

DAP-2533 Release 1.00

AirPremier N Dual Band PoE Access Point

User Manual

Business Class Networking

Table of Contents

Package Contents	4
Introduction	5
Features and Benefits	6
Wireless Basics	7
Four Operational Modes	10
Getting Started	11
Using the Configuration Menu	13
Home > Basic Settings > Wireless > Access Point mode	15
Home > Basic Settings > Wireless > WDS with AP mode	17
Home > Basic Settings > Wireless > WDS mode	19
Home > Basic Settings > Wireless > Wireless Client mode	21
Home > Basic Settings > Wireless > Open System or Shared Key authentication	23
Home > Basic Settings > Wireless > WPA-Personal authentication	24
Home > Basic Settings > Wireless > WPA-Enterprise authentication	25
Home > Basic Settings > LAN	26
Home > Advanced Settings > Performance	27
Home > Advanced Settings > Multi-SSID	30
Home > Advanced Settings > VLAN > VLAN List	32
Home > Advanced Settings > VLAN > Port List	33
Home > Advanced Settings > VLAN > Add/Edit VLAN	34
Home > Advanced Settings > VLAN > PVID Setting	35
Home > Advanced Settings > Intrusion	36
Home > Advanced Settings > Schedule	37
Home > Advanced Settings > QoS	38
Home > Advanced Settings > DHCP Server > Dynamic Pool Settings	40
Home > Advanced Settings > DHCP Server > Static Pool Setting	42
Home > Advanced Settings > DHCP Server > Current IP Mapping List	44
Home > Advanced Settings > Filters > Wireless MAC ACL	46
Home > Advanced Settings > Filters > WLAN Partition	47
Home > Status > Device Information	48
Home > Status > Client Information	49
Home > Status > WDS Information	50
Home > Status > Stats > Ethernet	51
Home > Status > Stats > WLAN	52
Home > Status > Log > View Log	53
Home > Status > Log > Log Settings	54
Maintenance > Administrator Settings	55
Maintenance > Administrator Settings > Limit Administrator	56
D. Link Air Dramier N. Duel Band Dac Access Daint	

DAP- 2533 User's Manual Table of Contents

Maintenance > Administrator Settings > System Name Settings	57
Maintenance > Administrator Settings > Login Settings	58
Maintenance > Administrator Settings > Console Settings	59
Maintenance > Administrator Settings > SNMP Settings	60
Maintenance > Firmware and SSL Certification Upload	61
Maintenance > Configuration File	62
Maintenance > Time and Date	63
System > System Settings	64
Help	65
Troubleshooting	66
Technical Specifications	69
Warranty	71
Registration	77
Technical Support	78

DAP- 2533 User's Manual Package Contents

Package Contents



- D-Link DAP-2553 AirPremier N Dual Band PoE Access Point
- DC 5V, 2.5A Power Adapter (Use With the power supply provided by the manufacturer)
- Manual on CD
- Ethernet Cable
- Quick Installation Guide

Warning: Using a power adapter with different specifications than the one included with the **DAP-2553** 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 or Firefox version 1.5 or above.

DAP- 2533 User's Manual Introduction

Introduction

The DAP-2553 802.11a/n or b/g/n switchable AP increases productivity by allowing you to work faster and more efficiently. With the DAP-2553, bandwidth-intensive applications like graphics or multimedia will benefit significantly because large files are now able to move across the network quickly.

The DAP-2553 is capable of operating in one of four different wireless networking modes; access point, WDS (Wireless Distribution System) with AP, WDS, or Wireless Client mode.

Use less wiring, enjoy increased flexibility, save time and money with PoE (Power over Ethernet). With PoE, the DAP-2553 shares power and data over the CAT5 cable, making the setup of your network less expensive and more convenient.

An ideal solution for quickly creating and extending a wireless local area network (WLAN) in offices or other workplaces, trade shows, and special events, the DAP-2553 providing data transfers rates up to 300Mbps. (The 802.11n standard is backwards compatible with 802.11a, 802.11g, and 802.11b devices.)

WPA/WPA2 is offered in two flavors: Enterprise (used for corporations) and Personal (used for home users).

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

WPA-Enterprise and WPA2-Enterprise are ideal for businesses that already have existing security infrastructures established. Management and security implementation can now be centralized on a server participating on the network. Utilizing 802.1x with a RADIUS (Remote Authentication Dial-in User Service) server, a network administrator can define a list of authorized users who can access the wireless LAN. When attempting to access a wireless LAN with WPA-Enterprisee configured, the new client will be requested to enter a username with a password. If the new client is authorized by the administration, and enters the correct username and password, then access is then granted. In the case where an employee leaves the company, the network administrator is able to remove the previous employee from the authorized list to avoid compromising the network.

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 devices in your network when using the 802.1x feature.

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

Features and Benefits

- Four different operation modes Capable of operating in one of four different operation modes to meet your wireless networking needs: Access Point, WDS with AP, WDS, or Wireless Client.
- Faster wireless networking with the 802.11n (draft) standard to provide a maximum wireless signal rate of up to 300 Mbps*.
- Compatible with the 802.11b standard to provide a wireless data rate of up to 11 Mbps, allowing you to migrate your system to the 802.11n (draft) and 802.11g standards on your own schedule without sacrificing connectivity.
- Compatible with the 802.11g standard to provide a wireless data rate of up to 54 Mbps in the 2.4 GHz frequency range.
- Compatible with the 802.11a standard to provide a wireless data rate of up to 54 Mbps in the 5 GHz frequency range.
- Better security with WPA The DAP-2553 can securely connect wireless clients on the network using WPA (Wi-Fi Protected Access) to provide a much higher level of security for your data and communications than its previous versions.
- AP Manager II management software The real-time display of the network's topology and AP's information makes network configuration and management quick and simple.
- SNMP for management The DAP-2553 is not just fast, but also supports SNMP v.3 for better network management. Superior wireless AP manager software is bundled with the DAP-2553 for network configuration and firmware upgrade. Systems administrators can also set up the DAP-2553 easily with the Web-based configuration. A D-Link D-View 6.0 module will be downloadable for network administration and real-time network traffic monitoring with D-Link D-View 6.0 software.
- Utilizes OFDM technology (Orthogonal Frequency Division Multiplexing).
- Supports 802.3af Power over Ethernet.
- Supports one 10/100/1000M Ethernet port.
- Operates in the 2.4~2.5 GHz and 5.15~5.85 GHz** frequency ranges.
- Web-based interface for managing and configuring.

^{*}Maximum wireless signal rate derived from IEEE Standard 802.11 specifications. Actual data throughput may vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead can lower actual data throughout rate.

^{**}Please note that operating frequency ranges vary depending on the regulations of individual countries and jurisdictions. The DAP-2553 isn't supported in the 5.25~5.35 GHz and 5.47 ~ 5.725 GHz frequency ranges in some regions.

DAP- 2533 User's Manual Wireless Basics

Wireless Basics

D-Link wireless products are based on industry standards to provide high-speed wireless connectivity that is easy to use within your home, business or public access wireless networks. D-Link wireless products provides you with access to the data you want, whenever and wherever you want it. Enjoy the freedom that wireless networking can bring to you.

WLAN use is not only increasing in both home and office environments, but in public areas as well, such as airports, coffee shops and universities. Innovative ways to utilize WLAN technology are allowing people to work and communicate more efficiently. Increased mobility and the absence of cabling and other types of fixed infrastructure have proven to be beneficial to many users.

Wireless adapter cards used on laptop and desktop systems support the same protocols as Ethernet adapter cards, allowing wireless users to use the same applications as those used on a wired network.

People use WLAN technology for many different purposes:

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

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

Installation and network expansion - by avoiding the complications of troublesome cables, a WLAN system can be fast and easy during installation, especially since it can eliminate the need to pull cable through walls and ceilings. Wireless technology provides more versatility by extending the network beyond the home or office.

Inexpensive solution - wireless network devices are as competitively priced as conventional Ethernet network devices. The DAP-2553 saves money by providing users with multi-functionality configurable in four different modes.

Scalability - Configurations can be easily changed and range from Peer-to-Peer networks, suitable for a small number of users to larger Infrastructure networks to accommodate hundreds or thousands of users, depending on the number of wireless devices deployed.

DAP-2553 User's Manual Wireless Basics

Standards-Based Technology

The DAP-2553 Wireless Access Point utilizes the 802.11a, 802.11b, 802.11g, and 802.11n (draft) standards.

The IEEE 802.11n (draft) standard is an extension of the 802.11a, 802.11b, and 802.1g standards that came before it. It increases the maximum wireless signal rate up to 300 Mbps* within both the 2.4 GHz and the 5 GHz bands, utilizing OFDM technology.

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

The D-Link DAP-2553 will automatically sense the best possible connection speed to ensure the greatest possible speed and range.

802.11n offers the most advanced network security features available today, including WPA.

^{*}Maximum wireless signal rate derived from IEEE Standard 802.11 specifications. Actual data throughput may vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead can lower actual data throughout rate.

DAP-2553 User's Manual Wireless Basics

Installation Considerations

The D-Link DAP-2553 lets you access your network, using a wireless connection, from virtually anywhere within its operating range. Keep in mind, however, that the number, thickness and location of walls, ceilings, or other objects that the wireless signals must pass through, may limit the range. Typical ranges vary depending on the types of materials and background RF (radio frequency) noise in your home or business. The key to maximizing wireless range is to follow these basic guidelines:

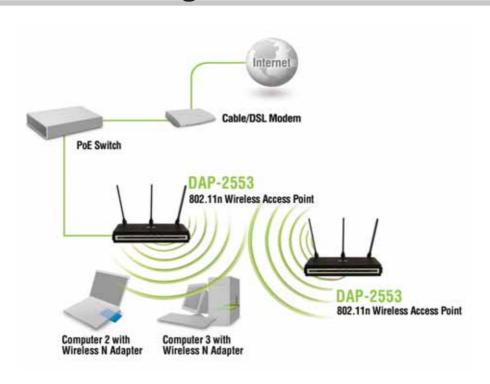
- 1 Keep the number of walls and ceilings between the DAP-2553 and other network devices to a minimum each wall or ceiling can reduce your DAP-2553's range by 3-90 feet (1-30 meters). Position your devices so that the number of walls or ceilings is minimized.
- 2 Be aware of the direct line between network devices. A wall that is 1.5 feet thick (0.5 meters), at a 45-degree angle appears to be almost 3 feet (1 meter) thick. At a 2-degree angle, the wall appears to be over 42 feet (14 meters) thick! Position your devices so that the signal will travel straight through a wall or ceiling instead of at an angle for better reception.
- Building materials can impede the wireless signal a solid metal door or aluminum studs can have a negative effect on range. Try to position wireless devices and computers with wireless adapters so that the signal passes through drywall or open doorways, and not through other materials.
- 4 Keep your product away at least 3-6 feet or 1-2 meters from electrical devices or appliances that generate RF noise.
- If you are using 2.4 GHz cordless phones or X-10 (wireless products such as ceiling fans, lights, and home security systems), your wireless connection may degrade dramatically or drop completely. Make sure your 2.4 GHz phone base is as far away from your wireless devices as possible. The base transmits a signal even when the phone is not in use.

Four Operational Modes

Operation Mode (Only supports 1 mode at a time)	Function
Access Point (AP)	Create a wireless LAN
WDS with AP	Wirelessly connect multiple networks while still functioning as a wireless AP
WDS	Wirelessly connect multiple networks
Wireless Client	AP acts as a wireless network adapter for your Ethernet- enabled device

DAP- 2533 User's Manual Getting Started

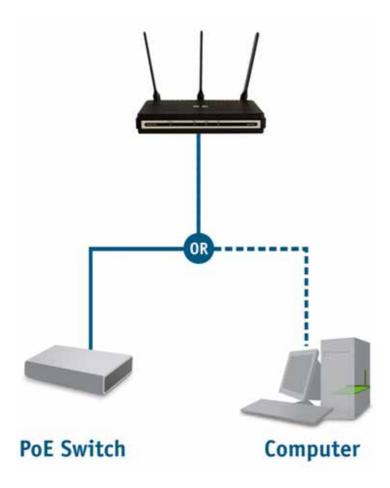
Getting Started



- 1 You will need broadband Internet access.
- 2 Consult with your cable or DSL provider for proper installation of the modem.
- 3 Connect the cable or DSL modem to a router. See the printed Install Guide included with your router.
- 4 See the printed Install Guide included with the DAP-2553.
- If you are connecting a desktop computer to your network, install a wireless PCI adapter into an available PCI slot on your desktop computer.
- 6 Install the drivers for your wireless CardBus adapter into a laptop computer.

DAP-2553 User's Manual Getting Started

Connecting PoE (Power over Ethernet)



Connect one end of an Ethernet cable (included with your package) to the LAN port on the DAP-2553 and the other end of the Ethernet cable to either your computer or to your PoE switch. The AP can be powered on by a PoE switch or by the power adapter shipped with the AP.

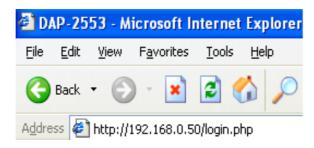
Using the Configuration Menu

To configure the DAP-2553, use a computer that is connected to the DAP-2553 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, Mozilla Firefox).

Type the IP address and http port of the DAP-2553 in the address field (http://192.168.0.50) and press **Enter**. Make sure that the IP addresses of the DAP-2553 and your computer are in the same subnet.



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

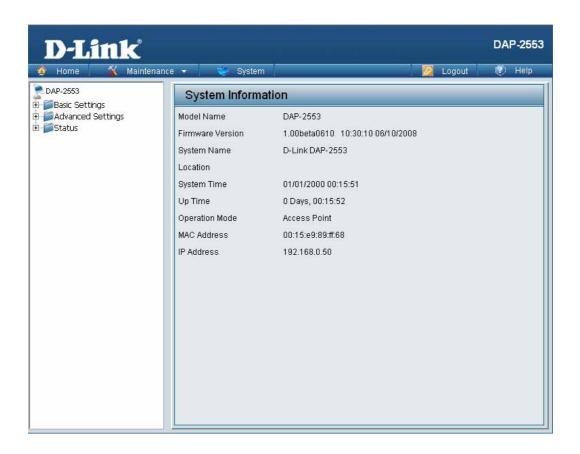
Note: If you have changed the default IP address assigned to the DAP-2553, make sure to enter the correct IP address.

- Type "admin" in the User Name field.
- Leave the Password field blank.
- Click the Login button.



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

After successfully logging into the DAP-2553 the following screen will appear:



When making changes on most of the configuration screens in this section, use the **Apply** button at the bottom of each screen to save your configuration changes.



Click the **Apply** button to configure changes.

Home > Basic Settings > Wireless > Access Point mode



Wireless Band: | Select either 2.4 GHz or 5 GHz from the pull-down menu.

Mode: Select Access Point from the pull-down menu. The other three

choices are WDS with AP, WDS, and Wireless Client.

Network Name (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. The SSID can be up to 32 characters and is case-sensitive.

SSID Visibility: Enable or **Disable** SSID visibility. Enabling this feature broadcasts the SSID across the network, thus making it visible to all network

users.

Auto Channel Selection: Enabling this feature automatically selects the channel that provides the best wireless performance. **Enable** is set by default. The channel selection process only occurs when the AP is booting up.

Channel: All devices on the network must share the same channel. To change the channel, first toggle the Auto Channel Selection setting to Disable, and then use the pull-down menu to make the desired selection. (Note: The wireless adapters will automatically scan and match the wireless settings.)

Channel Width:

Allows you to select the channel width you would like to operate in. Select 20 MHz if you are not using any 802.11 wireless clients. Auto 20/40 MHz allows you to both 802.11n and non-802.11n wireless devices on your network.

Authentication:

Use the pull-down menu to choose Open System, Shared Key, WPA-Personal, or WPA-Enterprise.

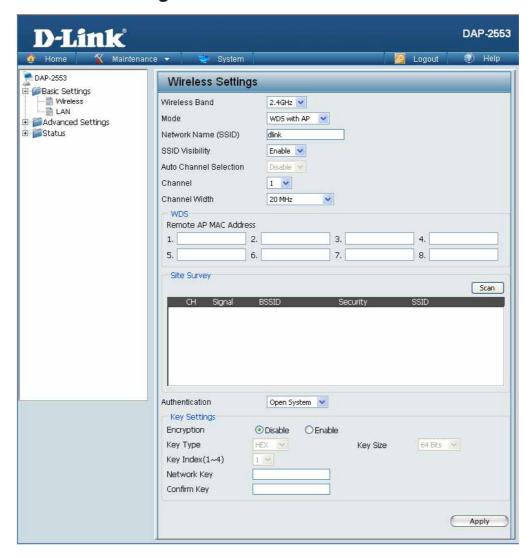
Select Open System to communicate the key across the network.

Select Shared Key to limit communication to only those devices that share the same WEP settings. If multi-SSID is enabled, this option is not available.

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

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

Home > Basic Settings > Wireless > WDS with AP mode



In WDS with AP mode, the DAP-2553 wirelessly connects multiple networks while still functioning as a wireless AP.

Wireless Band: Select either 2.4 GHz or 5 GHz from the pull-down menu.

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

Network Name (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 Visibility: Enable or **Disable** SSID visibility. Enabling this feature broadcasts the SSID across the network, thus making it visible to all network

Auto Channel Selection:

Enabling this feature automatically selects the channel that will provide the best wireless performance. This feature is not supported in WDS with AP mode. The channel selection process only occurs when the AP is booting up.

Channel:

All devices on the network must share the same channel. To change the channel, use the pull-down menu to make the desired selection. (Note: The wireless adapters will automatically scan and match the wireless settings.)

Channel Width:

Allows you to select the channel width you would like to operate in. Select **20 MHz** if you are not using any 802.11 wireless clients. **Auto 20/40 MHz** allows you to both 802.11n and non-802.11n wireless devices on your network.

Remote AP MAC Address:

Enter the MAC addresses of the APs on your network that will serve as bridges to wirelessly connect multiple networks.

Site Survey:

Click on the **Scan** button to search for available wireless networks, then click on the available network that you want to connect with. .

Authentication:

Use the pull-down menu to choose **Open System**, **Shared Key**, or **WPA-Personal**.

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. If multi-SSID is enabled, this option is not available.

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

Home > Basic Settings > Wireless > WDS mode



In WDS mode, the DAP-2553 wirelessly connects multiple networks, without functioning as a wireless AP.

Wireless Band: Select either 2.4 GHz or 5 GHz from the pull-down menu.

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

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 Visibility: Enable or Disable SSID visibility. Enabling this feature broadcasts the SSID across the network, thus making it visible to all network

Network Name (SSID):

Auto Channel | Selection:

Enabling this feature automatically selects the channel that will provide the best wireless performance. This feature is not supported in WDS mode.

Channel:

All devices on the network must share the same channel. To change the channel, use the pull-down menu to make the desired selection.

Channel Width:

Use the pull-down menu to choose 20 MHz or Auto 20/40 MHz.

Remote AP MAC Address:

Enter the MAC addresses of the APs on your network that will serve as bridges to wirelessly connect multiple networks.

Site Survey:

Click on the **Scan** button to search for available wireless networks, then click on the available network that you want to connect with.

Authentication:

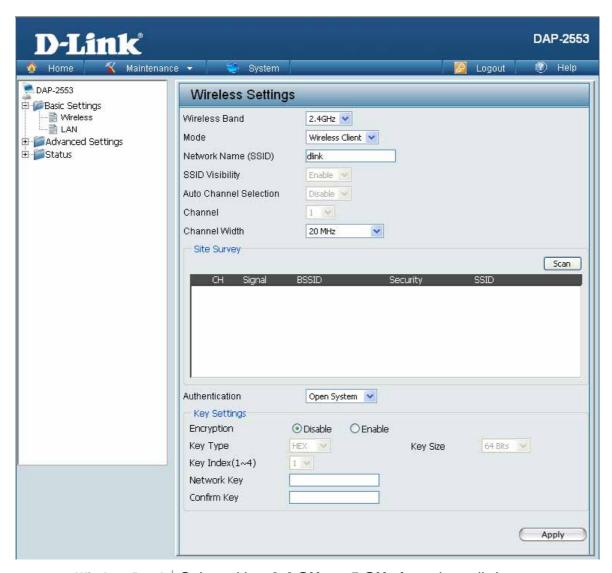
Use the pull-down menu to choose **Open System**, **Shared Key**, or **WPA-Personal**.

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-Personal** to secure your network using a password and dynamic key changes. No RADIUS server is required.

Home > Basic Settings > Wireless > Wireless Client mode



Wireless Band: Select either 2.4 GHz or 5 GHz from the pull-down menu.

Mode: Wireless Client is selected from the pull-down menu.

Network Name (SSID): Service Set Identifier (SSID) is the name designated for a

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.

SSID Visibility: This option is unavailable in wireless client mode.

Auto Channel Enabling this feature automatically selects the channel that will pro-**Selection:** vide the best wireless performance. This feature is not supported in

Wireless Client mode.

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

Channel Width: Use the pull-down menu to choose 20 MHz or Auto 20/40 MHz.

Site Survey: Click on the **Scan** button to search for available wireless networks, then click on the available network that you want to connect with.

Authentication: Use the pull-down menu to choose Open System or WPA-Per-

sonal.

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

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

Home > Basic Settings > Wireless > Open System or Shared Key authentication



Encryption: Use the radio button to disable or enable encryption.

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

Key Size: Select 64 Bits or 128 Bits.

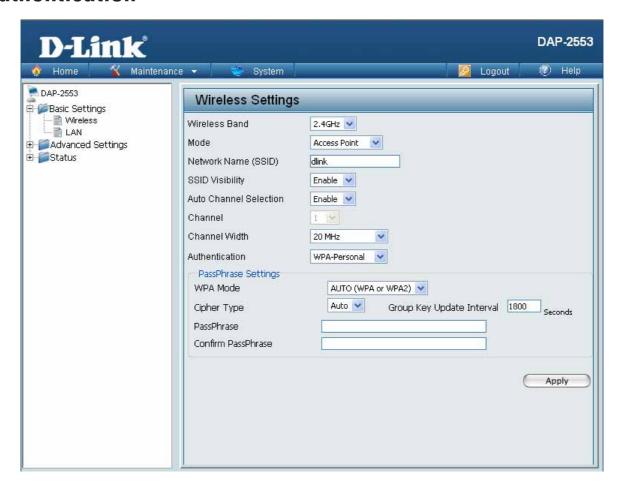
Key Index (1~4): Select the 1st through the 4th key to be the active key.

Key: Input up to four keys for encryption. You will select one of these keys in the Key Index pull-down menu.

^{**}Hexadecimal (HEX) digits consist of the numbers 0-9 and the letters A-F.

^{*}ASCII (American Standard Code for Information Interchange) is a code that represents English letters using numbers ranging from 0-127.

Home > Basic Settings > Wireless > WPA-Personal authentication



WPA Mode: When WPA-Personal is selected for Authentication type, you must

also select a WPA mode from the pull-down menu: **AUTO (WPA or WPA2)**, **WPA2 Only**, or **WPA Only**. WPA and WPA2 use different algorithms. **AUTO (WPA or WPA2)** allows you to use both WPA and

WPA2.

Cipher Type: When you select WPA-Personal, you must also select AUTO, AES,

or **TKIP** from the pull down menu.

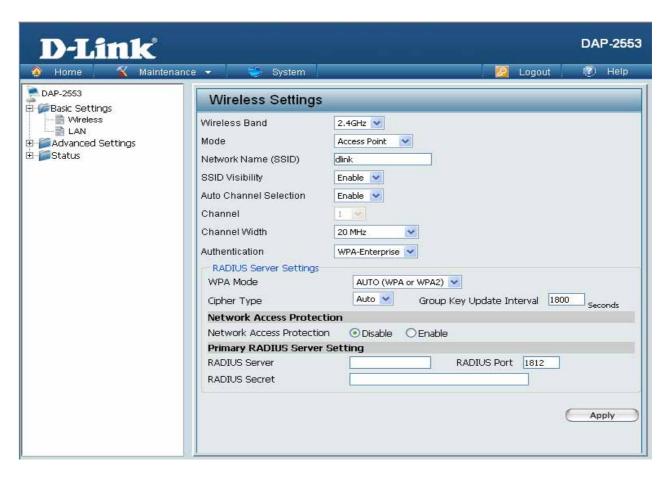
Group Key Update | Select the interval during which the group key will be valid. The

Interval: default value of 1800 is recommended.

PassPhrase: When you select WPA-Personal, please enter a PassPhrase in the

corresponding field.

Home > Basic Settings > Wireless > WPA-Enterprise authentication



WPA Mode: | When WPA-Enterprise is selected, you must also select a WPA

mode from the pull-down menu: AUTO (WPA or WPA2), WPA2 Only, or WPA Only. WPA and WPA2 use different algorithms. AUTO (WPA

or WPA2) allows you to use both WPA and WPA2.

Cipher Type: When WPA-Enterprise is selected, you must also select a cipher

type from the pull-down menu: Auto, AES, or TKIP.

Group Key Update | Select the interval during which the group key will be valid.

Interval: 1800 is the recommended value as a lower interval may reduce

data transfer rates.

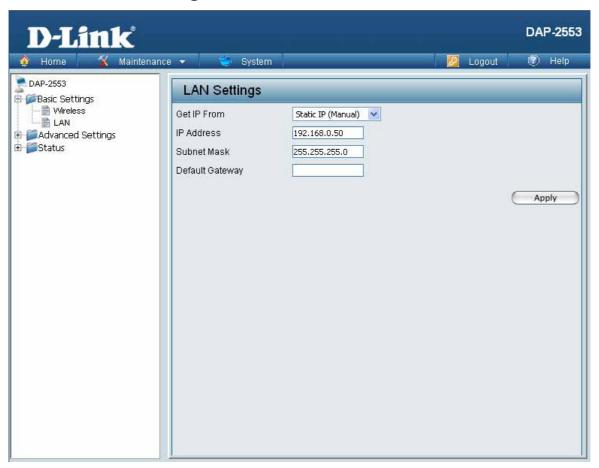
Network Access Protection: Enable or disable Microsoft Network Access Protection.

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

RADIUS Port: Enter the RADIUS port.

RADIUS Secret: Enter the RADIUS secret.

Home > Basic Settings > LAN

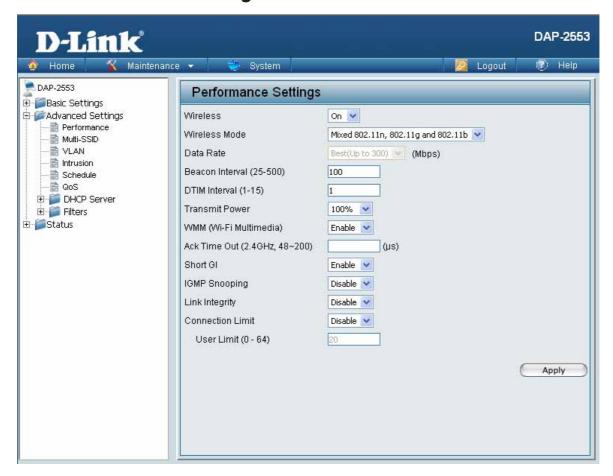


LAN is short for Local Area Network. This is considered your internal network. These are the IP settings of the LAN interface for the DAP-2553. These settings may be referred to as private settings. You may change the LAN IP address if needed. The LAN IP address is private to your internal network and cannot be seen on the Internet.

Get IP From:	Static IP (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 DAP-2553. When Dynamic IP (DHCP) is selected, the other fields here will be grayed out. Please allow about 2 minutes for the DHCP client to be functional once this selection is made.
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 is a gateway in your network, please enter an IP address within the range

of your network.

Home > Advanced Settings > Performance



Wireless: Use the pull-down menu to turn the wireless function **On** or **Off**.

Wireless Mode: The different combination of clients that can be supported include Mixed 802.11n, 802.11g and 802.11b and Mixed 802.11g and 802.11b in the 2.4 GHz band and Mixed 802.11n, 802.11a and 802.11a only in 5 GHz band. Please note that when backwards compatibility is enabled for legacy (802.11a/g/b) clients, degradation of 802.11n (draft) wireless performance is expected.

Data Rate*:

Indicate the base transfer rate of wireless adapters on the wireless LAN. The AP will adjust the base transfer rate depending on the base rate of the connected device. If there are obstacles or interference, the AP will step down the rate. This option is enabled in Mixed 802.11g and 802.11b mode (for 2.4 GHz) and 802.11a only mode (for 5 GHz). The choices available are **Best (Up to 54)**, **54**, **48**, **36**, 24, 18, 12, 9, 6 for 5 GHz and Best (Up to 54), 54, 48, 36, 24, 18, **12**, **9**, **6**, **11**, **5.5**, **2** or **1** for 2.4 GHz.

^{*}Maximum wireless signal rate derived from IEEE Standard 802.11 specifications. Actual data throughput may vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead can lower actual data throughout rate.

(25-500):

Beacon Interval | Beacons are packets sent by an access point to synchronize a wireless network. Specify a value in milliseconds. The default (100) is recommended. Setting a higher beacon interval can help to save the power of wireless clients, while setting a lower one can help a wireless client connect to an access point faster.

(1-15):

DTIM Interval | Select a Delivery Traffic Indication Message setting between 1 and 15. 1 is the default setting. DTIM is a countdown informing clients of the next window for listening to broadcast and multicast messages.

Transmit Power:

This setting determines the power level of the wireless transmission. Transmitting power can be adjusted to eliminate overlapping of wireless area coverage between two access points where interference is a major concern. For example, if wireless coverage is intended for half of the area, then select 50% as the option. Use the pull-down menu to select 100%, 50%, 25%, or 12.5%.

WMM (Wi-Fi Multimedia):

WMM stands for Wi-Fi Multimedia. Enabling this feature will improve the user experience for audio and video applications over a Wi-Fi network.

Ack Time Out (2.4 GHZ, 48~200) or Ack Time Out (5 GHZ, 25~200):

To effectively optimize throughput over long distance links enter a value for Acknowledgement Time Out between 25 and 200 microseconds for 5 GHz or from 48 to 200 microseconds in the 2.4 GHz in the field provided.

Short GI: | Select Enable or Disable. Enabling a short guard interval can increase throughput. However, be aware that it can also increase the error rate in some installations due to increased sensitivity to radiofrequency installations.

IGMP Snooping:

Select Enable or Disable. Internet Group Management Protocol allows the AP to recognize IGMP queries and reports sent between routers and an IGMP host (wireless STA). When IGMP snooping is enabled, the AP will forward multicast packets to an IGMP host based on IGMP messages passing through the AP.

Link Integrity:

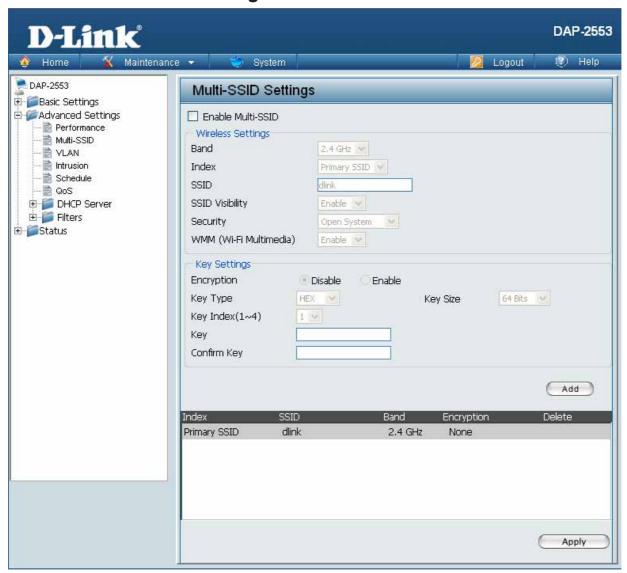
Select **Enable** or **Disable**. If the Ethernet connection between the LAN and the AP is disconnected, enabling this feature will cause the wireless segment associated with the AP to be disassociated from the AP.

Connection Limit: | Select Enable or Disable. This is an option for load balancing. This determines whether to limit the number of users accessing this device. The exact number is entered in the User Limit field below. This feature allows the user to share the wireless network traffic and the client using multiple APs. If this function is enabled, when the number of users exceeds this value or the network utilization of this AP exceeds the percentage that has been specified, the DAP-2553 will not allow clients to associate with the AP.

User Limit (0 - 64):

Set the maximum amount of users that are allowed access (0-64 users). To use this feature, the Connection Limit above must be enabled. For most users, a limit of 10 is recommended. The default setting is 20.

Home > Advanced Settings > Multi-SSID



The device supports up to eight multiple Service Set Identifiers. You can set the Primary SSID in the **Basic** > **Wireless** section. 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.

Enable Multi-SSID: Check to enable support for multiple SSIDs.

Band: This read-only value is the current band setting.

Index: You can select up to seven multi-SSIDs. With the Primary SSID, you have a total of eight multi-SSIDs.

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 Visibility:

Enable or **Disable** SSID visibility. Enabling this feature broadcasts the SSID across the network, thus making it visible to all network users.

Security:

The Multi-SSID security can be Open System, WPA-Personal, or WPA-Enterprise. For a detailed description of the Open System parameters please go to pages 23-24. For a detailed description of the WPA-Personal parameters please go to page 25. For a detailed description of the WPA-Enterprise parameters please go to pages 26-27.

WMM (Wi-Fi Multimedia):

Select Enable or Disable.

Encryption:

When you select Open System, toggle between Enable and Disable. If Enable is selected, the Key Type, Key Size, Key Index (1~4), Key, and Confirm Keys must also be configured.

Key Type: | Select HEX or ASCII.

Key Size: | Select 64 Bits or 128 Bits.

Key Index (1~4): Select from the 1st to 4th key to be set as the active key.

Key:

Input up to four keys for encryption. You will select one of these keys in the Key Index pull-down menu.

WPA Mode:

When you select either **WPA-Personal** or **WPA-Enterprise**, you must also choose a WPA mode from the pull-down menu: AUTO (WPA or WPA2), WPA2 Only, or WPA Only, WPA and WPA2 use different algorithms. AUTO (WPA or WPA2) allows you to use both WPA and WPA2. In addition, you must configure Cipher Type, and Group Key Update Interval.

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

Group Key Update

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

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

Confirm PassPhrase:

When you select **WPA-Personal**, please re-enter the PassPhrase entered in the previous item in the corresponding field.

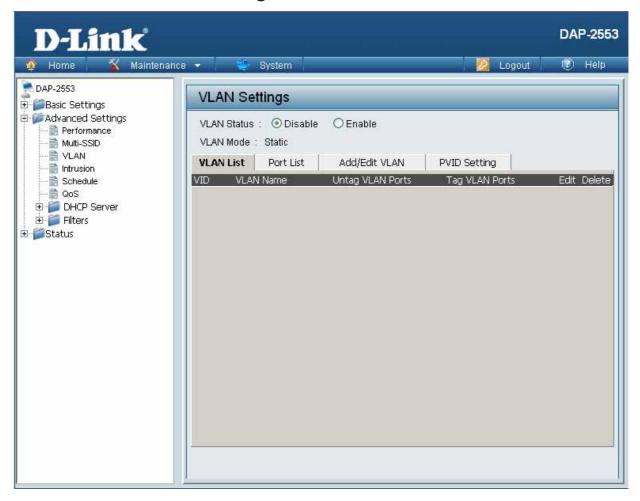
RADIUS Server:

When you select WPA-Enterprise, enter the IP address of the RADIUS server. In addition, you must configure RADIUS Port and RADIUS Secret.

RADIUS Port: Enter the RADIUS port.

RADIUS Secret: Enter the RADIUS secret.

Home > Advanced Settings > VLAN > VLAN List

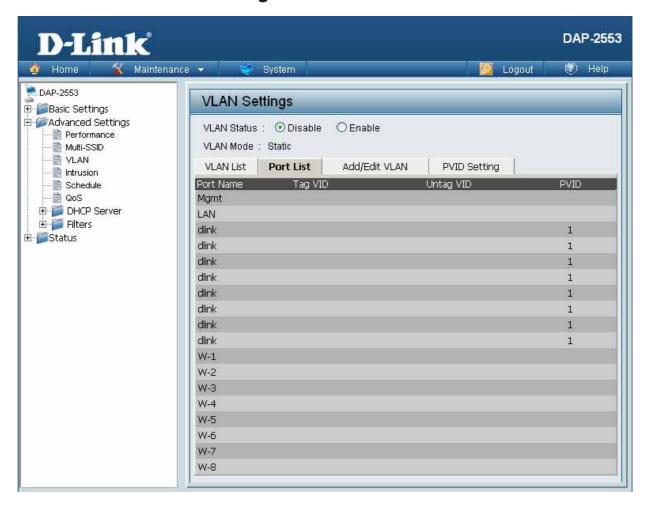


The DAP-2553 supports VLANs. VLANs can be created with a Name and VID. Mgmt (TCP stack), LAN, Primary/Multiple SSID, and WDS connection can be assigned to VLANs as they are physical ports. Any packet which enters the DAP-2553 without a VLAN tag will have a VLAN tag inserted with a PVID.

The VLAN List tab displays the current VLANs.

VLAN Status: Use the radio button to toggle to Enable. Next, go to the **Add/Edit VLAN** tab to add or modify an item on the **VLAN List** tab.

Home > Advanced Settings > VLAN > Port List



The Port List tab displays the current ports. If you want to configure the guest and internal networks on a Virtual LAN (VLAN), the switch and DHCP server you are using must also support VLANs. As a prerequisite step, configure a port on the switch for handling VLAN tagged packets as described in the IEEE 802.1Q standard.

VLAN Status:
Use the radio button to toggle to Enable. Next, go to the Add/Edit VLAN tab to add or modify an item on the VLAN List tab.

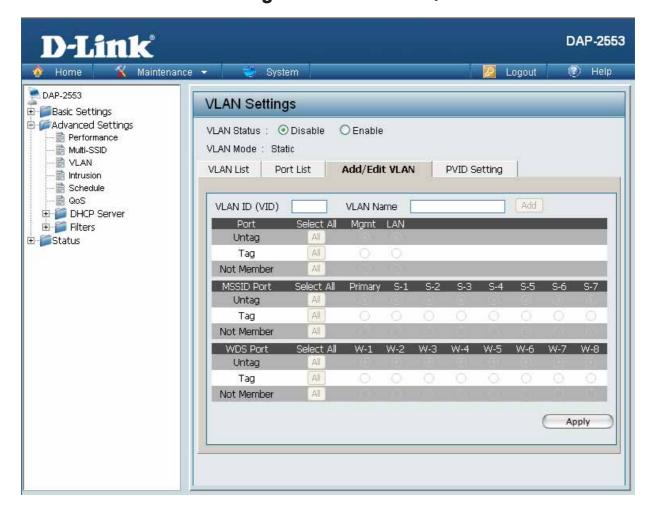
Port Name: The name of the port is displayed in this column.

The Tagged VID is displayed in this column.

Untag VID: The Untagged VID is displayed in this column.

PVID: The Port VLAN Identifier is displayed in this column.

Home > Advanced Settings > VLAN > Add/Edit VLAN



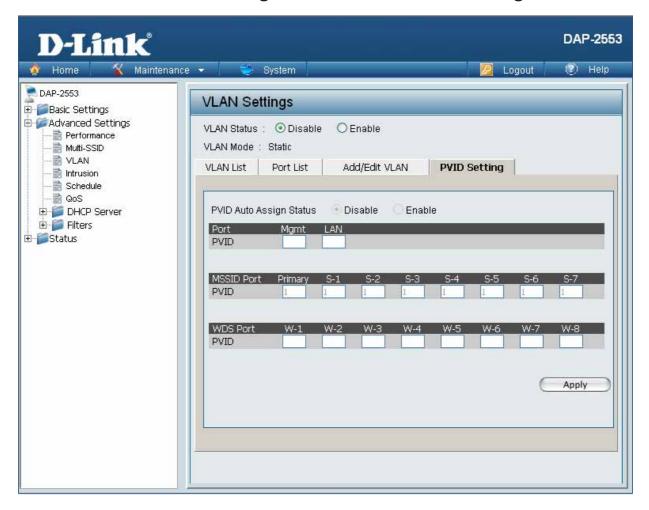
The **Add/Edit VLAN** tab is used to configure VLANs. Once you have made the desired changes, click the **Apply** button to let your changes take effect.

VLAN Status: Use the radio button to toggle to Enable.

VLAN ID (VID): Provide a number between **1** and **4094** for the Internal VLAN.

VLAN Name: Enter the VLAN to add or modify.

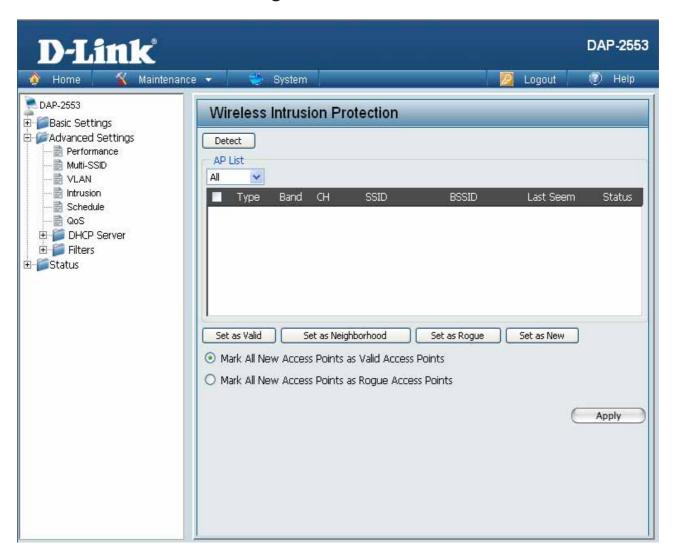
Home > Advanced Settings > VLAN > PVID Setting



The **PVID Setting** tab is used to enable/disable the Port VLAN Identifier Auto Assign Status as well as to configure various types of PVID settings. Click the **Apply** button to let your changes take effect.

PVID Auto Assign Status: Use the radio button to toggle PVID auto assign status to Enable.

Home > Advanced Settings > Intrusion

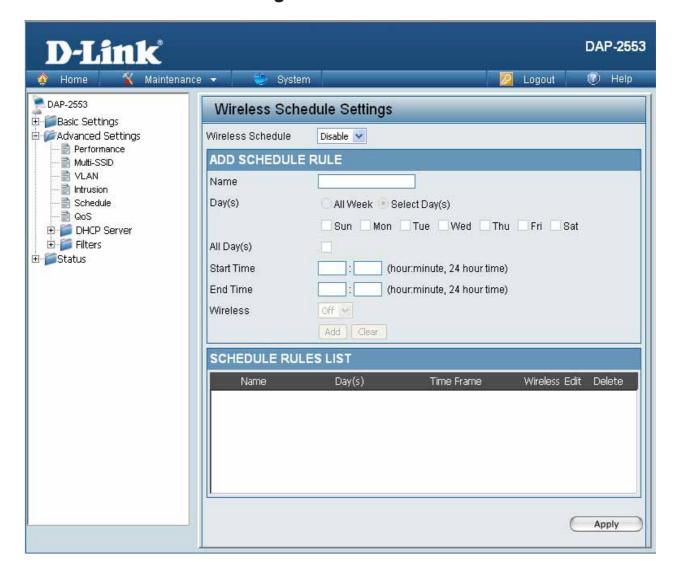


The Wireless Intrusion Protection window is used to set APs as **AII**, **Valid**, **Neighborhood**, **Rogue**, and **New**. Click the **Apply** button to let your changes take effect.

AP List: The choices include All, Valid, Neighbor, Rogue, and New.

Detect Click this button to initiate a scan of the network.

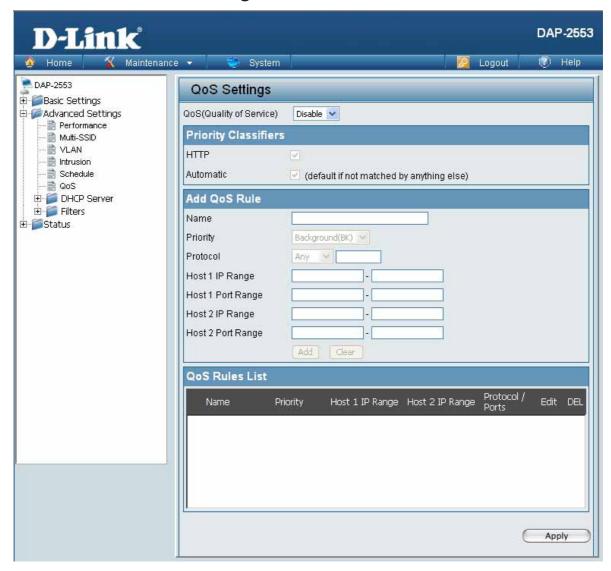
Home > Advanced Settings > Schedule



The Wireless Schedule Settings window is used to add and modify scheduling rules on the device. Click the **Apply** button to let your changes take effect.

Wireless Schedule:	Use the pull-down menu to enable the device's scheduling feature.
Name:	Enter a name for the new scheduling rule in the field provided.
Day(s):	Toggle the radio button between All Week and Select Days(s). If the second option is selected, check the specific days you want the rule to be effective on.
All Days(s):	Check this box to have your settings apply 24 hours a day.
Wireless:	Toggle the pull-down menu between Off and On .

Home > Advanced Settings > QoS



Quality of Service (QoS) enhances the experience of using a network by prioritizing the traffic of different applications.

A QoS Rule identifies a specific message flow and assigns a priority to that flow. For most applications, the priority classifiers ensure the right priorities and specific QoS Rules are not required.

QoS supports overlaps between rules. If more than one rule matches a specific message flow, the rule with the highest priority will be used.

QoS (Quality of Service): Enable this option if you want to allow QoS to prioritize your traffic Priority Classifiers.

Allows the access point to recognize HTTP transfers for many common audio and video streams and prioritize them above other traffic. Such streams are frequently used by digital media players.

Automatic: When enabled, this option causes the access point to automatically

attempt to prioritize traffic streams that it doesn't otherwise recognize, based on the behavior that the streams exhibit. This acts to de-prioritize streams that exhibit bulk transfer characteristics, such as file transfers, while leaving interactive traffic, such as gaming or

VoIP, running at a normal priority

Name: Enter a name for the new QoS rule in the field provided.

Priority: Use the pull-down menu to select the desired priority: Background

(BK), Best Effort (BE), Video (VI), or Voice (VO).

Protocol: Use the pull-down menu to choose the appropriate protocol used by

the messages: Any, TCP, UDP, Both, IMCP, or Other.

Host 1 IP Range: The rule applies to a flow of messages for which one computer's IP

address falls within the range set here.

Host 1 Port Range: The rule applies to a flow of messages for which host 1's port number

is within the range set here when the Protocol is set to TCP, UDP,

or **Both**.

Host 2 IP Range: The rule applies to a flow of messages for which the other computer's

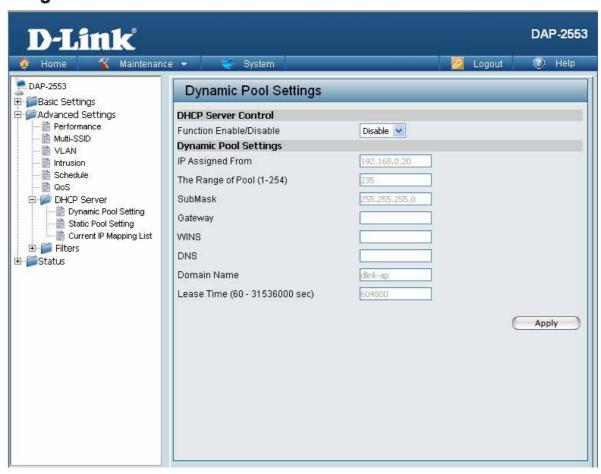
IP address falls within the range set here.

Host 2 Port Range: The rule applies to a flow of messages for which host 2's port number

is within the range set here when the Protocol is set to TCP, UDP,

or **Both**.

Home > Advanced Settings > DHCP Server > Dynamic Pool Settings



The DHCP address pool defines the range of the IP address that can be assigned to stations in the network. A Dynamic Pool allows wireless stations to receive an available IP with lease time control.

Function Enable/

Dynamic Host Configuration Protocol (DHCP) assigns dynamic Disable: 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 DAP-2553 to function as a DHCP server.

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

The Range of Pool

Enter the number of IP addresses available for assignment. IP (1-254): addresses are increments of the IP address specified in the "IP Assigned From" field.

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: Specify the Windows Internet Naming Service (WINS) server address

for the wireless network. WINS 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 Domain Name System (DNS) server.

The DNS server translates domain names such as www.dlink.com

into IP addresses.

Domain Name: Enter the domain name of the network, if applicable. (An example

of a domain name is: www.dlink.com.)

Lease Time The lease time is the period of time before the DHCP server will

(60-31536000 sec): assign new IP addresses.

Home > Advanced Settings > DHCP Server > Static Pool Setting



The DHCP address pool defines the range of IP addresses that can be assigned to stations on the network. A static pool allows specific wireless stations to receive a fixed IP without time control.

Function Enable/ Disable:

Dynamic Host Configuration Protocol (DHCP) 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 DAP-2553 to function as a DHCP server.

Assigned IP:

Use the Static Pool Settings to assign the same IP address to a device every time you start up. 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. You can edit or delete the device in this list.

Assigned MAC

Address: Enter the MAC address of the device requesting association here.

SubMask: Define the submask of the IP address specified in the "IP Assigned

From" field.

Gateway: Specify the Gateway address for the wireless network.

WINS: | Specify the Windows Internet Naming Service (WINS) server

address for the wireless network. WINS is a system that determines the IP address of a network computer with a dynamically assigned

IP address, if applicable.

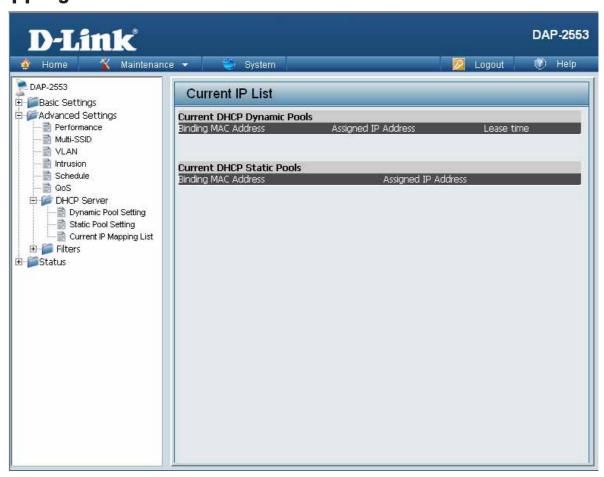
DNS: Enter the Domain Name System (DNS) server address for the

wireless network. The DNS server translates domain names such

as www.dlink.com into IP addresses.

Domain Name: Specify the domain name for the network.

Home > Advanced Settings > DHCP Server > Current IP Mapping List



This window displays information about the current assigned DHCP dynamic and static IP address pools. This information is available when you enable DHCP server on the AP and assign dynamic and static IP address pools.

•	
Current DHCP Dynamic Pools:	These are IP address pools the DHCP server has assigned using the dynamic pool setting.
Binding MAC Address:	The MAC address of a device on the network that is assigned an IP address from the DHCP dynamic pool.
Assigned IP Address:	The current corresponding DHCP-assigned 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 the IP address pools of the DHCP server assigned through the static pool settings.

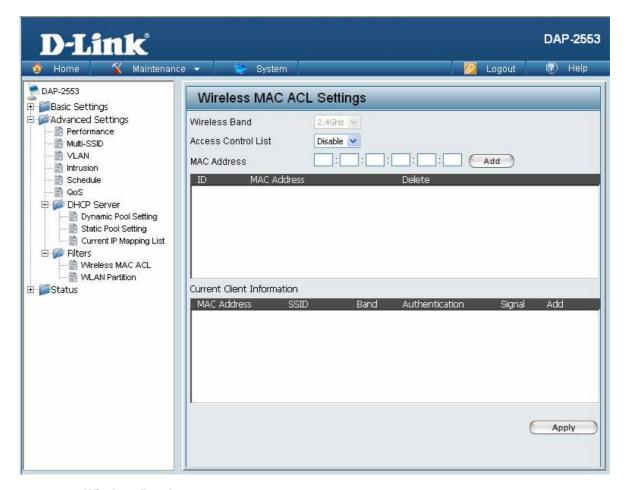
Binding MAC Address: The MAC address of a device on the network that is assigned an

IP address from the DHCP dynamic pool.

Assigned IP Address: The current corresponding DHCP-assigned static IP address of

the device.

Home > Advanced Settings > Filters > Wireless MAC ACL



Wireless Band: | Displays the current wireless band rate.

Access Control List: | Select Disable to disable the filters function.

Select **Accept** to accept only those devices with MAC addresses in the Access Control List. All other devices not on the list will be rejected.

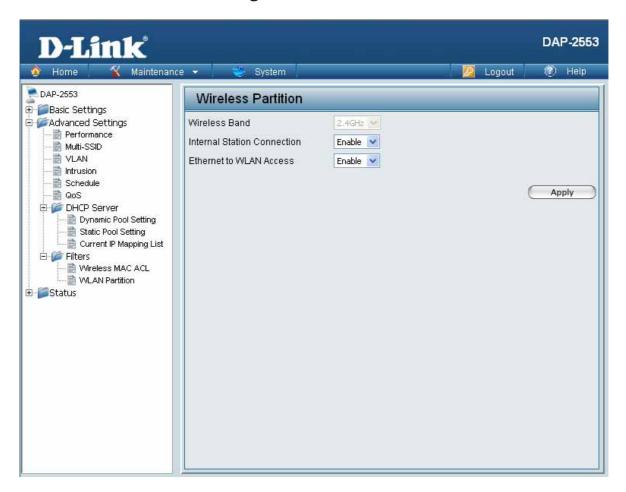
Select **Reject** to reject the devices with MAC addresses on the Access Control List. All other devices not on the list will be accepted.

MAC Address: Enter each MAC address that you wish to include in your filter list, and click **Apply**.

MAC Address List: When you enter a MAC address, it appears in this list. Highlight a

MAC address and click **Delete** to remove it from this list.

Home > Advanced Settings > Filters > WLAN Partition



Wireless Band: | Displays the current wireless band rate.

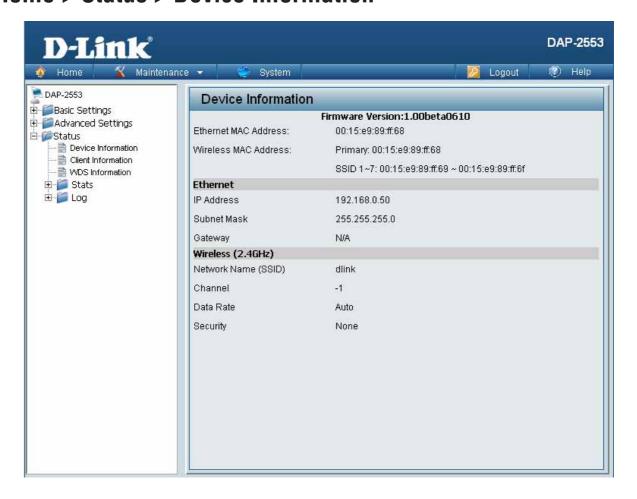
Internal Station Connection:

The default value is **Enable**, which allows stations to inter-communicate by connecting to a target AP. When disabled, wireless stations cannot exchange data through the AP.

Ethernet to WLAN Access:

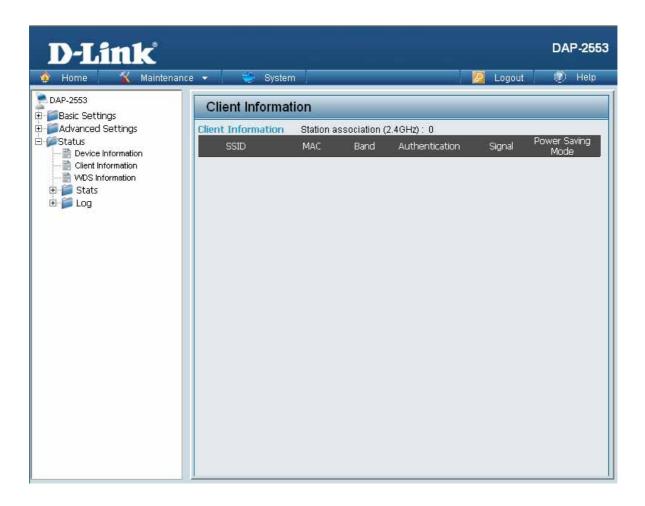
The default is **Enable**. When disabled, all data from the Ethernet to associated wireless devices will be blocked. Wireless devices can still send data to the Ethernet.

Home > Status > Device Information



Device Information: This read-only window displays the configuration settings of the DAP-2553, including the firmware version and the device's MAC address.

Home > Status > Client Information



Client Information: This window displays the wireless client information for clients currently connected to the DAP-2553.

The following information is available for each client communicating with the DAP-2553.

SSID: Displays the SSID of the client.

MAC: Displays the MAC address of the client.

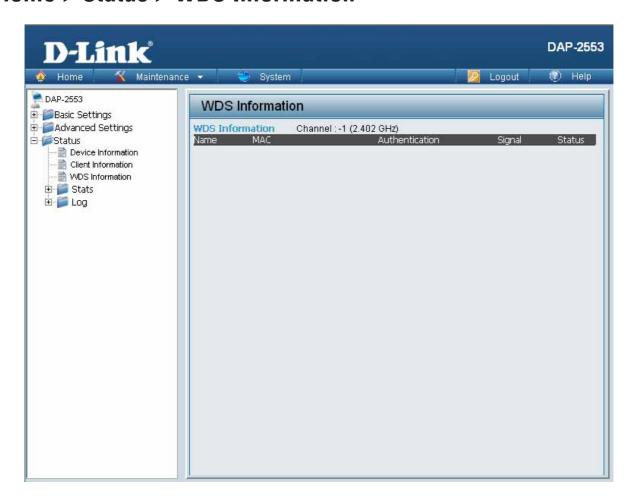
Band: Displays the wireless band that the client is connected to.

Authentication: Displays the type of authentication being used.

Signal: Displays the client's signal strength.

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

Home > Status > WDS Information



WDS Information: This window displays the Wireless Distribution System information for clients currently connected to the DAP-2553.

The following information is available for each client communicating with the DAP-2553.

Name: Displays the name of the client.

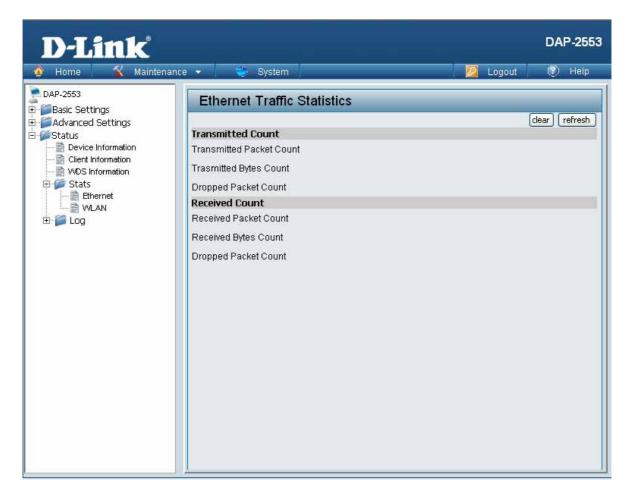
MAC: Displays the MAC address of the client.

Authentication: Displays the type of authentication being used.

Signal: Displays the WDS link signal strength.

Status: Displays the status of the power saving feature.

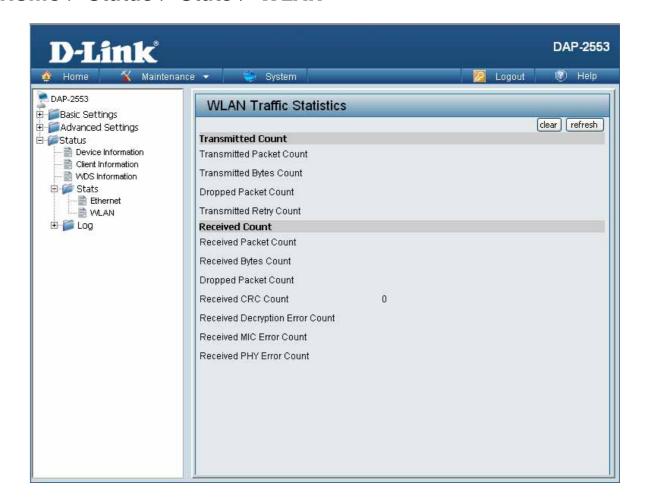
Home > Status > Stats > Ethernet



Ethernet Traffic Statistics:

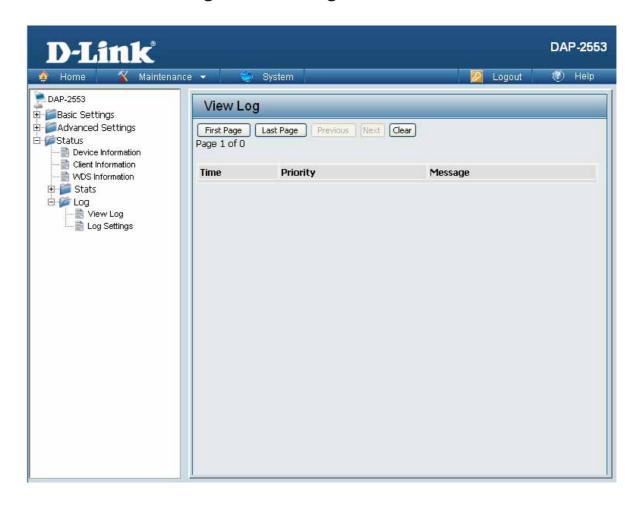
This page displays transmitted and received count statistics for packets and bytes.

Home > Status > Stats > WLAN



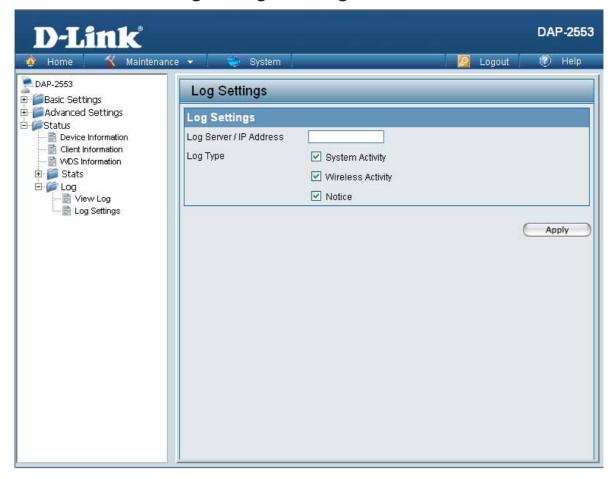
WLAN Traffic | This page displays wireless network statistics for data through-Statistics: put, transmitted and received frames, and frame errors.

Home > Status > Log > View Log



View Log: | The AP's embedded memory displays system and network messages including a time stamp and message type. The log information includes but is not limited to the following items: cold start AP, upgrading firmware, client associate and disassociate with AP, and web login. The web page holds up to 500 logs.

Home > Status > Log > Log Settings



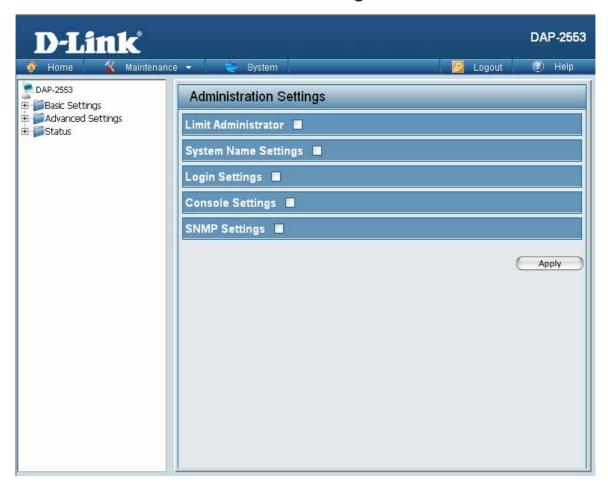
Log Server/IP Address: Enter the IP address of the server you would like to send the

DAP-2553 log to.

Log Type: Check the box for the type of activity you want to log. There are

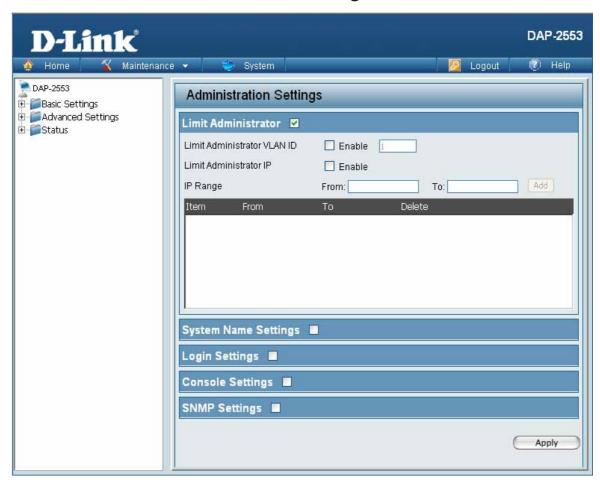
three types: System Activity, Wireless Activity, and Notice.

Maintenance > Administrator Settings



Check one or more of the five main categories to display the various hidden administrator parameters and settings displayed on the next five pages.

Maintenance > Administrator Settings > Limit Administrator



Each of the five main categories display various hidden administrator parameters and settings.

Limit Administrator

Limit Administrator VLAN ID: Check the box provided and the enter the specific VLAN ID that

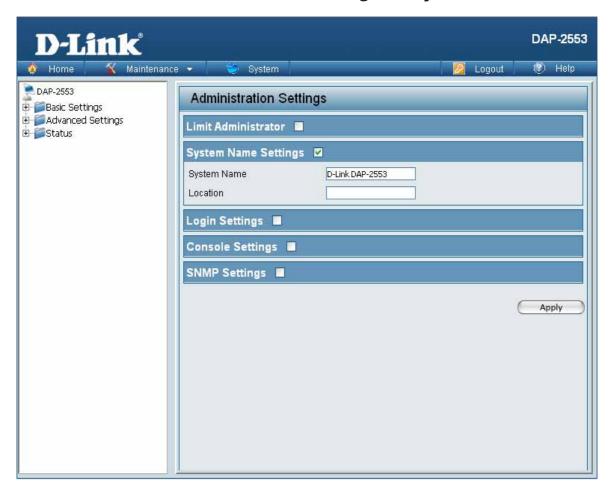
the administrator will be allowed to log in from.

Limit Administrator IP: Check to enable the Limit Administrator IP address.

IP Range: Enter the IP address range that the administrator will be allowed to log

in from and then click the Add button.

Maintenance > Administrator Settings > System Name



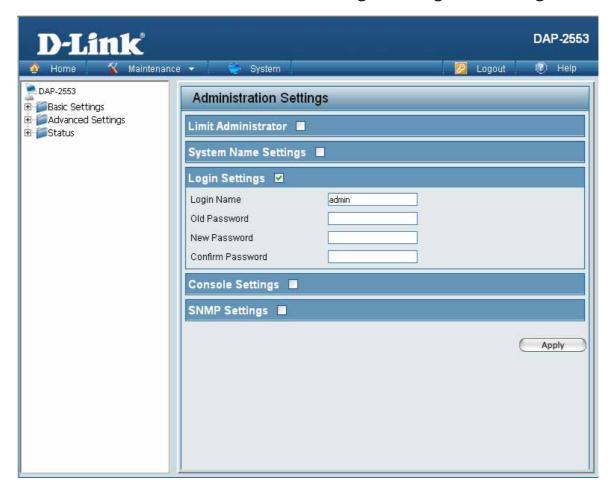
Each of the five main categories display various hidden administrator parameters and settings.

System Name Settings

System Name: The name of the device. The default name is **D-Link DAP-2553**.

Location: The physical location of the device, e.g. 72nd Floor, D-Link HQ.

Maintenance > Administrator Settings > Login Settings



Each of the five main categories display various hidden administrator parameters and settings.

Login Settings

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

Old Password: When changing your password, enter the old password here.

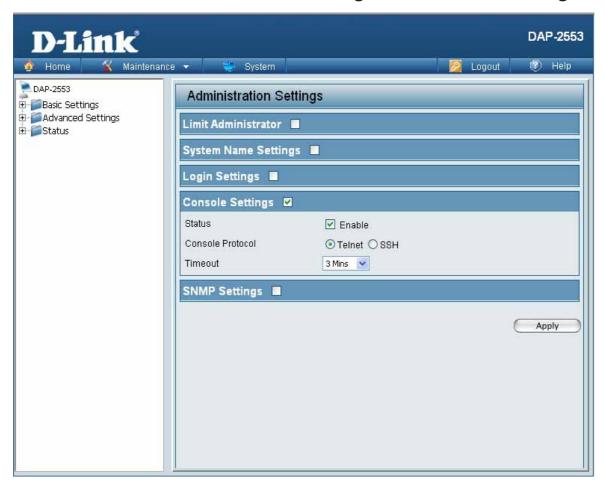
New Password: When changing your password, enter the new password here. The

password is case-sensitive. "A" is a different character than "a." The

length should be between 0 and 12 characters.

Confirm Password: Enter the new password a second time for confirmation purposes.

Maintenance > Administrator Settings > Console Settings

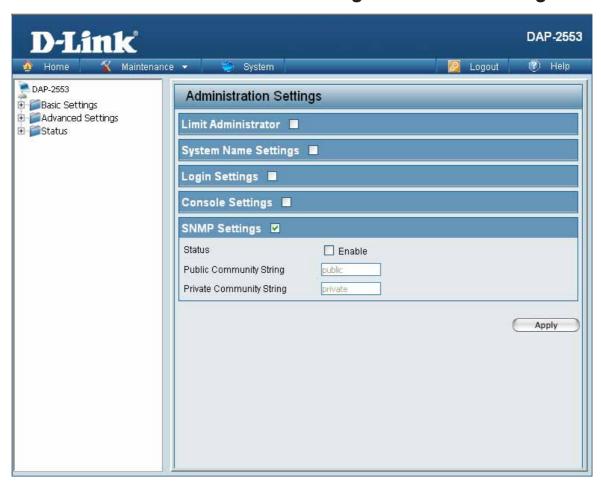


Each of the five main categories display various hidden administrator parameters and settings.

Console Settings

Status is enabled by default. Uncheck the box to disable the console.
Select the type of protocol you would like to use, Telnet or SSH . Set to 1 Min , 3 Mins , 5 Mins , 10 Mins , 15 Mins or Never .

Maintenance > Administrator Settings > SNMP Settings



Each of the five main categories display various hidden administrator parameters and settings.

SNMP Settings

Status: Check the box to enable the SNMP functions. This is enabled by default.

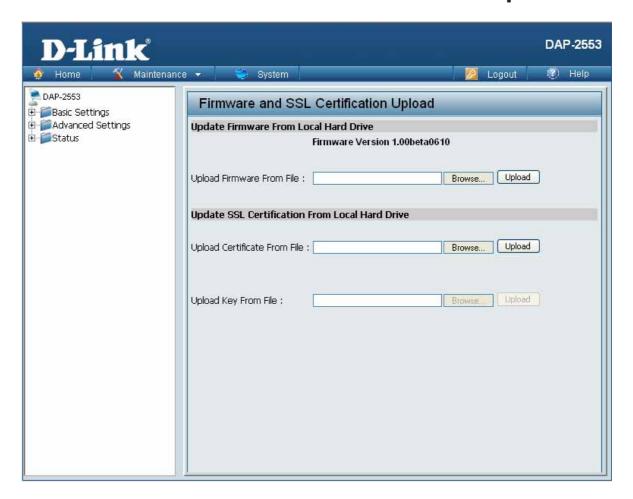
Public Community

String: Enter the public SNMP community string.

Private Community

String: Enter the private SNMP community string.

Maintenance > Firmware and SSL Certification Upload



Local Hard Drive:

Upload Firmware From The current firmware version is displayed above the file location field. After downloading the most recent version of firmware for the DAP-2553 from http://support.dlink.com to your local computer, use the **Browse** button to locate the firmware file on your computer. Click **Upload** to update the firmware version. Please don't turn the power off while upgrading.

Upload SSL | Click Browse to locate the SSL Certification file on your local Certification From computer. After selecting and opening the file, click Upload to **Local Hard Drive:** upload the file to the DAP-2553.

Maintenance > Configuration File

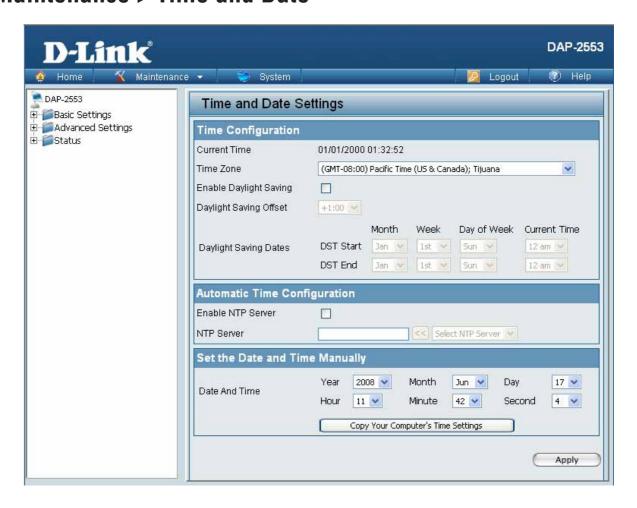


Upload File: Click the **Browse** button to locate a previously saved configuration file on your local computer. After selecting the file, click **Upload** to apply the configuration settings to the DAP-2553.

Configuration File:

Download | Click Download to save the current DAP-2553 configuration to your local computer. Note that if you save one configuration with the administrator's password now, after resetting your DAP-2553, and then updating to this saved configuration file, the password will be gone.

Maintenance > Time and Date



Current Time: | Displays the current time and date settings.

Time Zone: Use the pull-down menu to select your correct Time Zone.

Enable Daylight Saving: Check the box to Enable Daylight Saving Time.

Daylight Saving Offset: Use the pull-down menu to select the correct Daylight Saving offset.

Daylight Saving Dates: Use the pull-down menu to select the correct Daylight Saving offset.

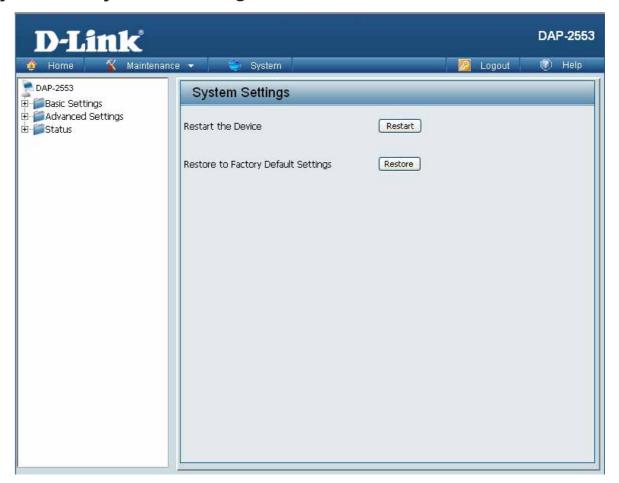
Enable NTP Server: Check to enable the AP to get system time from an NTP server.

NTP Server: Enter the NTP server IP address.

Set the Date and Time Manually: You can click the

You can either manually set the time for your AP here, or you can click the **Copy Your Computer's Time Settings** button to copy the time from the computer you are using (Make sure that the computer's time is set correctly).

System > System Settings



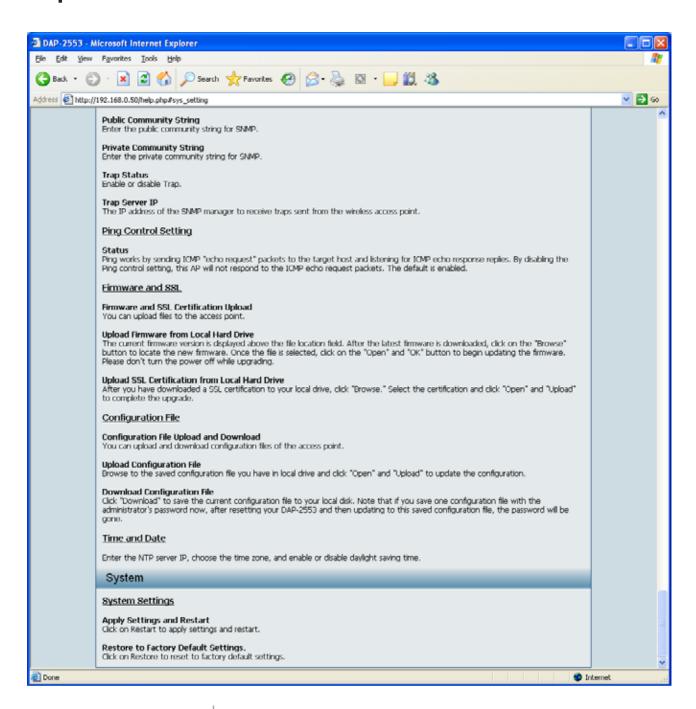
Restart the Device:

Click **Restart** to restart the DAP-2553.

Restore to Factory | Click Re Default Settings: settings.

Click **Restore** to restore the DAP-2553 back to factory default settings.

Help



Help: Scroll down the Help page for topics and explanations.

DAP- 2533 User's Manual Troubleshooting

Troubleshooting

This chapter provides solutions to problems that can occur during the installation and operation of the DAP-2553 Wireless Access Point. We will cover various aspects of the network setup, especially the network adapters. Please read the following if you are having any technical difficulties.

Note: It is recommended that you use an Ethernet connection to configure the DAP-2553.

1. The computer used to configure the DAP-2553 cannot access the Configuration menu.

- Check if the LAN LED on the DAP-2553 is ON. If the LED is not ON, check if the cable for the Ethernet connection is securely inserted.
- Check if the Ethernet adapter is working properly. Please see item 3 of this Troubleshooting section to check that the drivers for the network adapters are loaded properly.
- Check if the IP address is in the same range and subnet as the DAP-2553.

Note: The default IP address of the DAP-2553 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 DAP-2553 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 DAP-2553.

```
Microsoft Windows XP (Uersion 5.1.2600)

(C) Copyright 1985-2001 Microsoft Corp.

F:\Documents and Settings\lab3\ping 192.168.0.50

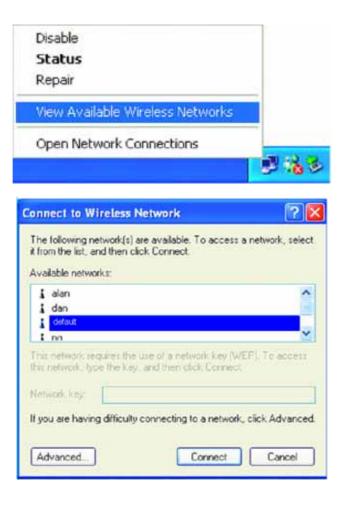
Pinging 192.168.0.50 with 32 bytes of data:

Reply from 192.168.0.50: bytes=32 time(1ms ITL=64
Reply from 192.168.
```

DAP-2553 User's Manual Troubleshooting

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

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



- 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 DAP-2553 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; there may be no two devices with 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 the Local Area Connection icon in the taskbar, then select the Support tab and the IP address will be displayed.
- If it is necessary to assign a Static IP Address to the wireless adapter. 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.

DAP-2553 User's Manual Troubleshooting

3. 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 its wireless range.

4. Why does my wireless connection keep dropping?

- Antenna Orientation try different antenna orientations for the DAP-2553. Try to keep the antenna at least 6 inches away from the wall or other objects.
- If you are using 2.4 GHz cordless phones, X-10 equipment or other home security systems, ceiling fans, or lights, your wireless connection will degrade dramatically or even drop. Try changing the channel of 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.

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

If you have enabled encryption on the DAP-2553, you must also enable encryption on all wireless clients in order to establish a wireless connection.

- Make sure that the SSID on the AP and the wireless client are exactly the same. If they are not, wireless connection cannot be established.
- Move the DAP-2553 and the wireless client into the same room and then test the wireless connection.
- Disable all security settings.
- Turn off your DAP-2553 and the client. Turn the DAP-2553 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 2.4 GHz cordless phones, X-10 equipment, or other home security systems, ceiling fans, or lights, your wireless connection will degrade dramatically or drop altogether. Try changing the channel on your DAP-2553, 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.

Technical Specifications

Standards

- IEEE 802.11a
- IEEE 802.11b
- IEEE 802.11g
- IEEE 802.11n (draft)
- IEEE 802.3
- IEEE 802.3u
- IEEE 802.3ab
- IEEE 802.3af

Network Management

Web Browser interface

HTTP

Secure HTTP (HTTPS)

- AP Manager II
- SNMP Support

D-View Module

Private MIB

Command Line Interface

Telnet

Secure SSH Telnet

Data Rates*

For 802.11a:

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

For 802.11b:

• 11, 5.5, 2, and 1 Mbps

For 802.11g:

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

For 802.11n (draft): HT20/HT40

 \bullet 144.4/300, 130/270, 117/243, 104/216, 78/162, 66/135, 58.5/121.5, 52/108, 39/81, 26/54, 19.5/40.5, 12/27, and 6.5/13.5 Mbps

Security

- WPA™ Personal/Enterprise
- WPA2™ Personal/Enterprise
- WEP™ 64-/128-bit
- SSID Broadcast Disable
- MAC Address Access Control

Wireless Frequency Range

• 2.4 to 2.4835 GHz and 5.15 to 5.85 GHz**

Operating Voltage

• 5V/2.5A or PoE

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

**Please note that operating frequency ranges vary depending on the regulations of individual countries and jurisdictions. The DAP-2553 isn't supported in the 5.25~5.35 GHz and 5.47 ~ 5.725 GHz frequency ranges in some regions.

Radio and Modulation Type

For 802.11a/g/n:

BPSK, QPSK, 16QAM, and 64QAM with OFDM

For 802.11b:

DQPSK, DBPSK, DSSS, and CCK

Operating Frequency*

For 802.11a:

5.15 ~ 5.85 GHz

For 802.11b/g:

 $2400 \sim 2483.5 \; \text{MHz ISM}$ band

For 802.11n:

2.4 GHz Band: 2.4 ~ 2.4835 GHz 5 GHz Band: 5.15 ~ 5.85 GHz

Dipole Antenna

3dBi Gain @2.4 GHz 5dBi Gain @5 GHz

LEDs

- Power
- LAN
- 2.4 GHz
- 5 GHz

Temperature

- Operating: 0°C to 40°C
- Storing: -20°C to 65°C

Humidity

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

Certifications

- FCC
- CE
- IC
- C-TickCSA
- WiFi

Dimensions

- L = 193.04 mm
- W = 116.84 mm
- H = 35 mm

^{*}Please note that operating frequency ranges vary depending on the regulations of individual countries and jurisdictions. The DAP-2553 isn't supported in the 5.25~5.35 GHz and 5.47 ~ 5.725 GHz frequency ranges in some regions.

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 DLink 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 DLink 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 1-877-354-6555, 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. DLink 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 NONINFRINGEMENT.

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 NONCONFORMING 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 Corporation/D-Link Systems, Inc. Other trademarks or registered trademarks are the property of their respective owners.

Copyright Statement:

No part of this publication or documentation accompanying this product may be reproduced in any form or by any means or used to make any derivative such as translation, transformation, or adaptation without permission from D-Link Corporation/D-Link Systems, Inc., as stipulated by the United States Copyright Act of 1976 and any amendments thereto. Contents are subject to change without prior notice.

Copyright ©2008 by D-Link Corporation/D-Link Systems, Inc. All rights reserved.

CE Mark Warning:

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

FCC Statement:

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

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

FCC Caution:

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

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

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

If this device is going to be operated in $5.15 \sim 5.25 \text{GHz}$ frequency range, then it is restricted in indoor environment only.

IMPORTANT NOTICE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

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

Industry Canada Notice:

This device complies with RSS-210 of the Industry Canada Rules. Operation is subject to the following two conditions:

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

IMPORTANT NOTE:

Radiation Exposure Statement:

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This device has been designed to operate with an antenna having a maximum gain of 6 dB. Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms.

DAP-2553 User's Manual Registration

Registration



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

Version 1.0 June 17, 2008 DAP-2553 User's Manual Technical Support

Technical Support

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

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) 354-6555

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

Tech Support for customers within Canada:

D-Link Technical Support over the Telephone: 1-800-361-5265

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