

D-Link *AirPremier*TM DWL-2700AP

**Outdoor 802.11g
Wireless Access Point**

Manual



This product should be installed **ONLY** by experienced, professional installers who are familiar with local building and safety codes, and wherever applicable, are licensed by the appropriate authorities. Failure to do so may void the warranty and may expose the user or the service provider to legal and financial liabilities.

D-Link[®]

Building Networks for People

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Package Contents



- 1** D-Link AirPremier™ DWL-2700AP
Outdoor 802.11g Wireless Access Point
- 2** Eight screws & one rubber ring
- 3** Two rubber dipole antennas
- 4** Manual on CD
- 5** Quick Install Guide
- 6** **a** Pole-Mounting Kit **b** Wall-Mounting Kit
- 7** PoE base unit
- 8** Power adapter
- 9** Power cord
- 10** RF jumper cable
- 11** Grounding wire
- 12** Surge arrester
- 13** 30m Ethernet cable

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

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Introduction

The DWL-2700AP covers a large operating distance, providing an 802.11g outdoor WLAN which enables users to access the Internet or an organization's network.

At up to five times the speed of previous wireless devices, you can work faster and more efficiently, increasing productivity. With the DWL-2700AP, bandwidth-intensive applications like graphics or multimedia will benefit significantly because large files are able to move across the network quickly.

The D-Link *AirPremier™* DWL-2700AP features a die-cast watertight housing and a built-in lightning protector to protect the access point from harsh environmental conditions, including extreme variance in temperature. It also includes *Power over Ethernet* (POE) and a unique outdoor remote-mounted design for easy installation in either wall or pole mounting.

The DWL-2700AP is suitable for manufacturing plants, industrial sites, military bases, universities, hotels, airports and golf courses.

Configurable in five different modes (access point, bridge, multi-point bridge, wireless client and repeater), the DWL-2700AP offers 128-bit encryption, WPA and 802.1X authentication when used with a RADIUS server, MAC address access control, and additional security features.

The DWL-2700AP is easy to manage with its Web-based user interface and Telnet configuration. For Enterprise networks, the DWL-2700AP supports SNMP v.3 network administration and real-time network traffic monitoring via D-Link's D-View Network Management software.

System Requirements for Configuration:

- Computers with Windows, Macintosh, or Linux-based operating systems with an installed Ethernet adapter
- Internet Explorer version 6.0 or Netscape Navigator version 6.0 and Above

Features

- **Ideal for Internet Hotspots** - Provides outdoor users with wireless Internet access.
- **Robust Outdoor Housing** - Designed for harsh outdoor environments, with die-cast, watertight housing, built-in heater and temperature sensor, and either pole or wall- mounting.
- **5 Different Operation modes with WDS (Wireless Distribution System)** - Capable of operating in one of five different operation modes to meet your wireless networking requirements: access point (AP), Point-to-Point (PtP) bridge, Point-to-multipoint (PtMP) bridge, wireless client, or repeater.
- **Embedded DHCP Server** automatically assigns IP addresses to wireless clients.
- **Connect networks in different buildings** when used in conjunction with D-Link's high-gain outdoor antennas.
- **Easy Installation with 802.3af PoE.**
- **Faster wireless networking*** with the 802.11g standard to provide a wireless data rate of up to 54Mbps.
- **Compatible with the 802.11b standard** to provide a wireless data rate of up to 11Mbps with 802.11b devices - that means you can migrate your system to the 802.11g standard on your own schedule without sacrificing connectivity.
- **Better security with ACL, WPA, AES and 802.1X**- The DWL-2700AP can securely connect to wireless clients on the network using WPA (Wi-Fi Protected Access) providing a much higher level of security for your data and communications than has previously been available. In conjunction with a RADIUS server, 802.1X authentication verifies the identity of would-be clients.
- **Supports up to 152-bit WEP encryption and AES (Advanced Encryption Standard).**
- **Multiple Management options** - Great for enterprise wireless network management
 - **Web-based configuration**
 - **Telnet**
 - **SNMP v.3**
 - **D-Link's D-View Network Management software**

*Maximum wireless signal rate based on IEEE Standard 802.11g specifications.

Actual data throughput will vary.

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Five Operational Modes

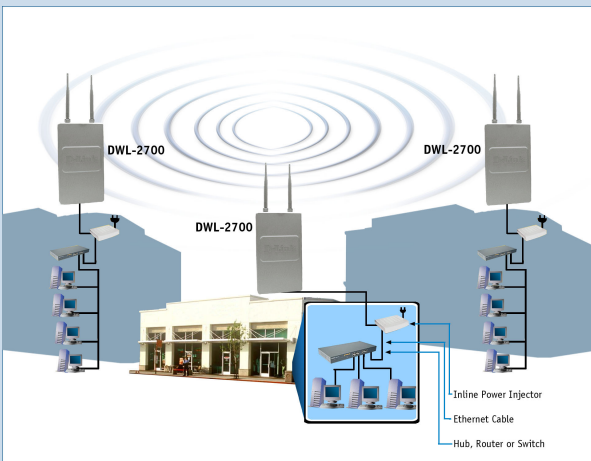
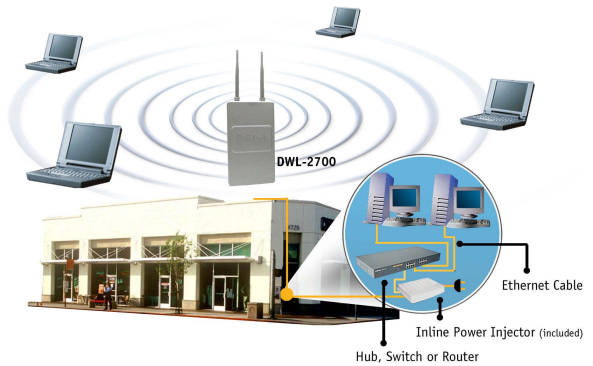
Operation Mode
(Only supports 1 mode at a time)

Function

Operation Mode	Function
Access Point (AP)	Create a Wireless LAN
AP - to - AP Bridging	Wirelessly Connect 2 Networks
Point - to - Multipoint Bridging	Wirelessly Connect Multi Networks
Wireless Client	Wirelessly Connect Ethernet Devices
Wireless Repeater (WDS)*	Wireless Repeats 11g AP Gateways (Atheros Based)

*WDS Includes Bridge Repeating

AP Mode

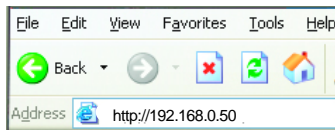


Bridge Mode

Using the Configuration Utility

To configure the DWL-2700AP, use a computer which is connected to the DWL-2700AP with an Ethernet cable (see the *Network Layout* diagram).

- First, disable the **Access the Internet using a proxy server** function. To disable this function, go to **Control Panel > Internet Options > Connections > LAN Settings** and uncheck the enable box.
- Start your web browser program (Internet Explorer, Netscape Navigator) .
- Type the IP address and http port of the DWL-2700AP in the address field (<http://192.168.0.50>) and press **Enter**. Make sure that the IP addresses of the DWL-2700AP and your computer are in the same subnet.



Using the Configuration Utility (continued)

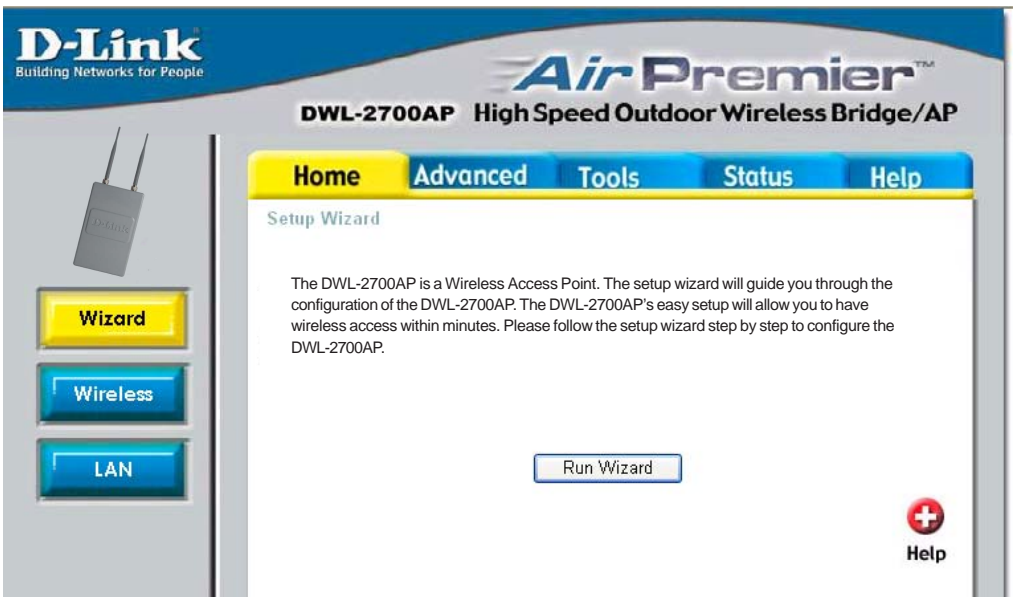
After the connection is established, you will see the user identification window as shown.

Note: If you have changed the default IP address assigned to the DWL-2700AP, make sure to enter the correct IP address.

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



Home > Wizard



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

Using the Configuration Utility (continued)

Home > Wireless



Wireless Band-

802.11g

SSID-

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

SSID Broadcast-

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

Channel-

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

Radio Frequency-

The radio frequency will remain at 2.437 GHz .

Apply-

Click **Apply** to save the changes.

Using the Configuration Utility (continued)

Home > LAN



The screenshot shows the configuration utility for a D-Link Air Premier DWL-2700AP. The interface has a blue header with the D-Link logo and the product name. Below the header, there are navigation tabs: Home (selected), Advanced, Tools, Status, and Help. On the left side, there are three buttons: Wizard, Wireless, and LAN (selected). The main content area is titled 'LAN Settings' and contains the following fields:

Get IP From	Static (Manual) ▼
IP Address	192.168.0.50
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0

At the bottom right of the settings area, there are three buttons: Apply (with a green checkmark icon), Cancel (with a yellow 'X' icon), and Help (with a red '+' icon).

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-2700AP. These settings may be referred to as private settings. You may change the LAN IP address if needed. The LAN IP address is private to your internal network and cannot be seen on the Internet.

Get IP From-

Select **Static (Manual)** or **Dynamic (DHCP)** as the method you will use to assign an IP address to the DWL-2700AP.

IP Address-

The IP address of the LAN interface. The default IP address is: **192.168.0.50**

Subnet Mask-

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

Default Gateway-

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

Apply-

Click **Apply** to save the changes.

Using the Configuration Utility (continued)

The DWL-2700AP can be configured to perform in any of five modes: wireless access point, wireless client, wireless bridge, multi-point bridge, repeater.

Access Point is the default setting. This mode is used to create a wireless LAN.

PtP Bridge will allow you to connect two LANs together. The wireless bridge mode will work only with another DWL-2700AP. Click to enable and enter the MAC address of the remote bridge.

PtMP Bridge will allow you to connect multiple wireless LANs together. Other wireless LANs must be using DWL-2700APs. Click to enable and enter up to 8 remote AP MAC addresses.

AP Repeater will allow you to repeat the wireless signal of a DWL-2700AP access point. Click to enable and enter the MAC address of the root AP.

AP Client will transform any IEEE 802.3 Ethernet device (e.g., a computer, printer, etc.) into an 802.11b wireless client when it communicates with another DWL-2700AP that is acting as an AP. Click to enable and enter the MAC address of the root AP.

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

Find the **MAC address** of the DWL-2700AP that is acting as a **Remote Access Point** or a **Remote Bridge**, by going to **Status > Device Info** in the configuration utility of the remote DWL-2700AP. There you will find the MAC address.

MAC Address - (Media Access Control Address) is a unique hardware address that identifies a device on a network. It is assigned at the factory and cannot be changed. Usually you will find this address on a sticker on the device or on the packaging.

Advanced > Mode

D-Link
Building Networks for People

Air Premier™
DWL-2700AP High Speed Outdoor Wireless Bridge/AP

Home Advanced Tools Status Help

AP Mode Settings

Wireless Band : IEEE802.11g

Access Point

PtP Bridge

Remote AP MAC Address

1. 2.

3.

PtMP Bridge

Remote AP MAC Address

1. 2.

3. 4.

5. 6.

7. 8.

9. 10.

11. 12.

13. 14.

15. 16.

AP Repeater

Static Key

Dynamic Key

Root AP MAC Address

AP Client

Root AP MAC Address

Apply Cancel Help

Using the Configuration Utility (continued)

Advanced > Performance

Wireless Band-
802.11g

Turbo Setting-
This function is set to **Disabled**. It cannot be **Enabled**.

Frequency-
The frequency remains at **2.437 GHz**.

D-Link Building Networks for People Air Premier™ DWL-2700AP High Speed Outdoor Wireless Bridge/AP

Home Advanced Tools Status Help

Advance Wireless Settings

Wireless Band: IEEE802.11g

Turbo Setting: Disabled

Frequency: 2.437 GHz

Channel: 6

Data Rate: Auto

Beacon Interval (20 - 1000): 100

DTIM (1 - 255): 1

Fragment Length (256 - 2346): 2346

RTS Length (256 - 2346): 2346

Transmit Power: full

Apply Cancel Help

Channel- Select from channels **1-11**.
(FCC 1-11; ETSI 1-13).

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

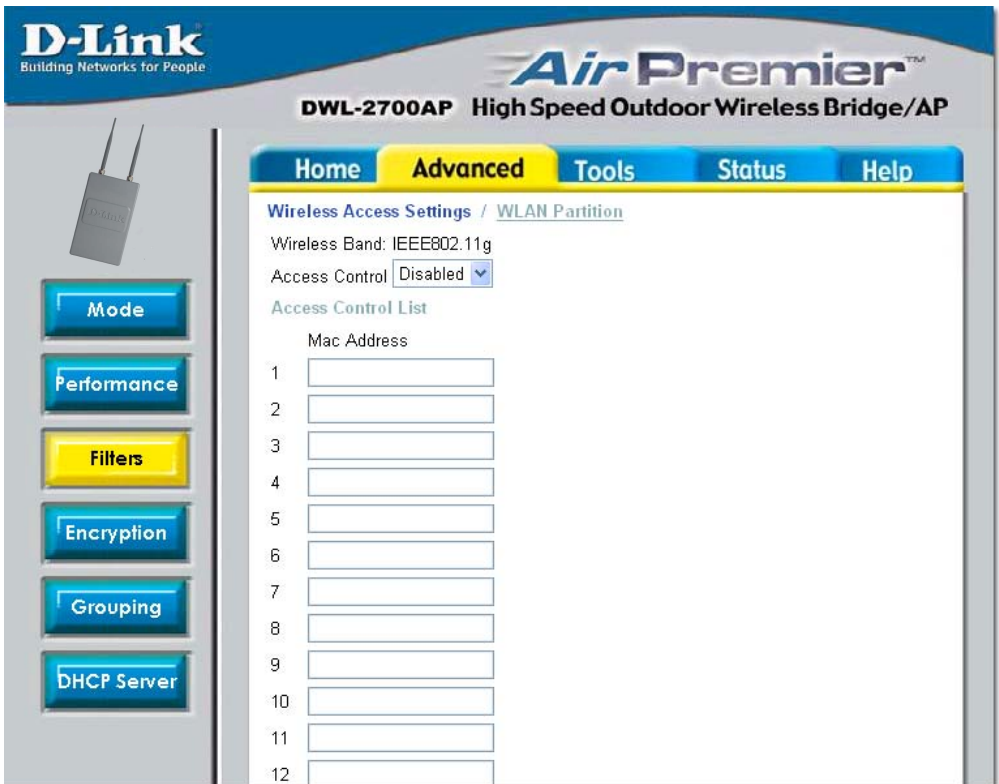
Fragment Length- The fragmentation threshold, which is specified in bytes, determines whether packets will be fragmented. Packets exceeding the 2346 byte setting will be fragmented before transmission. 2346 is the default setting

RTS Length- This value should remain at its default setting of 2,346. If you encounter inconsistent data flow, only minor modifications to the value range between 256 and 2,346 are recommended

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

Using the Configuration Utility (continued)

Advanced > Filters > Wireless Access Settings



Wireless Band- 802.11g

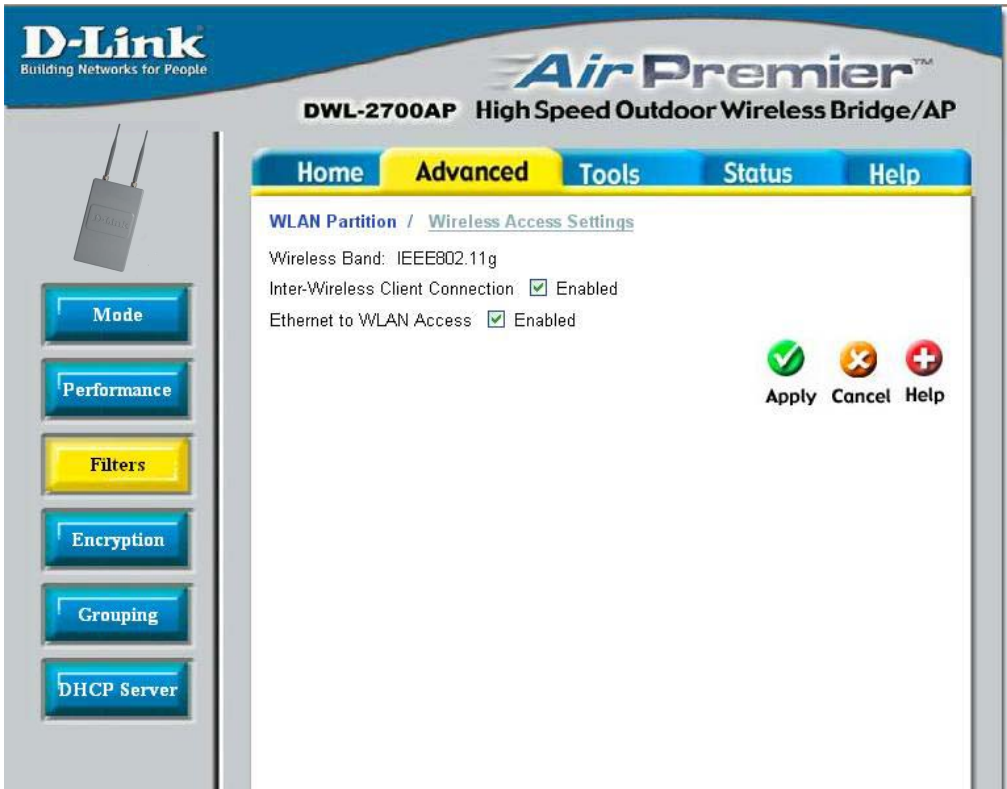
Access Control- Select **Disabled** to disable the filters function.
Select **Accept** to accept only those devices with MAC addresses in the Access Control List.
Select **Reject** to reject the devices with MAC addresses in the Access Control List.

Access Control List- The MAC addresses in this list can be accepted or rejected for inclusion in the network, depending upon the Access Control selection.

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

Using the Configuration Utility (continued)

Advanced > Filters > WLAN Partition



The screenshot shows the configuration utility for a D-Link Air Premier DWL-2700AP. The interface has a blue header with the D-Link logo and 'Building Networks for People'. Below the header, the device name 'Air Premier™ DWL-2700AP High Speed Outdoor Wireless Bridge/AP' is displayed. The main navigation bar includes 'Home', 'Advanced' (selected), 'Tools', 'Status', and 'Help'. The current page is 'WLAN Partition / Wireless Access Settings'. On the left, there is a vertical menu with buttons for 'Mode', 'Performance', 'Filters' (highlighted in yellow), 'Encryption', 'Grouping', and 'DHCP Server'. The main content area shows the following settings:

- Wireless Band: IEEE802.11g
- Inter-Wireless Client Connection: Enabled
- Ethernet to WLAN Access: Enabled

At the bottom right of the settings area, there are three buttons: 'Apply' (with a green checkmark icon), 'Cancel' (with an orange 'X' icon), and 'Help' (with a red plus icon).

Wireless Band- 802.11g

Inter-Wireless Client 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.

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

Using the Configuration Utility (continued)

Advanced > Encryption

WPA & 802.1x - represent the first line of defense against network intrusion. In the authentication process the RADIUS server verifies the identity of the client attempting to connect to the network. Unfamiliar clients will be denied access. **EAP**(Extensible Authentication Protocol) is available through the Windows XP Operating System. You will need to use the same type of EAP protocol on all the devices in your network when using the 802.1x feature.

The screenshot shows the configuration utility for a D-Link Air Premier DWL-2700AP. The 'Advanced' tab is selected, and the 'Encryption' section is active. The settings are as follows:

- Wireless Band: IEEE802.11g
- Authentication: Open System, Shared Key, Open System / Shared key, 802.1x, WPA, WPA-PSK
- PassPhrase: You are using PSK
- Cipher: WEP
- Encryption: Disabled, Enabled
- Key Type: HEX
- Key Size: 64 Bits
- Valid Key: First
- Key Table: First Key, Second Key, Third Key (each with a masked input field)

Wireless Band- 802.11g Authentication-

- Select **Open System** to communicate the key across the network.
- Select **Shared Key** to limit communication to only those devices that share the same WEP settings.
- Select **Open System/Shared Key** to communicate the key and require identical WEP settings to communicate.
- Select **802.1X** for increased security features with a RADIUS server.
- Select **WPA** to utilize the increased security with a RADIUS server.
- When you select **WPA-PSK** you will enter a **PassPhrase** below.

PassPhrase- When you select **WPA-PSK** you will enter a **Passphrase**.

Cipher- When you select WPA or 802.1X the EAP type will be selected for you.

Encryption- Select **Enabled** to use **WEP Encryption** security.

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

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

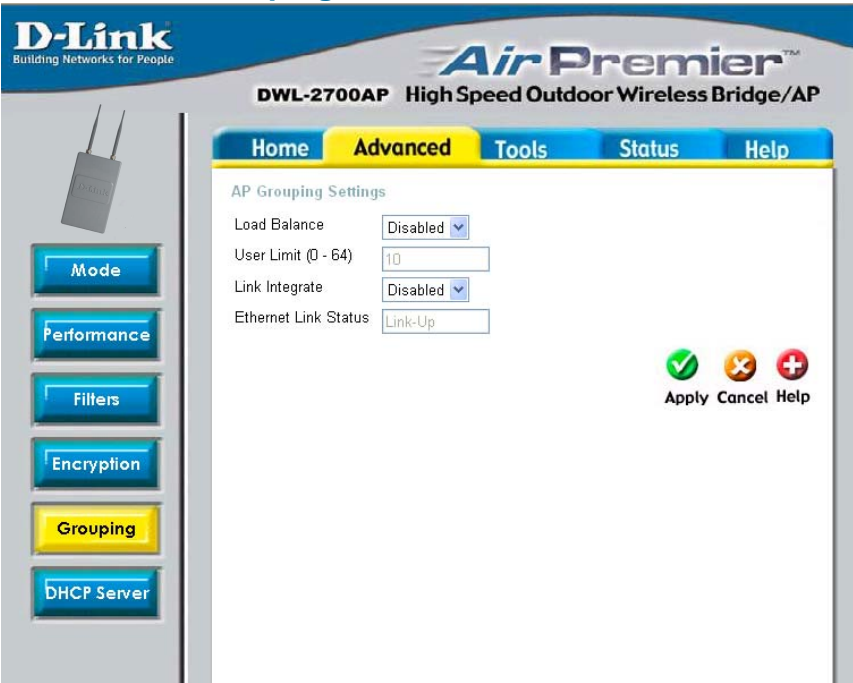
Valid Key- Select the **First** through the **Fourth** key to be the active key.

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

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

Using the Configuration Utility (continued)

Advanced > Grouping



Load Balance- Select **Enabled** or **Disabled**.

When you **Enable Load Balance** you allow several DWL-2700APs to balance wireless network traffic and wireless clients among the DWL-2700APs in the network. Assign each access point a different **non-overlapping channel** (e.g., 1, 6, 11).

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

Link Integrate- Select **Enabled** or **Disabled**.

When **Link Integrate** is **Enabled**, whenever the Ethernet connection between the LAN and the AP is disconnected - then the wireless segment associated with the AP will also be disconnected from the AP.

Ethernet Link Status- This field displays the Ethernet Link Status. **Link Up** indicates that there is an Ethernet LAN connection to the AP.

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

Using the Configuration Utility (continued)

Advanced > DHCP Server > Dynamic Pool Settings

DHCP Server Control-

Enable or Disable the DHCP function here.

Dynamic Pool Settings-

IP Assigned From-

Enter the starting IP address in the range.

The Range of Pool (1-256)-

Enter the number (quantity) of IP addresses in the range.

SubMask-

Enter the subnet mask here.

Gateway-

Enter the IP address of the router 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 server translates domain names such as www.dlink.com into IP addresses.

Domain Name-

Enter the Domain Name of the DWL-2700AP.

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.

The screenshot shows the configuration utility for a D-Link Air Premier DWL-2700AP. The interface is in the 'Advanced' tab, specifically the 'Dynamic Pool Settings' section. On the left, there is a sidebar with buttons for 'Mode', 'Performance', 'Filters', 'Encryption', 'Grouping', and 'DHCP Server'. The main area contains the following settings:

- DHCP Server Control:** Function Enable/Disable is set to 'Disabled'.
- Dynamic Pool Settings:**
 - IP Assigned From: 0.0.0.0
 - The Range of Pool (1-256): 0
 - SubMask: 0.0.0.0
 - Gateway: 0.0.0.0
 - Wins: 0.0.0.0
 - DNS: 0.0.0.0
 - Domain Name: (empty)
 - Lease Time (60 - 31536000 sec): 0
 - Status: OFF

At the bottom right, there are three buttons: 'Apply' (with a green checkmark), 'Cancel' (with a red X), and 'Help' (with a red plus sign).

Using the Configuration Utility (continued)

Advanced > DHCP Server > Static Pool Settings

DHCP Server Control-

Enable or Disable the DHCP function here.

Static Pool Settings-

Assigned IP-

Enter the static IP address of the device here.

Assigned MAC Address-

Enter the MAC address of the device here.

The screenshot shows the configuration utility for a D-Link Air Premier DWL-2700AP. The page is titled "Advanced > DHCP Server > Static Pool Settings". On the left, there is a navigation menu with buttons for "Mode", "Performance", "Filters", "Encryption", "Grouping", and "DHCP Server". The main content area has tabs for "Home", "Advanced", "Tools", "Status", and "Help". Under the "Advanced" tab, there are links for "Static Pool Settings", "Current IP Mapping List", and "Dynamic Pool Settings". The "DHCP Server Control" section shows "Function Enable/Disable" set to "Disabled". The "Static Pool Settings" section includes input fields for "Assigned IP" (0.0.0.0), "Assigned MAC Address", "SubMask" (0.0.0.0), "Gateway" (0.0.0.0), "Wins" (0.0.0.0), "DNS" (0.0.0.0), "Domain Name", and "Status" (OFF). At the bottom right, there are "Apply", "Cancel", and "Help" buttons. Below the settings is a table titled "Assigned Static Pool" with columns for "MAC Address", "IP address", "State", "Edit", and "Delete".

SubMask-

Enter the subnet mask here.

Gateway-

Enter the IP address of the router 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 server translates domain names such as www.dlink.com into IP addresses.

Domain Name-

Enter the Domain Name of the DWL-2700AP.

Status-

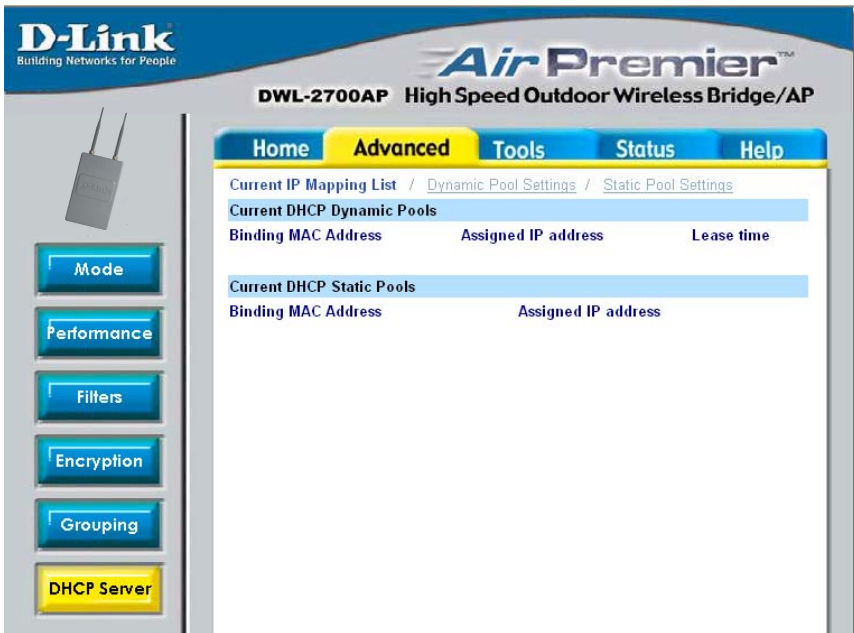
Turn the **Static Pool Settings** ON or OFF here.

Assigned Static Pool-

After you have input the **Static Pool Settings** for each device, click **Apply** and the profile will appear in this list at the bottom of the window.

Using the Configuration Menu (continued)

Advanced > DHCP Server > 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-2700AP 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.

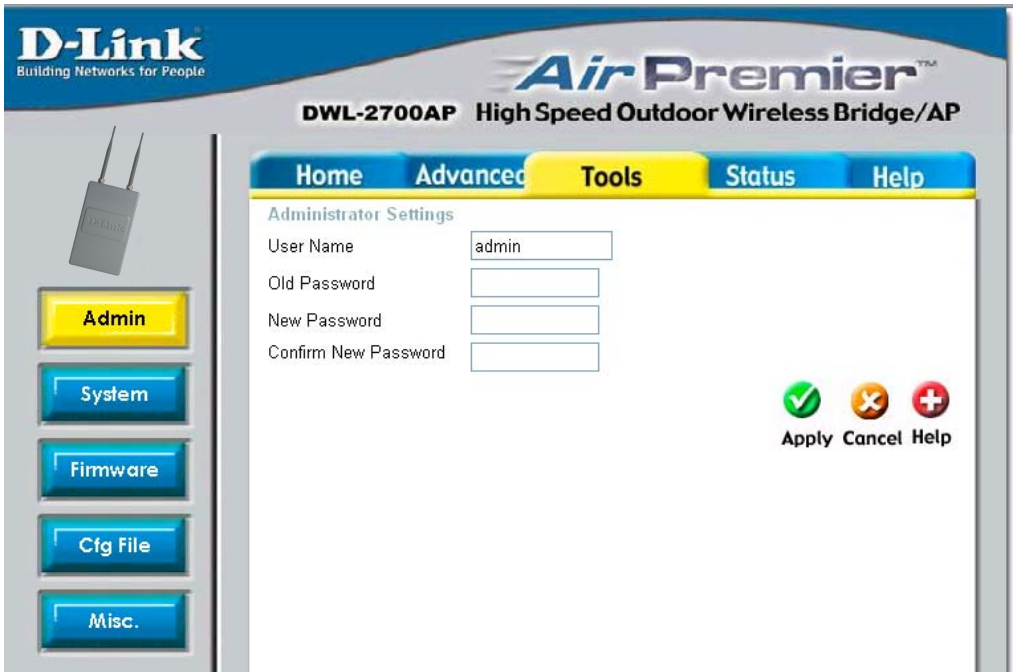
Current DHCP Static Pools-These are IP address pools to which the DHCP server function has assigned static IP addresses.

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.

Using the Configuration Utility (continued)

Tools > Admin



User Name-

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

Old Password-

To change your password, enter your old password here

New Password-

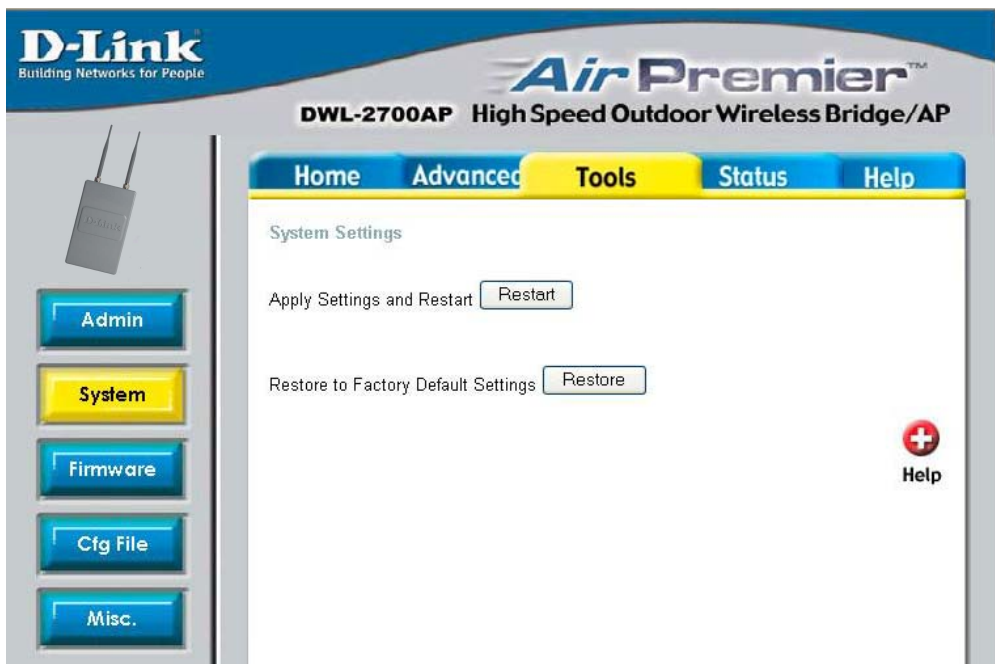
Enter your new password here.

Confirm New Password-

Enter your new password again.

Using the Configuration Utility (continued)

Tools > System

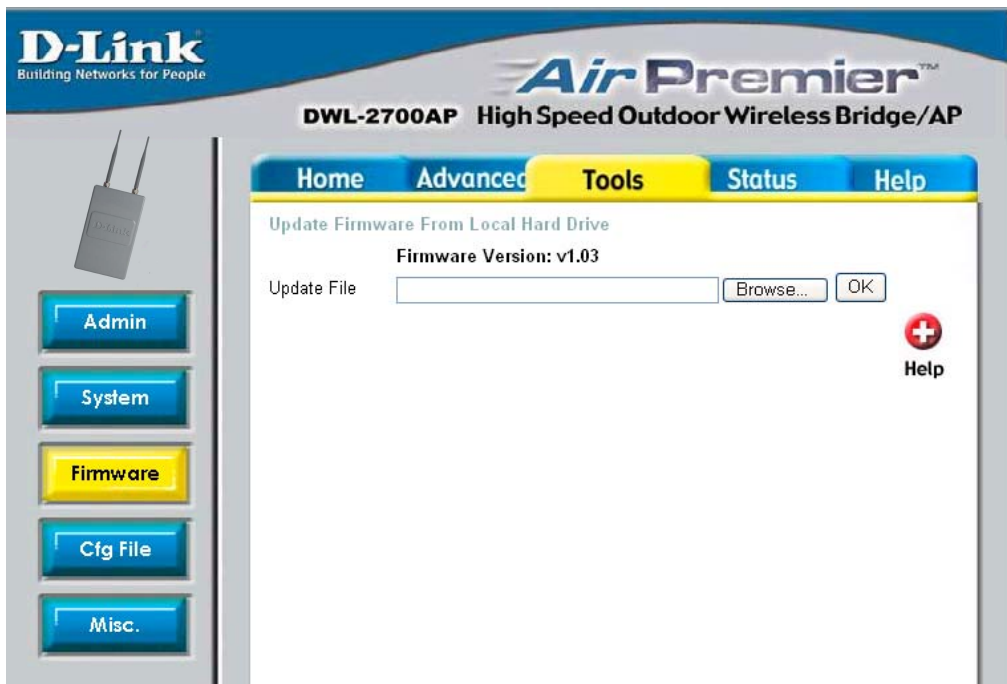


Restart- Apply settings and Restart.

Restore- Restore to factory default settings.

Using the Configuration Utility (continued)

Tools > Firmware



The screenshot shows the D-Link configuration utility interface for the Air Premier DWL-2700AP. The top navigation bar includes 'Home', 'Advanced', 'Tools' (highlighted), 'Status', and 'Help'. The main content area is titled 'Update Firmware From Local Hard Drive' and displays 'Firmware Version: v1.03'. Below this, there is a text input field labeled 'Update File', a 'Browse...' button, and an 'OK' button. A 'Help' icon (a red circle with a white plus sign) is located on the right side of the page. On the left sidebar, there is a vertical menu with buttons for 'Admin', 'System', 'Firmware' (highlighted), 'Cfg File', and 'Misc.'. An image of the DWL-2700AP device is shown above the sidebar menu.

Update File-

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

Using the Configuration Utility (continued)

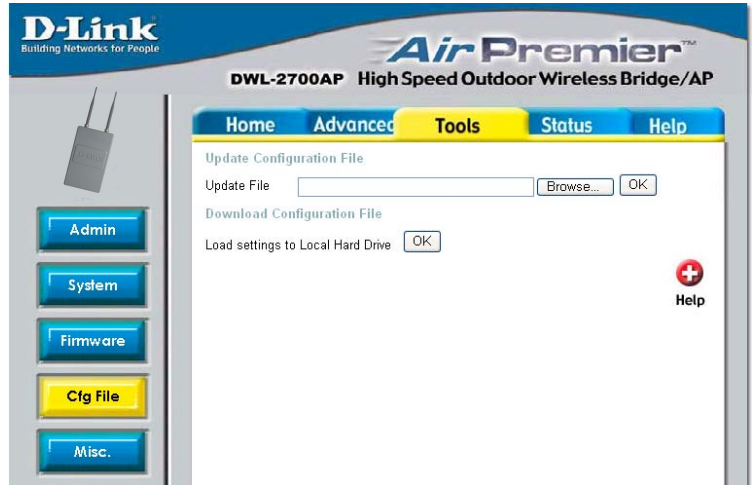
Tools > Cfg File

Update File-

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

Load Settings to the Local Hard Drive-

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



Tools > Misc.

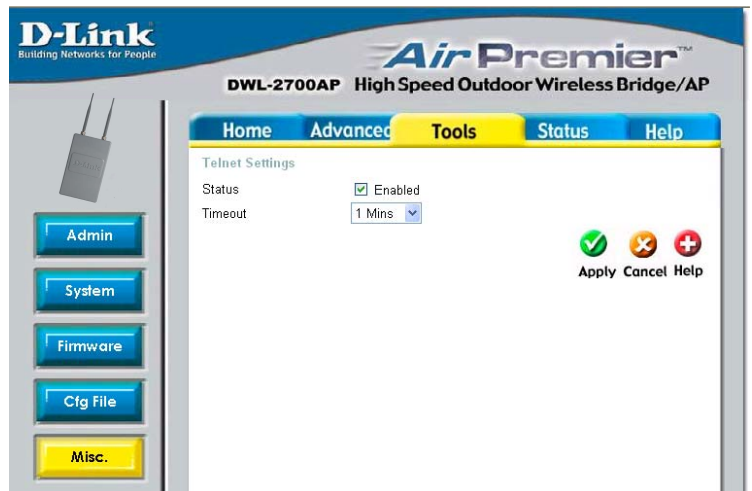
Telnet Settings

Status-

Click to Enable a Telnet session.

Timeout-

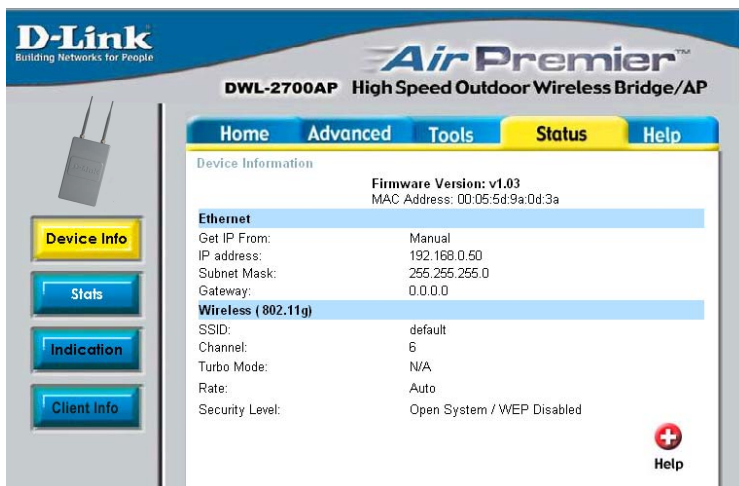
Select a time period after which a session timeout will occur.



Using the Configuration Utility (continued)

Status > Device Info

This window displays the settings of the DWL-2700AP, as well as the Firmware version and the MAC address.



D-Link Building Networks for People

Air Premier™

DWL-2700AP High Speed Outdoor Wireless Bridge/AP

Home Advanced Tools **Status** Help

Device Information

Firmware Version: v1.03
MAC Address: 00:05:5d:9a:0d:3a

Ethernet

Get IP From:	Manual
IP address:	192.168.0.50
Subnet Mask:	255.255.255.0
Gateway:	0.0.0.0

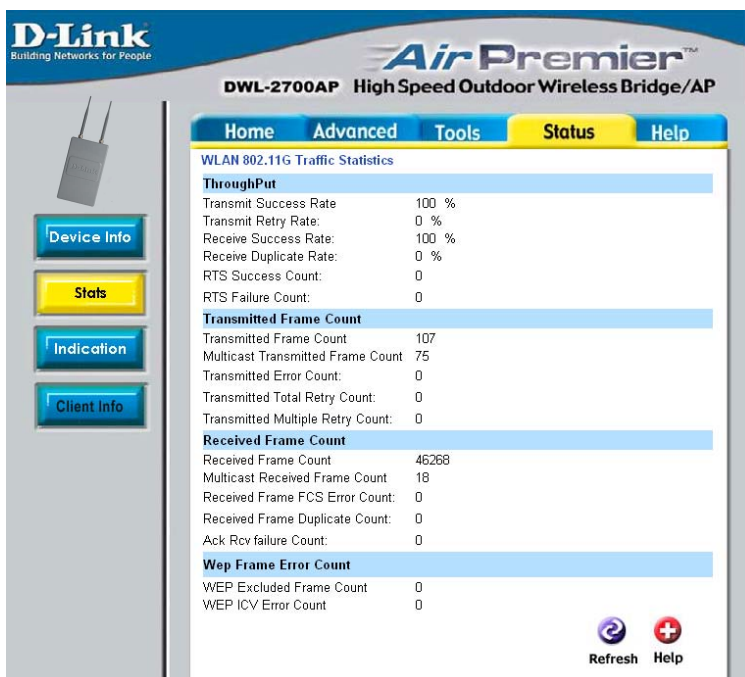
Wireless (802.11g)

SSID:	default
Channel:	6
Turbo Mode:	N/A
Rate:	Auto
Security Level:	Open System / WEP Disabled

Help

Status > Stats

This window displays the statistics of the wireless local area network.



D-Link Building Networks for People

Air Premier™

DWL-2700AP High Speed Outdoor Wireless Bridge/AP

Home Advanced Tools **Status** Help

WLAN 802.11G Traffic Statistics

ThroughPut

Transmit Success Rate	100 %
Transmit Retry Rate:	0 %
Receive Success Rate:	100 %
Receive Duplicate Rate:	0 %
RTS Success Count:	0
RTS Failure Count:	0

Transmitted Frame Count

Transmitted Frame Count	107
Multicast Transmitted Frame Count	75
Transmitted Error Count:	0
Transmitted Total Retry Count:	0
Transmitted Multiple Retry Count:	0

Received Frame Count

Received Frame Count	46268
Multicast Received Frame Count	18
Received Frame FCS Error Count:	0
Received Frame Duplicate Count:	0
Ack Rcv failure Count:	0

Wep Frame Error Count

WEP Excluded Frame Count	0
WEP ICV Error Count	0

Refresh Help

Using the Configuration Utility (continued)

Note: The following two screens contain information about the device that is communicating with the DWL-2700AP. This information is available only when the DWL-2700AP is in point-to-point, client or repeater mode.

Status > Indication

Temperature Indication-

Indicates the current temperature.

RSSI (Receiving Signal Strength Indication) -

Indicates the RSSI voltage. Available only in PtP Bridge, AP Repeater, and AP Client modes.

The screenshot shows the configuration utility interface for the DWL-2700AP. The 'Status' tab is selected, and the 'Indication' section is active. It shows a temperature indication of 38 °C and 100 °F, and an RSSI indication of 0 dB. A sidebar on the left contains navigation buttons for Device Info, Stats, Indication (highlighted), and Client Info. A Help icon is visible in the bottom right corner.

Status > Client Info

MAC -

The MAC address of the device communicating with the DWL-2700AP.

Band -

The device is set to the 802.11g band.

Authentication -

The device is set to Open System.

RSSI -

The device is set to Open System.

Power Saving Mode

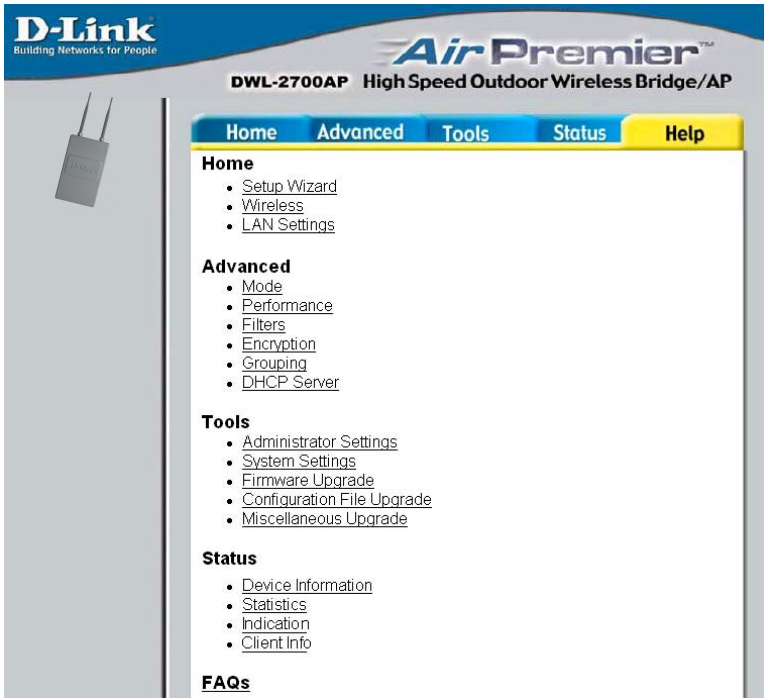
- In this case, the communicating device is set to Power Save Off.

The screenshot shows the configuration utility interface for the DWL-2700AP. The 'Status' tab is selected, and the 'Client Info' section is active. It displays client information for 1 station(s) in a table. A sidebar on the left contains navigation buttons for Device Info, Stats, Indication, and Client Info (highlighted). A Help icon is visible in the bottom right corner.

MAC	Band	Authentication	RSSI(%)	Power Saving Mode
00:0d:88:e5:3e:60	G	Open System	87	Off

Using the Configuration Utility (continued)

Help



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

Technical Specifications

Standards

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

Device Management

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

Data Rate*

For 802.11b:

- 11, 5.5, 2, and 1Mbps

For 802.11g:

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

Security

- 64-, 128-, 152-bit WEP
- WPA – Wi-Fi Protected Access (WPA-TKIP and WPA-PSK)
- 802.1x (EAP-MD5/TLS/TTLS)
- MAC Address Access Control List
- SSID Broadcast Disable function/ AP Hidden function

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

Antenna Type

- Monopole antennas with 5dBi gain

*Maximum wireless signal rate based on IEEE Standard 802.11b and 802.11g specifications. Actual data throughput will vary.

Technical Specifications (continued)

Receiver Sensitivity

For 802.11b:

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

For 802.11g:

- 1Mbps: -92dBm
- 2Mbps: -89dBm
- 5.5Mbps: -88dBm
- 6Mbps: -87dBm
- 9Mbps: -86dBm
- 11Mbps: -85dBm
- 12Mbps: -88dBm
- 18Mbps: -83dBm
- 24Mbps: -80dBm
- 36Mbps: -76dBm
- 48Mbps: -71dBm
- 54Mbps: -66dBm

Wireless Operating Range¹

802.11g (Full Power with 5dBi gain diversity dipole antenna)

Indoor:

- 98ft (30m) @ 54Mbps
- 112ft (34m) @ 48Mbps
- 128ft (39m) @ 36Mbps
- 154ft (47m) @ 24Mbps
- 184ft (56m) @ 18Mbps
- 217ft (66m) @ 12Mbps
- 259ft (79m) @ 9Mbps
- 325ft (99m) @ 6Mbps

Outdoor:

- 367ft (112m) @ 54Mbps
- 820ft (250m) @ 18Mbps
- 1,640ft (500m) @ 6Mbps

Transmit Output Power²

(ETSI = 20dBm max. EIRP)

For 802.11b:

- 100mW (20dBm)
- 50mW (17dBm)
- 30mW (15dBm)
- 20mW (13dBm)
- 10mW (10dBm)
- 5mW (7dBm)
- 1mW (0dBm)

For 802.11g:

- 200mW (23dBm)
- 63mW (18dBm)
- 30mW (15dBm)
- 20mW (13dBm)
- 10mW (10dBm)
- 5mW (7dBm)
- 1mW (0dBm)

¹ Environmental factors may adversely affect range.

² Maximum power setting will vary according to individual country regulations.

Technical Specifications (continued)

LEDs

- Power
- 10/100M
- RSSI level
- 802.11b/g

Operating Voltage

- 48VDC +/- 10% for PoE

Current Consumption

- Max.7W without PoE (without heater)
- Max.8.5W with PoE (without heater)
- Max.27W without PoE (with heater)
- Max.28.5W without PoE (with heater)

Temperature

- Operating: -40°F to 140°F (-40°C to 60°C)
- Storing: -40°F to 149°F (-40°C to 65°C)

Humidity

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

Certifications

- FCC Part 15
- CE:
 - EN 55024
 - EN 60950
 - EN 301489-17

Dimensions

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

Warranty

- 1 Year

Technical Support

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

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

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

Tech Support for customers within the United States:

D-Link Technical Support over the Telephone:

(877) 453-5465

Monday to Friday, 6am - 6pm PST

D-Link Technical Support over the Internet:

<http://support.dlink.com>

email:support@dlink.com

Tech Support for customers within Canada:

D-Link Technical Support over the Telephone:

(800) 361-5265

Monday to Friday, 8:30am to 9:00pm EST

D-Link Technical Support over the Internet:

<http://support.dlink.ca>

email:support@dlink.ca

Warranty

(USA only)

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

- D-Link or its authorized reseller or distributor and
- Products purchased and delivered within the fifty states of the United States, the District of Columbia, U.S. Possessions or Protectorates, U.S. Military Installations, addresses with an APO or FPO.

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

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

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

D-Link's sole obligation shall be to repair or replace the defective Hardware during the Warranty Period at no charge to the original owner or to refund at D-Link's sole discretion. Such repair or replacement will be rendered by D-Link at an Authorized D-Link Service Office. The replacement Hardware need not be new or have an identical make, model or part. D-Link may in its sole discretion replace the defective Hardware (or any part thereof) with any reconditioned product that D-Link reasonably determines is substantially equivalent (or superior) in all material respects to the defective Hardware. Repaired or replacement Hardware will be warranted for the remainder of the original Warranty Period from the date of original retail purchase. If a material defect is incapable of correction, or if D-Link determines in its sole discretion that it is not practical to repair or replace the defective Hardware, the price paid by the original purchaser for the defective Hardware will be refunded by D-Link upon return to D-Link of the defective Hardware. All Hardware (or part thereof) that is replaced by D-Link, or for which the purchase price is refunded, shall become the property of D-Link upon replacement or refund.

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

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

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

- The customer must submit with the product as part of the claim a written description of the Hardware defect or Software nonconformance in sufficient detail to allow D-Link to confirm the same.
- The original product owner must obtain a Return Material Authorization (“RMA”) number from the Authorized D-Link Service Office and, if requested, provide written proof of purchase of the product (such as a copy of the dated purchase invoice for the product) before the warranty service is provided.
- After an RMA number is issued, the defective product must be packaged securely in the original or other suitable shipping package to ensure that it will not be damaged in transit, and the RMA number must be prominently marked on the outside of the package. Do not include any manuals or accessories in the shipping package. D-Link will only replace the defective portion of the Product and will not ship back any accessories.
- The customer is responsible for all in-bound shipping charges to D-Link. No Cash on Delivery (“COD”) is allowed. Products sent COD will either be rejected by D-Link or become the property of D-Link. Products shall be fully insured by the customer 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, with shipping charges prepaid. Expedited shipping is available if shipping charges are prepaid by the customer and upon request.

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

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

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Federal Communications Commission (FCC) Requirements, Part 15

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.

Regulatory information / Disclaimers

Installation and use of this Wireless LAN device must be in strict accordance with the instructions included in the user documentation provided with the product. Any changes or modifications (including the antennas) made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment. The manufacturer is not responsible for any radio or television interference caused by unauthorized modification of this device, or the substitution of the connecting cables and equipment other than manufacturer specified. It is the responsibility of the user to correct any interference caused by such unauthorized modification, substitution or attachment. Manufacturer and its authorized resellers or distributors will assume no liability for any damage or violation of government regulations arising from failing to comply with these guidelines.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE

FCC RF Radiation Exposure Statement: This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment and its antenna must be installed on a permanent outdoor structure and provided with a minimum distance of 1.5 meters between the radiator and your body. This device and its antenna must not be co-located or operated in conjunction with any other antenna or transmitter.

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

Registration

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



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

12/13/04

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