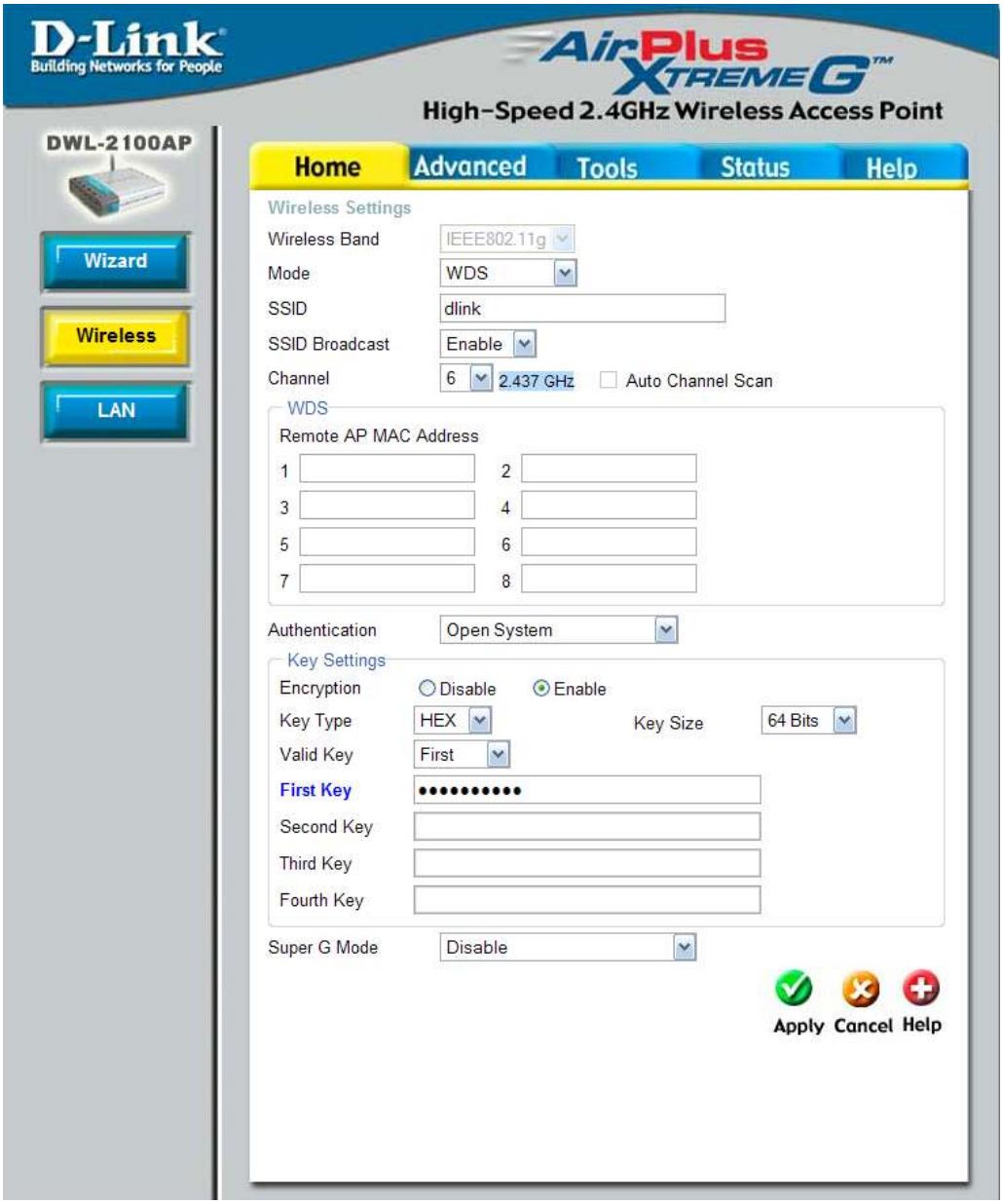
Wireless Band: IEEE 802.11g

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 **dlink**. The SSID can be easily changed to connect to an existing wireles 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:	**6** is the default channel for IEEE 802.11g. All devices on the network must share the same channel. **Note:** *The wireless adapters will automatically scan and match the wireless setting.*
Auto Channel Scan:	This option is unavailable in WDS.
Remote AP MAC Address:	Enter the MAC addresses of the APs in your network that will serve as bridges to wirelessly connect multiple networks.
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-PSK**, **WPA2-PSK**, or **WPA-Auto-PSK** to secure your network using a password and dynamic key changes (No RADIUS server required).

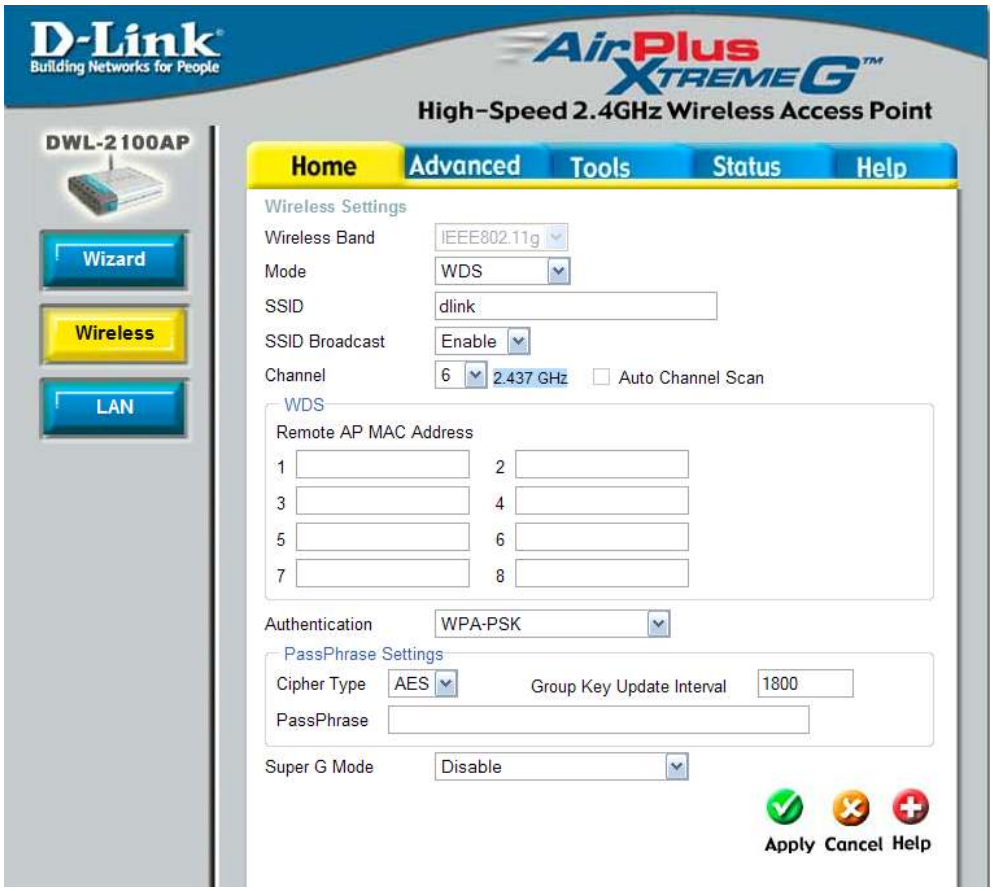
WDS (WEP)



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.

WDS (WPA-PSK)

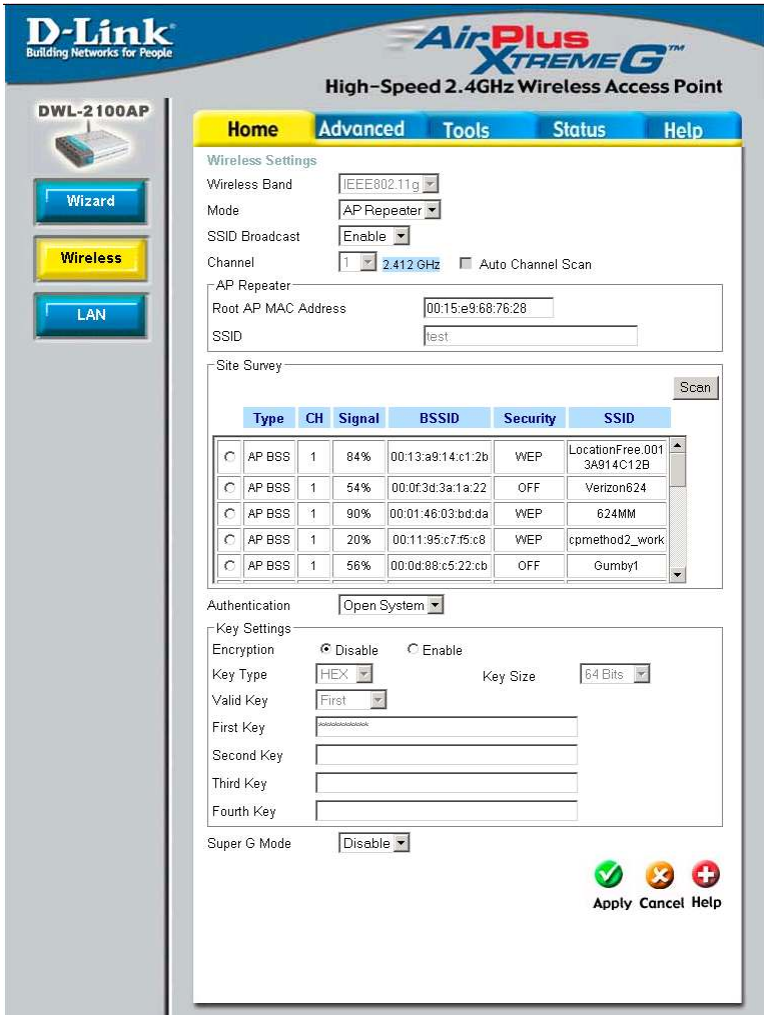


Cipher Type: When you select **WPA-PSK, AES** is used here.

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

PassPhrase: When you select **WPA-PSK**, please enter a **PassPhrase** in the corresponding field.

AP Repeater



Wireless Band: IEEE 802.11g is selected here.

Mode: Select AP Repeater from the drop-down menu.

SSID Broadcast: Select Enable to broadcast your SSID over the wireless network. Select Disable to hide your SSID.

Channel: The channel used will be displayed. The channel will follow the root AP.

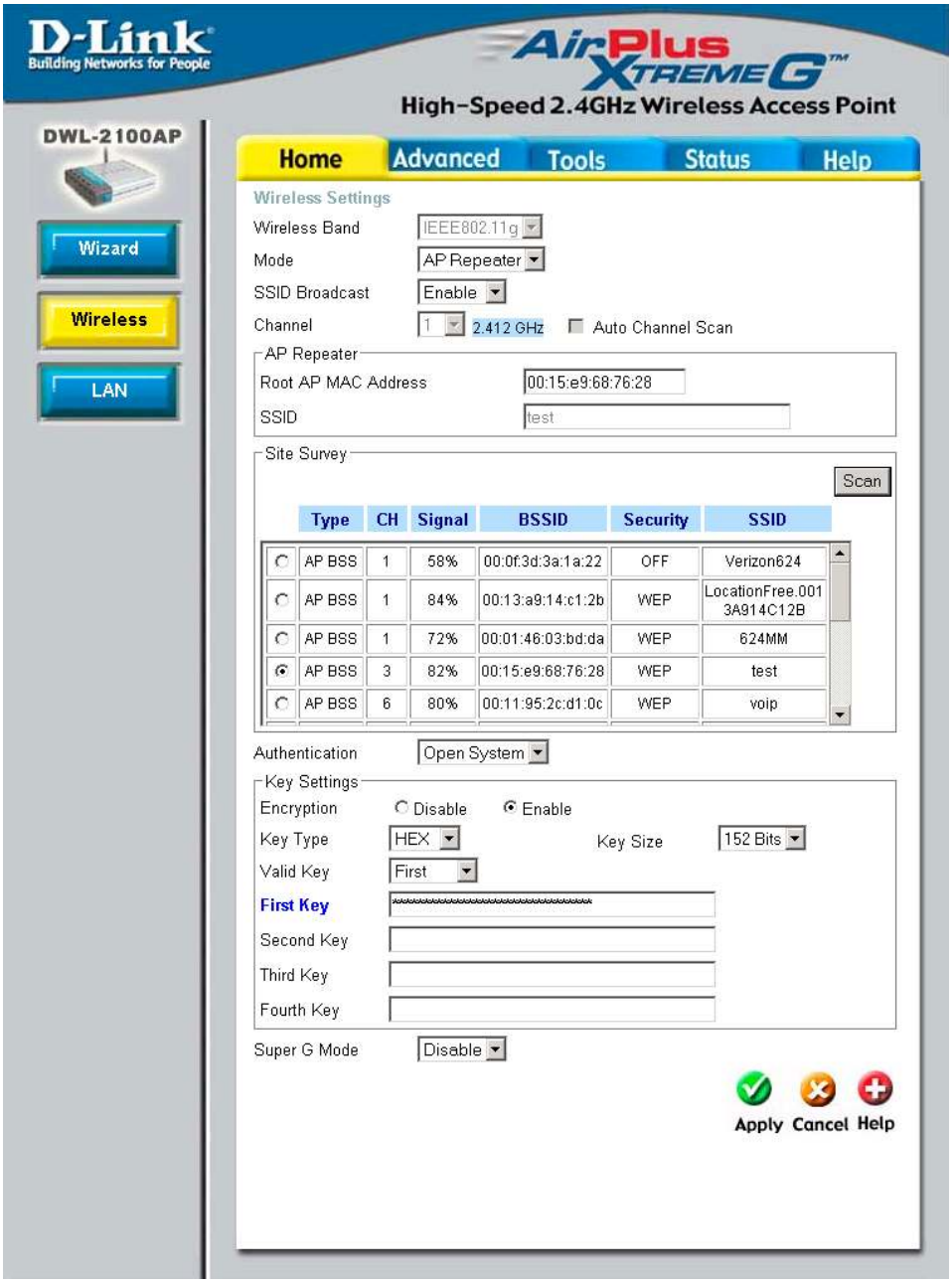
Auto Channel Scan: This feature is not available in Repeater mode.

Root AP MAC Address/ SSID: Click on Scan and select the root AP you with to repeat. When you select the AP, the MAC Address and the SSID fields will populate.

Authentication: Select Open System or Shared Key. Refer to the next page.

Super G Mode: Disabled by default. You can select **Enable** if the access point you are connecting to is using Super G mode.

AP Repeater (WEP)



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

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

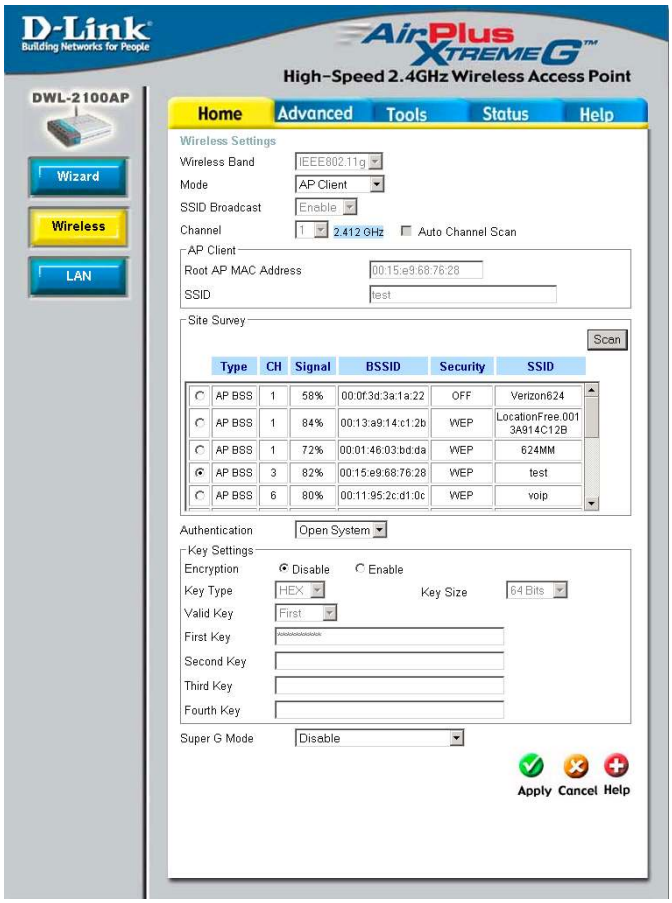
Key Size: Select **64-bit, 128-bit,** or **152 bits.**

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.

AP Client



Wireless Band: IEEE 802.11g is selected here.

Mode: Select AP Client from the drop-down menu.

SSID Broadcast: Select Enable to broadcast your SSID over the wireless network. Select Disable to hide your SSID.

Channel: The channel used will be displayed. The channel will follow the root AP.

Auto Channel Scan: This feature is not available in Repeater mode.

Root AP MAC Address/ SSID: Click on Scan and select the root AP you with to repeat. When you select the AP, the MAC Address and the SSID fields will populate.

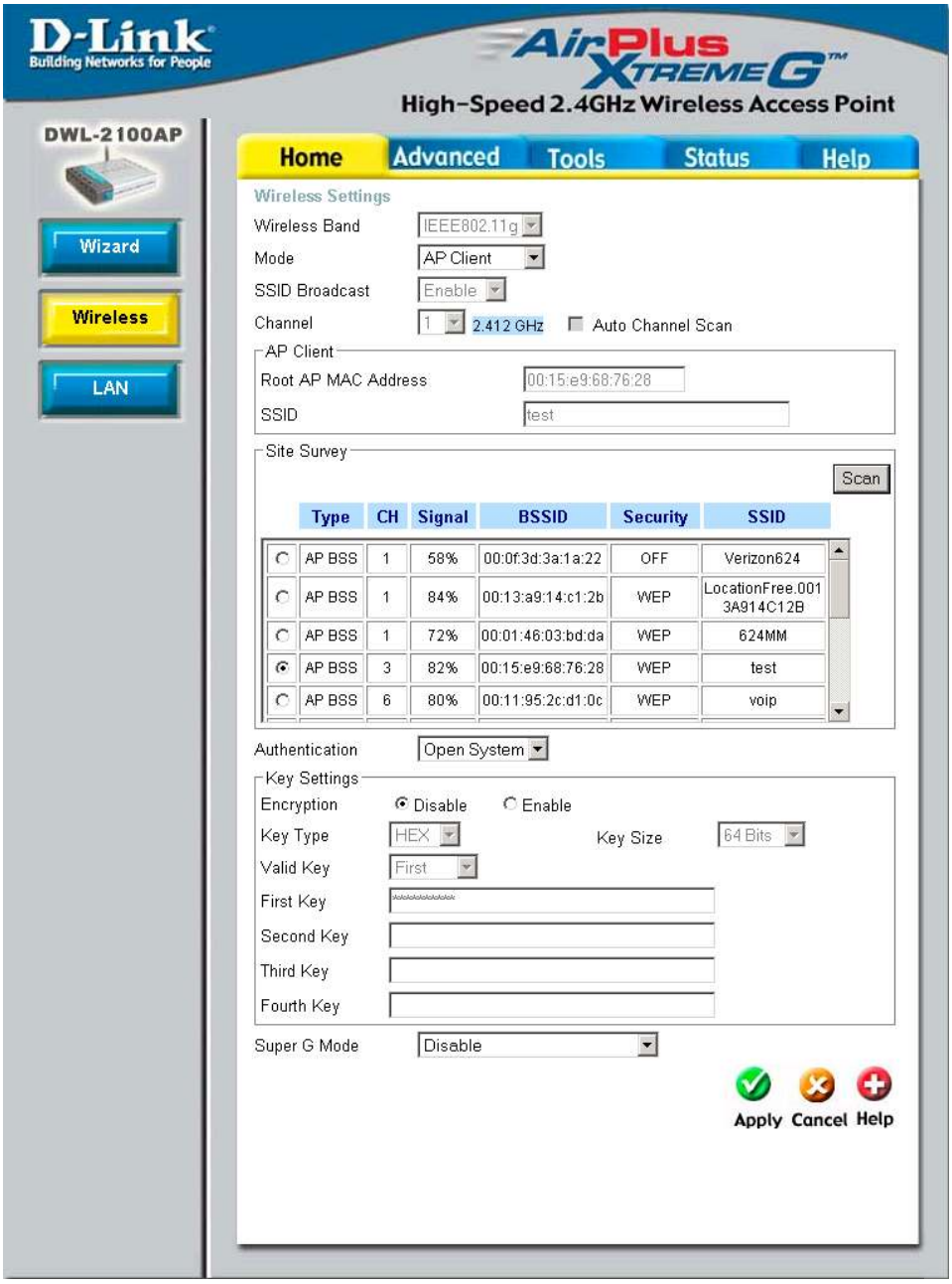
Authentication: Select **Open System** to communicate the key across the network.

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

Select **WPA-PSK** or **WPA2-PSK** to secure your network using a password and dynamic key changes (No RADIUS server required).

Super G Mode: Disabled by default. You can select **Super G without Turbo** or **Super G with Dynamic Turbo**.

AP Client (WEP)



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

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

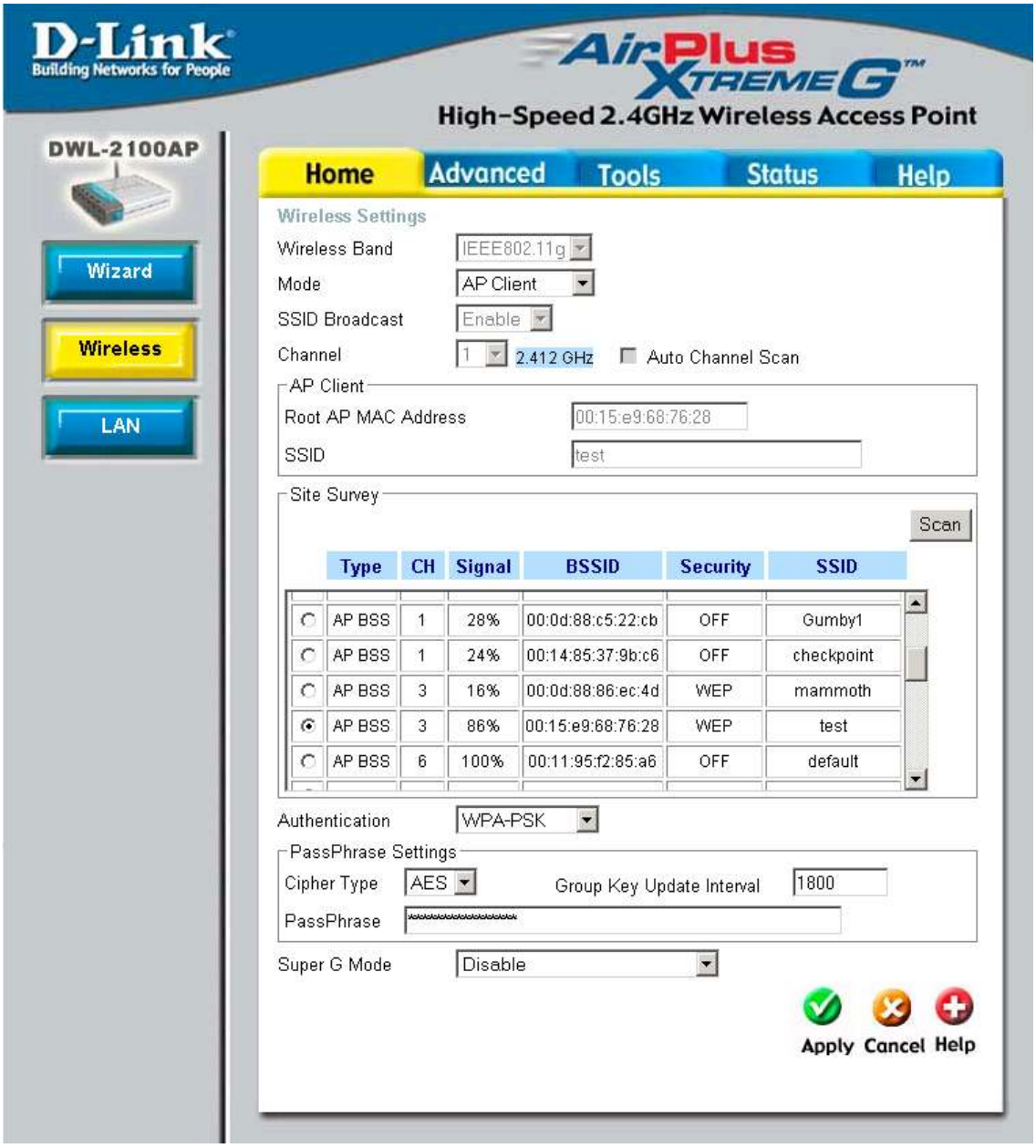
Key Size: Select **64-bit, 128-bit,** or **152 bits.**

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.

AP Client (WPA-PSK/WPA2-PSK)

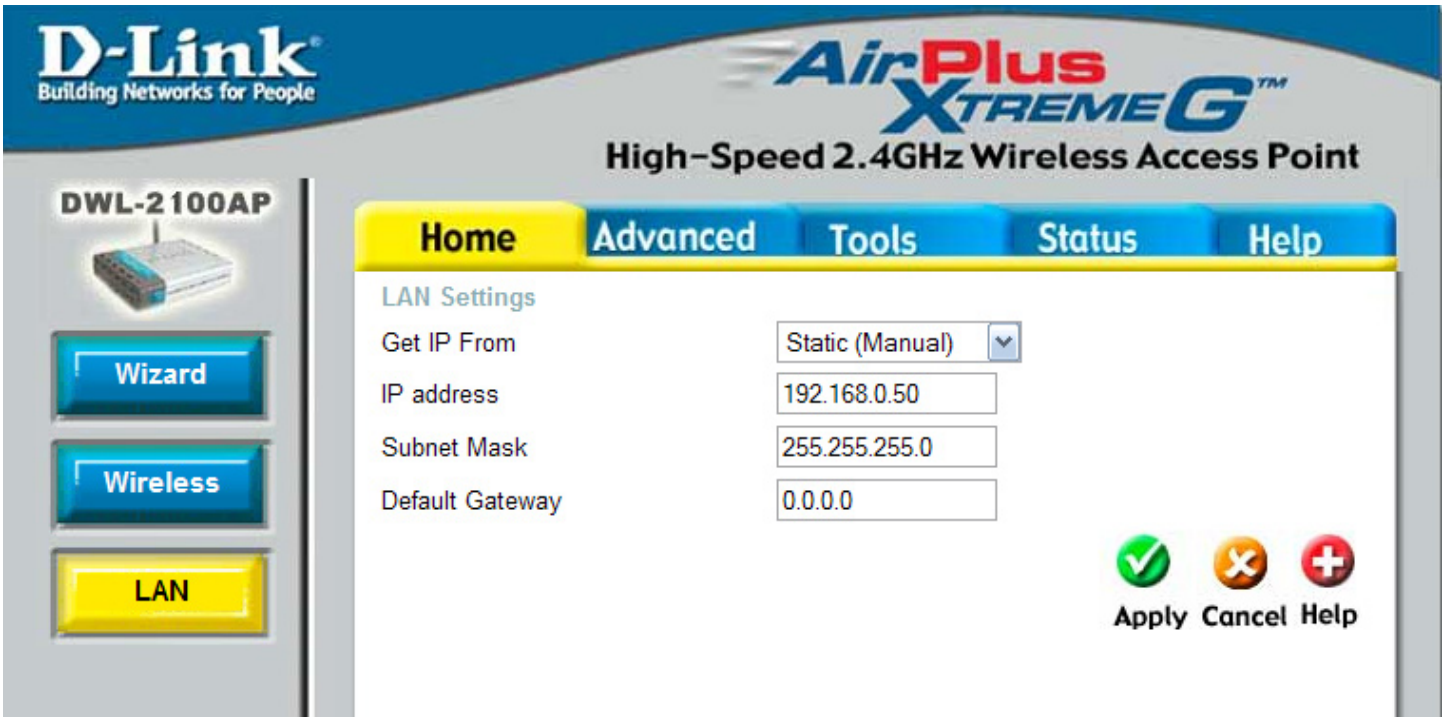


Cipher Type: When you select **WPA-PSK**, **WPA2-PSK**, or **WPA-Auto-PSK** you must select **AES** or **TKIP** from the pull-down menu.

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

PassPhrase: Enter a passphrase. The passphrase is an alpha-numeric password between 8 and 63 characters long. The password can include symbols (!?*&_) and spaces. Make sure you enter this key exactly the same on all other wireless clients.

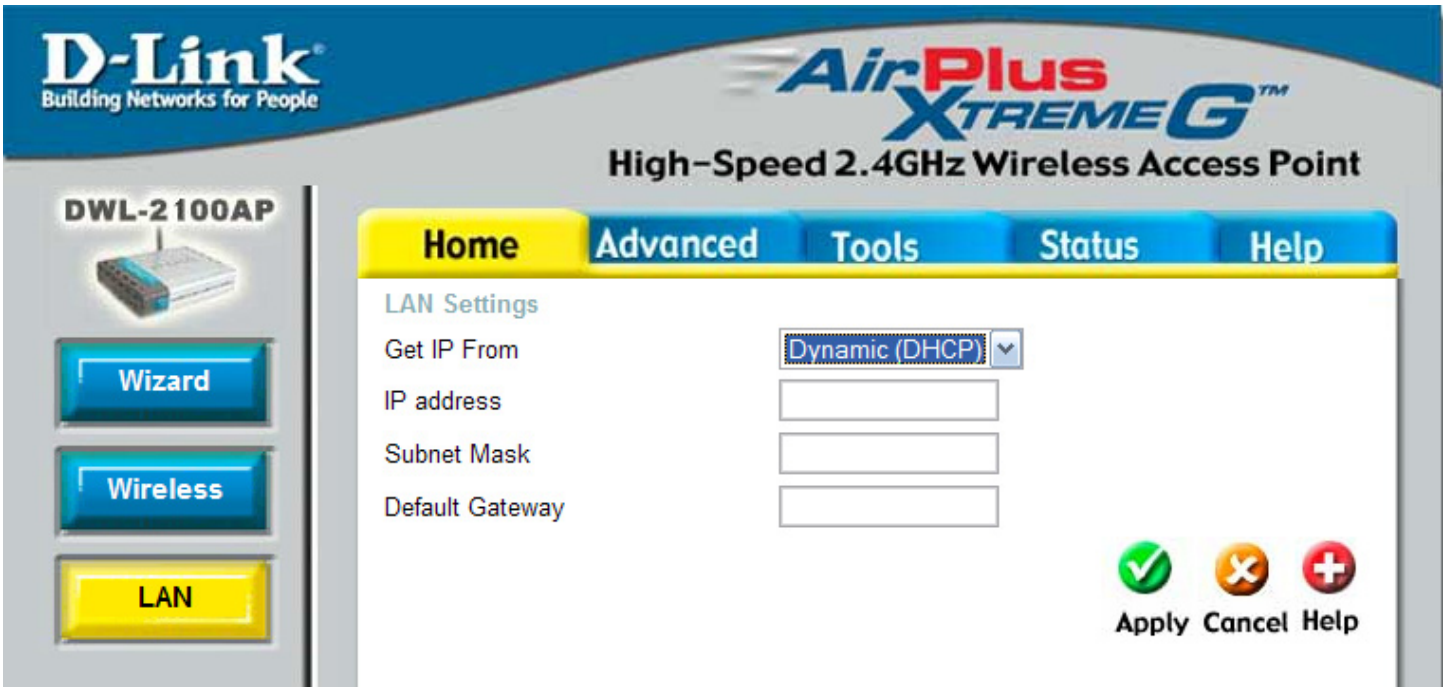
LAN Settings
Static IP Address



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-2100AP. 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.

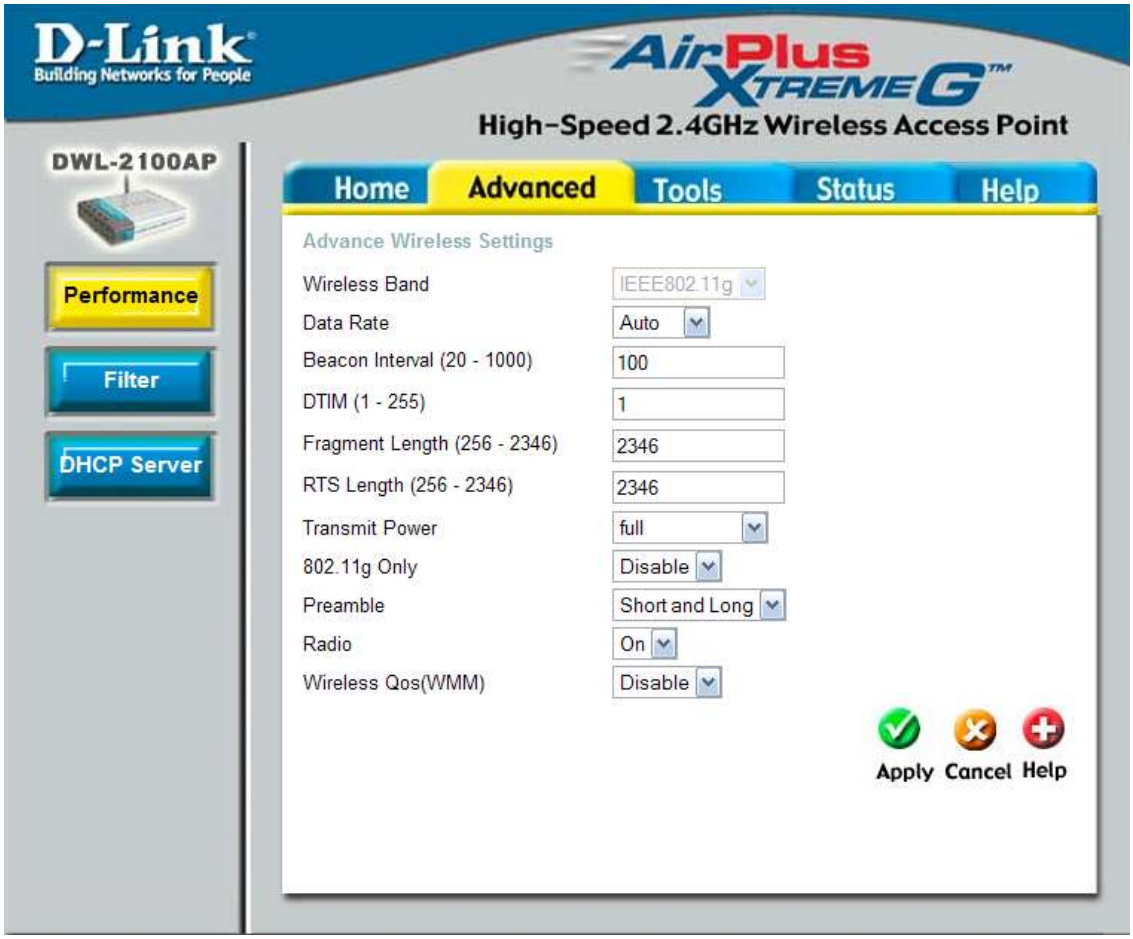
Get IP From:	Static (Manual) is chosen here. Choose this option if you do not have a DHCP server in your network, or if you wish to assign a static IP address to the DWL-2100AP.
IP Address:	The default IP address is 192.168.0.50. Assign a static IP address that is within the IP address range of your 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.

Dynamic IP Address



Get IP From:	Dynamic (DHCP) is chosen here. Choose Dynamic IP Address to obtain an IP Address automatically from a DHCP server in your network.
IP Address:	This field is unavailable when DHCP is chosen.
Subnet Mask:	This field is unavailable when DHCP is chosen.
Default Gateway:	This field is unavailable when DHCP is chosen.

Advanced Performance Settings



Wireless Band: IEEE802.11g.

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

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

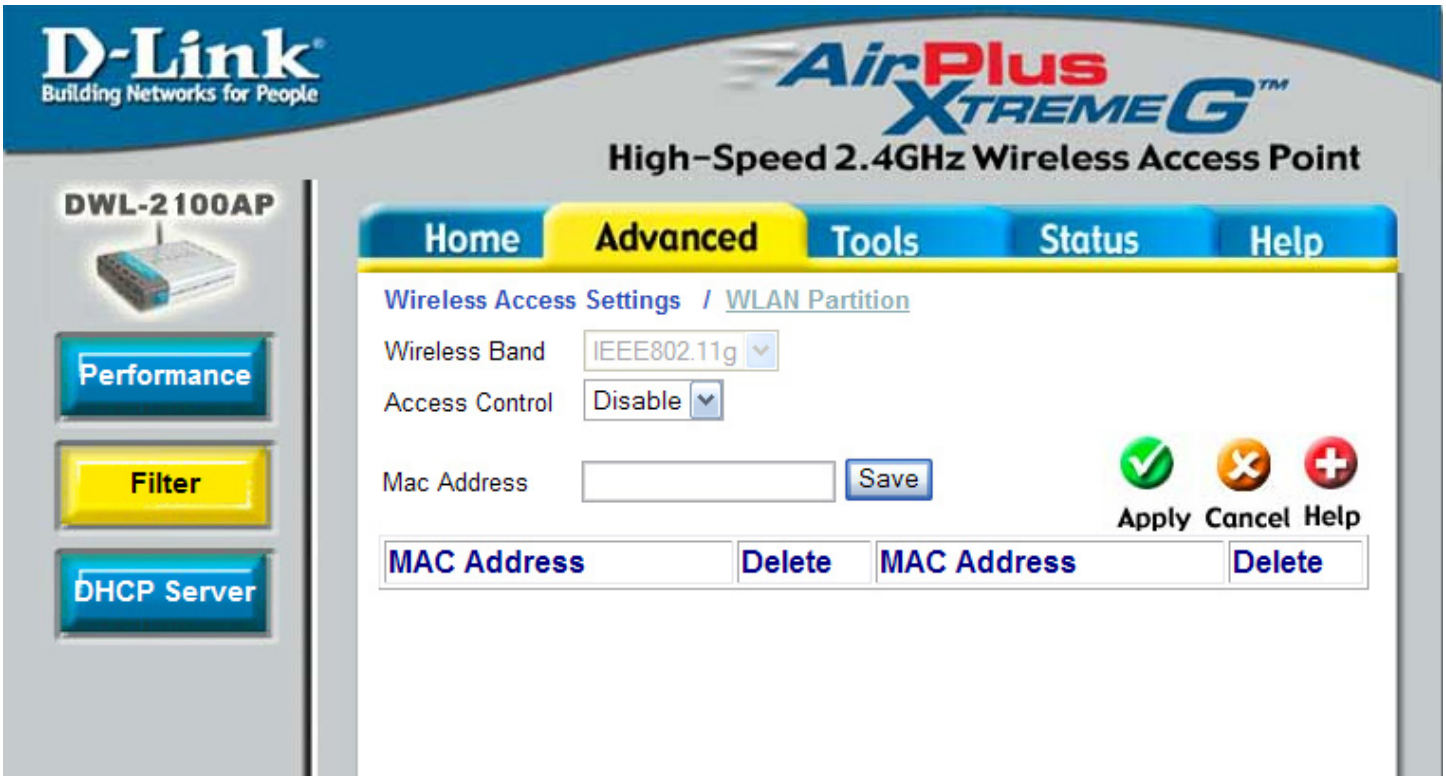
DTIM: *(Delivery Traffic Indication Message)* - Select a setting between 1 and 255. **1** is the default setting. DTIM is a countdown informing clients of the next window for listening to broadcast and multicast messages.

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

RTS Length:	This value should remain at its default setting of 2346. If you encounter inconsistent data flow, only minor modifications to the value range between 256 and 2346 are recommended
Transmit Power:	Choose full, half (-3dB), quarter (-6dB), eighth (-9dB), minimum power.
802.11g Only:	Check if all wireless devices are 802.11g. Uncheck if you are using a mixed wireless network (802.11b and 802.11g).
Preamble:	Select **Short and Long** (default) or **Long Only**.
Radio:	Select **ON** or **OFF**.
Wireless QoS (WMM):	Select **Disable** or **Enable** from the drop-down menu.

*Maximum wireless signal rate derived from IEEE Standard 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,

Filters
Wireless Access Settings



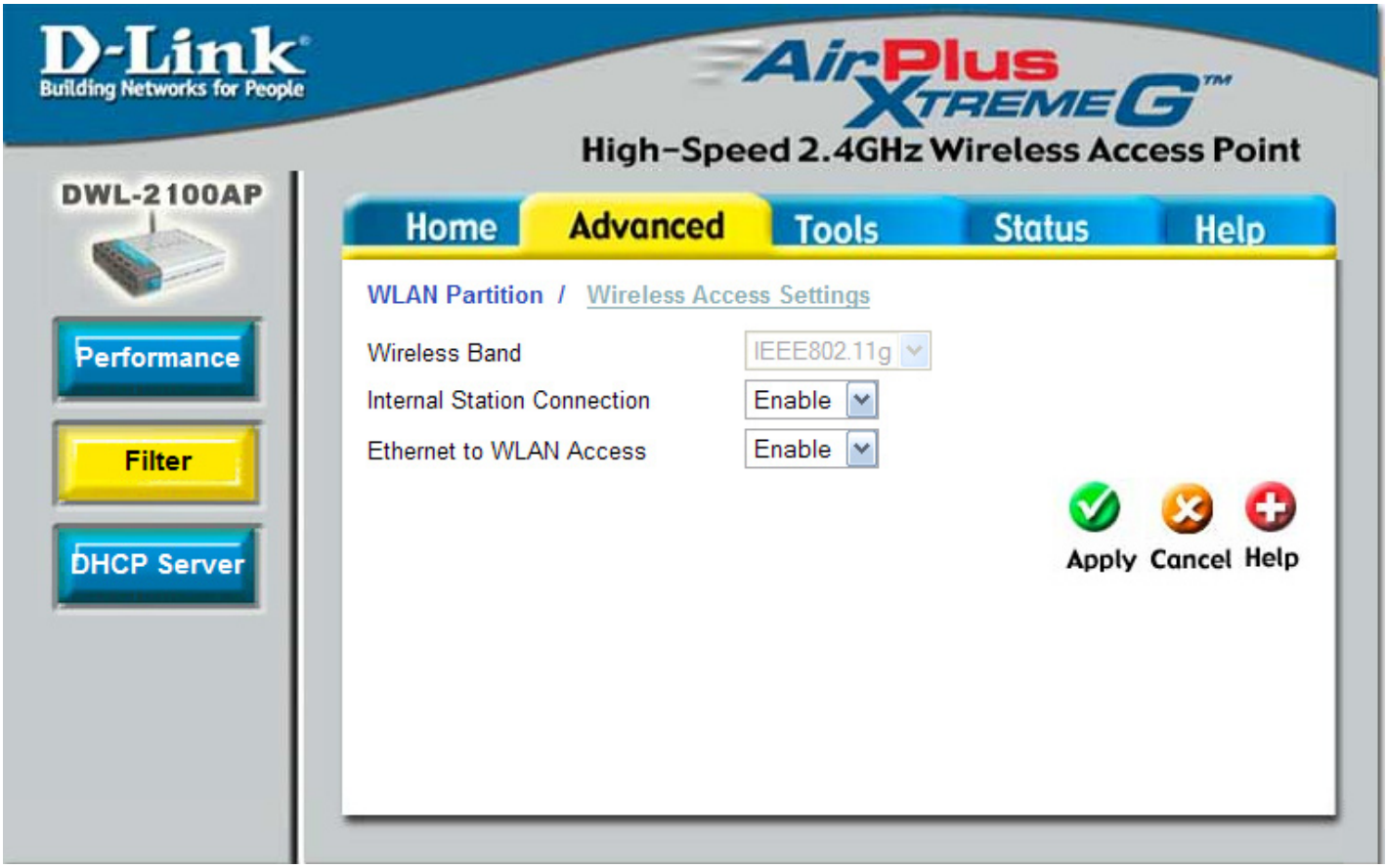
Wireless Band: IEEE802.11g.

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** next to a MAC address to remove it from the list.

WLAN Partition

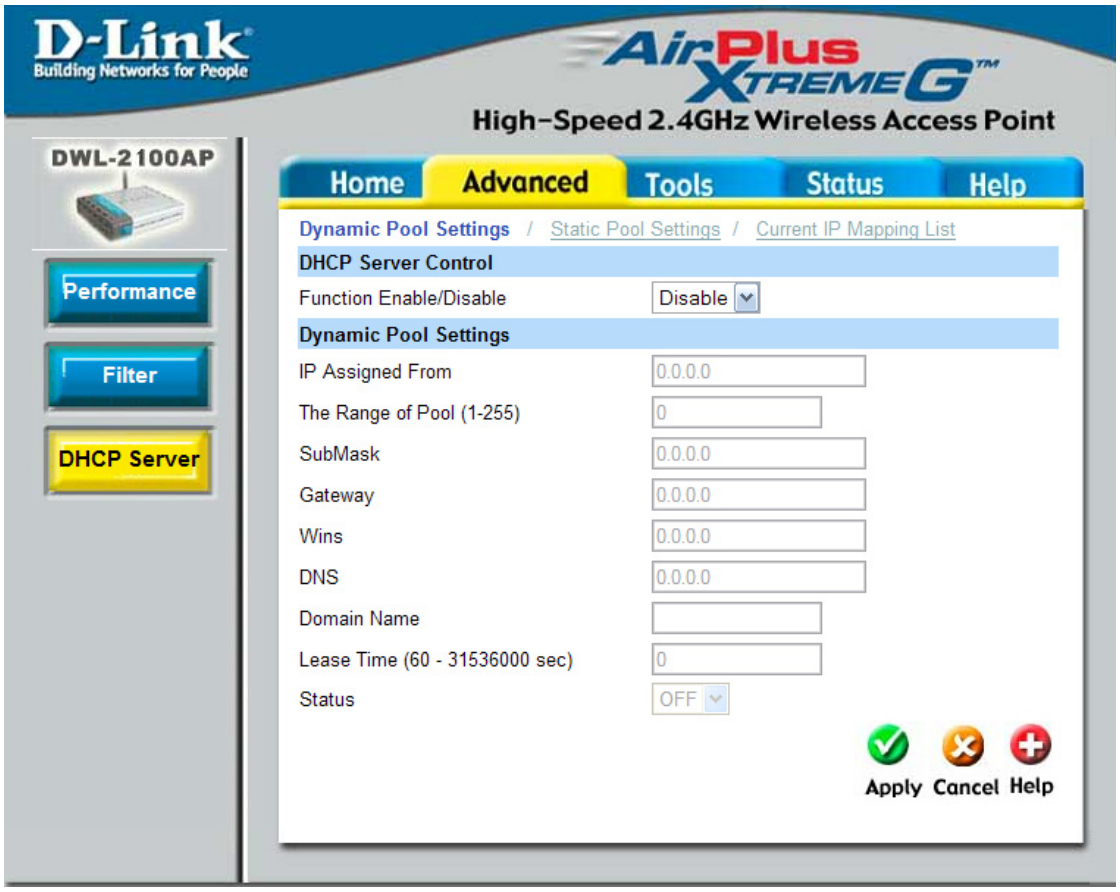


Wireless Band: IEEE802.11g.

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.

DHCP Server
Dynamic Pool Settings

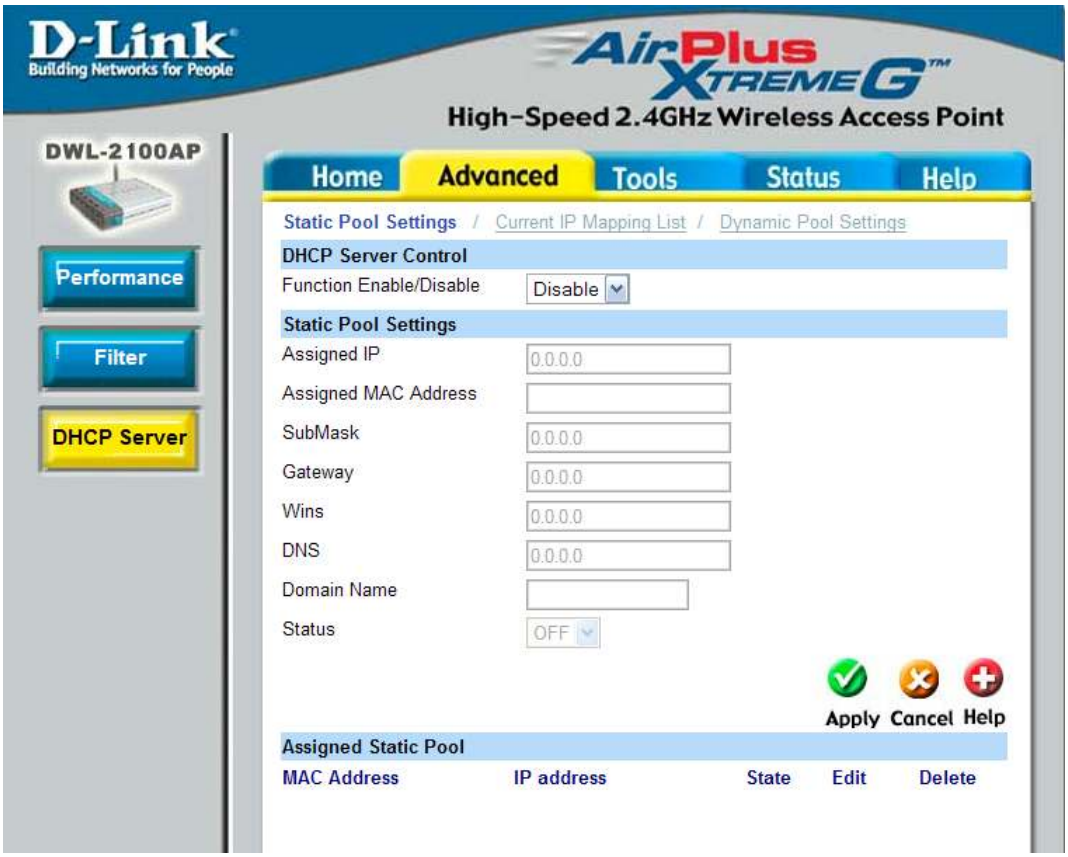


DHCP Server Control: **Dynamic Host Configuration Protocol** assigns dynamic IP addresses to devices on the network. This protocol simplifies network management and allows new wireless devices to receive IP addresses automatically without the need to manually assign new IP addresses.
Select **Enable** to allow the DWL-2100AP 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-2100AP, 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.

Static Pool Settings



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-2100AP 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.

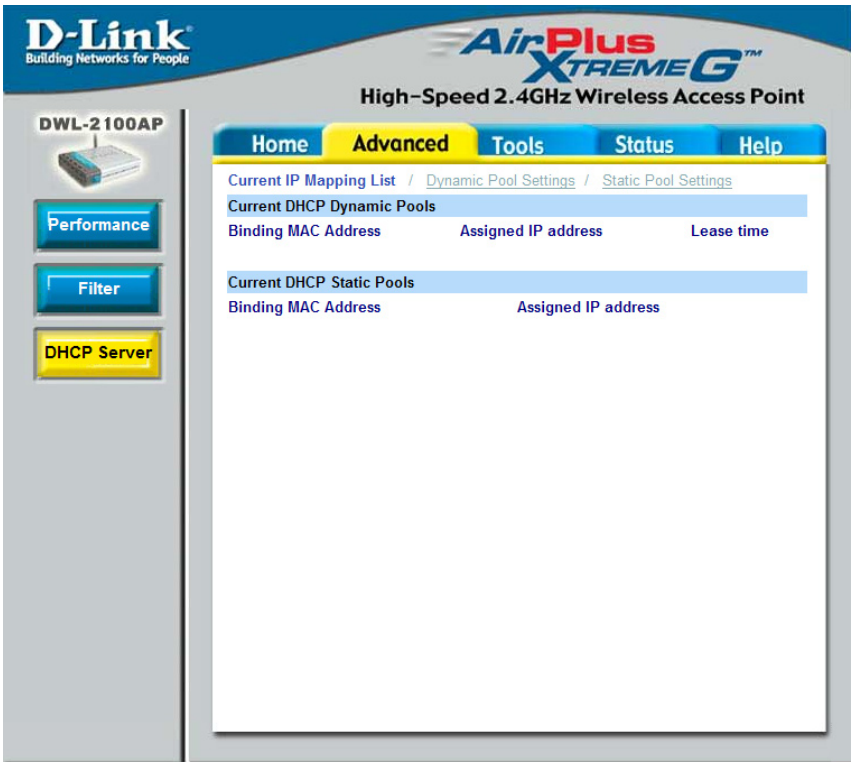
Assigned MAC Address: Enter the MAC address of the device here.

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-2100AP, if applicable.
Status:	This option turns the Static Pool settings ON or OFF.

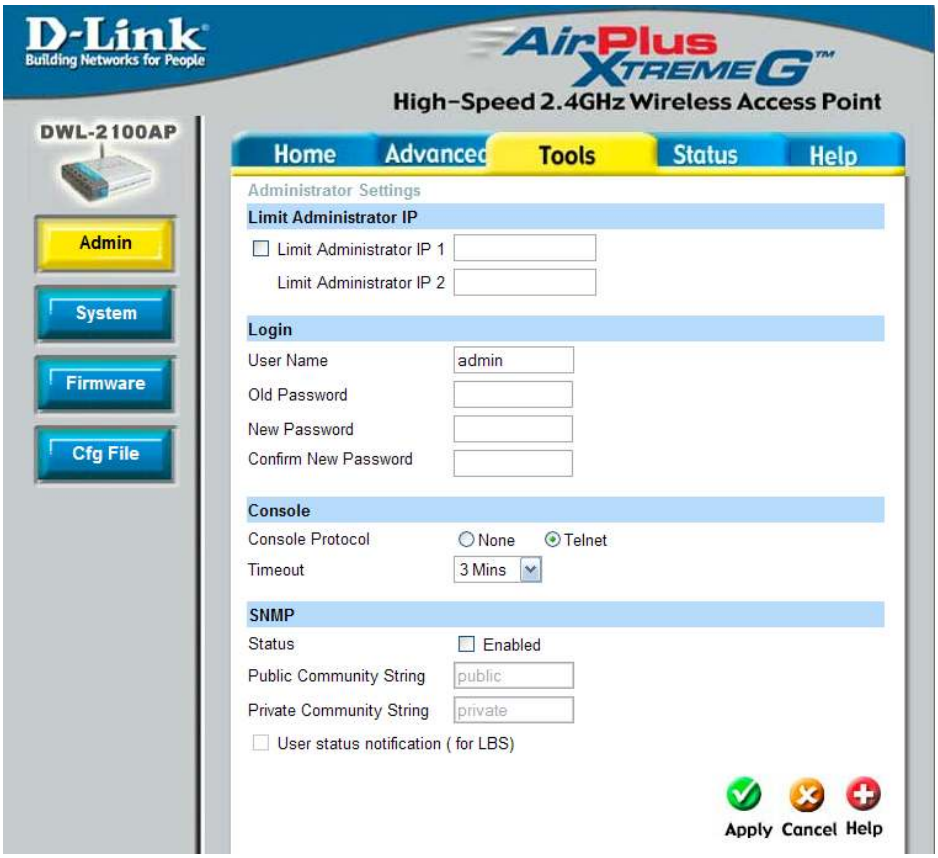
Current IP Mapping List



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-2100AP 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.

Admin Settings



Limit Administrator IP: Check the box to limit the administrator to login to the DWL-2100AP from a certain IP address.

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

Old Password: Enter the current password (blank by default).

New Password: Enter a new password and enter it again in the **Confirm Password** box.

Console Protocol: Telnet is the default setting. Select **None** to disable.

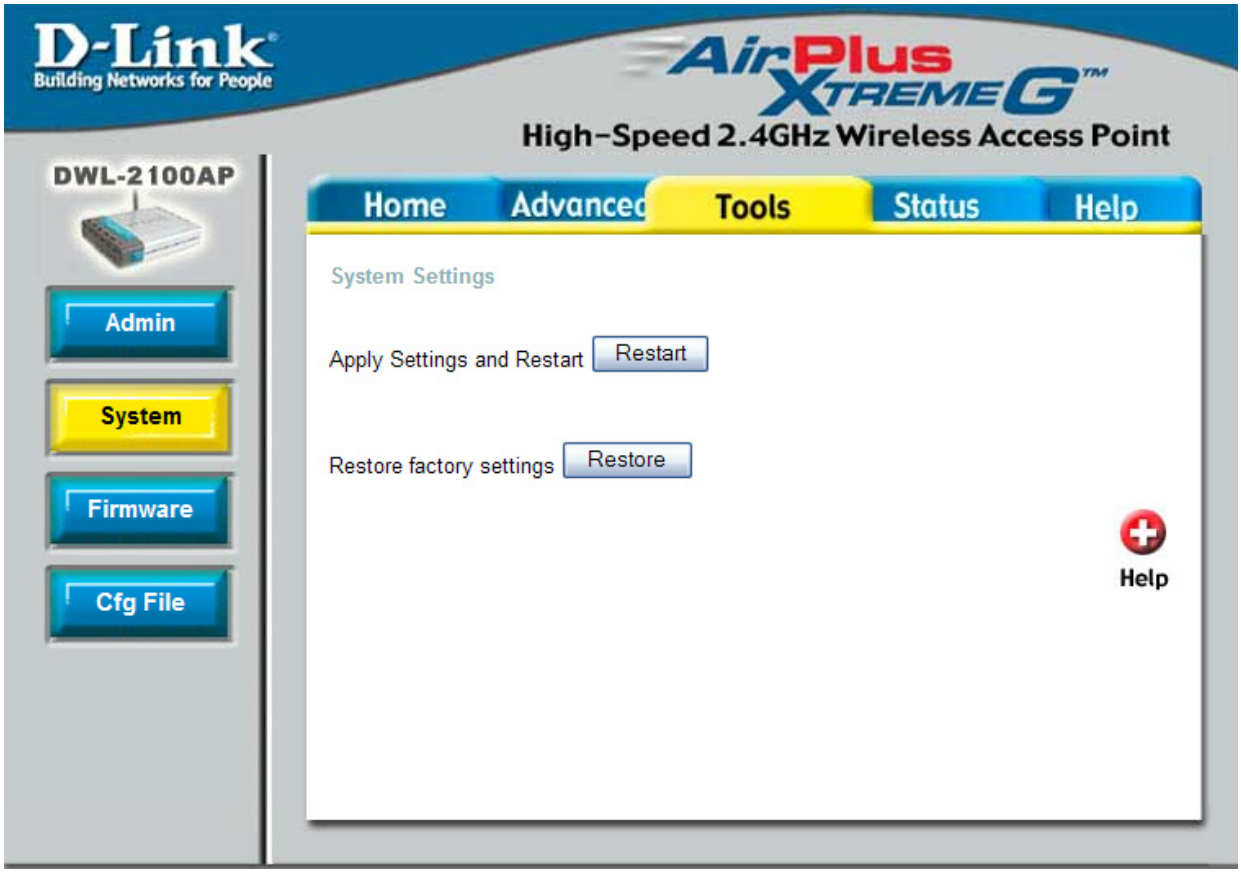
Timeout: Select a time period after which the connection will terminate.

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

Public Community String: When SNMP is enabled, you may modify the public community string.

Private Community String: When SNMP is enabled, you may modify the private community string.

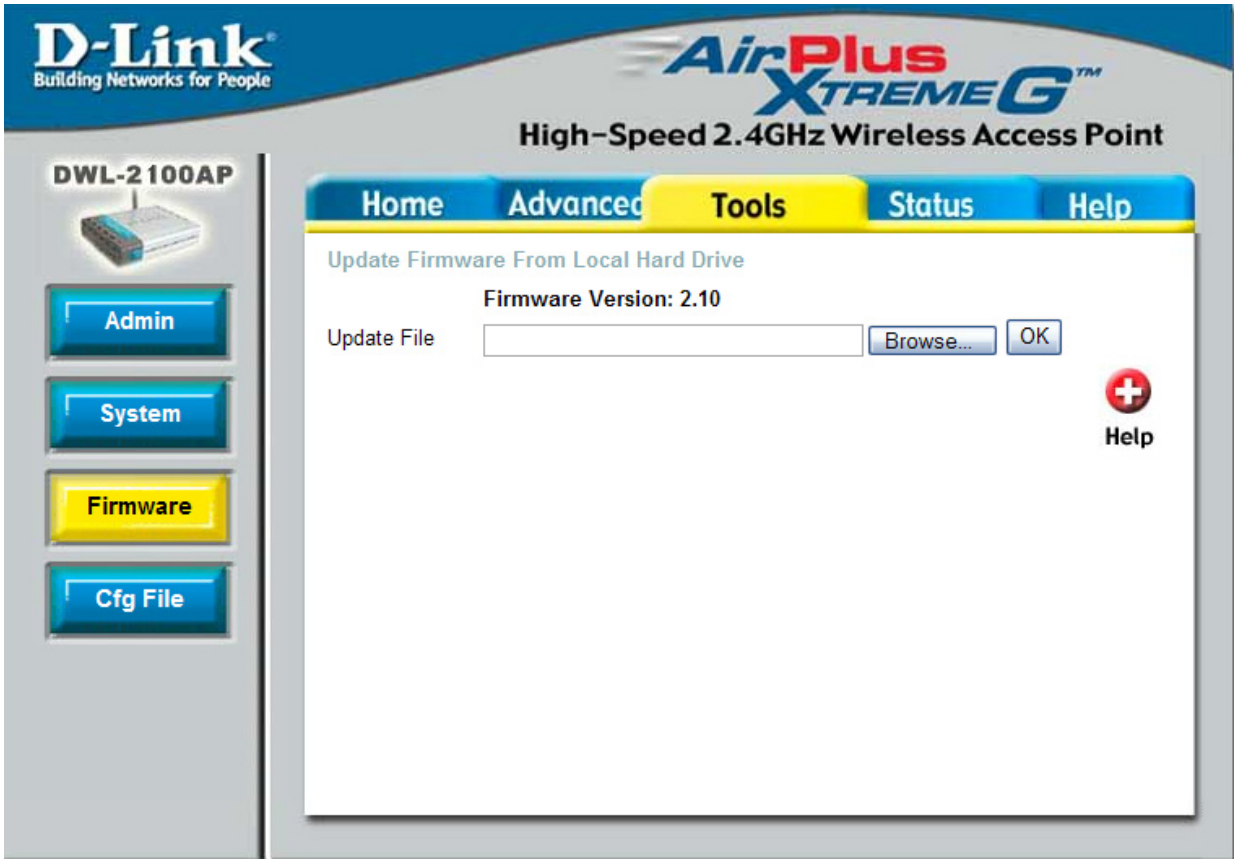
System Settings



Apply Settings and Restart: Click **Restart** to apply the system settings and restart the DWL-2100AP.

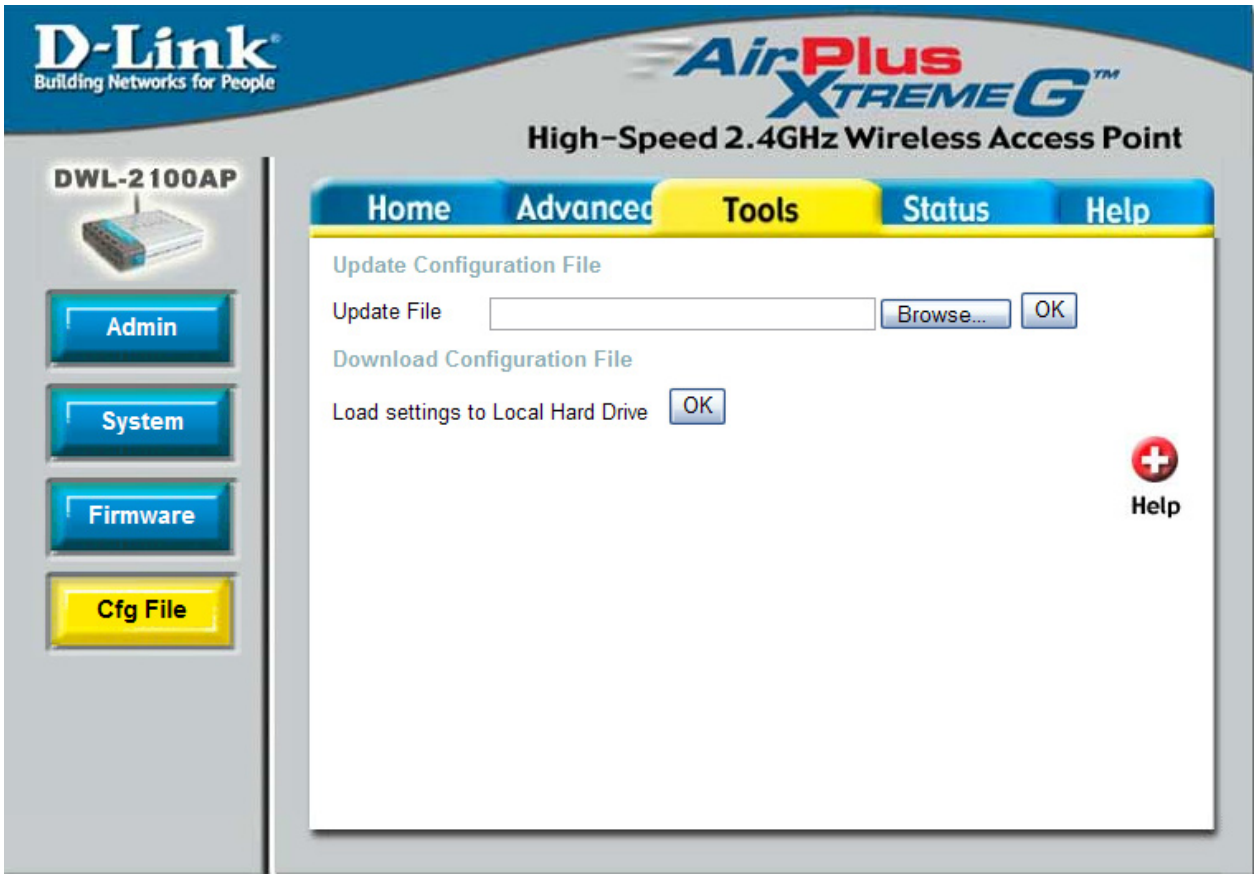
Restore to Factory Default Settings: Click **Restore** to return the DWL-2100AP to its factory default settings.

Upgrade Firmware



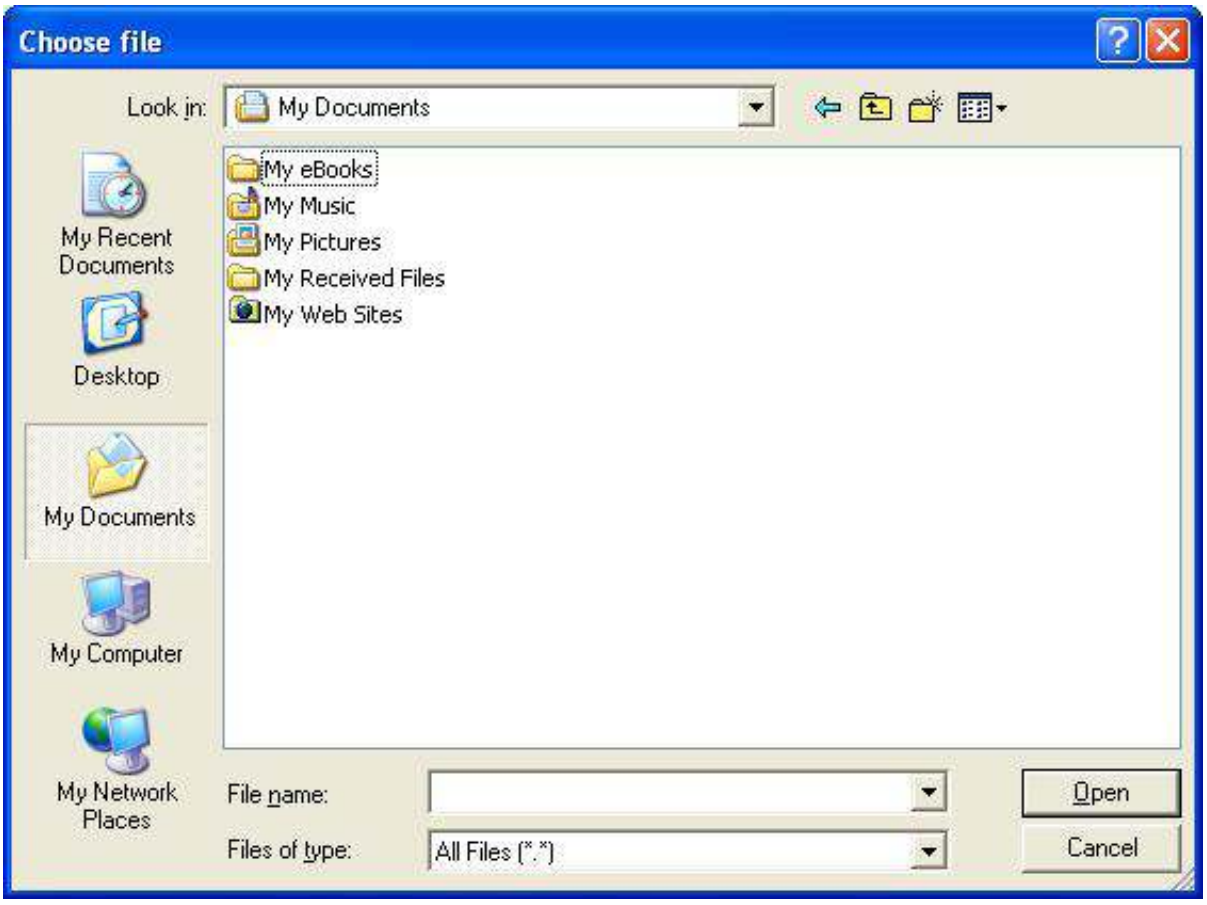
Update File: After you have downloaded the most recent version of the firmware from http://support.dlink.com to your hard drive, you can **Browse** your hard drive to locate the downloaded file. Select the file and click **OK** to update the firmware.

Configuration File

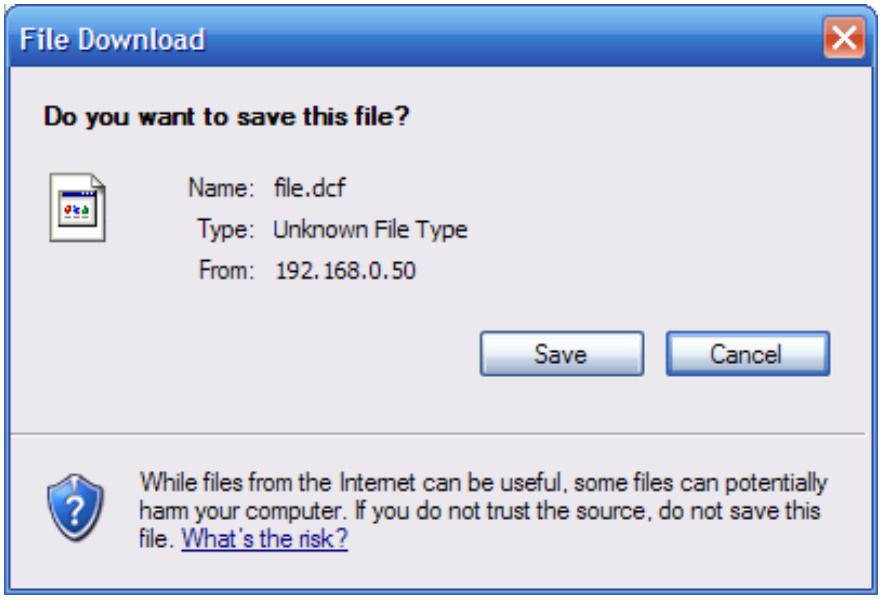


Update File: Browse for the configuration settings that you have saved to your hard drive. Click **OK** after you have selected the settings file.

Load Settings to the Loacl 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**.



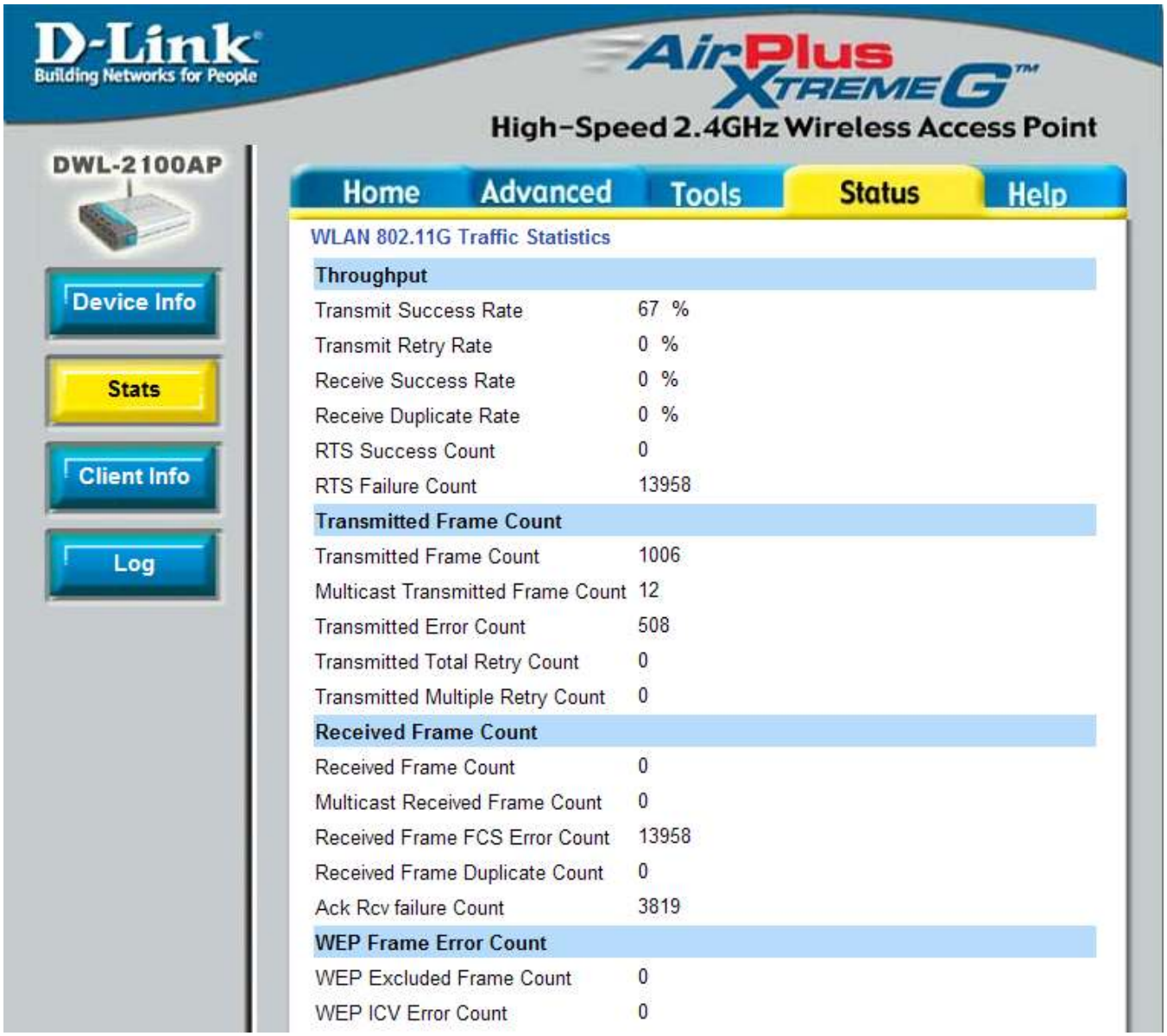
When this dialog box appears, click **Save** and select a location to save the configuration file.

Device Information



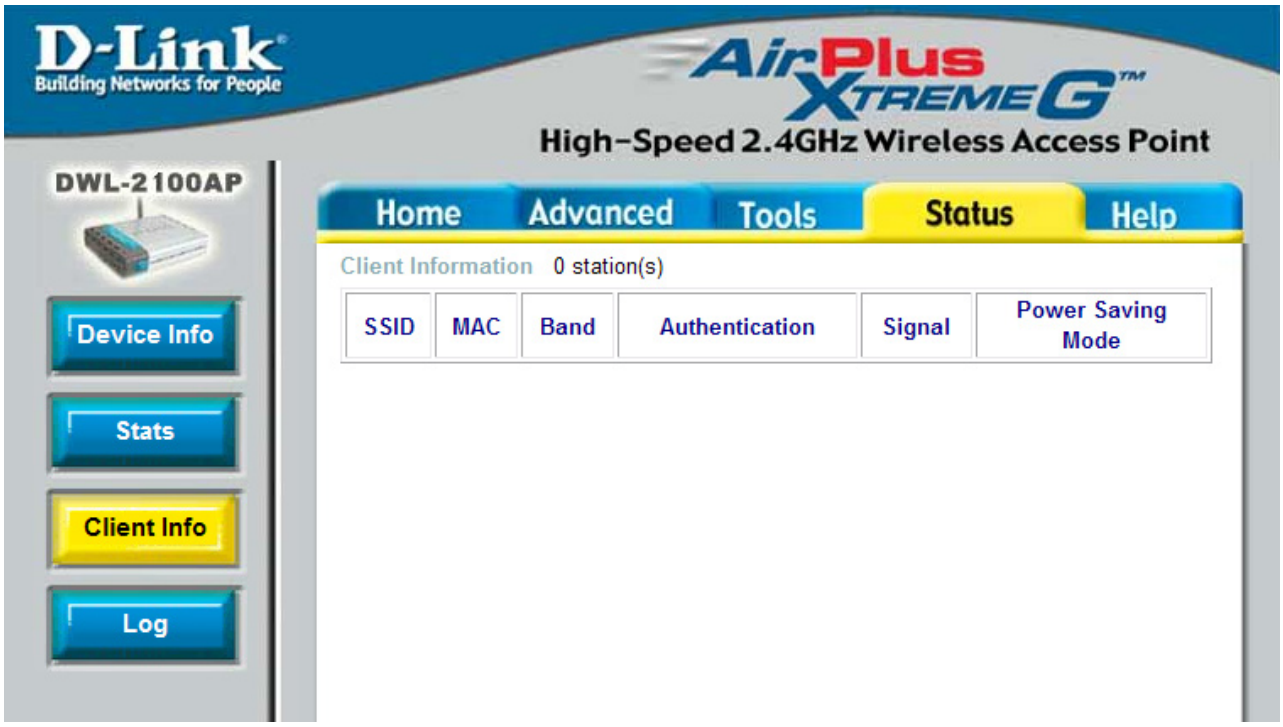
Device Information: This window displays the settings of the DWL-2100AP, the firmware version and the MAC address.

Stats



WLAN 802.11G Traffic Statistics: This window displays the statistics of the IEEE802.11g network.

Client Information



Client Information: Select this option to obtain information on IEEE802.11g clients. A client is a device on the network that is communicating with the DWL-2100AP.

The following information is available for each client that is communicating with the DWL-2100AP.

MAC: Displays the MAC address of the client.

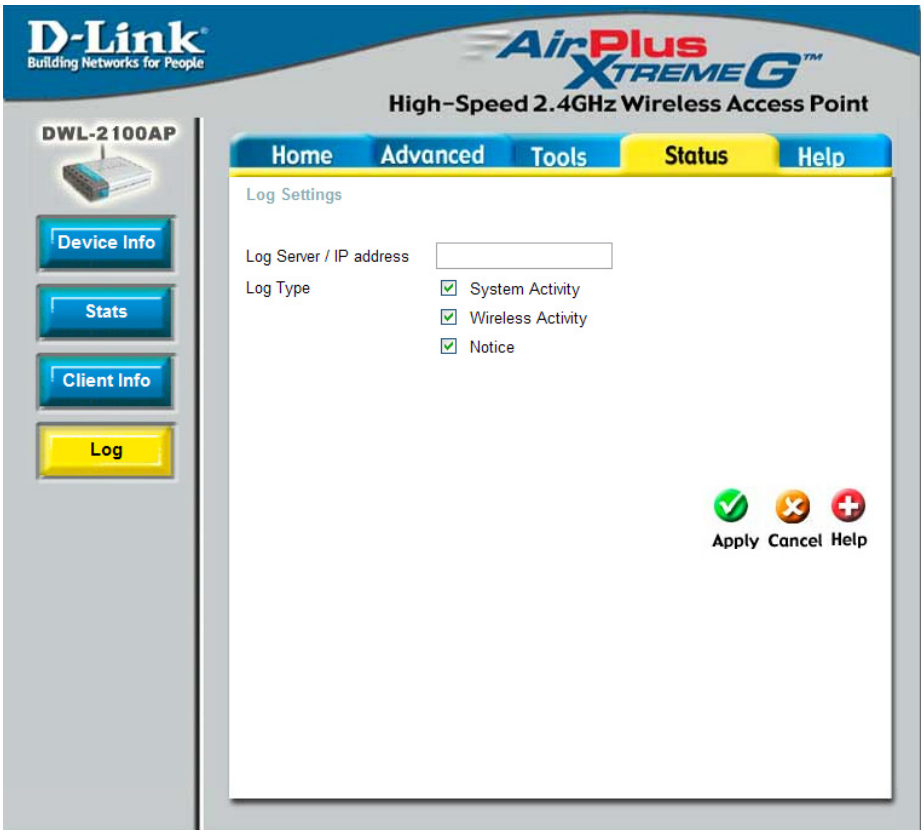
Band: Displays the wireless band.

Authentication: Displays the type of authentication that is enabled.

Signal: Receive Signal Strength Indicator indicates the strength of the signal

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

System Log

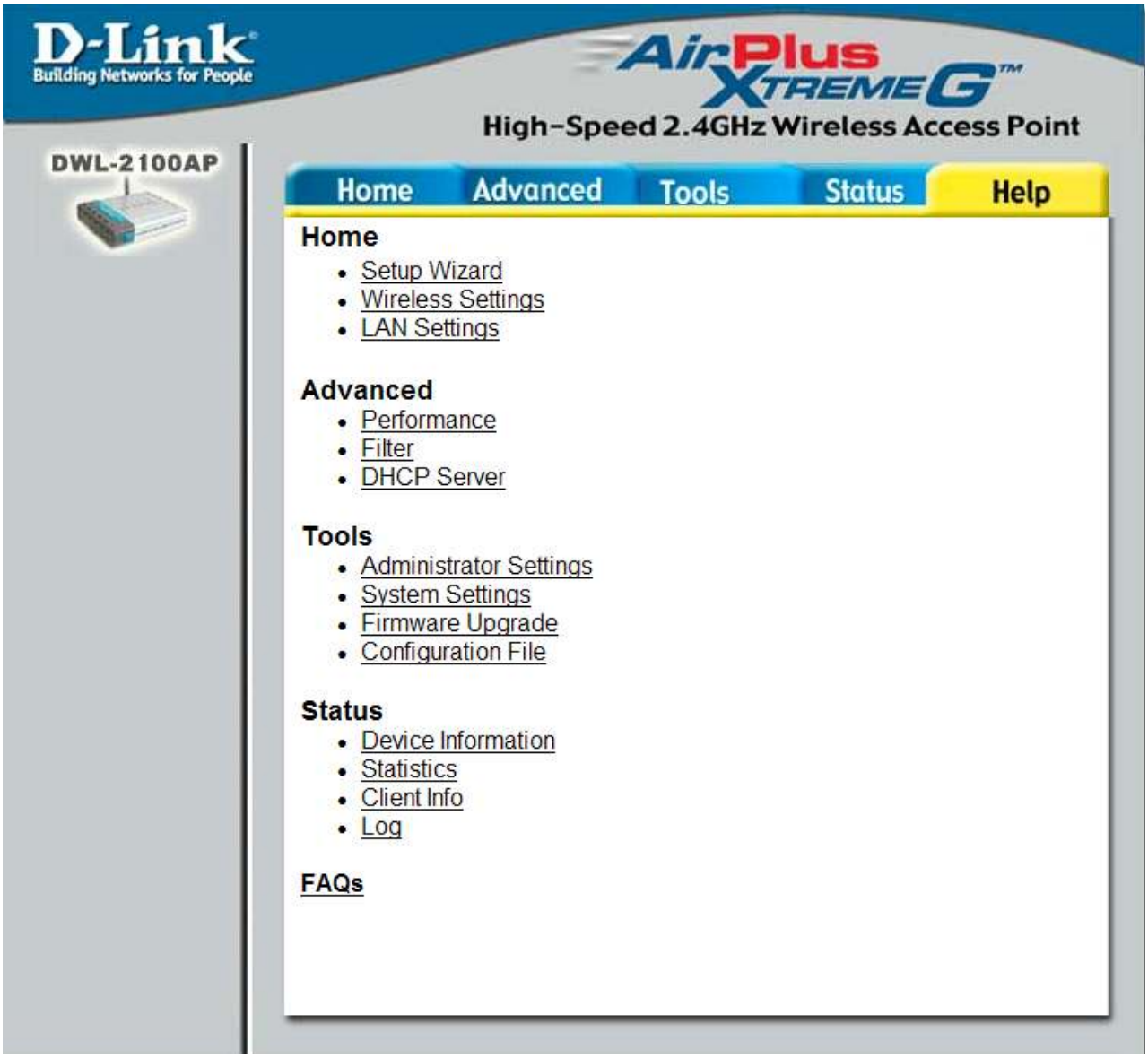


The log information will include, but not limited to, the following items:

- Upgrade Firmware
- Client association with AP
- Web login

Log Server/IP Address:	Enter the IP address of the log server.
Log Type:	Check the box for the type of activity you want to log. There are three types: **System Activity**, **Wireless Activity**, and **Notice**.

Help



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.

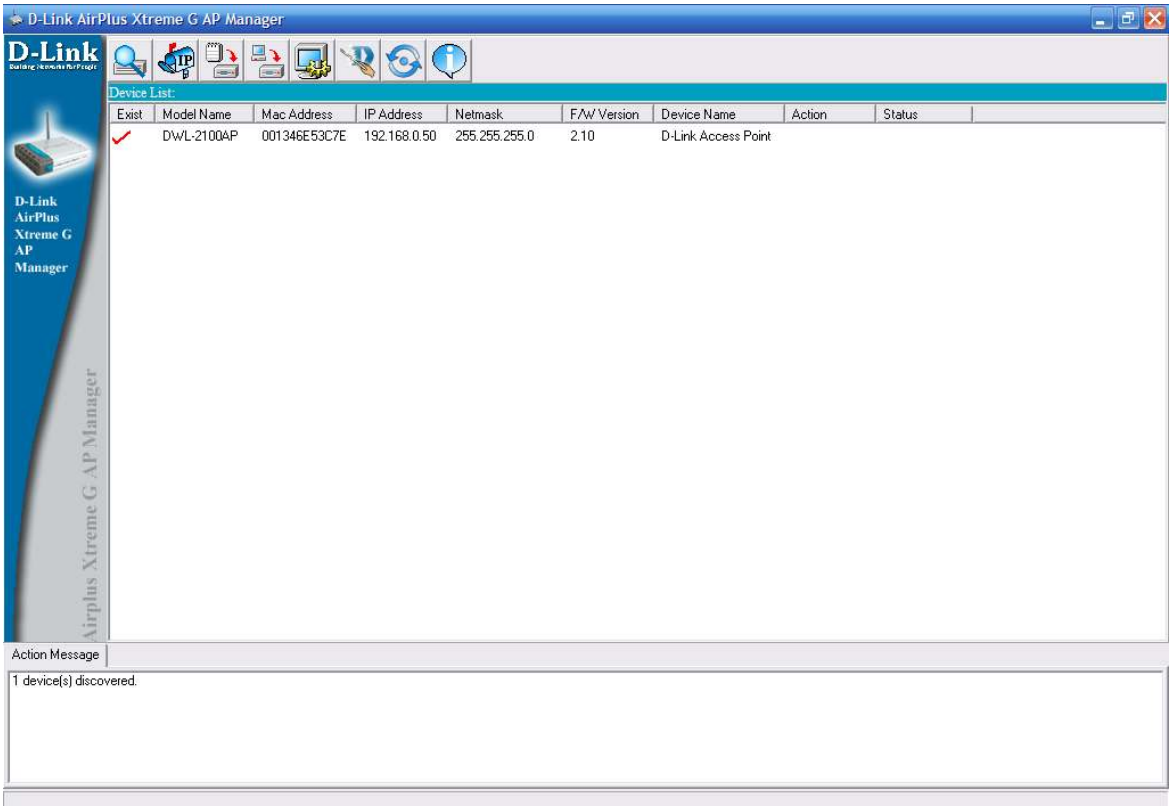
To launch the **AP Manager**:

- Go to the **Start Menu**
- Select **Programs**
- Select **D-Link *Air*Plus *Xtreme* AP Manager**
- Select **DWL-2100AP**

Discovering Devices



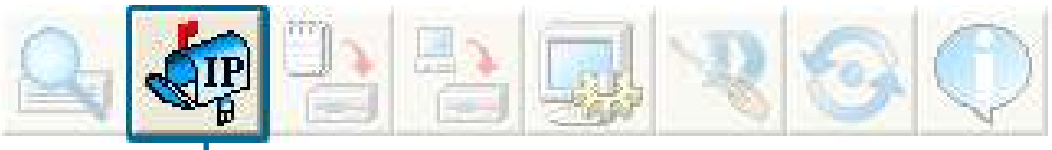
Click on this button to **discover the devices** available on the network.



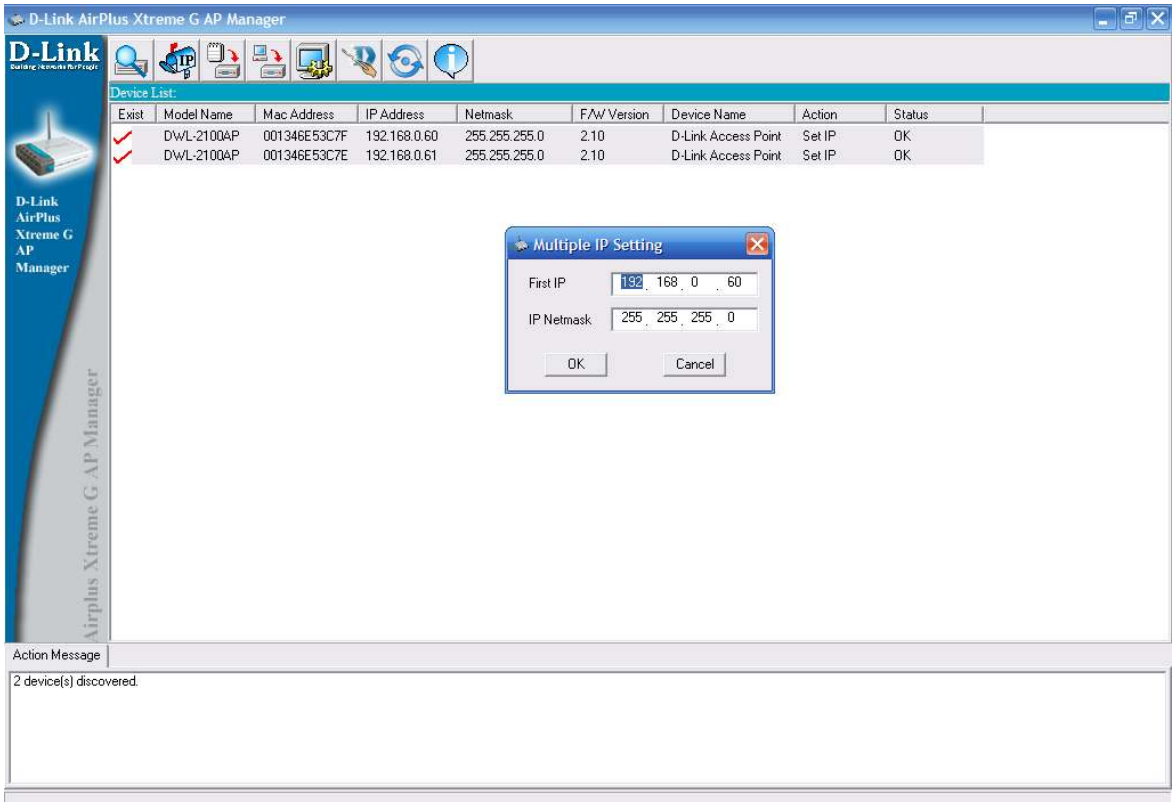
Selecting Devices

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



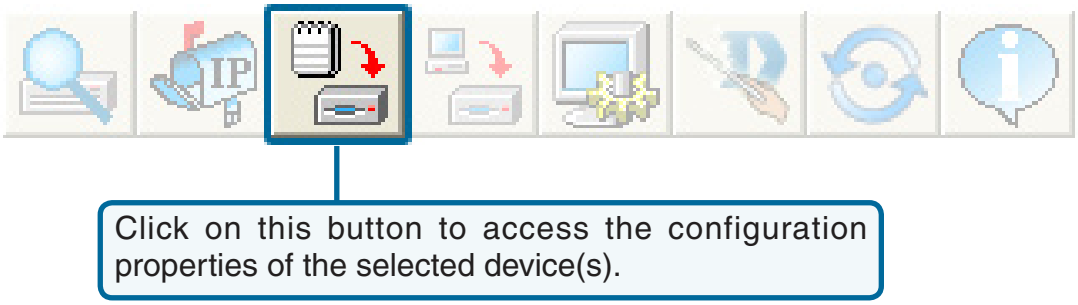
You can assign an IP address to an AP or assign IP addresses to multiple AP's by clicking on this button after selecting the device(s).



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.

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



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.

Check All — 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.

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

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

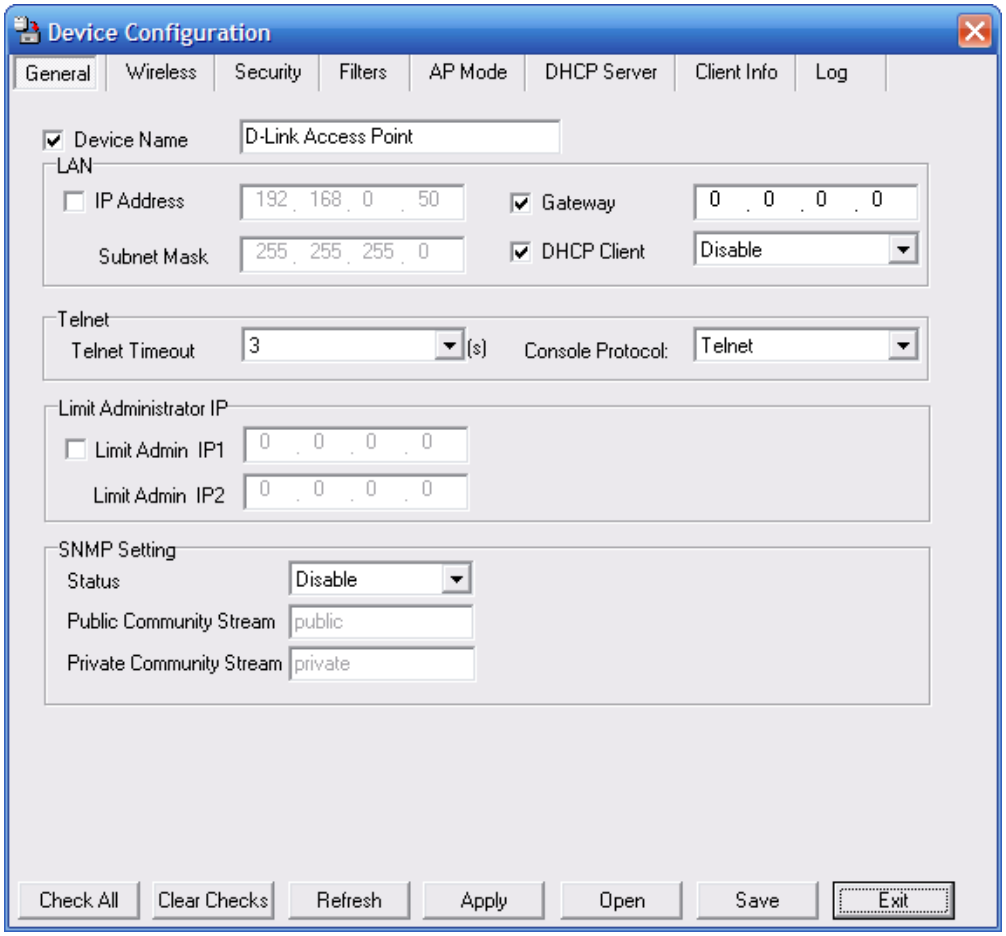
Open — The open button is used to load a previously saved configuration file. After opening a configuration file, you must click the Apply button to save the settings to the selected device(s).

Save — 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.

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

General





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.

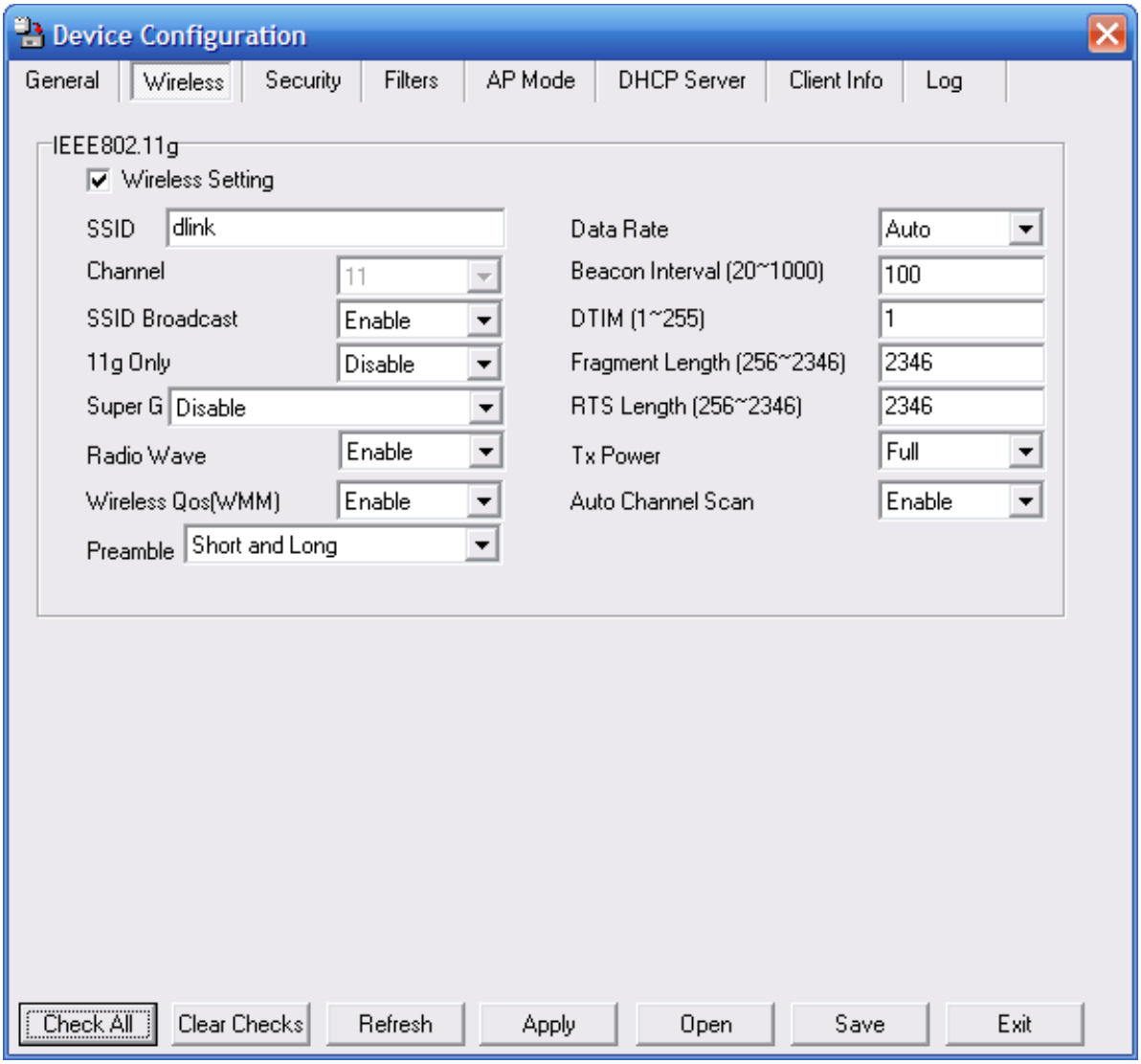
IP address and Subnet Mask(*): If you've selected one device for configuration and you want to change the IP address of the device, check the IP Address box. You ca then enter an IP address and Subnet Mask for the selected access point. This option should only be configurable when one access point is 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 pulldown 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.
Telnet Timeout:	This pulldown selection defines the timeout period during a Telnet session with the selected device(s).
Console Protocol:	This pulldown selection enables or disables the ability to Telnet into theselected device(s).
Limit Administrator IP:	Check the box to limit the administrator to login to the DWL-2100AP from a certain IP address.
SNMP Status:	Check **Enabled** to use SNMP. SNMP is disabled by default.
Public Community String:	When SNMP is enabled, you may modify the public community string (read-only).
Private Community String:	When SNMP is enabled, you may modify the private community string (read-write).

Wireless Settings



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.

11g Only: Check if all wireless devices are 802.11g. Uncheck if you are using a mixed wireless network (802.11b and 802.11g).

Super G: Disabled by default. You can select **Super G without Turbo** or **Super G with Dynamic Turbo**.

Radio Wave: Select **Disable** or **Enable** from the drop-down menu.

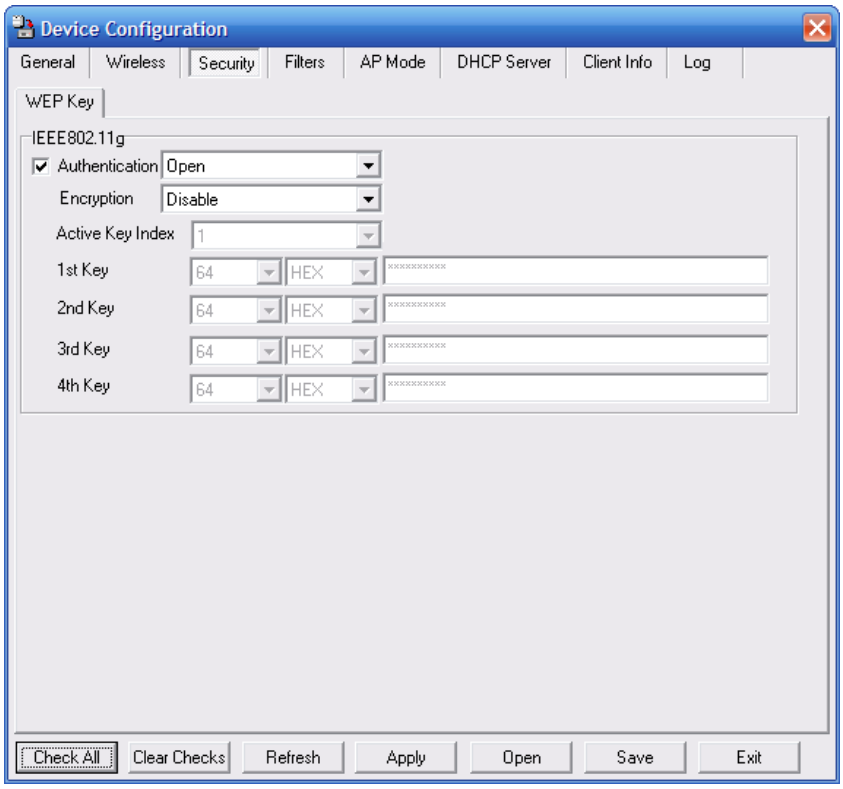
Wireless QoS (WMM): Select **Disable** or **Enable** from the drop-down menu.

Preamble:	Select **Short and Long** (default) or **Long Only**.
Data Rate:	A pulldown menu to select the maximum wireless signal rate for the selected devices(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:	A pulldown menu for selecting the transmit power of the selected device(s).
Auto Channel Scan:	Enable this option to allow the access point to automatically scan for an available channel.

Authentication Modes

AP Mode	Authentication Available
Access Point	Open System Shared Key Open System/Shared Key WPA-EAP WPA-PSK WPA2-EAP WPA2-PSK WPA-Auto-EAP WPA-Auto-PSK
WDS with AP	Open System Shared Key Open System/Shared Key WPA-PSK WPA2-PSK WPA-Auto-PSK
WDS	Open System Shared Key Open System/Shared Key WPA-PSK WPA2-PSK WPA-Auto-PSK
AP Repeater	Open System Shared Key
AP Client	Open System Shared Key WPA-PSK WPA2-PSK

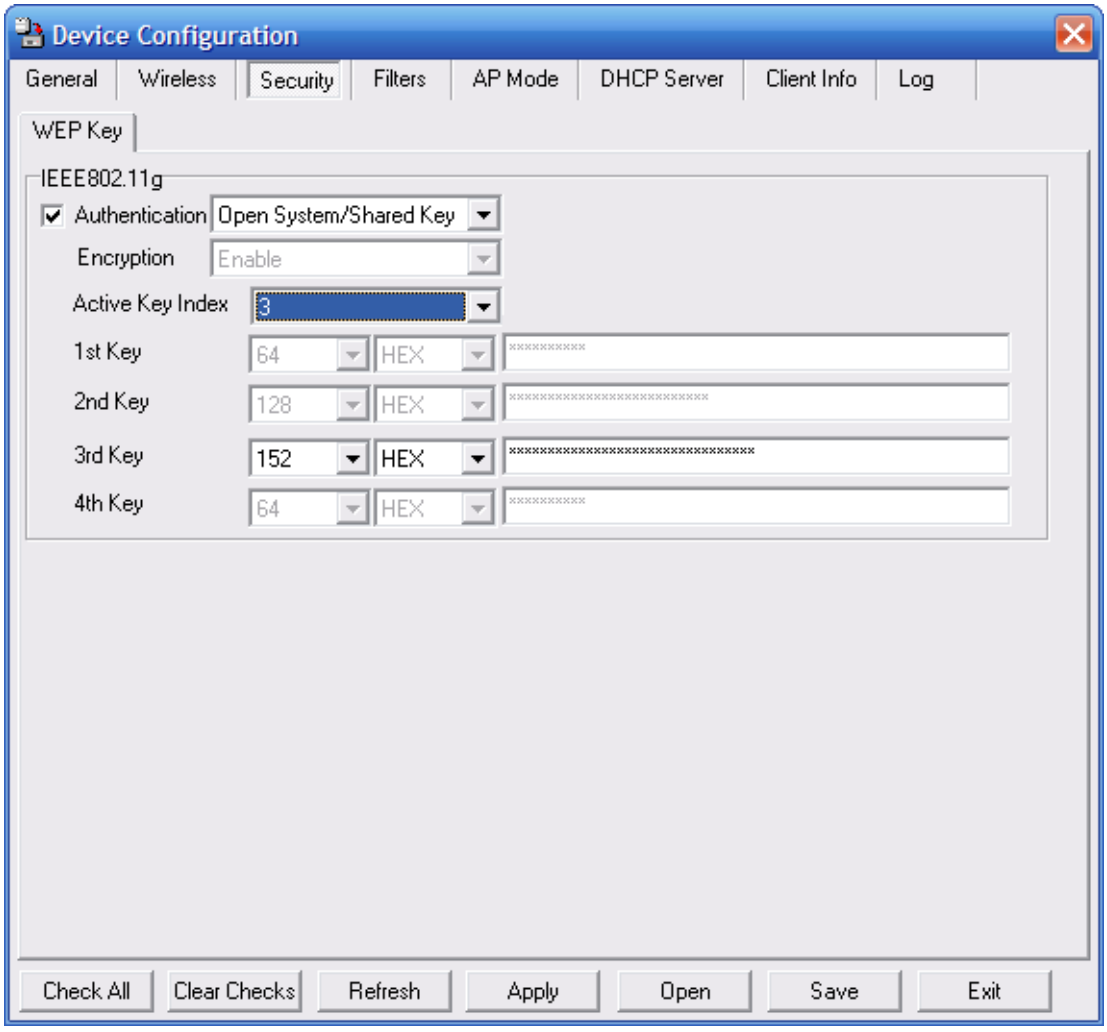
Security



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

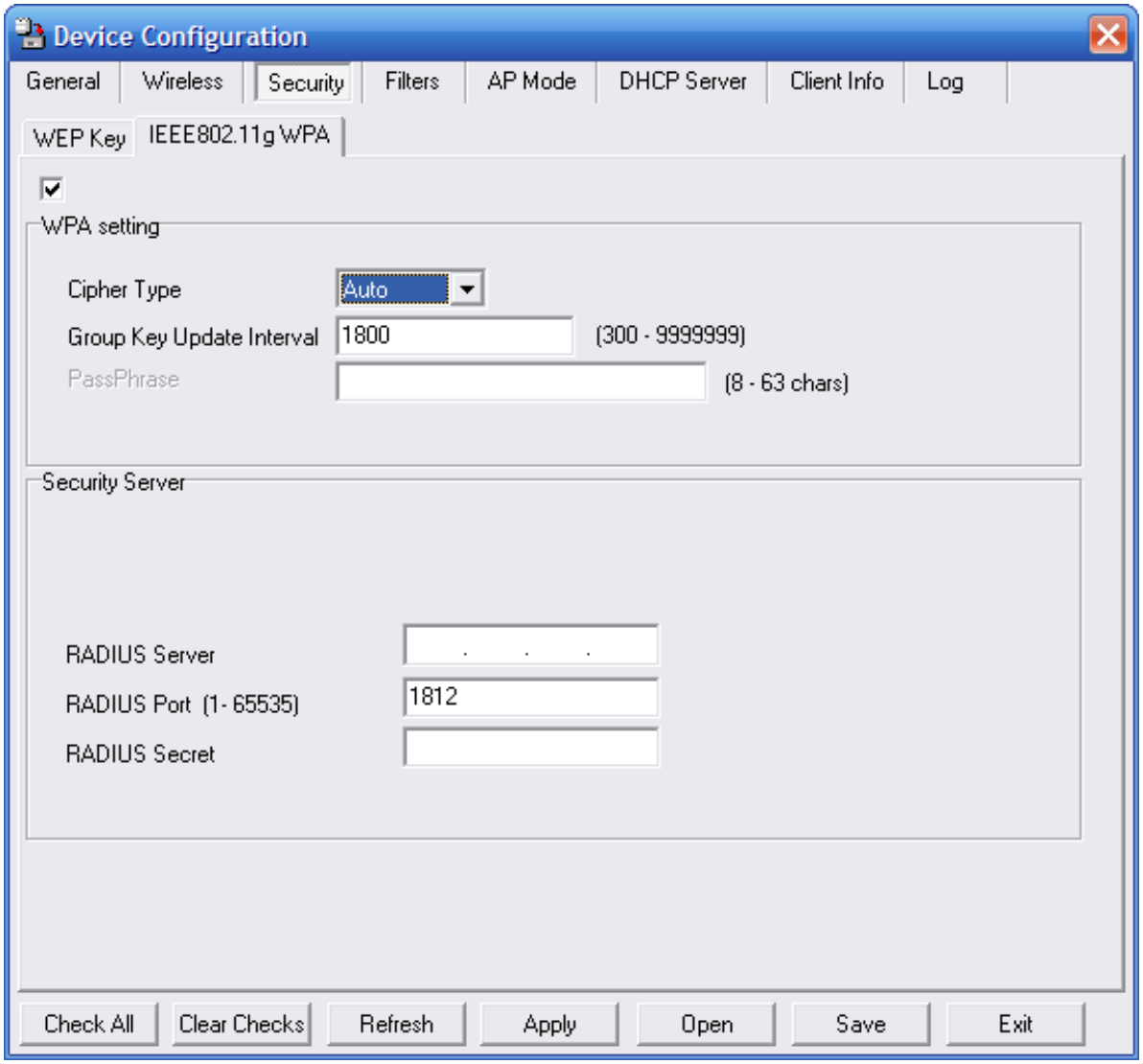
Authentication Type:	Select from the pulldown menu the type of authentication to be used on the selected device(s).
Open:	The key is communicated across the network.
Shared:	Limited to communication with devices that share the same WEP settings.
Open System/ Shared Key:	The key is communicated and identical WEP settings are required.
WPA:	Used to authenticate clients via a RADIUS server.
WPA-PSK:	Does not utilize a RADIUS server for authentication but uses a passphrase that is configured on the clients and access points.
Encryption:	Enable or disable encryption on the selected device(s).
	Select which defined key is active on the selected device(s).
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.

WEP Encryption



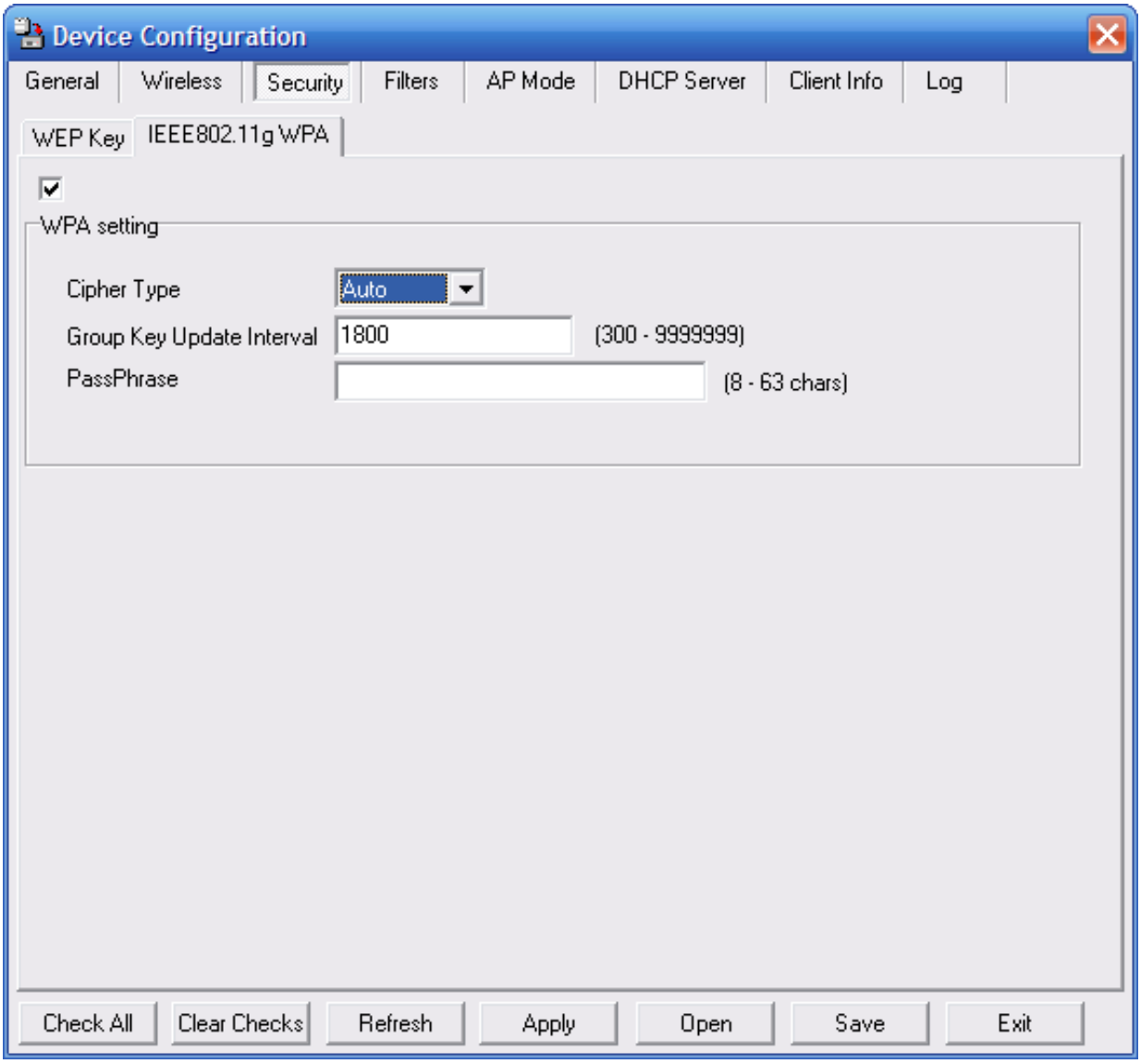
Authentication Type:	Select from the pulldown menu the type of authentication to be used on the selected device(s).
Open:	The key is communicated across the network.
Shared:	Limited to communication with devices that share the same WEP settings.
Open System/ Shared Key:	The key is communicated and identical WEP settings are required.
Active Key Index:	Select which defined key is active on the selected device(s).
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.

WPA-EAP/WPA2-EAP/ WPA-Auto-EAP



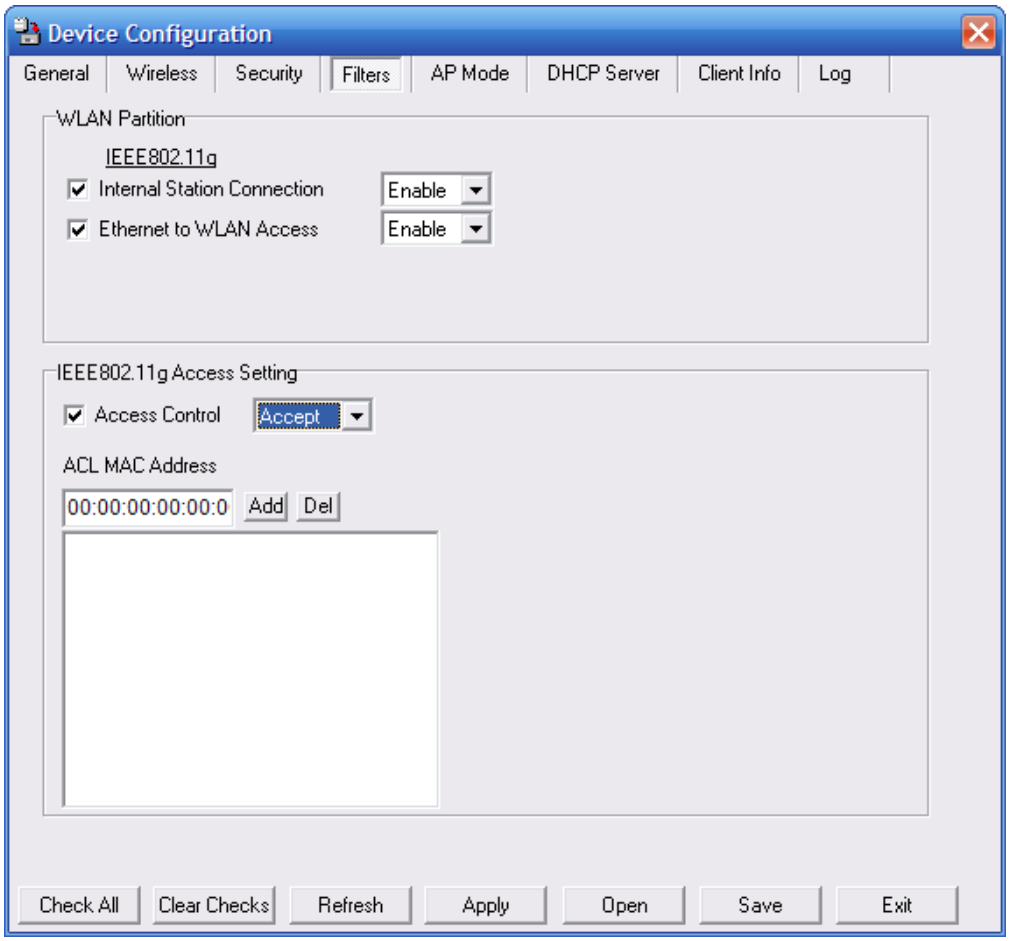
Cipher Type:	Select **Auto, TKIP**, or **AES** from the pulldown menu.
Group Key Update Interval:	Select the interval during which the group key will be valid. 1800 is the recommended setting. A lower interval may reduce transfer rates.
RADIUS Server:	Enter the IP address of the RADIUS server.
RADIUS Port:	Enter the port used on the RADIUS server (1812 is default).
RADIUS Secret:	Enter the RADIUS secret.

WPA-PSK/WPA2-PSK/WPA-Auto-EAP



Cipher Type:	Select **Auto, TKIP**, or **AES** from the pulldown 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.

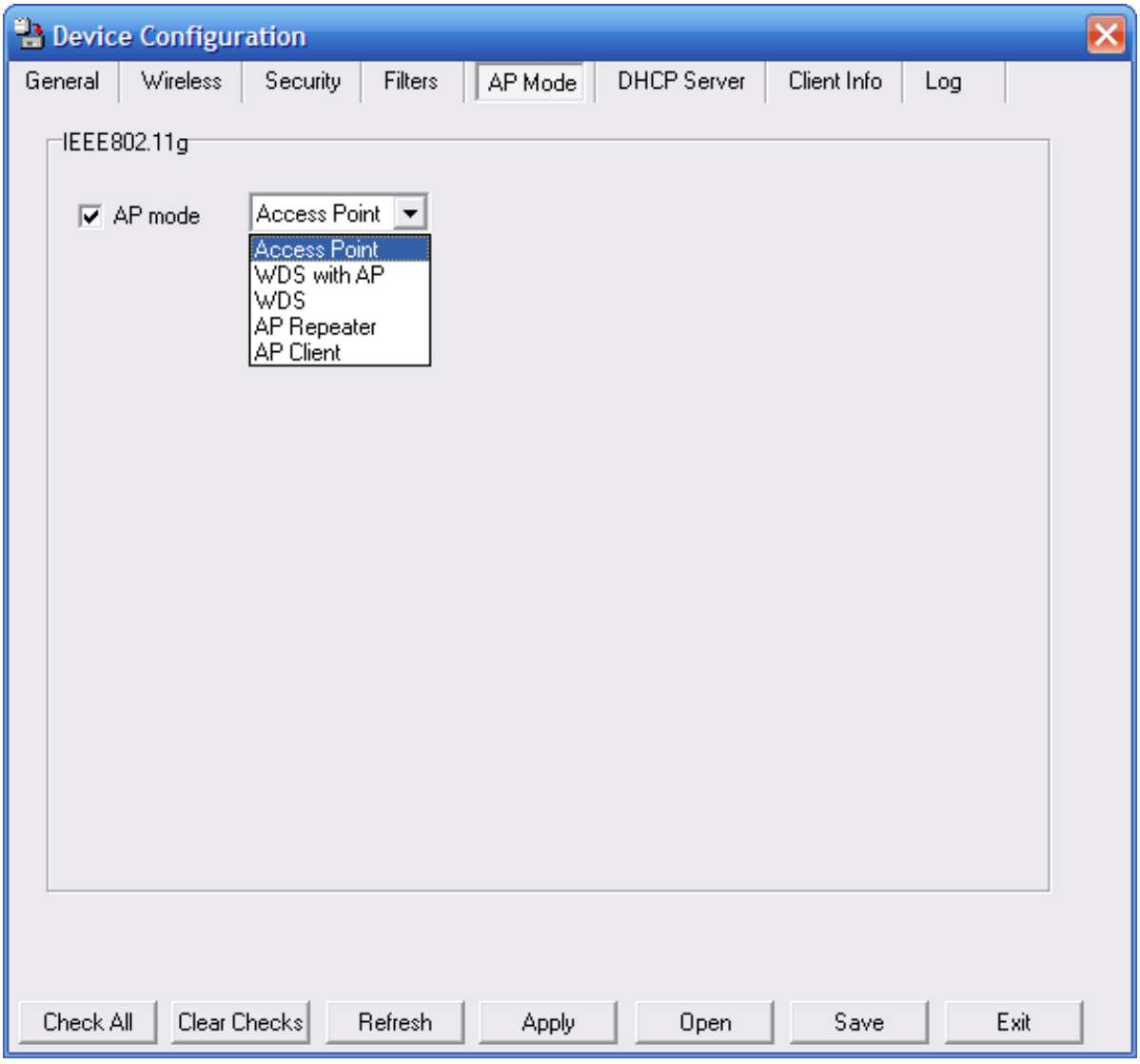
Filters



The following features are configurable in IEEE802.11g:

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.
Broadcast from Ethernet to WLAN:	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

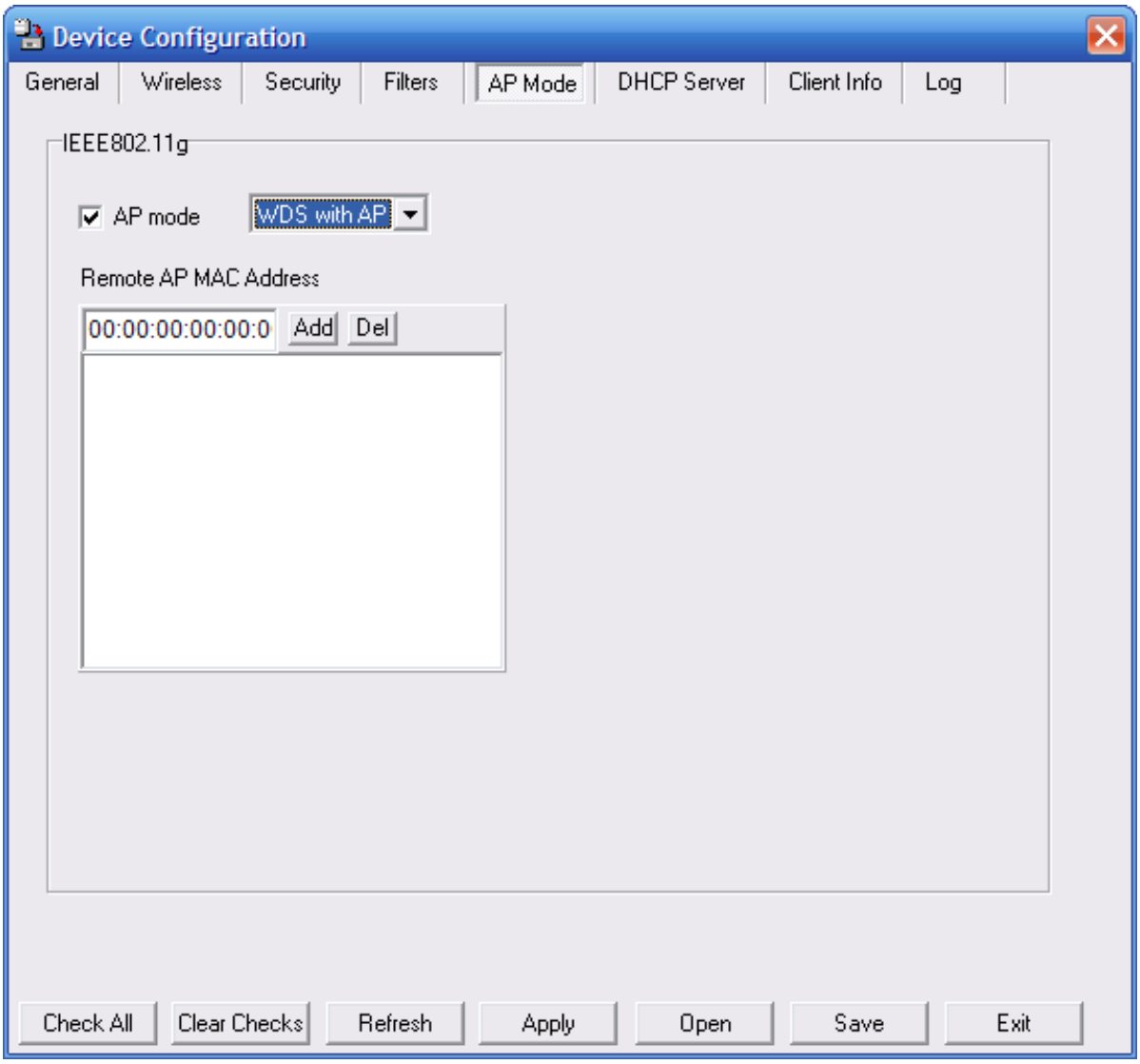


Access Point: There are 5 AP modes that are configurable in IEEE802.11g:

- **Access Point**
- **WDS with AP**
- **WDS**
- **AP Repeater**
- **AP Client**

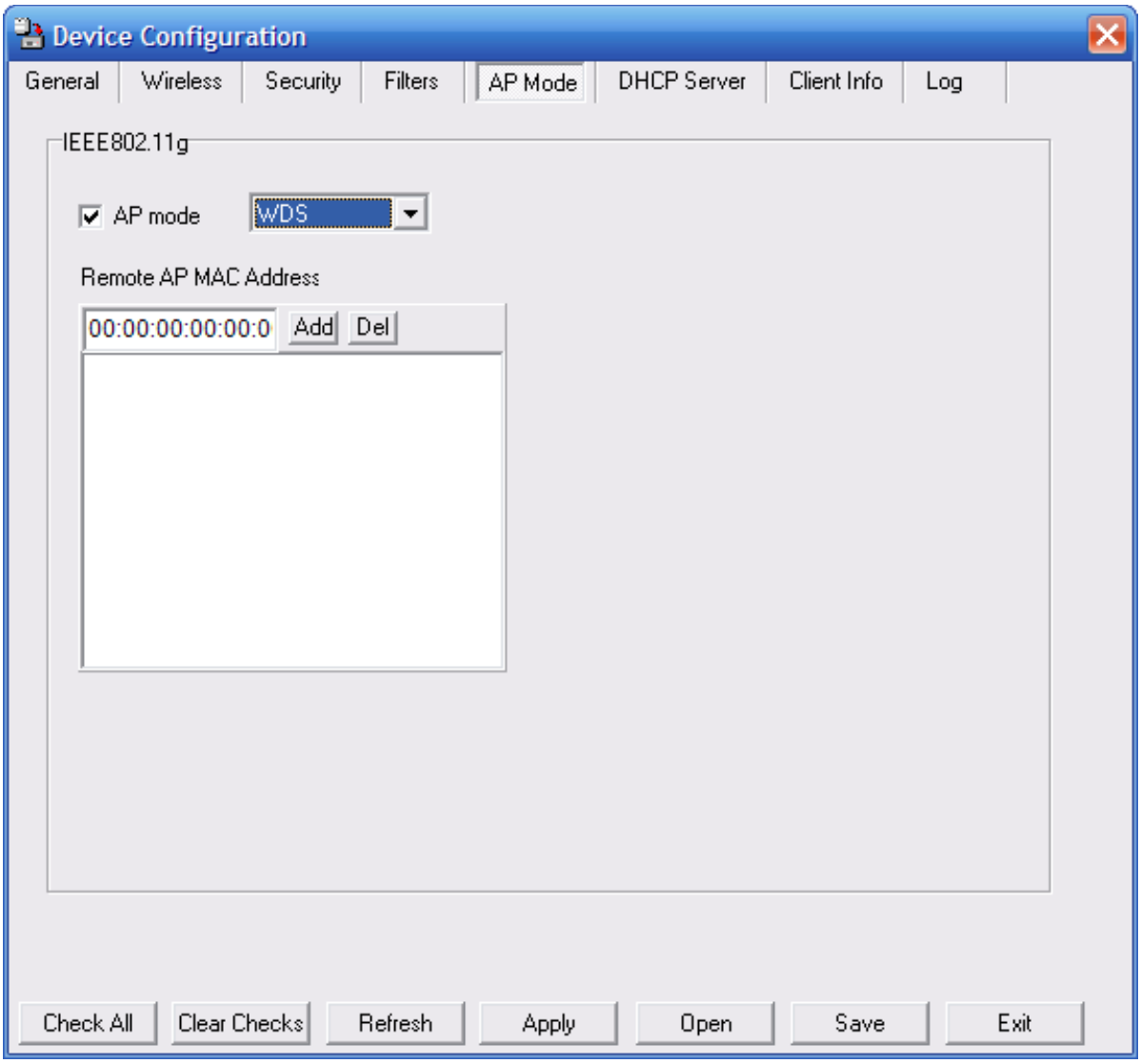
Access Point, the default setting used to create a wireless LAN, is displayed here.
Please see the following pages for an explanation of the other 4 AP modes.

WDS with AP



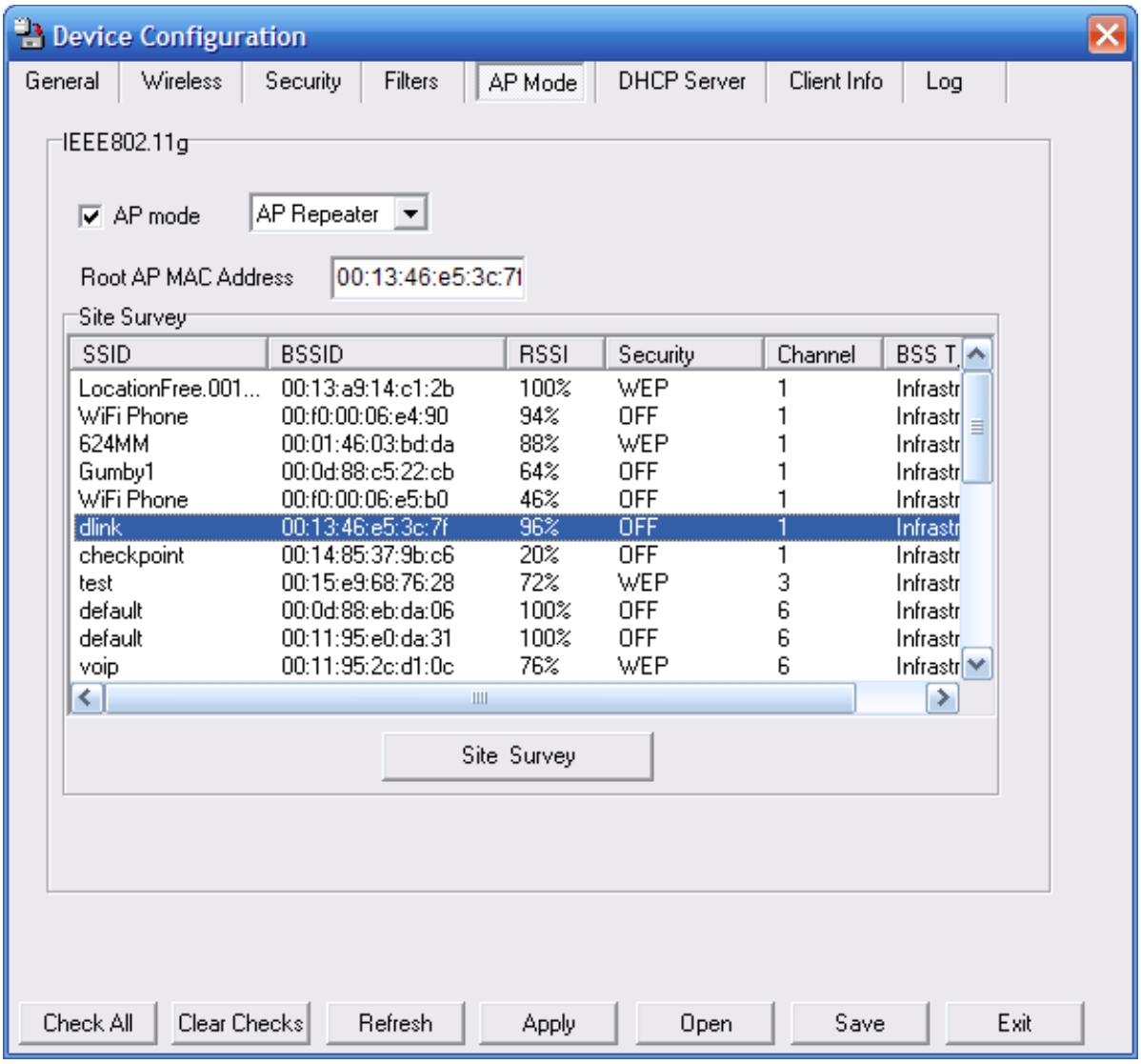
WDS with AP: Allows you to connect multiple wireless LANs together while acting as an access point at the same time. This only works with other DWL-2700APs. If enabled, you must enter the MAC address of the other DWL-2100AP(s) on your network.

WDS



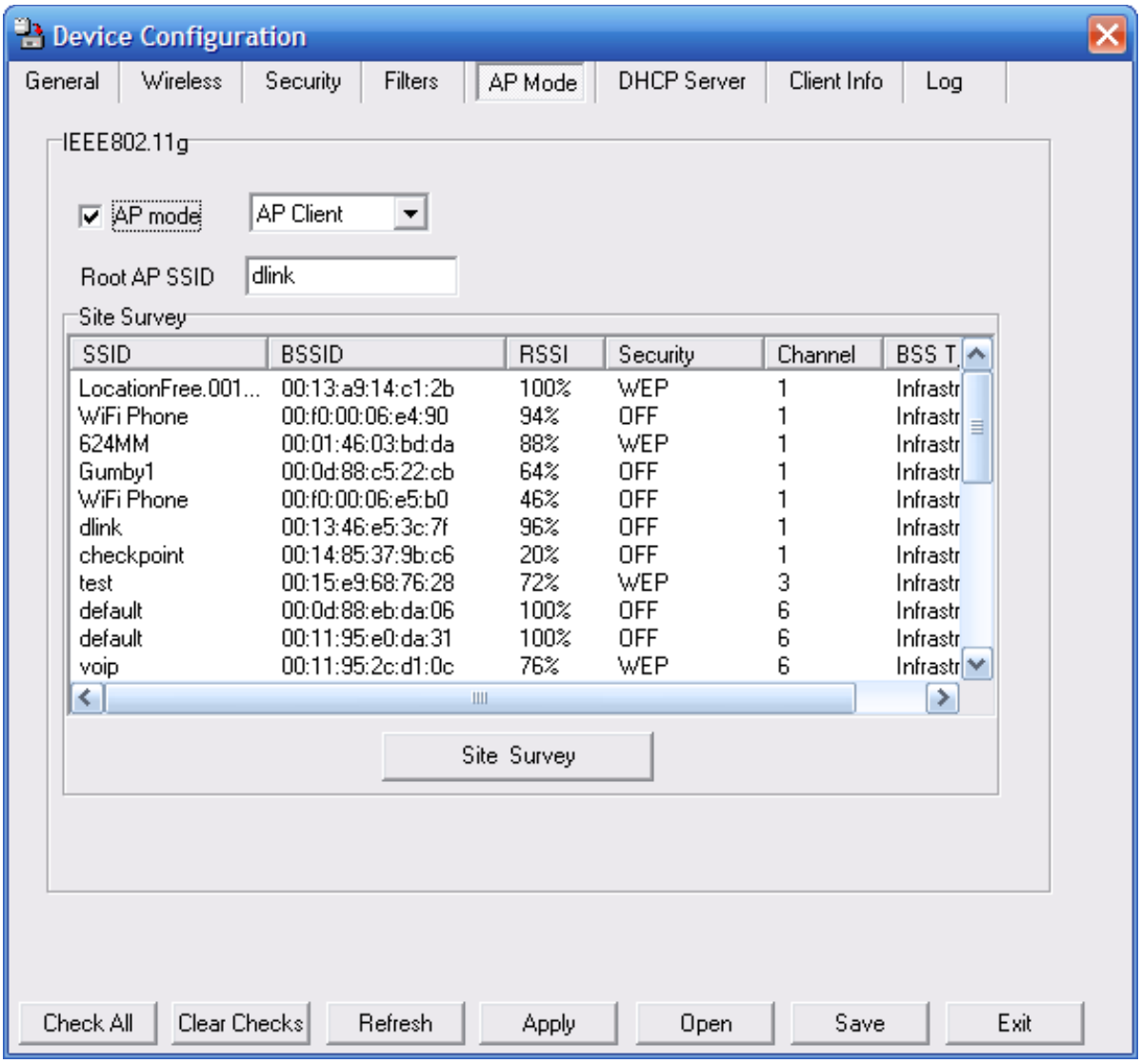
WDS: Allows you to connect multiple wireless LANs together. All other LANs must be using DWL-2700APs. When enabled, you must enter the MAC address of the other DWL-2100AP(s) on your network (you can enter up to eight addresses).

AP Repeater



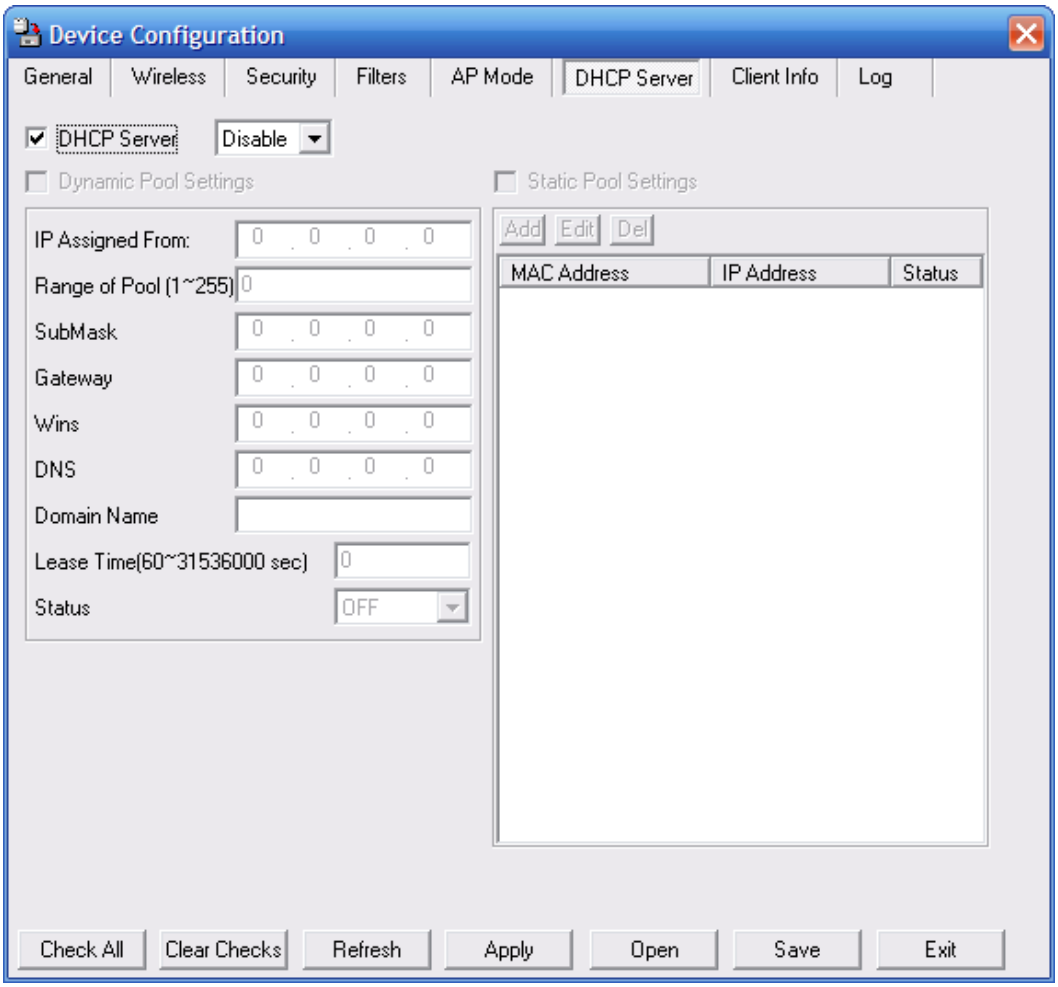
AP Repeater: Click on **Site Survey** and select the SSID that you want the AP to repeat or enter the MAC address manually of the access point you want to repeat.

AP Client



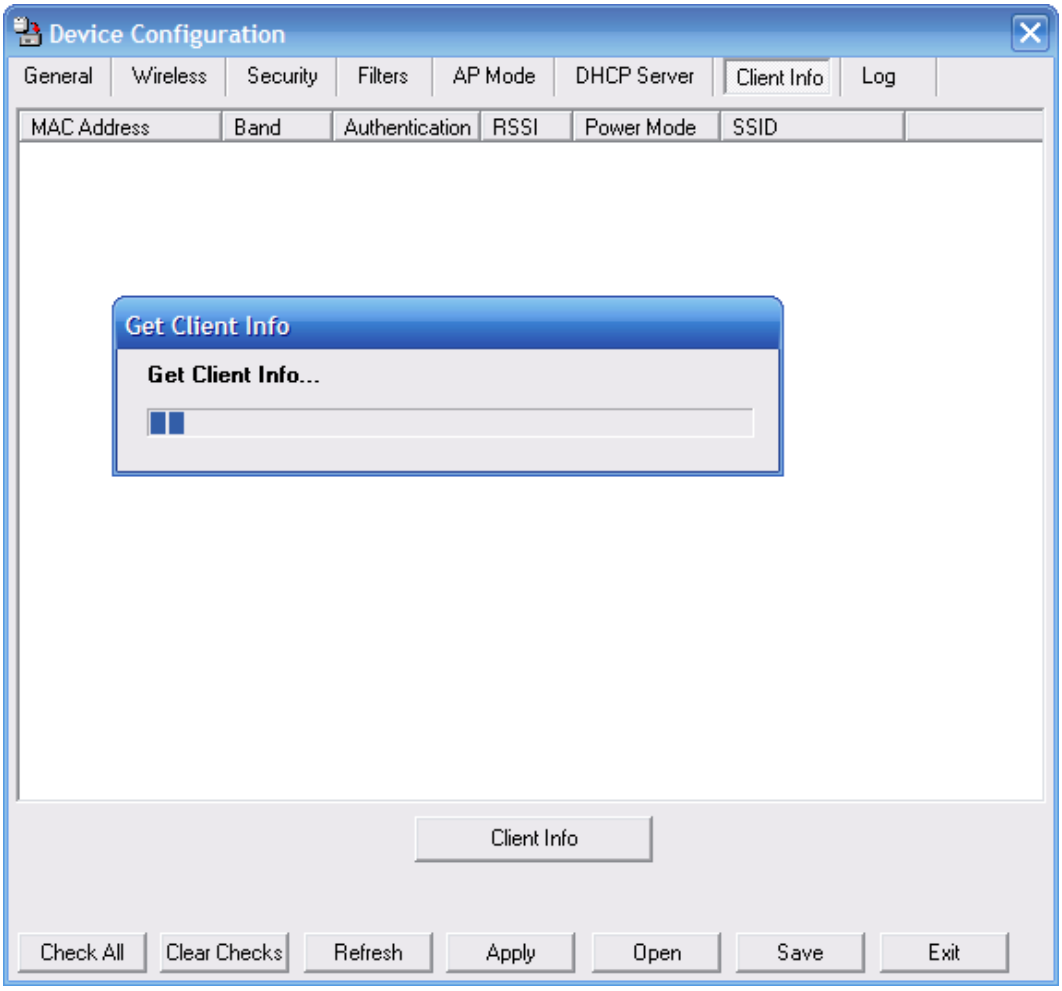
AP Client: Allows you to use the access point as a wireless client. Click on **Site Survey** and click on the SSID that you want the AP to connect to, or manually enter the root AP SSID.

DHCP Server



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.

Client-Info



Client Information: Select this option to obtain information on IEEE802.11g clients. A client is a device on the network that is communicating with the DWL-2100AP.

The following information is available for each client that is communicating with the DWL-2100AP.

MAC: Displays the MAC address of the client.

Band: Displays the wireless band.

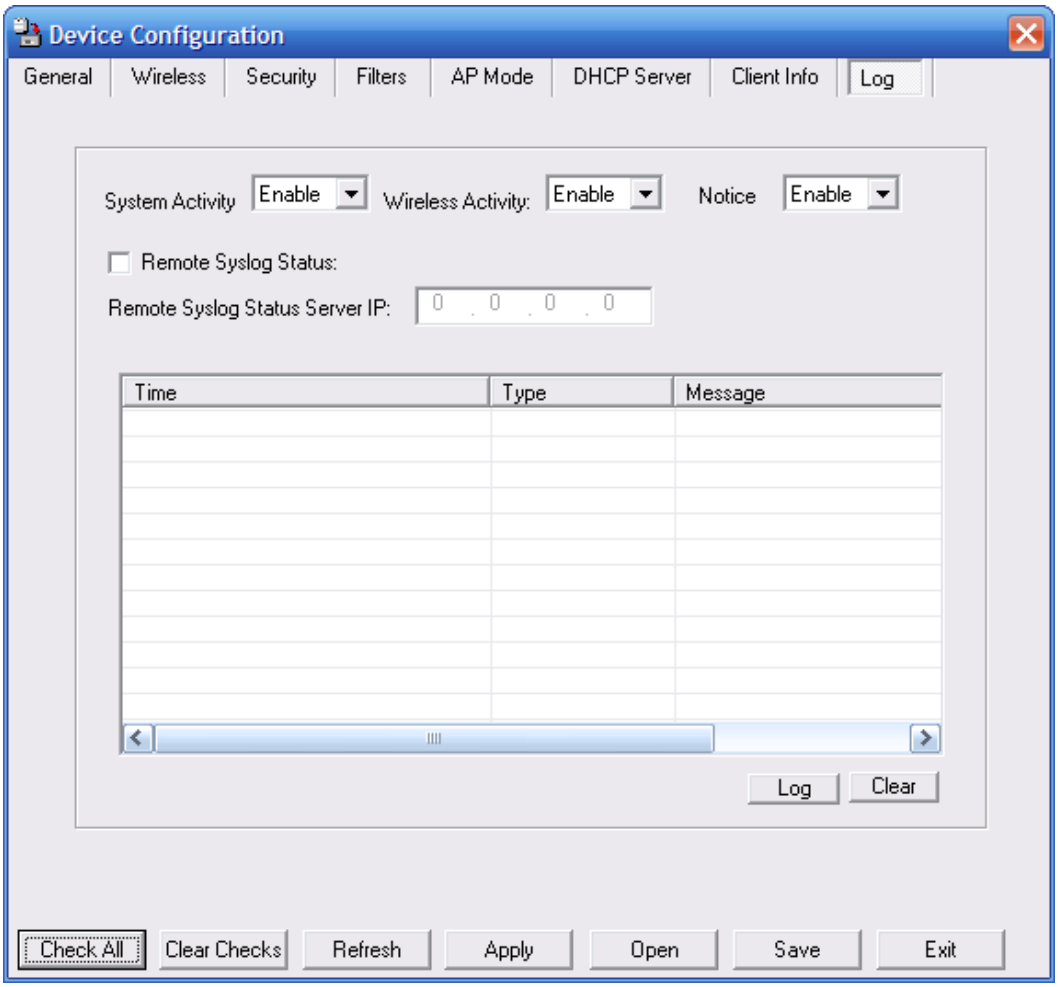
Authentication: Displays the type of authentication that is enabled.

RSSI: Receive Signal Strength Indicator indicates the strength of the signal.

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

SSID: Displays the SSID (Service Set Identifier).

Log



Remote Syslog Status: Check this box to enable logging.

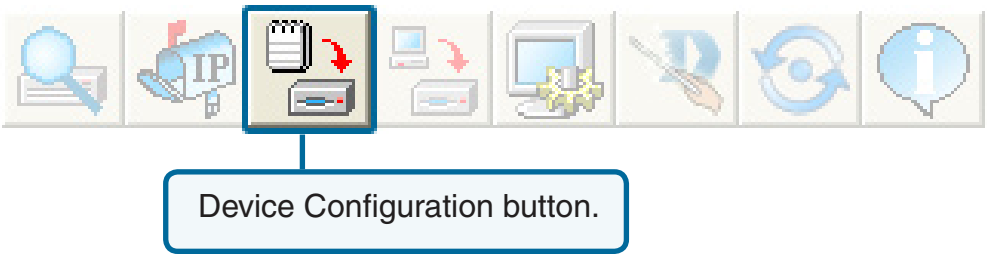
Activity: Select **Enable** or **Disable** from the drop-down menus. There are 3 types: System Activity, Wireless Activity, and Notice.

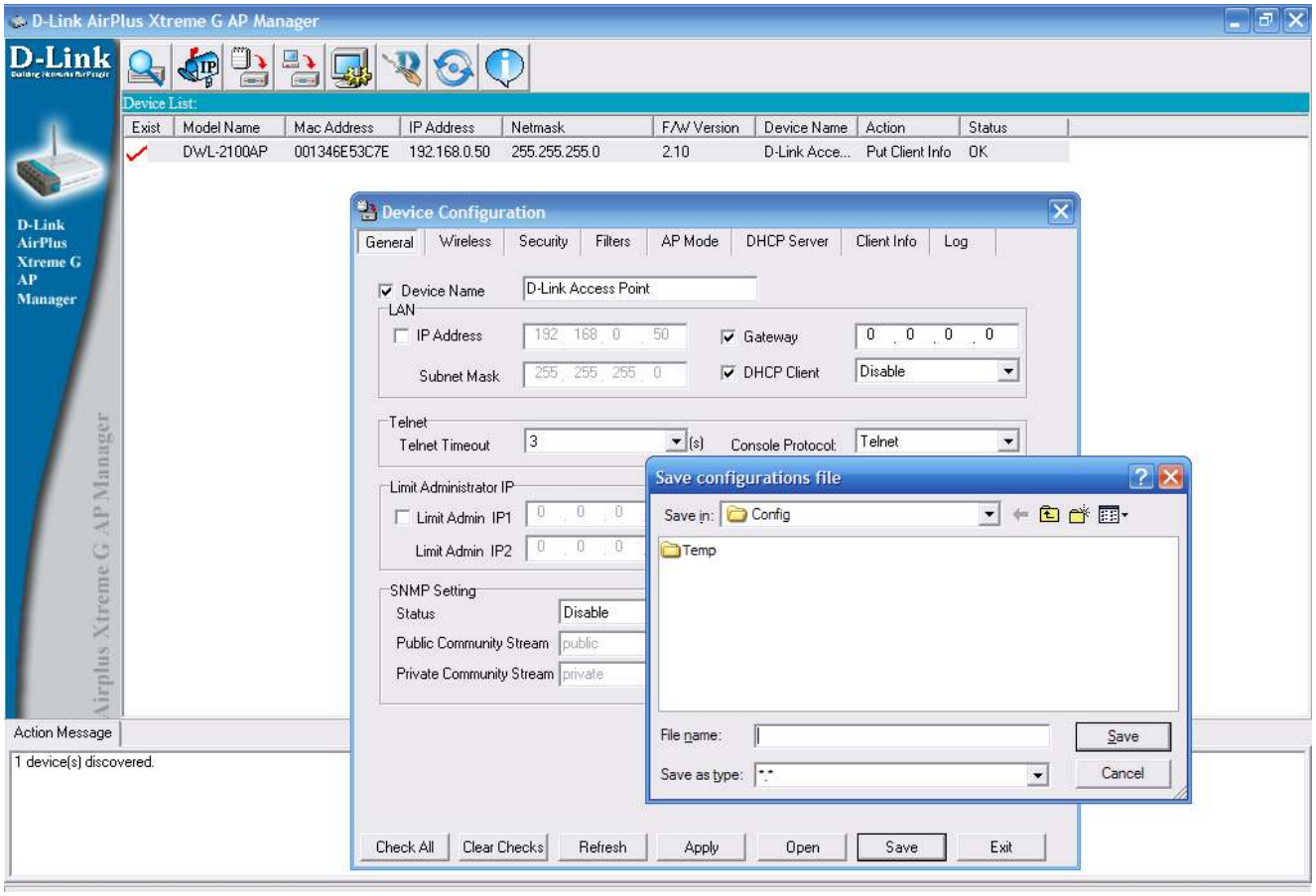
Remote Syslog Status Server IP: Enter the IP address of the Syslog server.

Configuration Files

The DWL-2100AP 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.



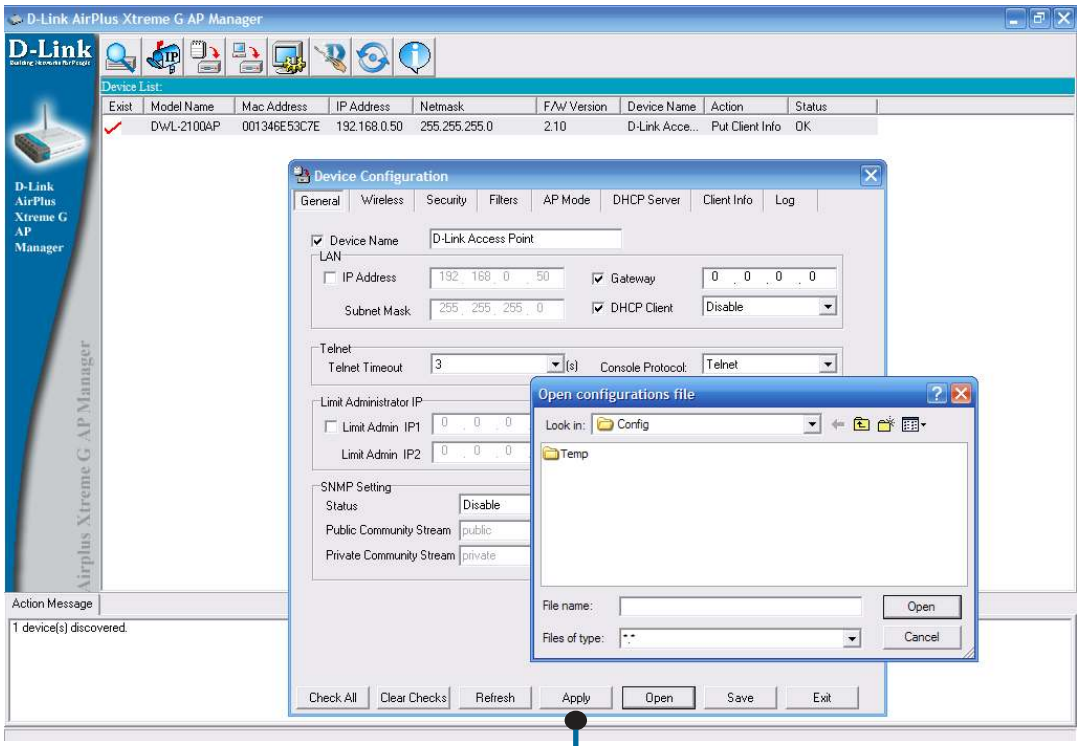


To load a previously saved configuration file, follow these steps:

- 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).

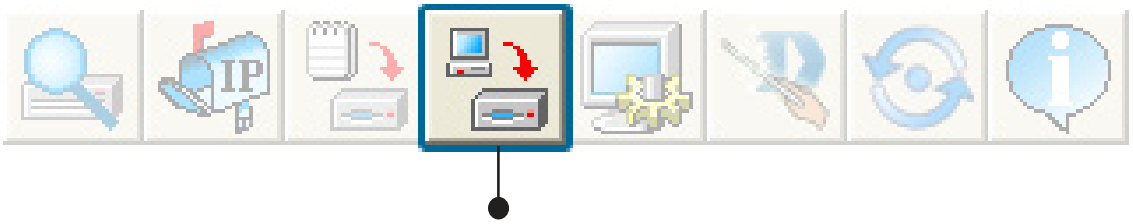


Device Configuration button.



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

Firmware



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

To upgrade the firmware:

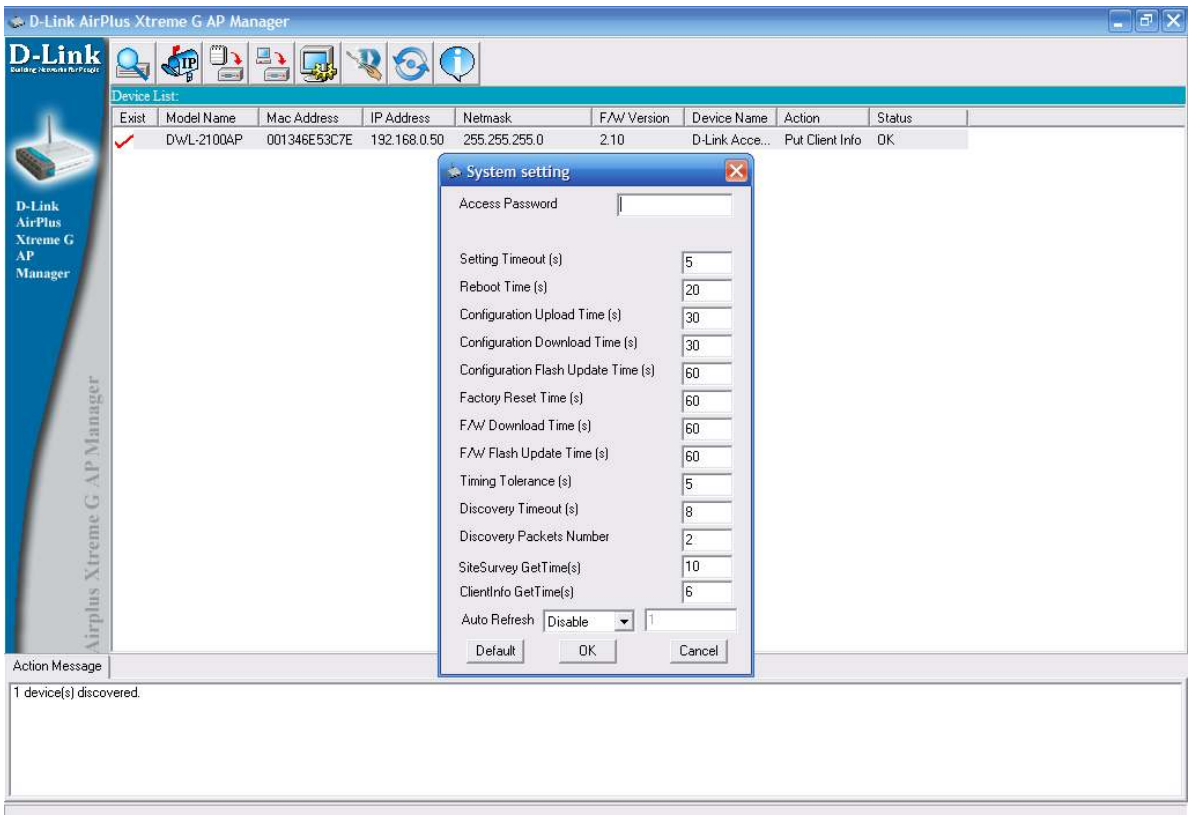
- Download the latest firmware upgrade from http://support.dlink.com to an easy to find location on your hard drive.
- Click on the firmware button as shown above.
- A popup window will appear. Locate the firmware upgrade file and click **Open**.

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

System Settings



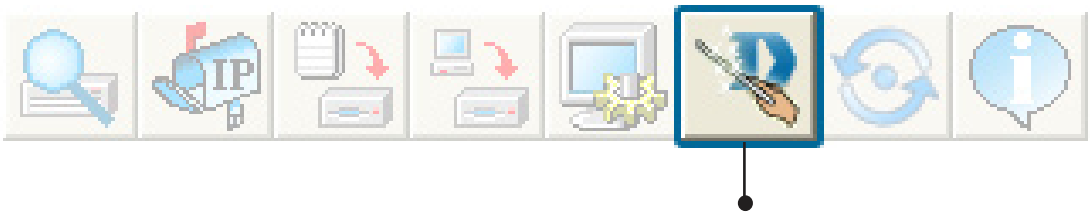
You can customize the basic System Settings for the DWL-2100AP by clicking on this button.



- **Access Password**: This sets the admin password for the select 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.



Click **Next.**



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

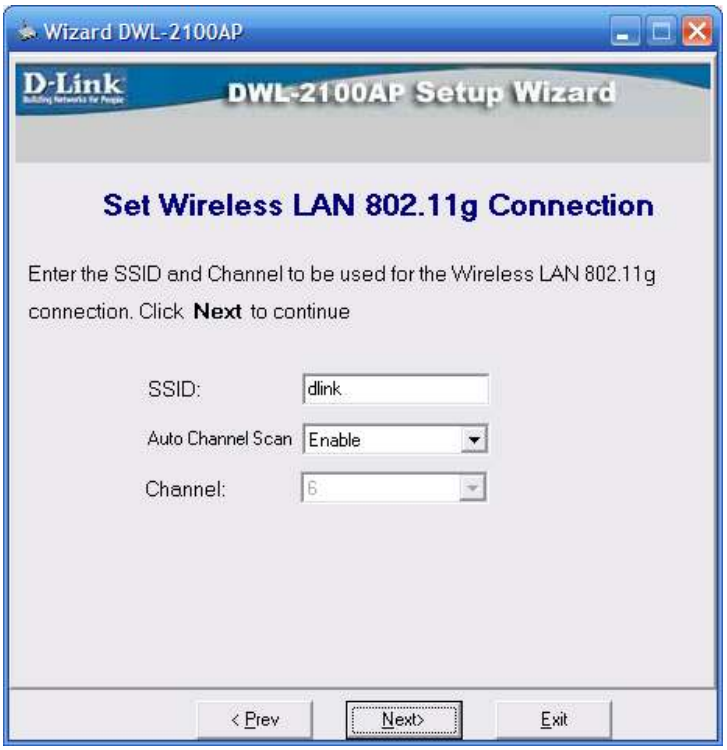


Click **Next**.



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

Auto Channel Scan is enabled by default. The access point will scan for the best available channel.



Click **Next**.

If you want to enable Encryption, enter the Encryption values here.



Click **Next**.



If you selected WEP, select the key size (64, 128, or 152-bit), the key type (HEX or ASCII), and then enter your WEP key.



Click **Next**.

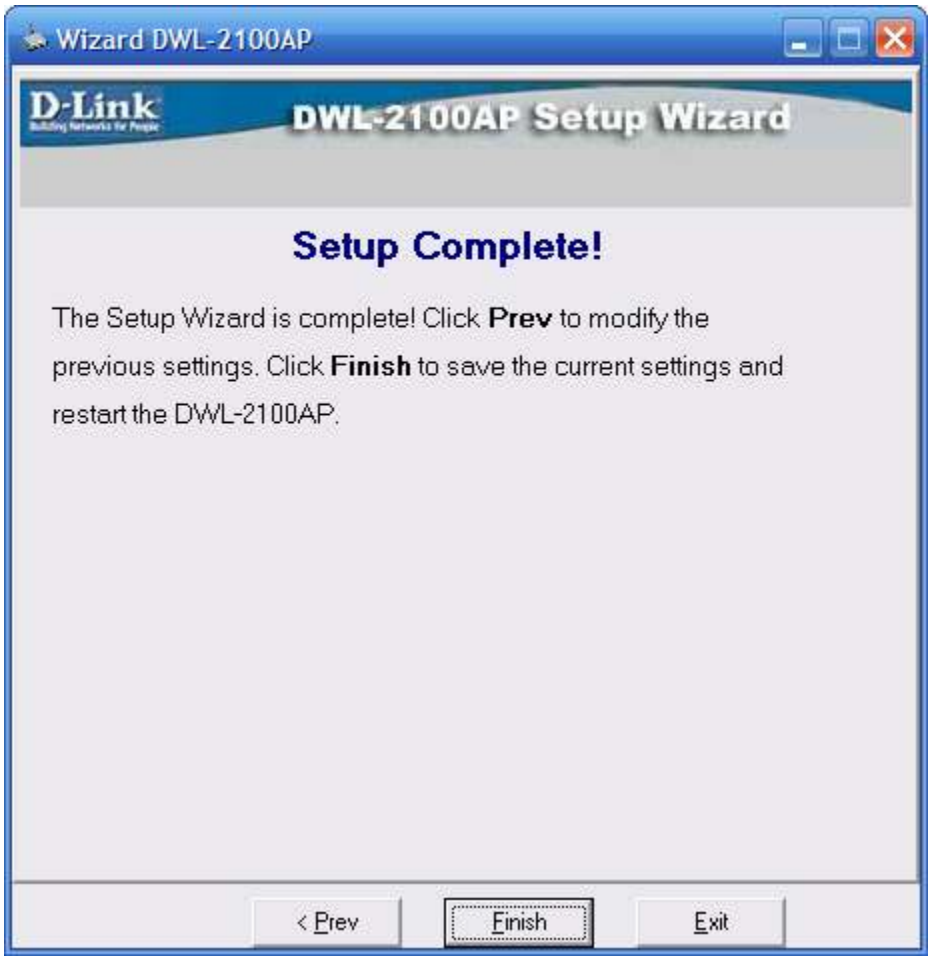
If you selected WPA-Personal (PSK), enter the passphrase.

Cipher Type **TKIP** is used. **1800** for Group Key Update Interval is suggested.



Click **Next**.





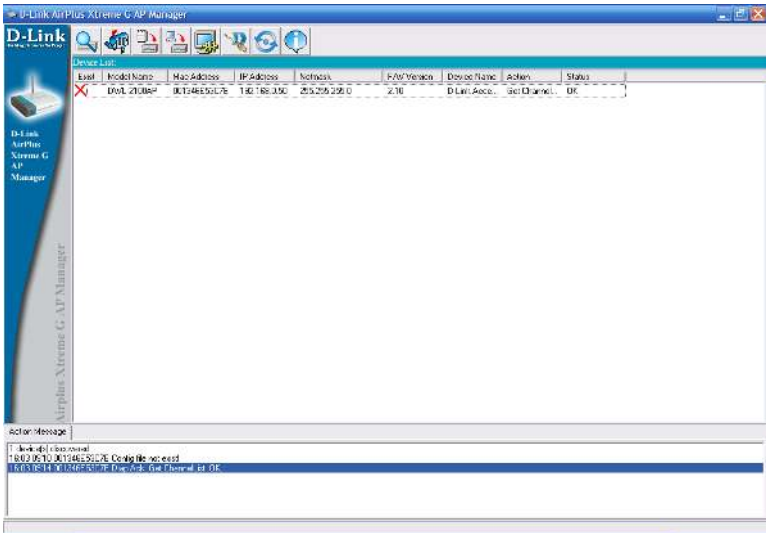
The DWL-2100AP setup is complete!

Refresh



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

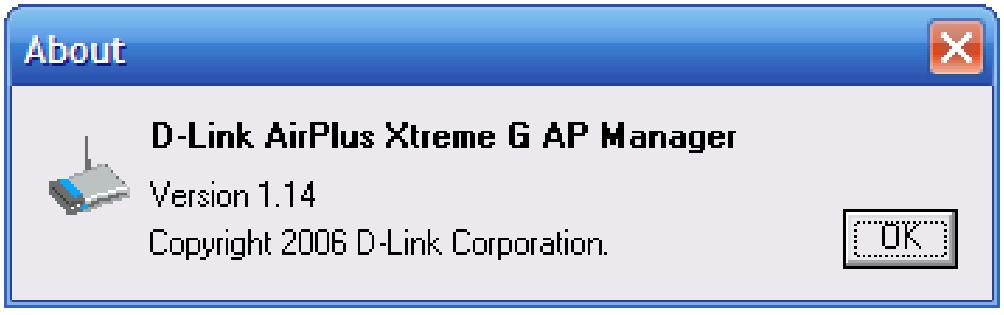
Devices with a checkmark next to them are still available on the network. Devices with an X are no longer available on the network.



About



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



Networking Basics

Using the Network Setup Wizard in Windows® XP

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

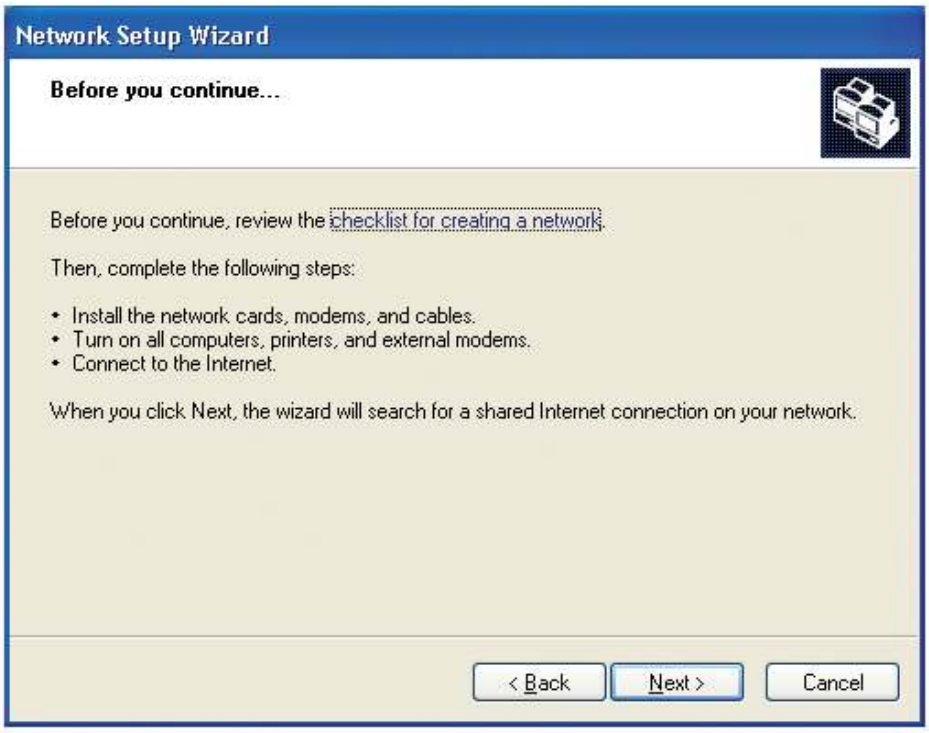
Note: *Please refer to websites such as http://www.homenethelp.com and http://www.microsoft.com/windows2000 for information about networking computers using Windows® 2000.*

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



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

Please follow all the instructions in this window:



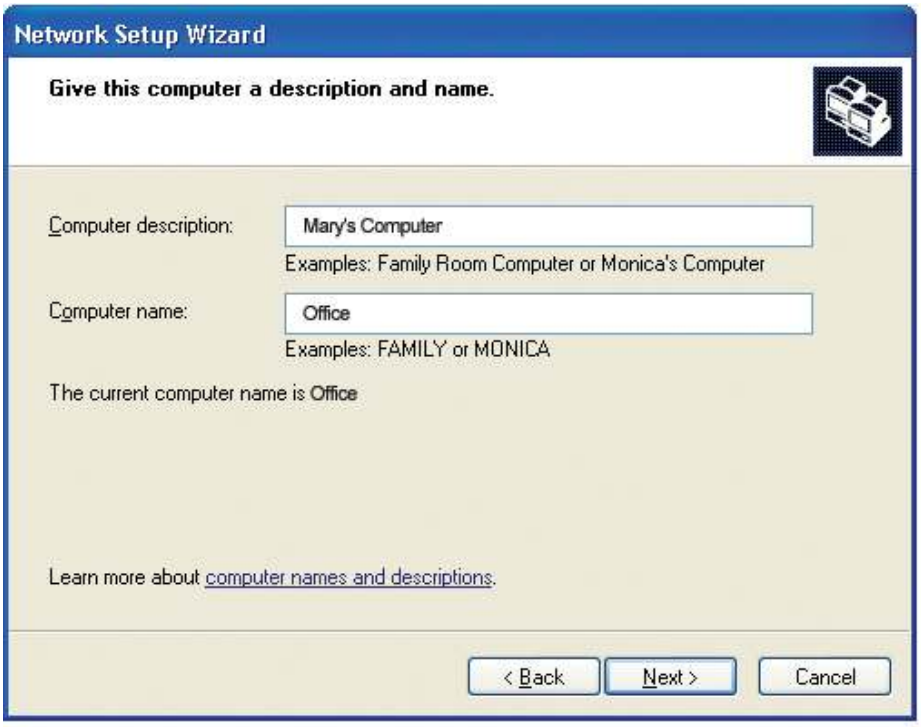
Click **Next**.

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



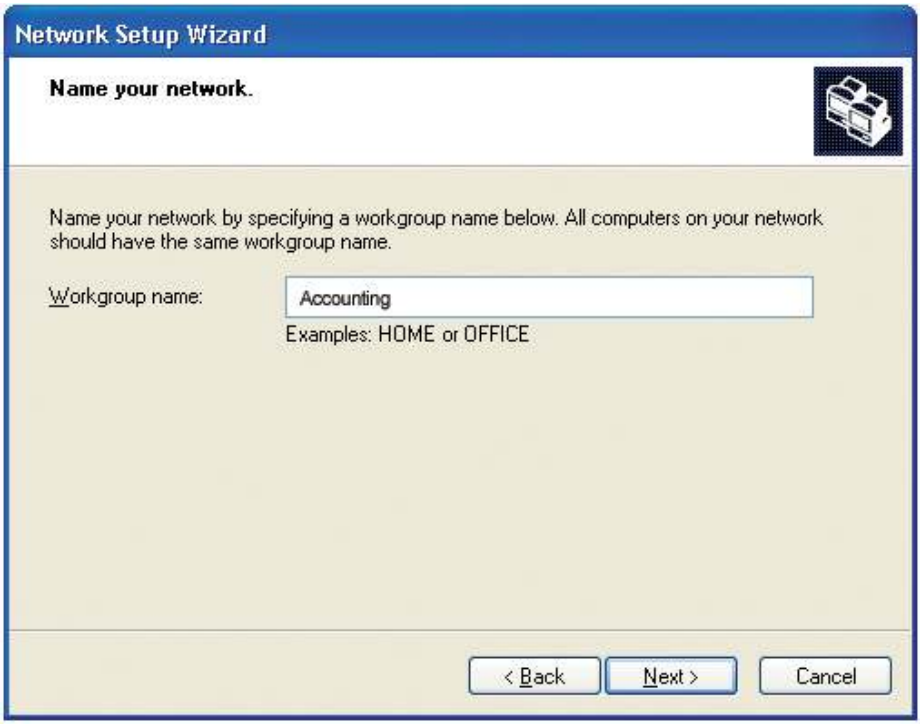
Click **Next**.

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



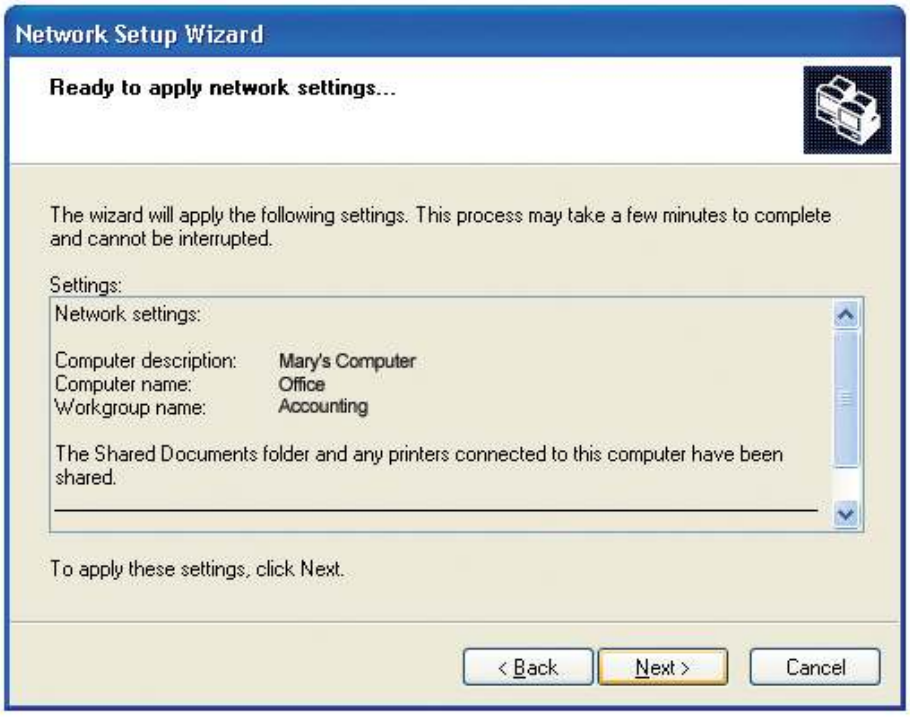
Click **Next**.

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



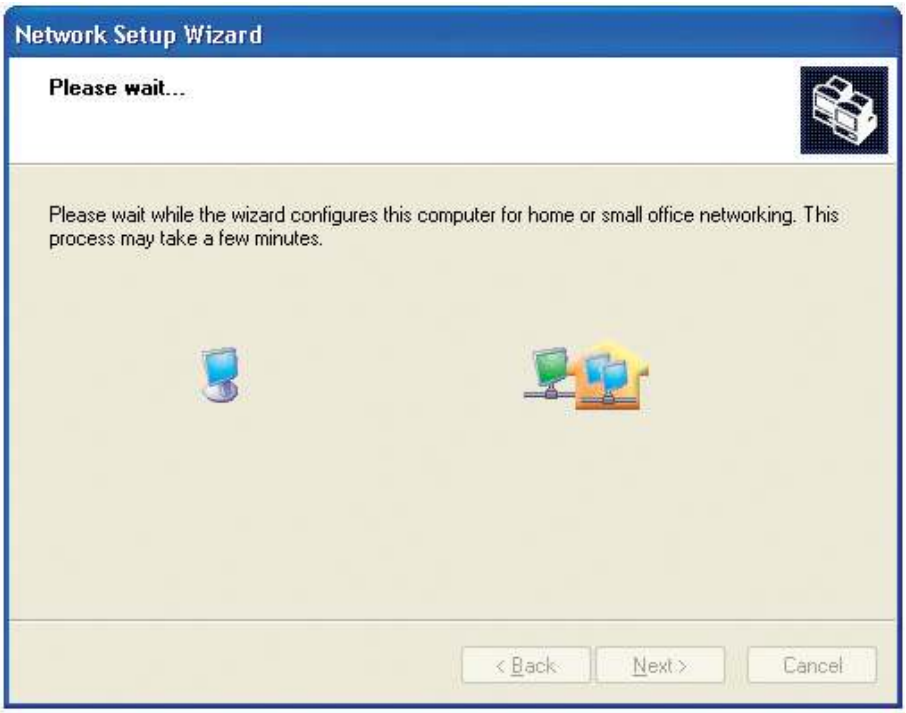
Click **Next**.

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



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

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



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



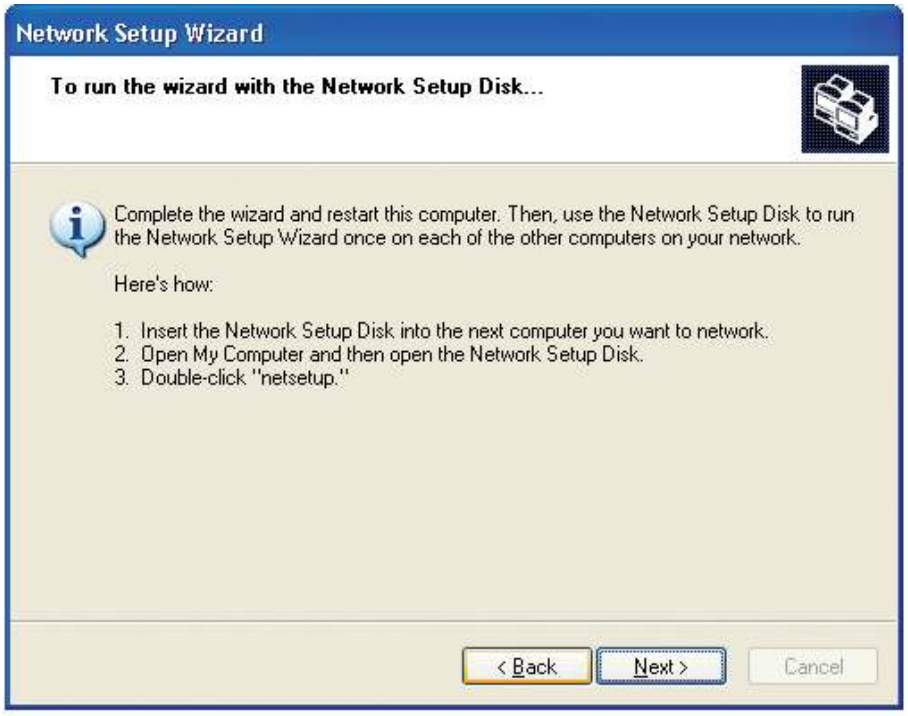
Insert a disk into the Floppy Disk Drive, in this case drive **A**.



Click **Next**.



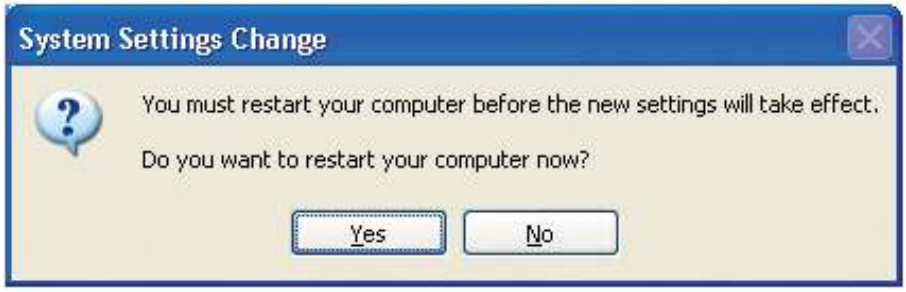
Please read the information under **Here's how** in the screen below. After you complete the **Network Setup Wizard** you will use the **Network Setup Disk** to run the **Network Setup Wizard** once on each of the computers on your network. To continue click **Next**.



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



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



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

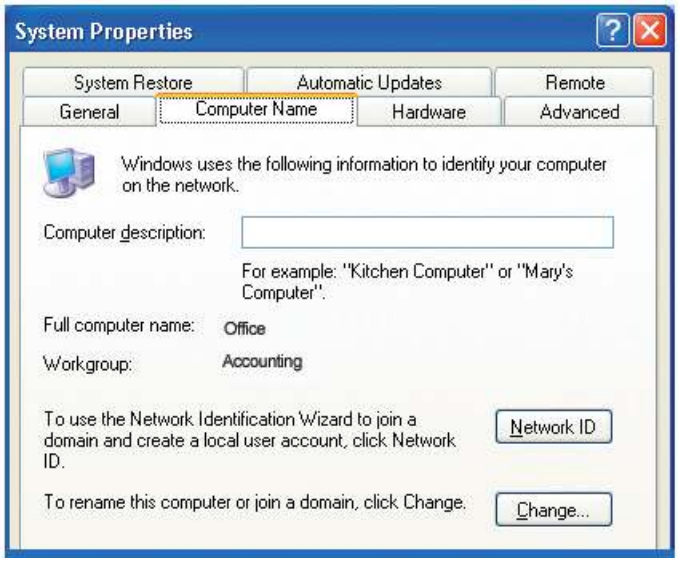
Naming Your Computer

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

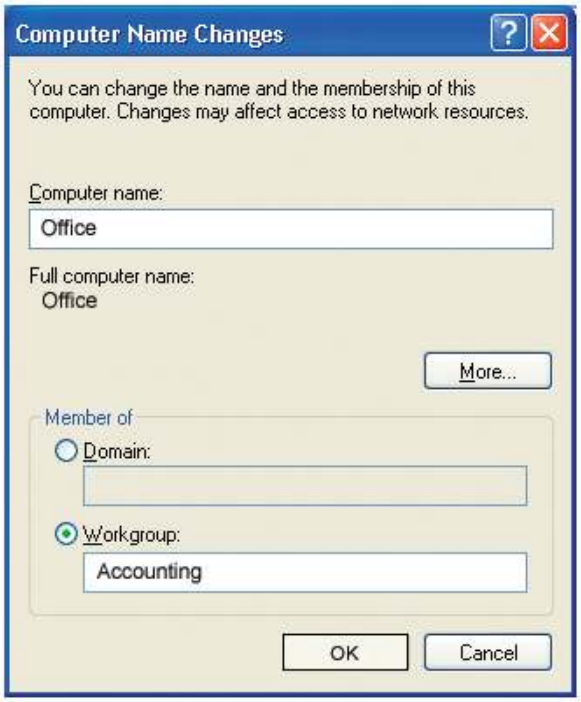
- Click **Start** (in the lower left corner of the screen).
- **Right-click** on **My Computer**.
- Select **Properties** and click.



- 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**.



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



Checking the IP Address in Windows® XP

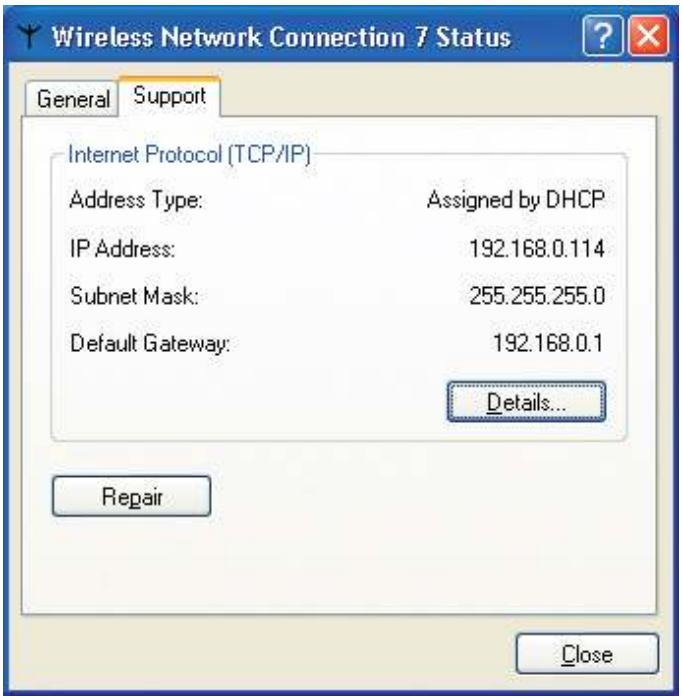
The wireless adapter-equipped computers in your network must be in the same IP Address range (see Getting Started in this manual for a definition of IP Address Range.) To check on the IP Address of the adapter, please do the following:

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



This window will appear:

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



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:

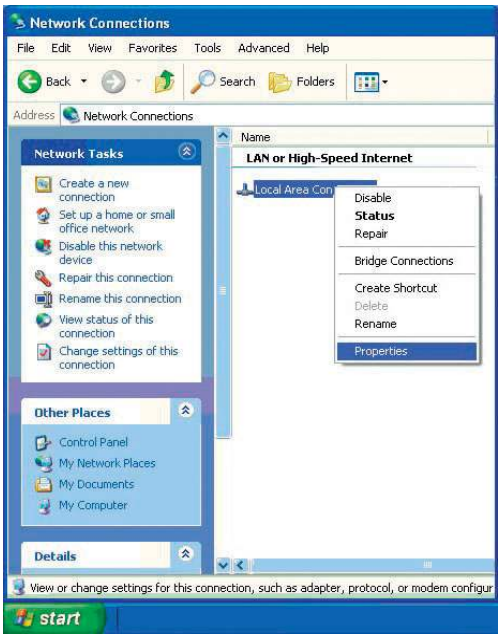
- Go to **Start**.
- Double-click on **Control Panel**.



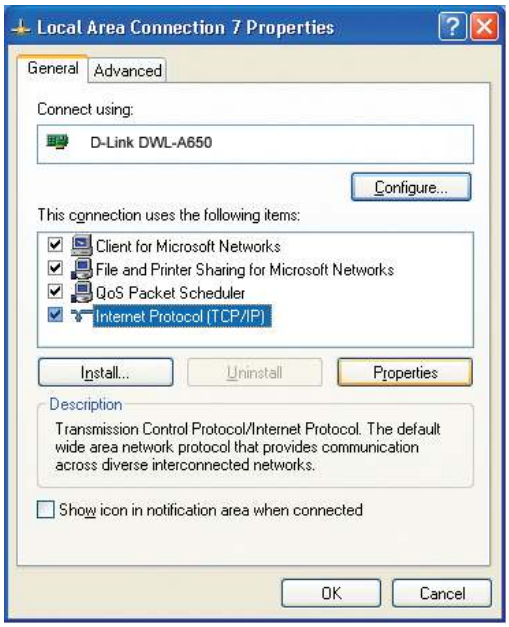
- Double-click on **Network Connections**.



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



- 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.)

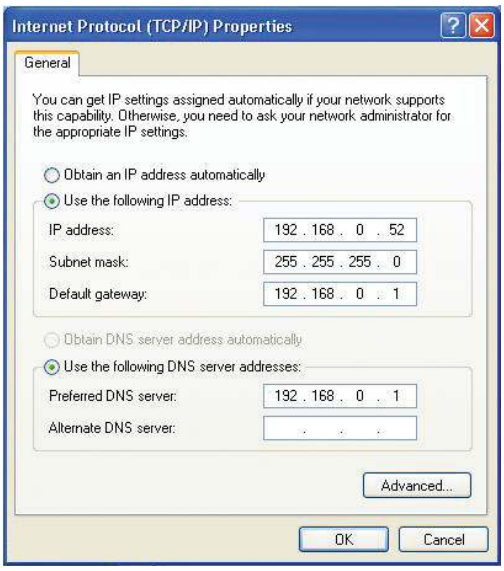


- Input your **DNS server addresses**.

  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**.

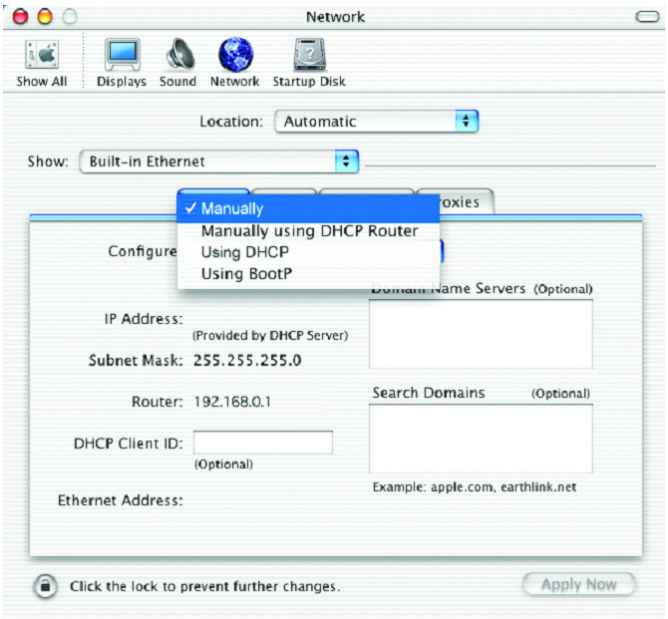


Assigning a Static IP Address in Macintosh® OSX

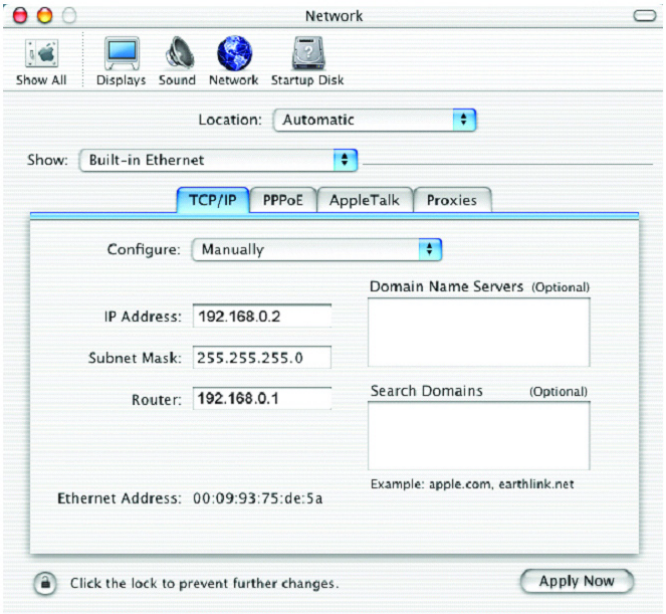
- Go to the **Apple Menu** and select **System Preferences**.
- Click on **Network**.



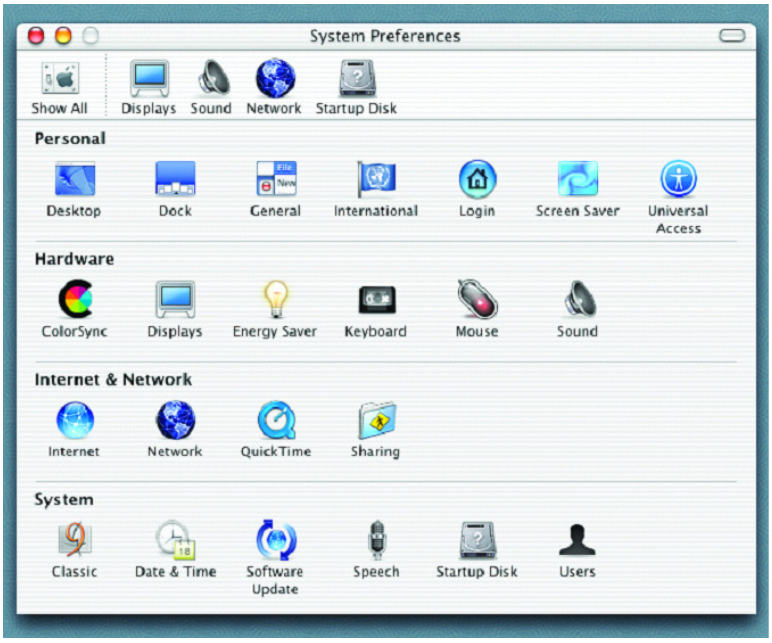
- Select **Built-in Ethernet** in the **Show** pull-down menu.
- Select **Manually** in the **Configure** pull-down menu.



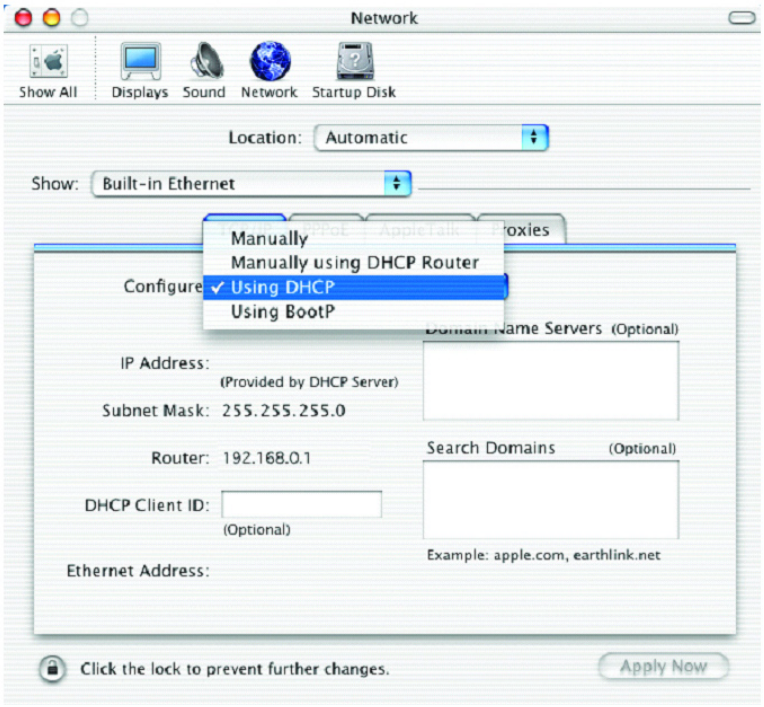
- Input the **Static IP Address**, the **Subnet Mask** and the **Router IP Address** in the appropriate fields.
- Click **Apply Now**.



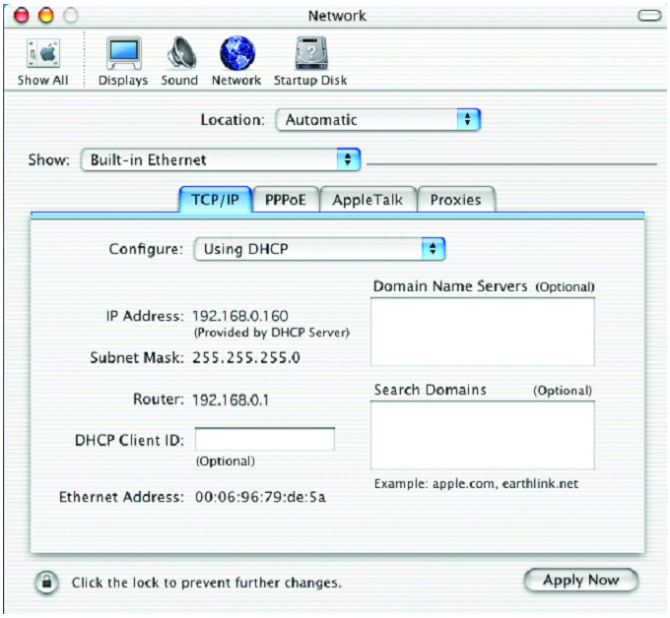
- Go to the **Apple Menu** and select **System Preferences**.
- Click on **Network**.



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

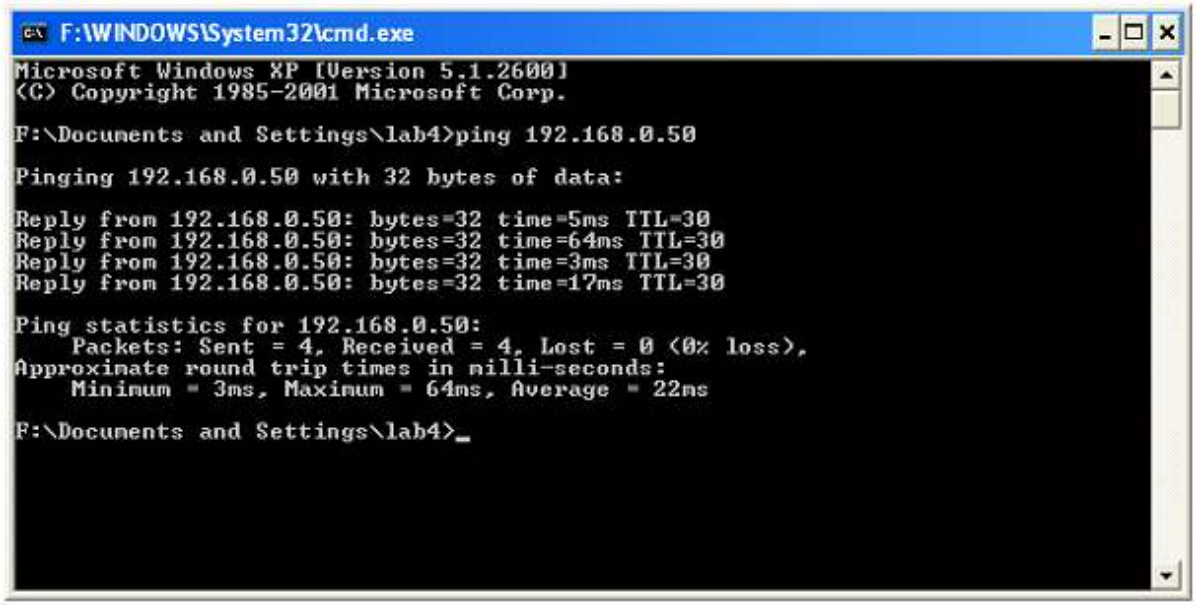


- Click **Apply Now**.
- The **IP Address, Subnet mask**, and the **Router's IP Address** will appear in a few seconds.



Checking the Wireless Connection by Pinging in Windows® XP and 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.



Troubleshooting

This Chapter provides solutions to problems that can occur during the installation and operation of the DWL-2100AP 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-2100AP.*

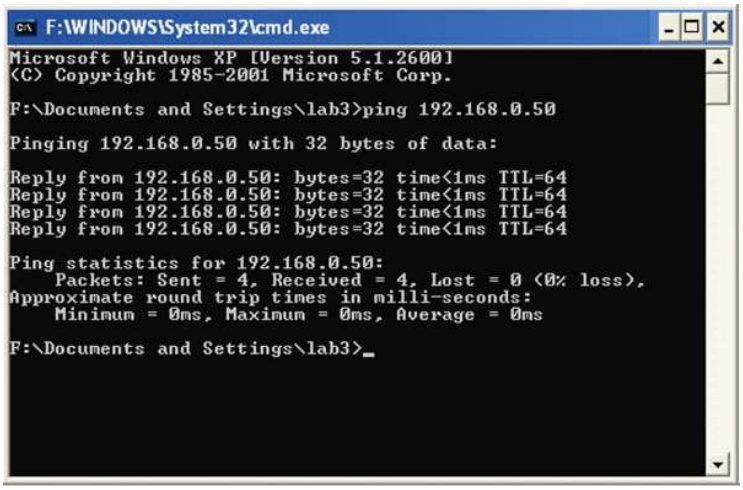
1. The computer used to configure the DWL-2100AP cannot access the Configuration menu.

- Check that the **Ethernet LED** on the DWL-2100AP 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-2100AP. Please see **Checking the IP Address in Windows® XP** in the **Networking Basics** section of this manual.

Note: *The IP address of the DWL-2100AP 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.*

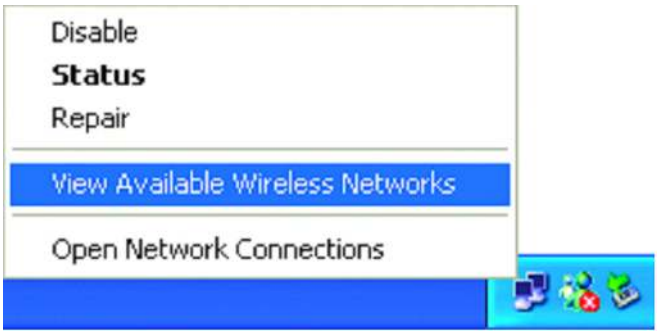
- Do a **Ping test** to make sure that the DWL-2100AP is responding. Go to **Start**>**Run**>Type **Command**>Type **ping 192.168.0.50.** A successful ping will show four replies.

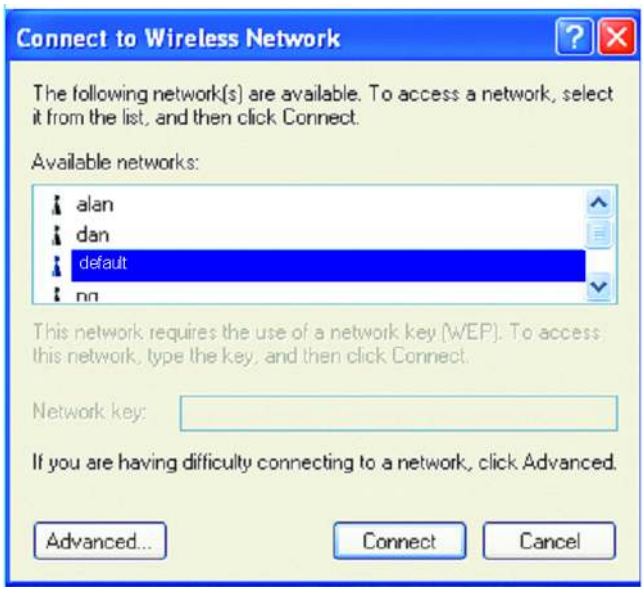
Note: *If you have changed the default IP address, make sure to ping the correct IP address assigned to the DWL-2100AP.*



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> 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.





- 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-2100AP 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**.*)*

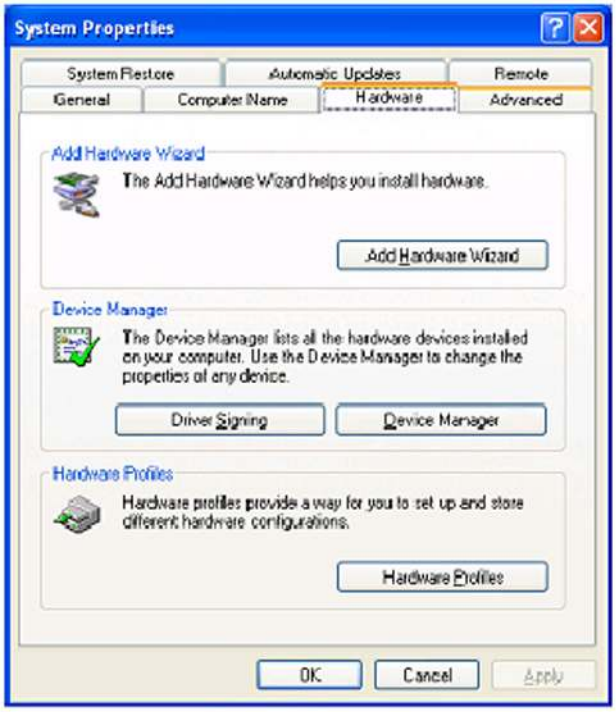
3. Check that the drivers for the network adapters are installed properly.

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.

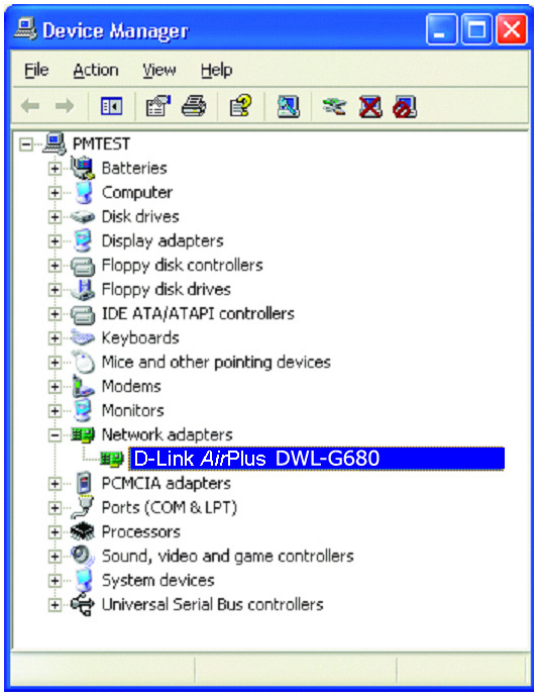
- Go to **Start > My Computer > Properties**.



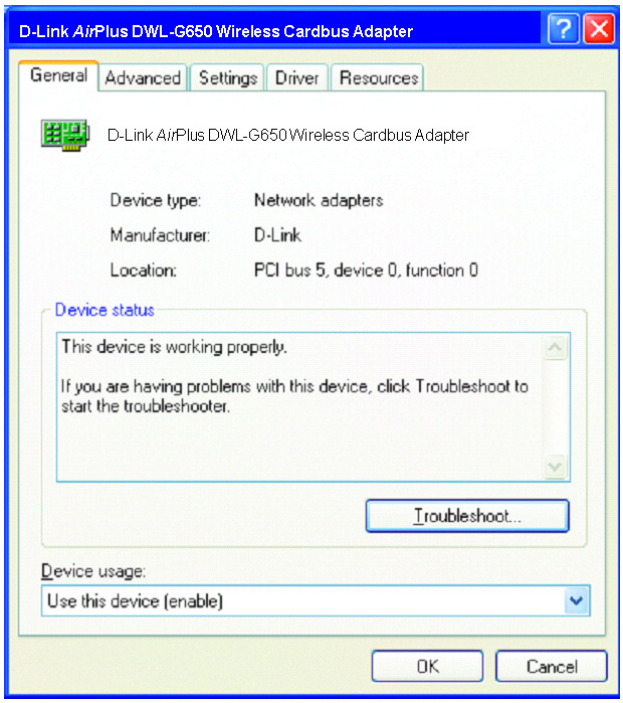
- **Select** the **Hardware Tab**.
- Click **Device Manager**.



- Double-click on **Network Adapters**.
- Right-click on **D-Link AirPlus DWL-G680 Wireless Cardbus Adapter**. (In this example we use the DWL-G680; 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**.



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-2100AP. 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-2100AP, 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-2100AP and the wireless client into the same room and then test the wireless connection.
- Disable all security settings.
- Turn off your DWL-2100AP and the client. Turn the DWL-2100AP 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-2100AP, 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-2100AP 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 802.11b
- IEEE 802.11g
- IEEE 802.3
- IEEE 802.3u
- IEEE 802.3x

Network Management
- Web Browser interface
- AP Manager
- SNMP v.3
- Telnet

Data Rate*
For 802.11b:
- 11, 5.5, 2, and1Mbps

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

Security
- 64/128/152-bit WEP
- WPA (Wi-Fi Protected Access) - TKIP/AES/PSK
- MAC Address Access Control List

Wireless Frequency Range
- 2.4GHz to 2.4835GHz

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

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

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

Receiver Sensitivity
For 802.11b:
- 1Mbps: -94dBm
- 2Mbps: -90dBm
- 5.5Mbps: -88dBm
- 11Mbps: -85dBm

For 802.11g:
- 1Mbps: -94dBm
- 2Mbps: -91dBm
- 5.5Mbps: -89dBm
- 6Mbps: -91dBm
- 9Mbps: -90dBm
- 11Mbps: -86dBm
- 12Mbps: -89dBm
- 18Mbps: -87dBm
- 24Mbps: -84dBm
- 36Mbps: -80dBm
- 48Mbps: -76dBm
- 54Mbps: -73dBm

Transmit Output Power
Typical RF Output Power at each Data Rate:

For 802.11b:
- 31mW (15dBm) @ 54 and 108Mbps
- 40mW (16dBm) @ 48Mbps
- 63mW (18dBm) @ 36, 24, 18, 12, 9, and 6Mbps

For 802.11g:
- 63mW (18dBm) @ 11, 5.5, 2, and 1Mbps

Wireless Operating Range*
802.11g (Full Power with 2dBi gain diversity dipole antenna)
Indoor:
- 98ft (30m) @ 54Mbps
- 105ft (32m) @ 48Mbps
- 121ft (37m) @ 36Mbps
- 148ft (45m) @ 24Mbps
- 197ft (60m) @ 18Mbps
- 223ft (68m) @ 12Mbps
- 253ft (77m) @ 9Mbps
- 295ft (90m) @ 6Mbps

Outdoor:
- 312ft (95m) @ 54Mbps
- 951ft (290m) @ 11Mbps
- 1378ft (420m) @ 6Mbps

Operating Voltage
- 5VDC +/- 10%

LEDs
- Power
- 10M/100M
- WLAN

** Maximum wireless signal rate derived from IEEE Standard 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 factors will adversely affect wireless signal range.*

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

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

Certifications
• FCC Part 15
• CSA
• UL
• Wi-Fi

Dimensions
• L = 5.59 inches (142mm)
• W = 4.29 inches (109mm)
• H = 1.22 inches (31mm)

Warranty
• 3 Years

Technical Support

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

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

U.S. and Canadian customers can contact D-Link Technical Support through our website, or by phone.

Tech Support for customers within the United States:

D-Link Technical Support over the Telephone:
(877) 453-5465
24 hours a day, seven days a week

D-Link Technical Support over the Internet:
http://support.dlink.com

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

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.

Trademarks: D-Link is a registered trademark of D-Link Systems, Inc. Other trademarks or registered trademarks are the property of their respective owners.

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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.

Registration



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

Version 2.0
May 30, 2006