

USER MANUAL

DAP-1350

VERSION 1.0



D-Link reserves the right to revise this publication and to make changes in the content hereof without obligation to notify any person or organization of such revisions or changes.

Manual Revisions

Revision	Date	Description
1.0	October 13, 2009	• DAP-1350 Revision A1 with firmware version 1.00

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Package Contents

D-Link DAP-1350 Wireless N Pocket Router /Access Point	
Power Adapter	
Ethernet Cable	
CD-ROM	
USB Power Cable	
Travel Case	

Note: Using a power supply with a different voltage rating than the one included with the DAP-1350 will cause damage and void the warranty for this product.

System Requirements

Network Requirements	<ul style="list-style-type: none">• An Ethernet-based Cable or DSL modem (router mode only)• IEEE 802.11n or 802.11g wireless clients (router or AP mode)• IEEE 802.11n or 802.11g wireless AP or router (client mode)• 10/100/1000 Ethernet
Web-based Configuration Utility Requirements	<p>Computer with the following:</p> <ul style="list-style-type: none">• Windows®, Macintosh®, or Linux-based operating system• An installed Ethernet adapter <p>Browser Requirements:</p> <ul style="list-style-type: none">• Internet Explorer 6.0 or higher• Firefox 3.0 or higher• Safari 3.0 or higher• Chrome 2.0 or higher <p>Windows® Users: Make sure you have the latest version of Java installed. Visit www.java.com to download the latest version.</p>
CD Installation Wizard Requirements	<p>Computer with the following:</p> <ul style="list-style-type: none">• Windows® XP with Service Pack 2 or Vista®• An installed Ethernet adapter• CD-ROM drive

Introduction

D-Link, an industry leader in networking, introduces the new D-Link DAP-1350 Wireless N Range Extender. With the ability to transfer files with a maximum wireless signal rate of up to 300Mbps*, the DAP-1350 gives you high-speed wireless network access for your home or when you travel.

The DAP-1350 is Wi-Fi IEEE 802.11n compliant, meaning that it can connect and interoperate with other 802.11n compatible wireless client devices. The DAP-1350 is also backwards compatible with 802.11b/g. It can be flexibly configured to operate in 3 different modes: **Access Point**, **Wireless Client**, and **Router**. With its Setup Wizard, the DAP-1350 ensures that you will be up and running on a wireless network in just a matter of minutes.

The DAP-1350 features Wi-Fi Protected Access (WPA-PSK/WPA2-PSK) to provide an enhanced level of security for wireless data communications. The DAP-1350 also includes additional security features to keep your wireless connection safe from unauthorized access.

The DAP-1350 supports WPS on all three operation modes, with each capable of being conveniently set up by using the PIN method or Push Button.

- Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate.

TOTAL PERFORMANCE

Combines award winning access point features and 802.11n wireless technology to provide the best wireless performance.

TOTAL SECURITY

The most complete set of security features including WPA/WPA2 encryption to protect your network against outside intruders.

TOTAL COVERAGE

Provides greater wireless signal rates even at farther distances for best-in-class Whole Home Coverage.

ULTIMATE PERFORMANCE

The D-Link Wireless N Pocket Router/Access Point (DAP-1350) is a 802.11n compliant device that delivers real world performance of up to 650% faster than an 802.11g wireless connection (also faster than a 100Mbps wired Ethernet connection). Create a secure wireless network to share photos, files, music, video, printers, and network storage throughout your home. Connect the DAP-1350 to router and share your high-speed Internet access with everyone on the network.

EXTENDED WHOLE HOME COVERAGE

This high performance Wireless AP provides superior Whole Home Coverage while reducing dead spots. The DAP-1350 is designed for use in bigger homes and for users who demand higher performance networking.

TOTAL NETWORK SECURITY

The DAP-1350 supports all of the latest wireless security features to prevent unauthorized access, be it from over the wireless network or from the Internet. Support for WPA and WPA2 standards ensure that you'll be able to use the best possible encryption method, regardless of your client devices.

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

Features

- **Faster Wireless Networking** - The DAP-1350 provides up to 300Mbps* wireless connection with other 802.11n wireless clients. This capability allows users to participate in real-time activities online, such as video streaming, online gaming, and real-time audio. The performance of this 802.11n wireless access point gives you the freedom of wireless networking at speeds 650% faster than 802.11g.
- **Compatible with 802.11b and 802.11g Devices** - The DAP-1350 is still fully compatible with the 802.11b/g standards, so it can connect with existing 802.11b/g PCI, USB, and Cardbus adapters.
- **WPS PBC**- (Wi-Fi Protected Setup Push Button Configuration) Push Button Configuration is a button that can be pressed to add the device to an existing network or to create a new network. A virtual button can be used on the utility while a physical button is placed on the side of the device.
This easy setup method allows you to form a secured wireless link between the DAP-1350 and another WPS enabled device. A PC is no longer needed to log into the Web-based interface.
- **WPS PIN** - (Wi-Fi Protected Setup Personal Identification Number) A PIN is a unique number that can be used to add the access point to an existing network or to create a new network. The default PIN may be printed on the bottom of the access point. For extra security, a new PIN can be generated. You can restore the default PIN at any time. Only the Administrator (“admin” account) can change or reset the PIN.
- **User-friendly Setup Wizard** - Through its easy-to-use web-based user interface, you can configure your access point to your specific settings within minutes.

Hardware Overview

Connections

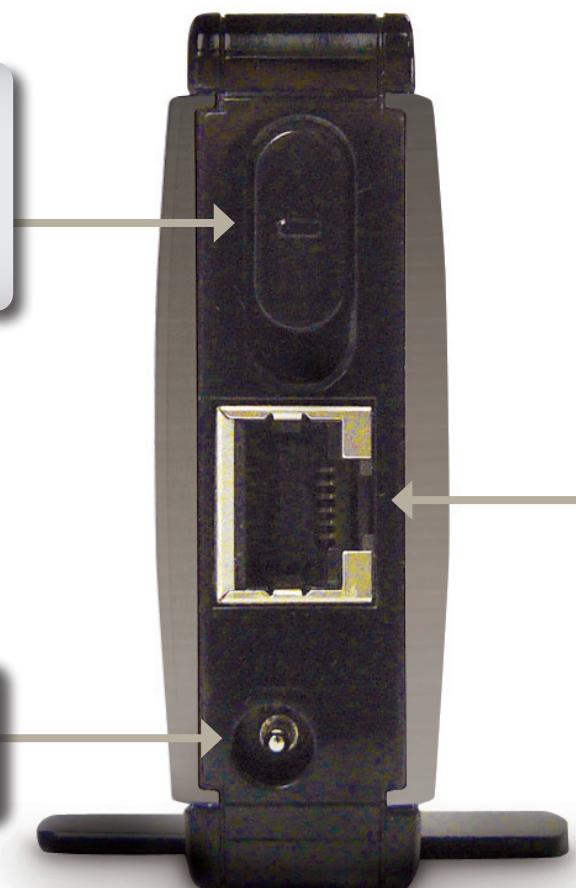
Mode Selector

Select from one of the three modes:

AP (top) - Access Point (AP) Mode

CL (middle) - Wireless Client Mode

RT (bottom) - Router Mode



LAN/WAN Port

When using as a LAN port, connect Ethernet devices such as computers or game consoles. When using as a WAN port, connect your Broadband modem or Internet connection.

Power Receptor

Receptor for the supplied power adapter.

Hardware Overview

Side

WPS Button/LED

Press to start the WPS process. You will have 120 seconds to start the WPS process on another wireless device. When enabling WPS, the light will blink during broadcast. Once connected, the LED will stay solid for 5 seconds and then turn off.



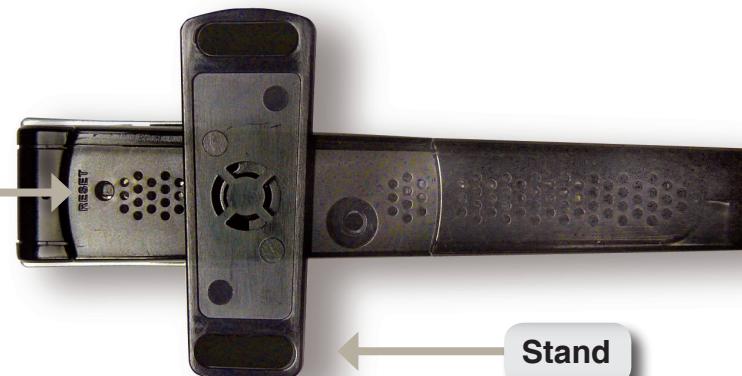
USB Port

The USB port is used to connect USB devices such as a printer to share on your network.

Bottom

Reset Button

Press and hold to reset the device back to the factory default settings



Hardware Overview

LEDs



Power LED

A solid light indicates a proper connection to the power supply.

LAN/WAN LED

A solid light indicates a connection to an Ethernet-enabled device. This LED blinks during data transmission.

Wireless LED

A solid light indicates that the wireless segment is ready. This LED blinks during wireless data transmission.

Installation

Please configure the DAP-1350 by following the Install Guide poster. The next few pages will explain the different operational modes you can use.

Operation Modes

Depending on how you want to use your DAP-1350 will determine which mode you use. This section will help you figure out which setting works with your setup.

- Access Point mode - page 14
- Wireless Client mode - page 43
- Router mode - page 62

Access Point Mode

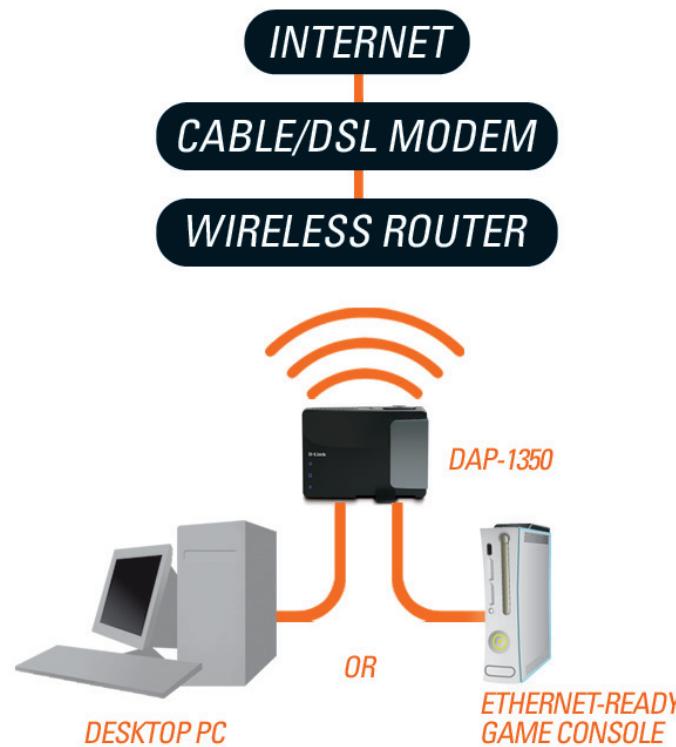
In the Access Point mode, the DAP-1350 acts as a central connection point for any computer (client) that has a 802.11n or backward-compatible 802.11b/g wireless network interface and is within range of the AP. Clients must use the same SSID (wireless network name) and channel as the AP in order to connect. If wireless security is enabled on the AP, the client will need to enter a password to connect to the AP. In Access Point mode, multiple clients can connect to the AP at the same time.



Wireless Client Mode

In the Wireless Client mode, the DAP-1350 acts as a wireless network adapter for your Ethernet-enabled device (such as a game console or a laptop). Connect your Ethernet-enabled device to the AP using an Ethernet cable. The AP Client mode can support one wired client.

Example: Connect a gaming console using an Ethernet cable to the DAP-1350. The unit is set to Wireless Client mode which will wirelessly connect to a wireless router on your network.



Router Mode

In the Router mode, the DAP-1350 connects to a broadband modem. In this mode, the DAP-1350 also acts as a router for wireless clients on your network and provides NAT (Network Address Translation) and a DHCP server to generate IP addresses. NAT and the DHCP server allow many computers to share the same Internet connection.



Wireless Installation Considerations

The D-Link wireless access point lets you access your network using a wireless connection from virtually anywhere within the operating range of your wireless network. 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 D-Link access point and other network devices to a minimum. Each wall or ceiling can reduce your adapter's range from 3-90 feet (1-30 meters.) Position your devices so that the number of walls or ceilings is minimized.
2. Be aware of the direct line between network devices. A wall that is 1.5 feet thick (.5 meters), at a 45-degree angle appears to be almost 3 feet (1 meter) thick. At a 2-degree angle it looks over 42 feet (14 meters) thick! Position devices so that the signal will travel straight through a wall or ceiling (instead of at an angle) for better reception.
3. Building Materials make a difference. A solid metal door or aluminum studs may have a negative effect on range. Try to position access points, wireless access points, and computers so that the signal passes through drywall or open doorways. Materials and objects such as glass, steel, metal, walls with insulation, water (fish tanks), mirrors, file cabinets, brick, and concrete will degrade your wireless signal.
4. Keep your product away (at least 3-6 feet or 1-2 meters) from electrical devices or appliances that generate RF noise.
5. If you are using 2.4GHz cordless phones or X-10 (wireless products such as ceiling fans, lights, and home security systems), your wireless connection may degrade dramatically or drop completely. Make sure your 2.4GHz phone base is as far away from your wireless devices as possible. The base transmits a signal even if the phone is not in use.

Configuration

This section will show you how to configure your new D-Link wireless access point using the web-based configuration utility.

Access Point Mode

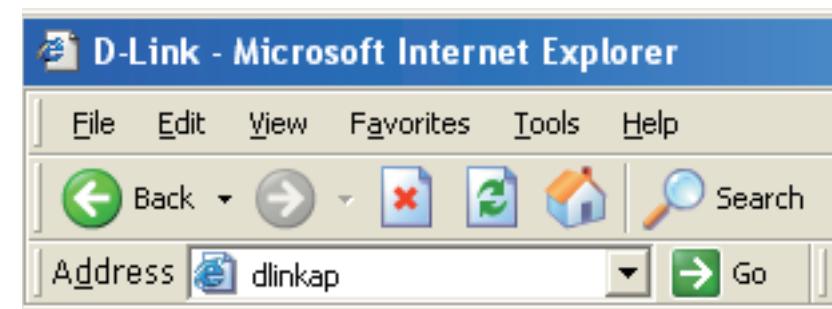
Change the mode selector to **AP** on the device. Connect an Ethernet cable from the Ethernet port on the DAP-1350 to a computer for configuration.

If you wish to change the default settings or optimize the performance of the DAP-1350, you may use the web-based configuration utility.

To access the configuration utility, open a web browser such as Internet Explorer and enter **dlinkap** or **192.168.0.50** in the address field.

Type **admin** and then enter your password. Leave the password blank by default.

If you get a Page Cannot be Displayed error, please refer to the **Troubleshooting** section for assistance.

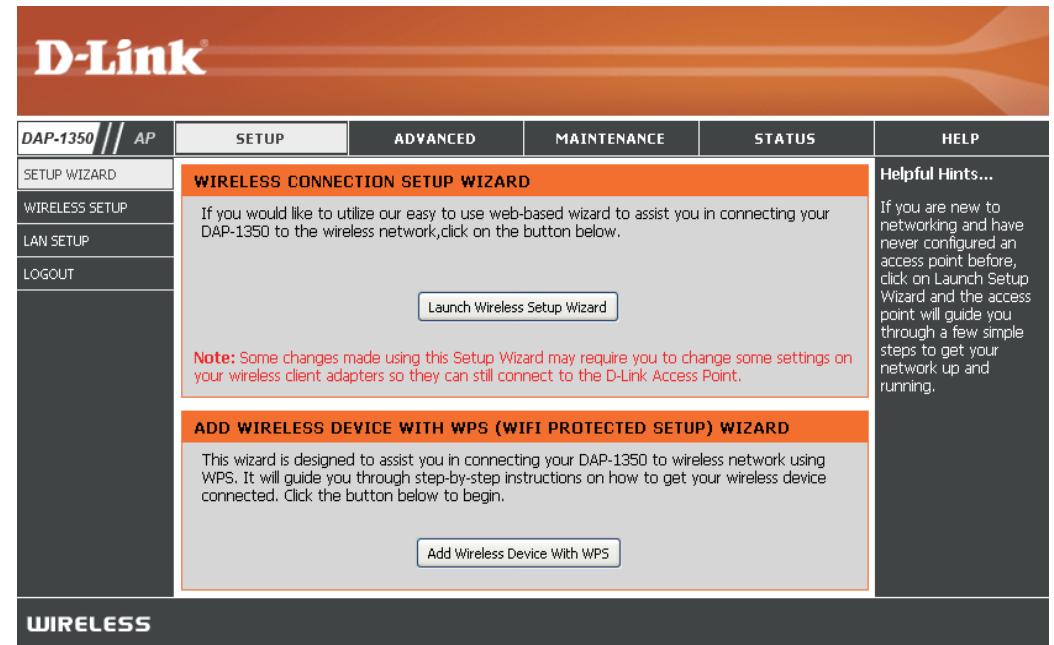
A screenshot of the D-Link Access Point configuration login page. The header is orange and says "LOGIN". Below it, a message says "Log in to the Access Point:". There are two input fields: "User Name:" with a placeholder "admin" and "Password:" with a placeholder "password". A "Log In" button is at the bottom right.

Wireless Setup Wizard

Click **Launch Wireless Setup Wizard** to configure your access point and skip to the next page.

To set up your wireless network, click **Add Wireless Device With WPS** and skip to page 24.

If you want to enter your settings without running the wizard, click **Wireless Setup** on the left side and skip to page 26.



This Wizard is designed to assist you in configuring your DAP-1350 as an access point.

Enter the Device Name of the AP and click **Next** to continue. This is the NetBIOS name for the AP. It is recommended to change the Device Name if there is more than one D-Link device within the same wireless network.

SET YOUR DEVICE NAME

Enter the Device Name of the AP. Recommend to change the Device Name if there're more than one D-Link devices within the subnet. Click **Next** to continue.

Device Name(Netbios Name) :

If you want to change the admin account password, enter a new password and click **Next**. It is strongly recommended to change your password.

SET YOUR NEW PASSWORD

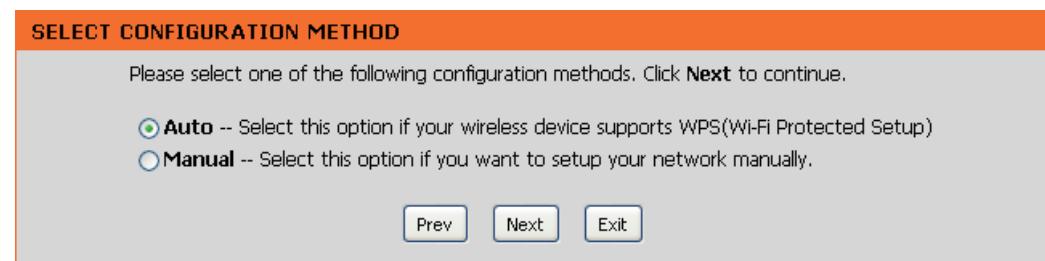
You may change the **admin** account password by entering in a new password. Click **Next** to continue.

Password :

Verify Password :

Select **Auto** as the configuration method only if your wireless device supports Wi-Fi Protected Setup (WPS). For **Manual** setup, skip to the next page.

Click **Next** to continue.



Click **Save** to save your network settings.

In order for your network settings to take effect the AP will reboot automatically.

When the device has finished rebooting the main screen will display.



Select **Manual** as the configuration method to set up your network manually.

Click **Next** to continue.

Enter a name for your wireless network (SSID).

Select **Automatically assign a network key** to have the access point generate a key for you to enter on your wireless clients. If you want to enter your own key, select **Manually assign a network key**.

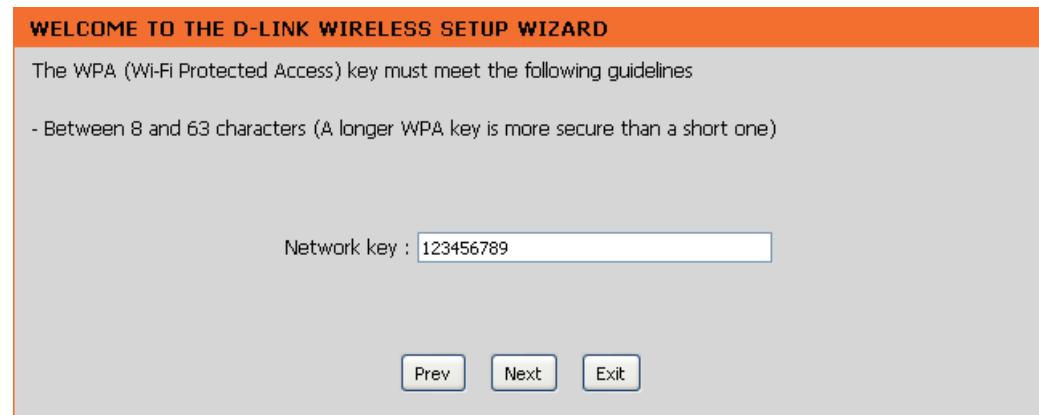
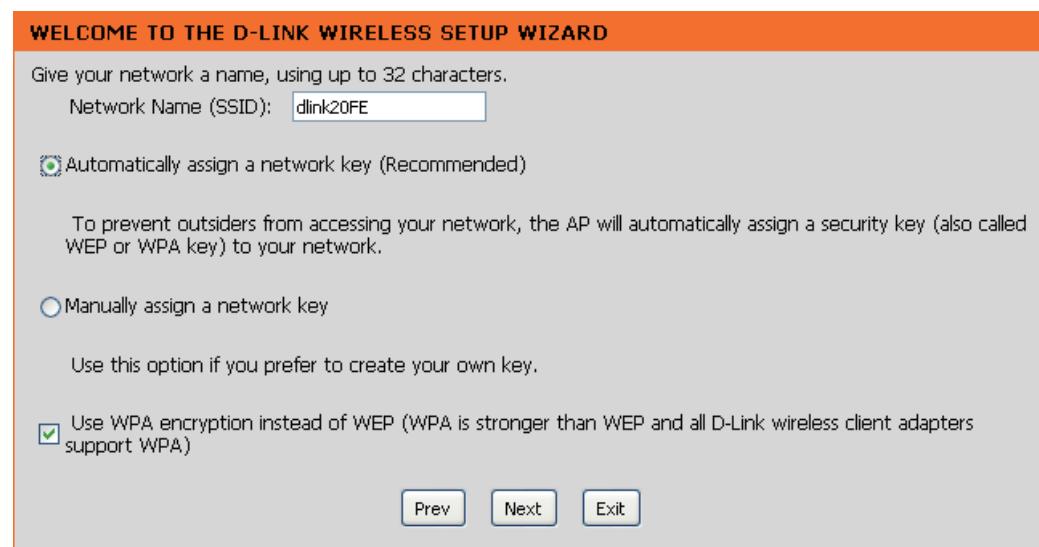
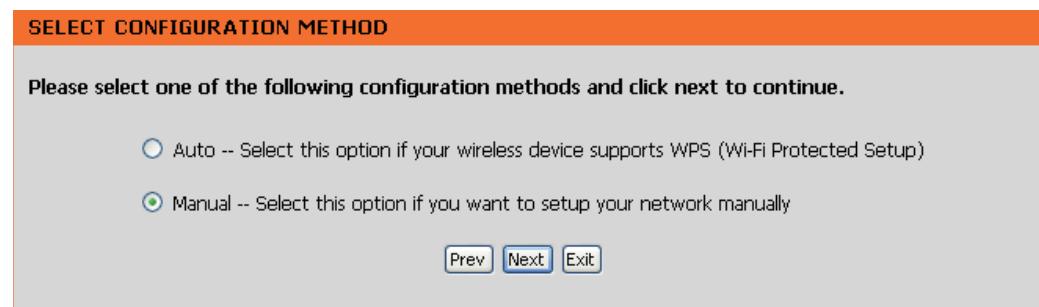
To use WPA security, check the **use WPA encryption instead of WEP** box. If left unchecked, WEP encryption will be used.

Click **Next** to continue.

If you selected **Manually assign a network key** as the configuration method, enter your network key. This key must be entered on your wireless clients.

For **WEP** encryption, enter a Network Key exactly 5 or 13 characters long or exactly 10 or 26 characters using 0-9 and A-F.

Click **Next** to continue.



The following screen will show you your network key to enter on your wireless clients.

Click **Save** to finish the Setup Wizard.



Add Wireless Device With WPS

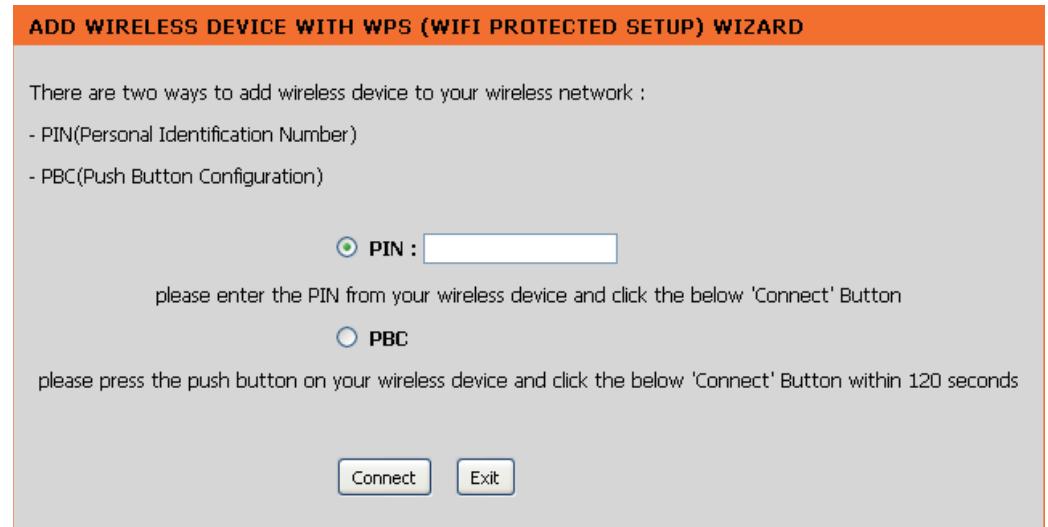
This Wizard is designed to assist you in your wireless network setup. It will guide you through step-by-step instructions on how to set up your wireless network and how to make it secure.

Select **PIN** to use your **PIN** number from your wireless device to connect to your network.

For **PBC** configuration, skip to the next page.

Click **Connect** to continue.

Start **WPS** on the wireless device you are adding to your wireless network to complete the setup.



Select **PBC** to use the Push Button Configuration in order to connect to your network.

Click **Connect** to continue.



Press the **Push Button** on the wireless device that you are adding to your network to complete the setup.



Wireless Setup

Enable Wireless: Check the box to enable the wireless function. If you do not want to use wireless, uncheck the box to disable all the wireless functions. You may also set up a specific time range (schedule). Select a schedule from the drop-down menu or click **Add New Schedule** to create a new schedule.

Wireless Mode: Access Point will be selected.

Wireless Network Name: When you are browsing for available wireless networks, this is the name that will appear in the list (unless Visibility Status is set to Invisible, see below). This name is also referred to as the SSID. For security purposes, it is highly recommended to change from the default network name.

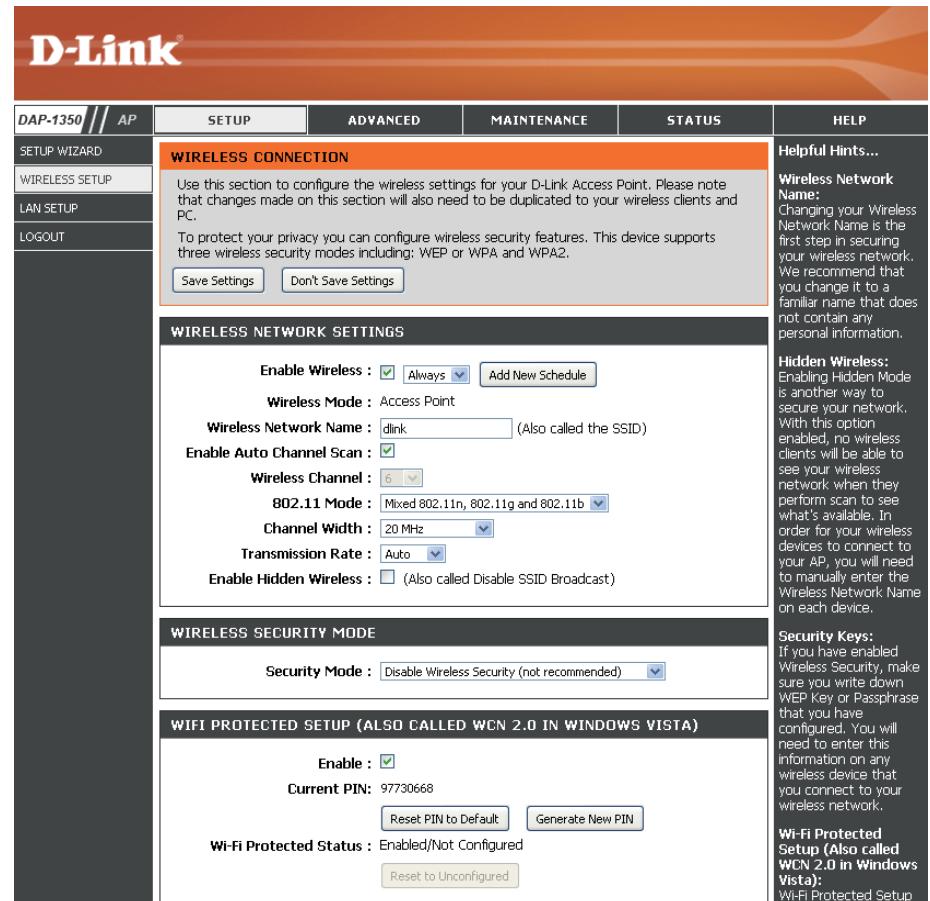
Enable Auto Channel Scan: The **Auto Channel Scan** setting can be selected to allow the DAP-1350 to select the channel with the least amount of interference (during boot-up).

Wireless Channel: Indicates the channel setting for the DAP-1350. The Channel can be changed to fit the channel setting for an existing wireless network or to customize the wireless network. If you enable Auto Channel Scan, this option will be grayed out.

802.11 Mode: Select one of the following:

802.11n Only - Select if you are only using 802.11n wireless clients.

Mixed 802.11n, 802.11g and 802.11b - Select if you are using a mix of 802.11n, 11g, and 11b wireless clients.



Channel Width:

Select the Channel Width:
Auto 20/40 - Select if you are using both 802.11n and non-802.11n wireless devices.
20MHz - Select if you are not using any 802.11n wireless clients.

Transmission Rate:

Select the transmit rate. It is strongly suggested to select **Best (automatic)** for best performance.

Enable Hidden Wireless:

Check the box if you do not want the SSID of your wireless network to be broadcasted by the DAP-1350. If checked, the SSID of the DAP-1350 will not be seen by Site Survey utilities so your wireless clients will have to know the SSID of your DAP-1350 in order to connect to it.

Security Mode:

Refer to page 107 for more information regarding the wireless security.

Enable:

Enable the Wi-Fi Protected Setup feature.

Lock Wireless

Locking the wireless security settings prevents the settings from being changed by any new external user using its PIN.

Security Settings:

Devices can still be added to the wireless network using Wi-Fi Protected Setup. It is still possible to change wireless network settings with Manual Wireless Network Setup, Wireless Network Setup Wizard, or an existing external WLAN Manager user.

Current PIN:

Shows the current value of the access point's PIN.

Generate New PIN:

Create a random number that is a valid PIN. This becomes the access point's PIN. You can then copy this PIN to the user interface of the user.

Reset PIN to Default:

Restore the default PIN of the access point.

Reset to Unconfigured:

Resets Wi-Fi Protected Status to Not Configured. The Vista WPS icon will only be displayed when the Wi-Fi Protected Status is Not Configured.

LAN Setup

This section will allow you to change the local network settings of the access point and to configure the DHCP settings.

LAN Connection Type: Use the drop-down menu to select Dynamic IP (DHCP) to automatically obtain an IP address on the LAN/private network.

Device Name: Enter the Device Name of the AP. It is recommended to change the Device Name if there is more than one D-Link device within the subnet.

The screenshot shows the D-Link DAP-1350 LAN Setup interface. The top navigation bar includes tabs for DAP-1350 // AP, SETUP, ADVANCED, MAINTENANCE, STATUS, and HELP. The left sidebar has links for SETUP WIZARD, WIRELESS SETUP, LAN SETUP, and LOGOUT. The main content area is divided into sections:

- NETWORK SETTINGS:** Describes using the section to configure internal network settings. It mentions the Device Name (NetBIOS Name) allows for easier configuration via a web browser instead of IP address. It recommends changing the device name if multiple D-Link devices are on the subnet. Buttons for "Save Settings" and "Don't Save Settings" are present.
- LAN CONNECTION TYPE:** Allows selecting the mode for the Access Point. A dropdown menu shows "My LAN Connection is : Dynamic IP (DHCP)".
- DYNAMIC IP(DHCP) LAN CONNECTION TYPE:** Provides IP Address Information. Fields include IP Address (192.168.0.50), Subnet Mask (255.255.255.0), and Gateway Address (0.0.0.0).
- DEVICE NAME(NETBIOS NAME):** Allows entering the Device Name. The current value is "dlinkap".

On the right side, there are two columns of text:

- Helpful Hints...**
- LAN Settings:** Describes LAN settings as private settings allowing configuration of LAN interface of DAP-1350. It notes LAN IP address is private to the internal network and not visible to the Internet. The factory default setting is Dynamic IP (DHCP).
- LAN Connection type:** Notes the factory default setting is Dynamic IP (DHCP) to allow automatic assignment of an IP address conforming to the local area network. It explains the "Static IP" option for manual configuration.
- IP Address:** Notes the default IP address is 192.168.0.50, which can be changed.

Static IP

Select **Static IP** to manually enter the IP address, subnet mask, and default gateway addresses.

LAN Connection Type: Select Static IP from the drop-down menu.

IP Address: Enter the IP address of the access point. The default IP address is 192.168.0.50. If you change the IP address, once you click **Apply**, you will need to enter the new IP address in your browser to get back into the configuration utility.

Subnet Mask: Enter the Subnet Mask.

Default Gateway: Enter the Gateway. This is usually the LAN or internal IP address of your router.

Device Name: Enter the Device Name of the AP. It is recommended to change the Device Name if there is more than one D-Link device within the subnet. You can enter the device name of the AP into your web browser to access the instead of IP address for configuration. If you are using the device name to connect, make sure that your PC and your DAP-1350 are on the same network.

The screenshot shows the D-Link DAP-1350 configuration interface. The top navigation bar includes links for DAP-1350 // AP, SETUP, ADVANCED, MAINTENANCE, STATUS, and HELP. A 'Helpful Hints...' section on the right provides general information about LAN settings. The main content area is titled 'NETWORK SETTINGS' and contains instructions for configuring internal network settings. It features a 'LAN CONNECTION TYPE' section where 'My LAN Connection is : Static IP' is selected. Below this is a 'STATIC IP ADDRESS LAN CONNECTION TYPE' section for entering static address information, with fields for IP Address (192.168.0.50), Subnet Mask (255.255.255.0), and Gateway Address (0.0.0.0). The final section is 'DEVICE NAME(NETBIOS NAME)' with a field for 'Device Name' containing 'dlinkap'. The bottom right corner of the interface has a note about the IP address being 192.168.0.50.

MAC Address Filter

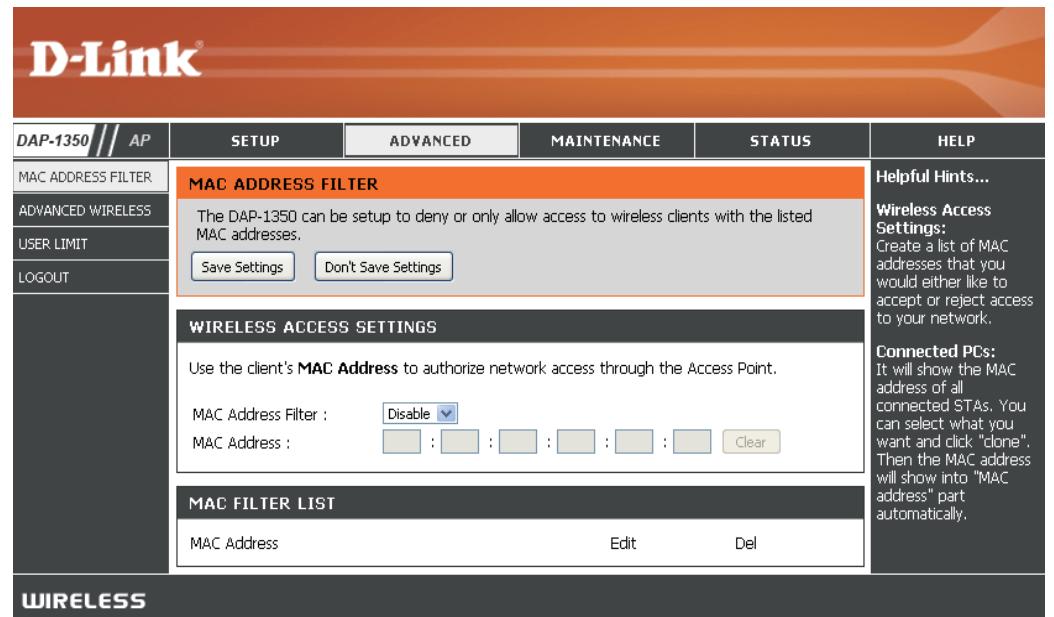
Use MAC (Media Access Control) Filters to authorize wireless clients by their MAC addresses to access your network. When enabled, any client not on the MAC filter list will not be able to access your network.

MAC Address Select **Enable** or **Disable** from the drop-down **Filter:** menu.

MAC Address: Enter the MAC address you would like to filter. To find the MAC address on a computer, please refer to the Networking Basics section in this manual. Click **Save Settings** to activate and save.

Note: Make sure you enter the computer you are currently using to configure the access point first or you will not be able to access the configuration utility once you click Save Settings.

MAC Filter List: Displays the list of clients in the filter list.



Advanced Wireless

Transmit Power: Sets the transmit power of the antennas.

Note: Transmit power is regulated by international standard. Users are forbidden to change its maximum limit.

Beacon Period: Beacons are packets sent by an access point to synchronize a wireless network. Specify a value. 100 is the default setting and is recommended.

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

RTS Threshold: This value should remain at its default setting of 2346. If inconsistent data flow is a problem, only a minor modification should be made.

Fragmentation Threshold: 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.

WMM Enable: WMM is QoS for your wireless network. This will improve the quality of video and voice applications for your wireless clients.

Short GI: Check this box to reduce the guard interval time therefore increasing the data capacity. However, it's less reliable and may create higher data loss.

The screenshot shows the D-Link DAP-1350 configuration interface. The top navigation bar includes links for DAP-1350, AP, SETUP, ADVANCED (which is selected), MAINTENANCE, STATUS, and HELP. On the left, a sidebar menu lists MAC ADDRESS FILTER, ADVANCED WIRELESS (selected), USER LIMIT, and LOGOUT. The main content area has a header 'ADVANCED WIRELESS' with a note about changing radio behavior from factory default. It includes 'Save Settings' and 'Don't Save Settings' buttons. Below this is a section titled 'ADVANCED WIRELESS SETTINGS' containing the following configuration options:

Transmit Power :	100% <input type="button" value="▼"/>
Beacon Period :	100 <input type="text"/> (20..1024)
DTIM Interval :	1 <input type="text"/> (1..255)
RTS Threshold :	2346 <input type="text"/> (1..2347)
Fragmentation Threshold :	2346 <input type="text"/> (256..2346)
WMM Enable :	<input checked="" type="checkbox"/>
Short GI :	<input checked="" type="checkbox"/>
IGMP Snooping :	<input type="checkbox"/>
WLAN Partition :	<input type="checkbox"/>

To the right of the main content area, there is a 'Helpful Hints...' section with detailed information about Advanced Wireless settings, a note about Transmit Power, and a note about WMM Enable.

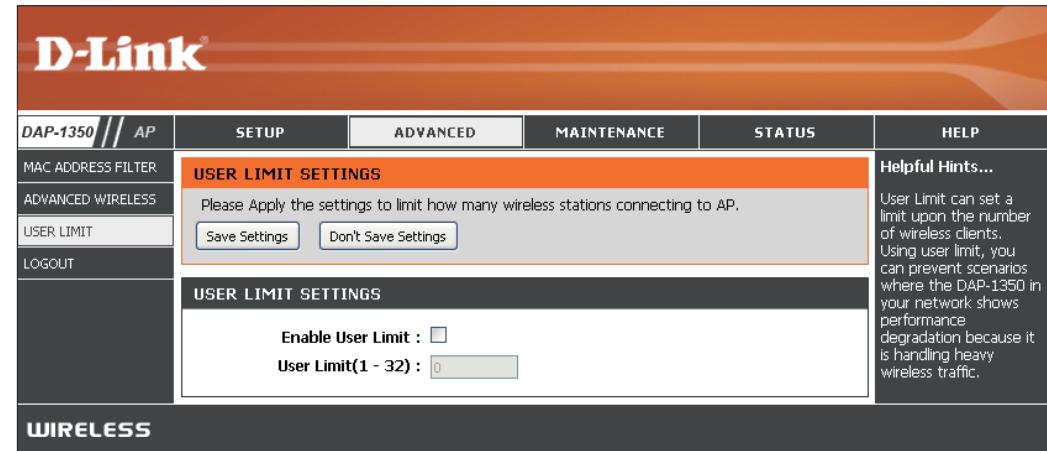
User Limit

Enter the maximum number of wireless clients that can connect at one time to your access point.

Enable User Limit: Check the **Enable User Limit** box to enable this feature.

User Limit: Enter the maximum number of clients, between 1 and 32.

Save Settings: Click **Save Settings** to save and activate the new changes.



Admin

This page will allow you to change the Administrator password. The administrator password has read/write access.

Password: Enter a new password for the Administrator Login Name. The administrator can make changes to the settings.

Verify Password: Enter the same password that you entered in the previous textbox in order to confirm its accuracy.

Enable Graphical Authentication: Enables a challenge-response test to require users to type letters or numbers from a distorted image displayed on the screen to prevent online hackers and unauthorized users from gaining access to your router's network settings. This feature is disabled by default.

The screenshot shows the D-Link DAP-1350 Admin interface. The top navigation bar includes the D-Link logo, the device model "DAP-1350 // AP", and tabs for SETUP, ADVANCED, MAINTENANCE, STATUS, and HELP. A sidebar on the left lists ADMIN, SYSTEM, FIRMWARE, TIME, SCHEDULES, and LOGOUT. The main content area is titled "ADMINISTRATOR SETTINGS". It contains instructions for changing the password, a note about case-sensitivity and length, and two buttons: "Save Settings" and "Don't Save Settings". Below this is a "PASSWORD" section with fields for "New Password" and "Verify Password". Further down is an "ADMINISTRATION" section containing a checkbox for "Enable Graphical Authentication". The bottom navigation bar includes a "WIRELESS" tab.

Helpful Hints...

Passwords: For security reasons, it is recommended that you change the Password for the Administrator accounts. Be sure to write down the Passwords to avoid having to reset the AP in the event that they are forgotten.

System

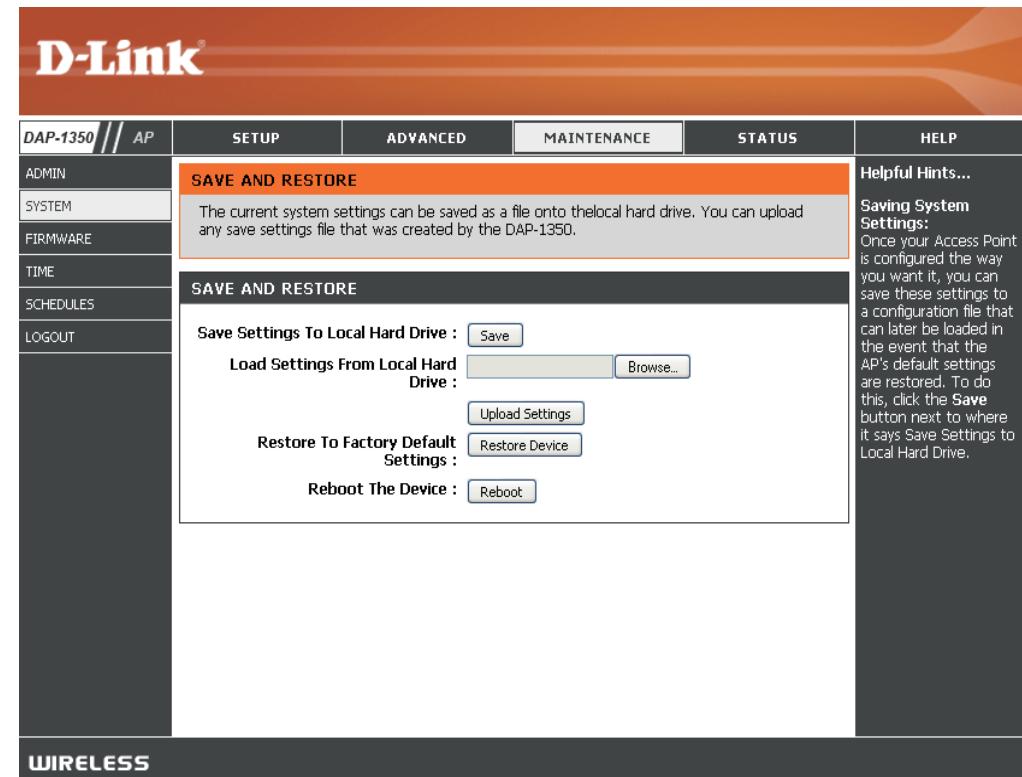
Save to Local Use this option to save the current access point configuration settings to a file on the hard disk of the computer you are using. Click the **Save** button. You will then see a file dialog where you can select a location and file name for the settings.

Upload from Local Hard Drive: Use this option to load previously saved access point configuration settings. Click **Browse** to find a previously saved configuration file. Then, click the **Upload Settings** button to transfer those settings to the access point.

Restore to Factory Default: This option will restore all configuration settings back to the settings that were in effect at the time the access point was shipped from the factory. Any settings that have not been saved will be lost, including any rules that you have created. If you want to save the current access point configuration settings, use the **Save** button above.

Note: Restoring the factory default settings will not reset the Wi-Fi Protected Status to Not Configured.

Reboot the Device: Click to reboot the access point.



Firmware

You can upgrade the firmware of the access point here. Make sure the firmware you want to use is on the local hard drive of the computer. Click on **Browse** to locate the firmware file to be used for the update. Please check the D-Link support website for firmware updates at <http://support.dlink.com>. You can download firmware upgrades to your hard drive from this site.

Browse: After you have downloaded the new firmware, click **Browse** to locate the firmware update on your hard drive. Click **Upload** to complete the firmware upgrade.

Upload: Once you have a firmware update on your computer, use this option to browse for the file and then upload the information into the access point.

Language Pack

You can change the language of the web UI by uploading available language packs.

Browse: After you have downloaded the new language pack, click **Browse** to locate the language pack file on your hard drive. Click **Upload** to complete the language pack upgrade.

Note: In most cases you must unzip the file first before uploading.

The screenshot shows the D-Link DAP-1350 configuration interface. The top navigation bar includes links for DAP-1350 // AP, SETUP, ADVANCED, MAINTENANCE, STATUS, and HELP. A sidebar on the left lists ADMIN, SYSTEM, FIRMWARE, TIME, SCHEDULES, and LOGOUT. The main content area is divided into several sections:

- FIRMWARE:** A note about new firmware availability and a link to the support site. It also contains instructions for upgrading via local hard drive and a warning against updating through the wireless network.
- FIRMWARE INFORMATION:** Displays the Current Firmware Version (1.00) and Current Firmware Date (Mon, 10 Aug 2009).
- FIRMWARE UPGRADE:** A note about factory defaults and a link to the Maintenance > System screen. It includes fields for selecting a firmware file via Browse and an Upload button.
- LANGUAGE PACKAGE INFORMATION:** A note about language changes and a link to the Maintenance > System screen. It includes fields for selecting a language package file via Browse and an Upload button.
- WIRELESS:** A section for managing wireless settings.

A sidebar on the right titled "Helpful Hints..." provides general information about firmware updates, including a note that they are released periodically to improve functionality and add features. It also includes a link to the support site for checking for upgrades.

Time

The Time Configuration option allows you to configure, update, and maintain the correct time on the internal system clock. From this section you can set the time zone that you are in. Daylight Saving can also be configured to automatically adjust the time when needed.

Time Zone: Select the Time Zone from the drop-down menu.

Daylight Saving: To select Daylight Saving time manually, click the **Enable Daylight Saving** check box. Next use the drop-down menu to select a Daylight Saving Offset and then enter a start date and an end date for daylight saving time.

Enable NTP Server: NTP is short for Network Time Protocol. NTP synchronizes computer clock times in a network of computers. Check this box to use a NTP server. This will only connect to a server on the Internet, not a local server.

NTP Server Used: Enter the NTP server or select one from the drop-down menu.

Date and Time: To manually input the time, enter the values in these fields for the Year, Month, Day, Hour, Minute, and Second and then click **Save Settings**. You can also click the **Copy Your Computer's Time Settings** button at the bottom of the screen.

D-Link

TIME

The Time Configuration option allows you to configure, update, and maintain the correct time on the internal system clock. From this section you can set the time zone that you are in and set the NTP (Network Time Protocol) Server. Daylight Saving can also be configured to automatically adjust the time when needed.

TIME CONFIGURATION

Current Router Time : Jan/01/2008 00:21:37
 Time Zone : (GMT-08:00) Pacific Time (US/Canada), Tijuana
 Enable Daylight Saving
 Daylight Saving Offset : +01:00
 Daylight Saving Dates :

Month	Week	Day of Week	Time
Mar	3rd	Sun	2 am
DST start			
DST End			

 Enable NTP Server : NTP Server Used : << Select NTP Server
AUTOMATIC TIME CONFIGURATION
SET THE DATE AND TIME MANUALLY

Date And Time : Year 2008 Month Jan Day 01
 Hour 00 Minute 00 Second 00

WIRELESS

Helpful Hints...
System Time Settings:
 This section allows admins to configure, update, and maintain the correct time on the Access Point's internal system clock.

Schedules

Schedules can be created for use with enforcing rules. For example, if you want to restrict web access to Mon-Fri from 3pm to 8pm, you could create a schedule selecting Mon, Tue, Wed, Thu, and Fri and enter a Start Time of 3pm and End Time of 8pm.

Name: Enter a name for your new schedule.

Days: Select a day, a range of days, or All Week to include every day.

Time: Check **All Days** or enter a start and end time for your schedule.

Wireless: Select **On** or **Off** from the drop-down menu.

Add: Click **Add** to save your schedule. You must click **Save Settings** at the top for your schedules to go into effect.

Schedule Rules List: The list of schedules will be listed here. Click the **Edit** icon to make changes or click the **Delete** icon to remove the schedule.

D-Link

DAP-1350 // AP	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
ADMIN					Helpful Hints...
SYSTEM					Schedules are used with a number of other features to define when those features are in effect.
FIRMWARE					
TIME					
SCHEDULES					
LOGOUT					

SCHEDULES

The Schedule configuration option is used to manage schedule rules for wireless Lan control features.

ADD SCHEDULE RULE

Name :

Day(s) : All Week : Select Day(s) :

Sun Mon Tue Wed Thu Fri Sat

All Day - 24 hrs :

Start Time : 12 : 00 AM (hour:minute, 12 hour time)

End Time : 12 : 00 AM (hour:minute, 12 hour time)

SCHEDULE RULES LIST

Name	Day(s)	Time Frame
------	--------	------------

WIRELESS

Device Info

This page displays the current information for the DAP-1350. It will display the LAN and wireless LAN information.

General: Displays the access point's time and firmware version.

LAN: Displays the MAC address and the private (local) IP settings for the access point.

Wireless LAN: Displays the wireless MAC address and your wireless settings such as SSID and Channel.

The screenshot shows the D-Link DAP-1350 configuration interface. The top navigation bar includes links for DAP-1350, AP, SETUP, ADVANCED, MAINTENANCE, STATUS, and HELP. The left sidebar has links for DEVICE INFO (selected), LOGS, STATISTICS, WIRELESS, and LOGOUT. The main content area is divided into sections: **DEVICE INFORMATION** (Time: Jan/01/2008 02:08:14, Firmware Version: 1.00, Mon, 10 Aug 2009), **GENERAL** (MAC Address: 00:18:e7:6a:20:fe, Connection: Static IP, IP Address: 192.168.0.50, Subnet Mask: 255.255.255.0, Gateway Address: 0.0.0.0), **LAN** (MAC Address: 00:18:e7:6a:23:40, Network Name (SSID): dlink, Channel: 9, Security Mode: Disable), and **WIRELESS**. A sidebar on the right provides helpful hints for the LAN and Wireless sections.

Logs

The DAP-1350 keeps a running log of events and activities occurring on the AP. If the AP is rebooted, the logs are automatically cleared. You can save the log files under Log Settings.

Log Options: You can select the types of messages that you want to display from the log: **System Activity**, **Debug Information**, **Attacks**, **Dropped Packets**, and **Notice**. Select and click **Apply Log Settings Now**.

First Page: This button directs you to the first page of the log.

Last Page: This button directs you to the last page of the log.

Previous: This button directs you to the previous page of the log.

Next: This button directs you to the next page of the log.

Clear: This button clears all current log content.

Log Settings: This button opens a new menu where you can configure the log settings.

Refresh: This button refreshes the log.

The screenshot shows the D-Link DAP-1350 web interface with the following details:

- LOGS:** A descriptive text box explaining the log function, stating it's for viewing device logs and defining event levels. It also mentions internal syslog server support for sending logs to a network computer.
- LOG OPTIONS:** A section where users can select log types. The checked boxes are System Activity, Attacks, and Notice. There are also checkboxes for Debug Information and Dropped Packets, both of which are unchecked. A "Apply Log Settings Now" button is present at the bottom of this section.
- LOG DETAILS:** A table displaying log entries. The table has two columns: Time and Message. The log entries are as follows:

Time	Message
Jan 1 00:00:17	Sending discover...
Jan 1 00:00:16	0x001a0000-0x01000000 : "RootFS"
Jan 1 00:00:16	0x00b00000-0x001a0000 : "Kernel"
Jan 1 00:00:16	0x00070000-0x000b0000 : "Language"
Jan 1 00:00:16	0x00030000-0x00040000 : "Factory"
Jan 1 00:00:16	0x00000000-0x00030000 : "Bootloader"
Jan 1 00:00:16	cfl_cmdset_0002: Disabling erase-suspend-program due to code brokenness.
Jan 1 00:00:16	number of CFI chips: 1
Jan 1 00:00:16	ralink flash device: 0x1000000 at 0x1f000000
Jan 1 00:00:16	klogd started: BusyBox v1.01 (2009.09.21-12:53+0000)
- WIRELESS:** A small link at the bottom left of the main content area.

Statistics

The DAP-1350 keeps statistics of the traffic that passes through it. You can view the amount of packets that pass through the LAN and wireless portions of the network. The traffic counter will reset if the access point is rebooted.

The screenshot shows the D-Link DAP-1350 web interface with the following details:

- Header:** D-Link logo and navigation tabs: DAP-1350 // AP, SETUP, ADVANCED, MAINTENANCE, STATUS (highlighted), and HELP.
- Left Sidebar:** Device Info, LOGS, STATISTICS (selected), WIRELESS, and LOGOUT.
- Content Area:**
 - TRAFFIC STATISTICS:** A summary message: "Traffic Statistics display Receive and Transmit packets passing through your router." with Refresh Statistics and Clear Statistics buttons.
 - LAN STATISTICS:** Sent: 23, Received: 22, TX Packets Dropped: 0, RX Packets Dropped: 0, Collisions: 0, Errors: 0.
 - WIRELESS STATISTICS:** Sent: 0, Received: 123, TX Packets Dropped: 0, RX Packets Dropped: 0, Collisions: 0, Errors: 0.
- Right Sidebar:** Helpful Hints... (text: This is a summary of the number of packets that have passed between the Wireless and the LAN since the device was last initialized).

Wireless

The wireless section allows you to view the wireless clients that are connected to your wireless access point.

Connection Time: Displays the amount of time the wireless client has been connected to the access point.

MAC Address: The Ethernet ID (MAC address) of the wireless client.

The screenshot shows the D-Link DAP-1350 Access Point management interface. The top navigation bar includes links for DAP-1350 // AP, SETUP, ADVANCED, MAINTENANCE, STATUS, and HELP. The STATUS link is currently selected, highlighted in blue. On the left, a vertical menu lists DEVICE INFO, LOGS, STATISTICS, WIRELESS (which is also highlighted in blue), and LOGOUT. The main content area is titled 'WIRELESS' and contains the following text: 'The Wireless Client table below displays Wireless clients connected to the AP (Access Point). In Wireless Client mode it displays the connected AP's MAC address and connected Time.' Below this, a table header reads 'NUMBER OF WIRELESS CLIENTS : 0'. At the bottom of the page, a footer bar features the word 'WIRELESS' in white text on a dark background.

Help

The screenshot shows the 'HELP' section of the D-Link DAP-1350 configuration interface. The top navigation bar includes tabs for DAP-1350, AP, SETUP, ADVANCED, MAINTENANCE, STATUS, and HELP. The left sidebar has sections for MENU, WIRELESS, and ADVANCED. The main content area is titled 'HELP MENU' and contains four categories: Setup, Advanced, Maintenance, and Status, each with a list of links.

DAP-1350 // AP	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
MENU	HELP MENU Setup <ul style="list-style-type: none">• Setup Wizard• Wireless Setup• Lan Setup Advanced <ul style="list-style-type: none">• MAC Address Filter• Advanced Wireless• User Limit Maintenance <ul style="list-style-type: none">• Admin• System• Firmware• Time• Schedules Status <ul style="list-style-type: none">• Device Info• Logs• Statistics• Wireless				
WIRELESS					

Wireless Client Mode

Change the mode selector to **CL** on the device. Connect an Ethernet cable from the Ethernet port on the DAP-1350 to a computer for configuration.

If you wish to change the default settings or optimize the performance of the DAP-1350, you may use the web-based configuration utility.

To access the configuration utility, open a web browser such as Internet Explorer and enter **dlinkap** or **192.168.0.50** in the address field.

Type **Admin** and then enter your password. Leave the password blank by default.

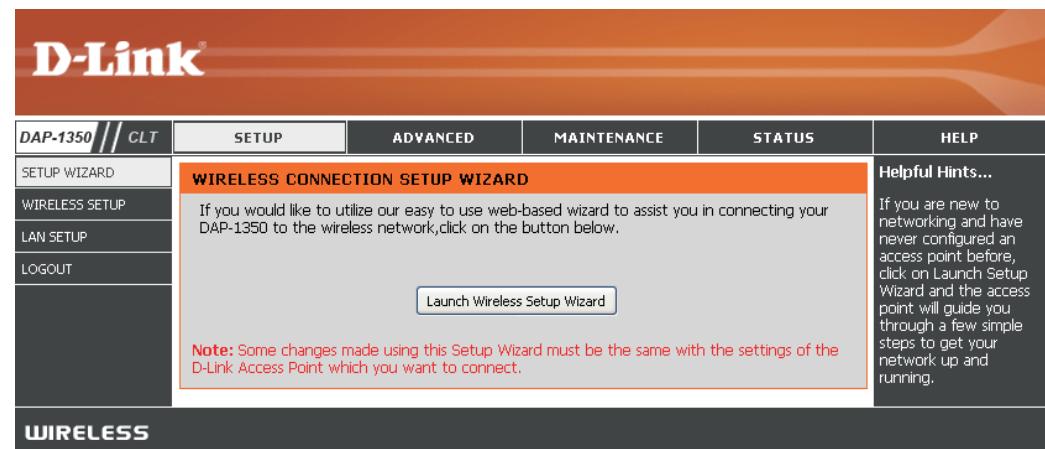
If you get a Page Cannot be Displayed error, please refer to the **Troubleshooting** section for assistance.

A screenshot of a web-based login interface titled "LOGIN". It says "Log in to the Wireless Client:". There are two input fields: "User Name:" and "Password:", both with empty text boxes. Below the password field is a "Log In" button.

Wireless Setup Wizard

This Wizard is designed to assist you in configuring your DAP-1350 as a wireless client.

Click the **Launch Wireless Setup Wizard** button to use the wizard to setup your network.



Enter the Device Name of the AP and click **Next** to continue. It is recommended to change the Device Name if there is more than one D-Link device within the same wireless network.

This is a step in the Wireless Setup Wizard titled "SET YOUR DEVICE NAME". The instructions say: "Enter the Device Name of the AP. Recommend to change the Device Name if there're more than one D-Link devices within the subnet. Click **Next** to continue." Below this is a text input field labeled "Device Name(Netbios Name) : dlinkap". At the bottom are "Next" and "Exit" buttons.

This is a step in the Wireless Setup Wizard titled "SET YOUR NEW PASSWORD". The instructions say: "You may change the **admin** account password by entering in a new password. Click **Next** to continue." Below this are two input fields: "Password :" and "Verify Password :" both with empty boxes. At the bottom are "Prev", "Next", and "Exit" buttons.

Select **Auto** as the configuration method only if your wireless device supports Wi-Fi Protected Setup (WPS). For **Manual** setup, skip to the next page.

Click **Next** to continue.

For PBC (Push Button Configuration), skip to the next page.

Select **PIN** to connect your wireless device with WPS. You may click **Generate New PIN** to use a different PIN number. Click **Connect** to start the WPS scan.

Within 2 minutes, enter the PIN number into the other device you want to connect to.

SELECT CONFIGURATION METHOD

Please select one of the following configuration methods. Click **Next** to continue.

Auto -- Select this option if your wireless device supports WPS(Wi-Fi Protected Setup)
 Manual -- Select this option if you want to setup your network manually.

Prev **Next** **Exit**

CONNECT TO WIRELESS DEVICE WITH WPS

There are two ways to connect to wireless device with WPS

- PIN(Personal Identification Number)
- PBC(Push Button Configuration)

PIN : 97730668
SSID :
Generate New PIN **Reset PIN to Default**

Please enter the above PIN into your Access Point and enter your Access Point's SSID into the SSID field above and click the below 'Connect' button.

PBC
please press the push button on your wireless device and click the below 'Connect' Button within 120 seconds

Prev **Connect** **Exit**

Select **PBC** to use the Push Button Configuration to connect to your network.

Click **Connect** to continue.

Note: You may also press the WPS button located on the side of the DAP-1350 instead of running this wizard.

CONNECT TO WIRELESS DEVICE WITH WPS

There are two ways to connect to wireless device with WPS

- PIN(Personal Identification Number)
- PBC(Push Button Configuration)

PIN :97730668
SSID :

Please enter the above PIN into your Access Point and enter your Access Point's SSID into the SSID field above and click the below 'Connect' button.

PBC
please press the push button on your wireless device and click the below 'Connect' Button within 120 seconds

On the device you want to connect to, start the PBC process on the device. You will have 2 minutes to start the PBC process on both devices.

VIRTUAL PUSH BUTTON

Please press down the Push Button (physical or virtual) on the wireless device you are adding to your wireless network within **118** seconds...

Select **Manual** configuration to setup your network manually.

Click **Next** to continue.

Enter the network name (SSID) of the network you want to connect to. If you do not know the exact name or would like to search for the wireless network, click **Site Survey**.

Find your access point from the list, click the radio button in the right column, and click **Connect**.

SELECT CONFIGURATION METHOD

Please select one of the following configuration methods. Click **Next** to continue.

Auto -- Select this option if your wireless device supports WPS(Wi-Fi Protected Setup)
 Manual -- Select this option if you want to setup your network manually.

Prev **Next** **Exit**

SET WIRELESS NETWORK NAME(SSID)

You can enter the Wireless Network Name of AP or use site survey to find the AP.

Wireless Network Name (SSID): **Site Survey**

Prev **Next** **Exit**

D-Link

SSID	BSSID	Channel	Type	Encrypt	Signal	Select
m-Lounge	001cf0defe6d6	2 (B+G+N)	AP	WPA-PSK/WPA2-PSK	51	<input checked="" type="radio"/>
alpha	001346aaadc8	1 (B+G)	AP	WPA-PSK/WPA2-PSK	41	<input type="radio"/>
DAP-2590-3	002191af25c3	6 (B+G+N)	AP	no	15	<input type="radio"/>

WIRELESS

Connect **Exit**

Choose which Security Mode you want to use and click **Next** to continue.

SELECT WIRELESS SECURITY MODE

Please select the wireless security mode.

None
 WEP
 WPA
 WPA2

[Prev](#) [Next](#) [Exit](#)

If you select **WEP**, choose the key type (ASCII or HEX), the key size (64 or 128-bit), and enter the wireless security password. Click **Next** to complete the Setup Wizard.

SET YOUR WIRELESS SECURITY PASSWORD

Please enter the wireless security password to establish wireless connection.

Key Type: ASCII
Key Size: 64-Bit
Wireless Security Password:

[Prev](#) [Next](#) [Exit](#)

If you select **WPA** or **WPA2**, enter the wireless security password. Click **Next** to complete the Setup Wizard.

SET YOUR WPA2 PERSONAL PASSPHRASE

Please enter the WPA2 personal passphrase to establish wireless connection.

WPA2 Personal Passphrase:
(8 to 63 characters)

[Prev](#) [Next](#) [Exit](#)

The Wireless Setup Wizard is complete. Click **Finish** to reboot the device.



Manual Wireless Setup

Wireless Mode: Wireless Client Mode is selected.

Site Survey: Click Site Survey to display a list of wireless networks in your area. You may select the wireless access point to connect to.

Wireless Type: Select Infrastructure if connecting to an access point or wireless router, or select Ad-Hoc if connecting to another wireless client.

Wireless Network Name: Enter the SSID of the wireless network you want to connect to. If you do not know for sure, click Site Survey and select it from the list, if available.

Wireless Channel: The channel will automatically change to the channel of the AP you are connected to.

802.11 Mode: Select the appropriate 802.11 mode based on the wireless clients in your network. Select Mixed 802.11b/g, 802.11n Only, or Mixed 802.11b/g/n from the drop-down menu.

Channel Width: Select the Channel Width:

Auto 20/40 - Select if you are using both 802.11n and non-802.11n wireless devices.

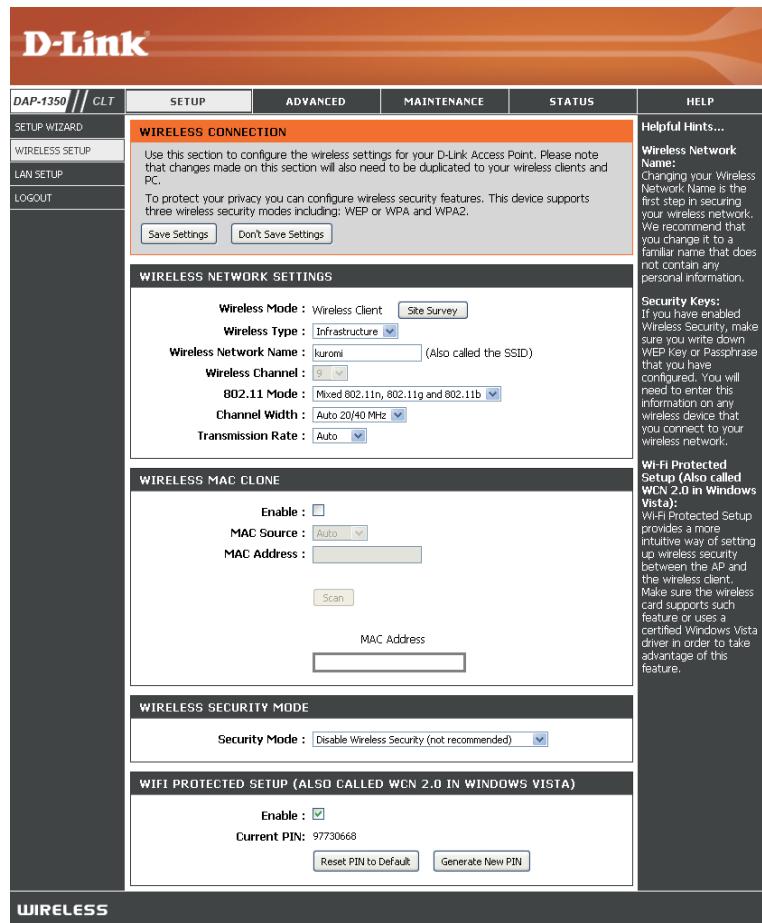
20MHz - Select if you are not using any 802.11n wireless clients.

Transmission Rate: Select the transmission rate. It is strongly suggested to use the Auto setting for optimal performance.

Wireless MAC Clone: You can clone the MAC address of the device connected via Ethernet to the DAP-1350.

Wireless Security Mode: Select a wireless security setting. Options are **None**, **WEP**, **WPA**, or **WPA2**. See the Wireless Security section in this manual for a detailed explanation of the wireless security options.

WPS: Select enable if you want to configure the DAP-1350 with Wi-Fi Protection setup.



LAN Settings

This section will allow you to change the local network settings of the access point and to configure the DHCP settings.

LAN Connection Use the drop-down menu to select **Dynamic Type: IP** (DHCP) to automatically obtain an IP address on the LAN/private network or select **Static IP** to manually enter the IP settings.

IP Address: 192.168.0.50 is the default IP Address of the DAP-1350.

Subnet Mask: 255.255.255.0 is the default subnet mask. All devices on the network must have the same subnet mask to communicate on the network.

Default Gateway: Enter the IP Address of the gateway in your network.

Device Name: Enter the Device Name of the AP. It is recommended to change the Device Name if there is more than one D-Link device within the subnet.

Helpful Hints...

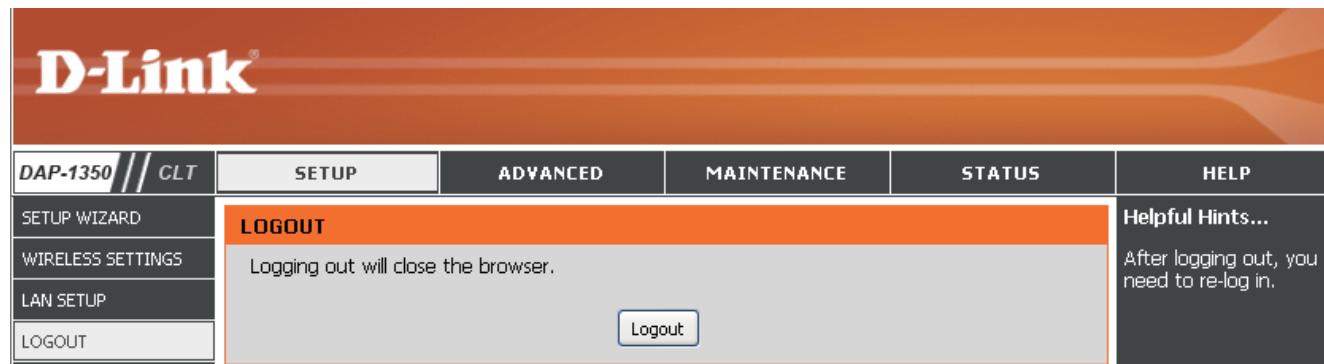
LAN Settings: Also referred as private settings. LAN settings allow you to configure LAN interface of DAP-1350. LAN IP address is private to your internal network and is not visible to Internet. The factory default setting is Dynamic IP(DHCP).

LAN Connection type: The factory default setting is Dynamic IP(DHCP) to allow the DHCP host to automatically assign the Access Point an IP address that conforms to the applied local area network. Enable "Static IP" which allows the IP address of the DAP-1350 to be manually configured in accordance to the applied local area network.

IP Address: The default IP address is 192.168.0.50. It can be modified to conform

Logout

This section will allow you to change the local network settings of the access point and to configure the DHCP settings.



Advanced Wireless

Transmit Power: Sets the transmit power of the antennas.

Note: Transmit power is regulated by international standard. Users are forbidden to change its maximum limit.

RTS Threshold: This value should remain at its default setting of 2346. If inconsistent data flow is a problem, only a minor modification should be made.

Fragmentation Threshold: 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.

Short GI: Check this box to reduce the guard interval time therefore increasing the data capacity. However, it's less reliable and may create higher data loss.

The screenshot shows the D-Link DAP-1350 configuration interface. The top navigation bar includes links for DAP-1350 // CLT, SETUP, ADVANCED (which is selected), MAINTENANCE, STATUS, and HELP. A sub-navigation menu on the left lists ADVANCED WIRELESS and LOGOUT. The main content area has a header 'ADVANCED WIRELESS' with a note about changing 802.11g radio behavior. It features two buttons: 'Save Settings' and 'Don't Save Settings'. Below this is a section titled 'ADVANCED WIRELESS SETTINGS' containing four input fields: 'Transmit Power' set to 100%, 'RTS Threshold' set to 2346 (range 1..2347), 'Fragmentation Threshold' set to 2346 (range 256..2346), and a checked 'Short GI' checkbox. At the bottom of the page is a 'WIRELESS' link.

Helpful Hints...

Advanced Wireless: It is recommended that you leave these options at their default values. Adjusting them could negatively impact the performance of your wireless network. The options on this page should be changed by advanced users or if you are instructed to by one of our support personnel, as they can negatively affect the performance of your Access Point if configured improperly.

Transmit Power: You can lower the output power of the DAP-1350 by selecting lower percentage Transmit Power values from the drop down. Your choices are: 100%, 50%, 25%, and 12.5%.

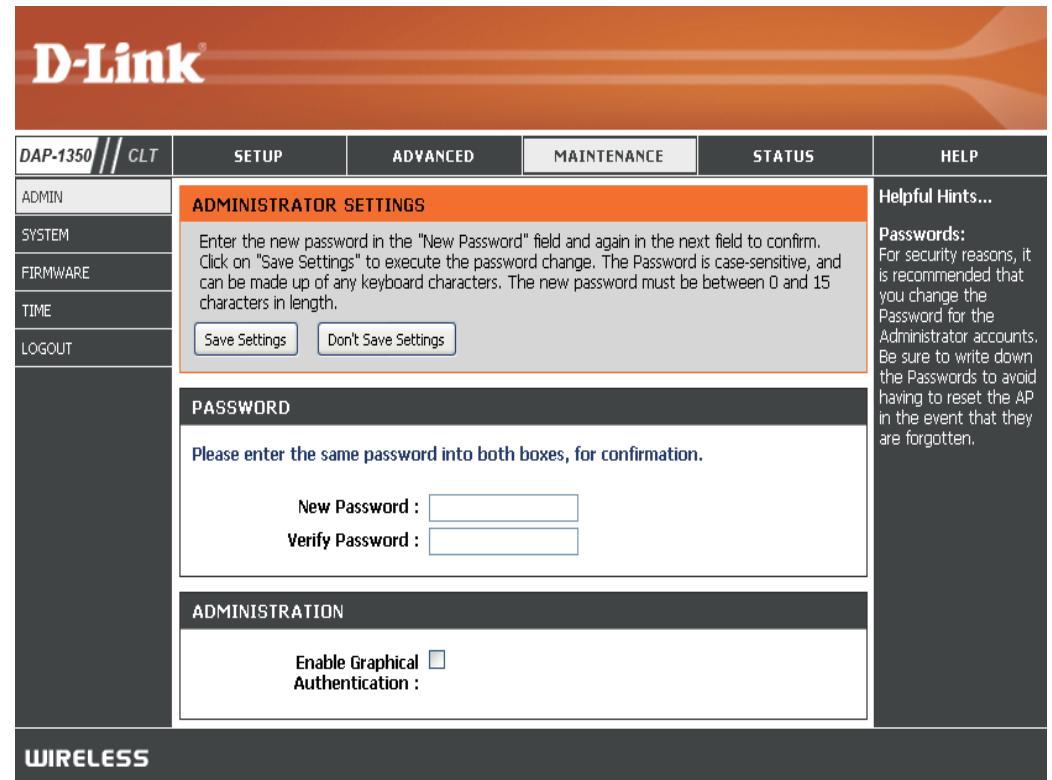
Admin

This page will allow you to change the Administrator password. The administrator password has read/write access.

Password: Enter a new password for the Administrator Login Name. The administrator can make changes to the settings.

Verify Password: Enter the same password that you entered in the previous textbox in order to confirm its accuracy.

Enable Graphical Authentication: Enables a challenge-response test to require users to type letters or numbers from a distorted image displayed on the screen to prevent online hackers and unauthorized users from gaining access to your router's network settings.



System

Save to Local Use this option to save the current access point

Hard Drive: configuration settings to a file on the hard disk of the computer you are using. Click the **Save** button. You will then see a file dialog where you can select a location and file name for the settings.

Load from Local Use this option to load previously saved access

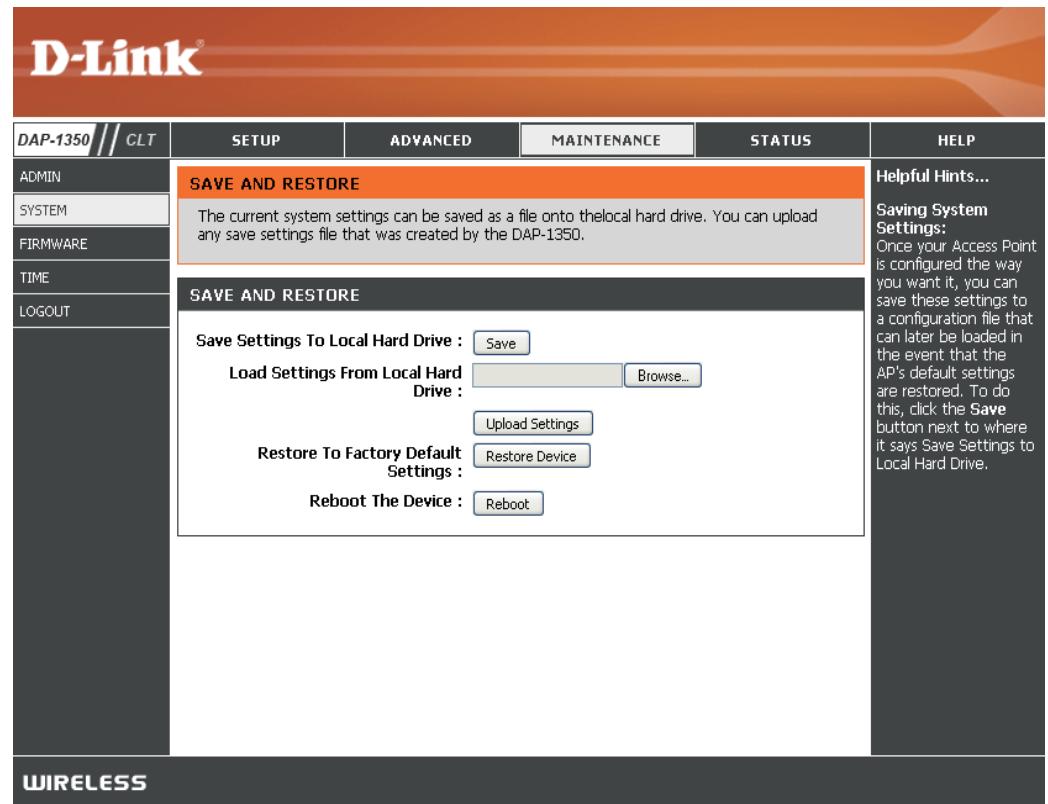
Hard Drive: point configuration settings. Click **Browse** to find a previously saved configuration file. Then, click the **Upload Settings** button to transfer those settings to the access point.

Restore to Factory This option will restore all configuration settings

Default: back to the settings that were in effect at the time the access point was shipped from the factory. Any settings that have not been saved will be lost, including any rules that you have created. If you want to save the current access point configuration settings, use the **Save** button above.

Note: Restoring the factory default settings will not reset the Wi-Fi Protected Status to Not Configured.

Reboot the Device: Click to reboot the access point.



Firmware

You can upgrade the firmware of the access point here. Make sure the firmware you want to use is on the local hard drive of the computer. Click on **Browse** to locate the firmware file to be used for the update. Please check the D-Link support website for firmware updates at <http://support.dlink.com>. You can download firmware upgrades to your hard drive from this site.

Browse: After you have downloaded the new firmware, click **Browse** to locate the firmware update on your hard drive. Click **Upload** to complete the firmware upgrade.

Upload: Once you have a firmware update on your computer, use this option to browse for the file and then upload the information into the access point.

Language Pack

You can change the language of the web UI by uploading available language packs.

Browse: After you have downloaded the new language pack, click **Browse** to locate the language pack file on your hard drive. Click **Upload** to complete the language pack upgrade.

Note: In most cases you must unzip the file first before uploading.

The screenshot shows the D-Link DAP-1350 configuration interface. The top navigation bar includes links for DAP-1350 // CLT, SETUP, ADVANCED, MAINTENANCE (which is selected), STATUS, and HELP. A sidebar on the left lists ADMIN, SYSTEM, FIRMWARE (selected), TIME, and LOGOUT. The main content area is divided into several sections:

- FIRMWARE:** A message indicates new firmware is available to improve functionality and performance, with a link to check for an upgrade on the support site. It also instructs users not to update firmware through the wireless network.
- FIRMWARE INFORMATION:** Displays the current firmware version (1.00) and date (Mon, 10 Aug 2009).
- FIRMWARE UPGRADE:** Contains a note about firmware upgrades resetting configuration options to factory defaults and saving current configurations. It includes a note about upgrading via a wired connection and a file upload section with a 'Browse...' button and an 'Upload' button.
- LANGUAGE PACKAGE INFORMATION:** Contains a note about updating language packages changing web page displays and saving configurations. It includes a note about upgrading via a wired connection and a file upload section with a 'Browse...' button and an 'Upload' button.
- WIRELESS:** A large, dark grey footer section.

A vertical sidebar on the right titled 'Helpful Hints...' provides additional information about firmware updates, including a note that they are released periodically to improve the functionality of the Access Point and add features. It also suggests checking the support site for specific feature updates and notes that updated firmware is available for the Access Point.

Time

The Time Configuration option allows you to configure, update, and maintain the correct time on the internal system clock. From this section you can set the time zone that you are in. Daylight Saving can also be configured to automatically adjust the time when needed.

Time Zone: Select the Time Zone from the drop-down menu.

Daylight Saving: To select Daylight Saving time manually, click the **Enable Daylight Saving** check box. Next use the drop-down menu to select a Daylight Saving Offset and then enter a start date and an end date for daylight saving time.

Enable NTP Server: NTP is short for Network Time Protocol. NTP synchronizes computer clock times in a network of computers. Check this box to use a NTP server. This will only connect to a server on the Internet, not a local server.

NTP Server Used: Enter the NTP server or select one from the drop-down menu.

Date and Time: To manually input the time, enter the values in these fields for the Year, Month, Day, Hour, Minute, and Second and then click **Save Settings**. You can also click the **Copy Your Computer's Time Settings** button at the bottom of the screen.

The screenshot shows the D-Link DAP-1350 configuration interface. The top navigation bar includes links for DAP-1350 // CLT, SETUP, ADVANCED, MAINTENANCE, STATUS, and HELP. A sidebar on the left lists ADMIN, SYSTEM, FIRMWARE, TIME (which is selected), and LOGOUT. The main content area has a header 'D-Link' and a sub-header 'TIME'. It contains a brief description of the Time Configuration option, two 'Save Settings' buttons, and a 'Helpful Hints...' section with a 'System Time Settings' link. The 'TIME CONFIGURATION' section displays the current router time (Jan/01/2008 00:22:32), a dropdown for the time zone (GMT-08:00 Pacific Time (US/Canada), Tijuana), and checkboxes for 'Enable Daylight Saving' and 'Daylight Saving Offset (+1:00)'. It also includes fields for 'Daylight Saving Dates' with dropdown menus for Month, Week, Day of Week, and Time, specifically for DST start (Mar 3rd Sun 2 am) and DST end (Nov 2nd Sun 2 am). The 'AUTOMATIC TIME CONFIGURATION' section has checkboxes for 'Enable NTP Server' and 'NTP Server Used' (with a 'Select NTP Server' dropdown). The 'SET THE DATE AND TIME MANUALLY' section allows setting Date And Time through dropdown menus for Year (2008), Month (Jan), Day (01), Hour (00), Minute (00), and Second (00), along with a 'Copy Your Computer's Time Settings' button. A 'WIRELESS' section is visible at the bottom.

Device Info

This page displays the current information for the DAP-1350. It will display the LAN and wireless LAN information.

General: Displays the access point's time and firmware version.

LAN: Displays the MAC address and the private (local) IP settings for the access point.

Wireless LAN: Displays the wireless MAC address and your wireless settings such as SSID and Channel.

The screenshot shows the D-Link DAP-1350 configuration interface. The top navigation bar includes links for DAP-1350, CLT, SETUP, ADVANCED, MAINTENANCE, STATUS, and HELP. The left sidebar has links for DEVICE INFO (selected), LOGS, STATISTICS, and LOGOUT. The main content area is divided into sections: DEVICE INFORMATION, GENERAL, LAN, and WIRELESS LAN. The DEVICE INFORMATION section contains a note about displaying wireless and network connection details. The GENERAL section shows Time (Jan/01/2008 00:16:07) and Firmware Version (1.00, Mon, 10 Aug 2009). The LAN section lists MAC Address (00:18:e7:6a:20:fe), Connection (Static IP), IP Address (192.168.0.50), Subnet Mask (255.255.255.0), and Gateway Address (0.0.0.0). The WIRELESS LAN section lists MAC Address (00:18:e7:6a:23:40), Network Name (SSID) (dlink), Channel (7), and Security Mode (Disable). A 'Helpful Hints...' link on the right provides additional information about LAN and Wireless connection details.

Logs

The DAP-1350 keeps a running log of events and activities occurring on the AP. If the AP is rebooted, the logs are automatically cleared. You can save the log files under Log Settings.

Log Options: You can select the types of messages that you want to display from the log: **System Activity**, **Debug Information**, **Attacks**, **Dropped Packets**, and **Notice**. Select and click **Apply Log Settings Now**.

First Page: This button directs you to the first page of the log.

Last Page: This button directs you to the last page of the log.

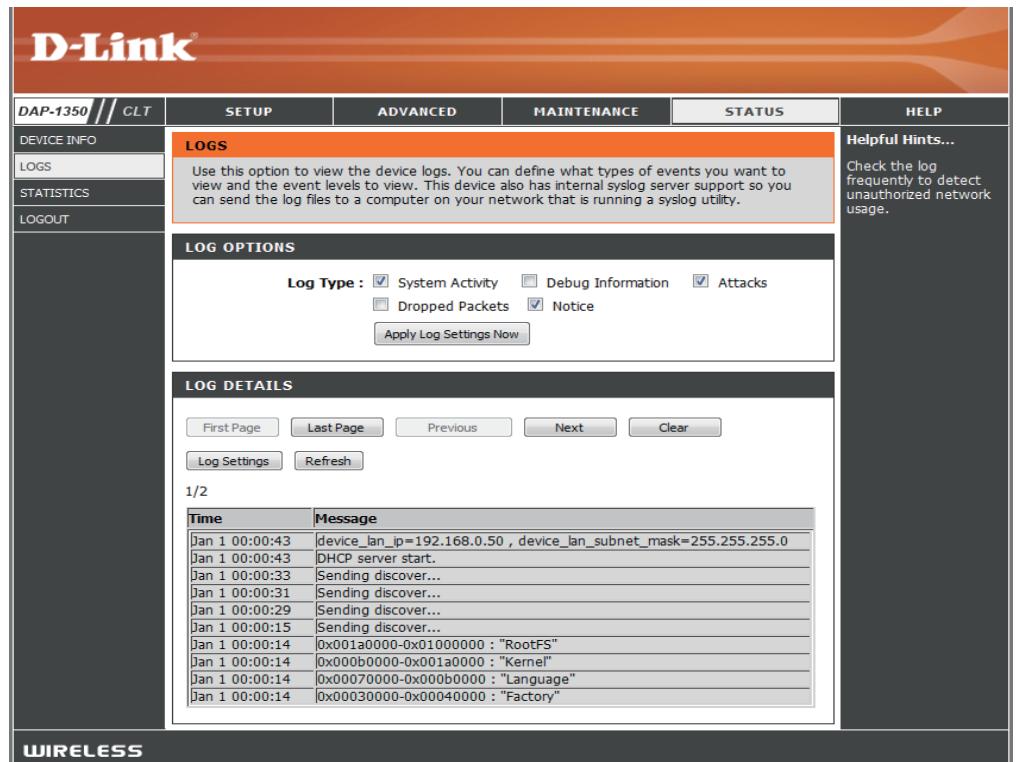
Previous: This button directs you to the previous page of the log.

Next: This button directs you to the next page of the log.

Clear: This button clears all current log content.

Log Settings: This button opens a new menu where you can configure the log settings.

Refresh: This button refreshes the log.



Statistics

The DAP-1350 keeps statistics of the traffic that passes through it. You can view the amount of packets that pass through the LAN and wireless portions of the network. The traffic counter will reset if the access point is rebooted.

The screenshot shows the D-Link DAP-1350 configuration interface. The top navigation bar includes links for DAP-1350 // CLT, SETUP, ADVANCED, MAINTENANCE, STATUS (which is selected), and HELP. On the left, a vertical menu lists DEVICE INFO, LOGS, STATISTICS (selected), and LOGOUT. The main content area has three sections: TRAFFIC STATISTICS, LAN STATISTICS, and WIRELESS STATISTICS. The TRAFFIC STATISTICS section contains a summary message and buttons for Refresh Statistics and Clear Statistics. The LAN STATISTICS section displays the following data:

Sent : 22	Received : 1107
TX Packets Dropped : 0	RX Packets Dropped : 0
Collisions : 0	Errors : 0

The WIRELESS STATISTICS section displays the following data:

Sent : 2897	Received : 867
TX Packets Dropped : 0	RX Packets Dropped : 0
Collisions : 0	Errors : 0

A sidebar on the right titled "Helpful Hints..." provides a summary of the packet counts since the device was last initialized.

Help

The screenshot shows the 'HELP MENU' page of the D-Link DAP-1350 configuration interface. At the top, there is a navigation bar with tabs: DAP-1350 // CLT, SETUP, ADVANCED, MAINTENANCE, STATUS, and HELP. The 'HELP' tab is currently selected. On the left, there is a vertical sidebar labeled 'MENU' containing a single item: 'WIRELESS'. The main content area is titled 'HELP MENU' and contains four sections: 'Setup' (with links to 'Setup Wizard', 'Wireless Setup', and 'Lan Setup'); 'Advanced' (with a link to 'Advanced Wireless'); 'Maintenance' (with links to 'Admin', 'System', 'Firmware', and 'Time'); and 'Status' (with links to 'Device Info', 'Logs', and 'Statistics'). To the right of the content area, there is a 'Helpful Hints...' section with the text: 'Click on the links for more informations of each section in the GUI.'

Router Mode

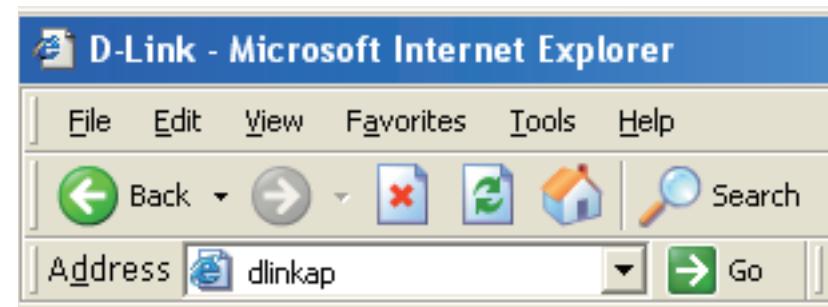
Change the mode selector to **RT** on the device. Connect an Ethernet cable from the Ethernet port on the DAP-1350 to your broadband modem. You will need to connect wirelessly to the DAP-1350 to configure it.

If you wish to change the default settings or optimize the performance of the DAP-1350, you may use the web-based configuration utility.

To access the configuration utility, open a web browser such as Internet Explorer and enter **dlinkap** or **192.168.0.50** in the address field.

Type **admin** and then enter your password. Leave the password blank by default.

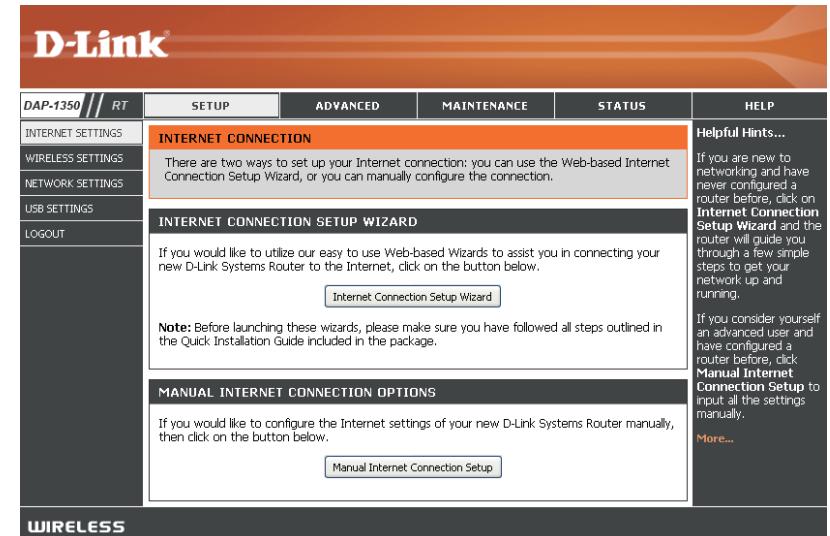
If you get a Page Cannot be Displayed error, please refer to the **Troubleshooting** section for assistance.

A screenshot of a web-based login interface titled "LOGIN". It says "Log in to the router:". There are two input fields: "User Name :" and "Password :", both currently empty. Below the fields is a "Log In" button.

Setup Wizard

Click **Launch Internet Connection Setup Wizard** to begin.

If you want to enter your settings without running the wizard, click **Manual Internet Configuration Setup** and skip to page 65.



Click **Next** to continue.



Create a new password and then click **Next** to continue.



Select your time zone from the drop-down menu and then click **Next** to continue.

STEP 2: SELECT YOUR TIME ZONE

Select the appropriate time zone for your location. This information is required to configure the time-based options for the router.

Time Zone: (GMT-08:00) Pacific Time (US/Canada), Tijuana

Prev Next Cancel Connect

Select the type of Internet connection you use and then click **Next** to continue.

STEP 3: CONFIGURE YOUR INTERNET CONNECTION

Your Internet Connection could not be detected, please select your Internet Service Provider (ISP) from the list below. If your ISP is not listed, select the "Not Listed or Don't Know" option to manually configure your connection.

Not Listed or Don't Know

If your Internet Service Provider was not listed or you don't know who it is, please select the Internet connection type below:

DHCP Connection (Dynamic IP Address)
Choose this if your Internet connection automatically provides you with an IP Address. Most Cable Modems use this type of connection.

Username / Password Connection (PPPoE)
Choose this option if your Internet connection requires a username and password to get online. Most DSL modems use this type of connection.

Username / Password Connection (PPTP)
PPTP client.

Username / Password Connection (L2TP)
L2TP client.

Static IP Address Connection
Choose this option if your Internet Setup Provider provided you with IP Address information that has to be manually configured.

3G connection
Choose this option for 3G connection

Prev Next Cancel Connect

If you selected Dynamic, you may need to enter the MAC address of the computer that was last connected directly to your modem. If you are currently using that computer, click **Clone Your PC's MAC Address** and then click **Next** to continue.

The Host Name is optional but may be required by some ISPs. The default host name is the device name of the Router and may be changed.

DHCP CONNECTION (DYNAMIC IP ADDRESS)

To set up this connection, please make sure that you are connected to the D-Link Router with the PC that was originally connected to your broadband connection. If you are, then click the Clone MAC button to copy your computer's MAC Address to the D-Link Router.

MAC Address : (optional)

Host Name :

Note: You may also need to provide a Host Name. If you do not have or know this information, please contact your ISP.

DNS SETTINGS

Primary DNS Address :
Secondary DNS Address :

SETUP COMPLETE!

The Internet Connection Setup Wizard has completed. Click the Connect button to save your settings and reboot the router.

Click **Connect** to save your settings. Once the router is finished rebooting, click **Continue**. Please allow 1-2 minutes to connect.

Close your browser window and reopen it to test your Internet connection. It may take a few tries to initially connect to the Internet.

Internet Setup

If you opt to set up your Internet connection manually, you will be redirected to a WAN page that allows you to select your Internet type and enter the correct configuration parameters.

Select your Internet connection type using the “**My Internet Connection is**” drop-down menu.

Click the **Save Settings** button when you have configured the connection.

D-Link

DAP-1350 // RT

INTERNET SETTINGS	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
-------------------	-------	----------	-------------	--------	------

WAN

Use this section to configure your Internet Connection type. There are several connection types to choose from: Static IP, DHCP, PPPoE, PPTP, and L2TP. If you are unsure of your connection method, please contact your Internet Service Provider.

Note : If using the PPPoE option, you will need to remove or disable any PPPoE client software on your computers.

Save Settings **Don't Save Settings**

INTERNET CONNECTION TYPE

Choose the mode to be used by the router to connect to the Internet.

My Internet Connection is :

DYNAMIC IP (DHCP) INTERNET CONNECTION TYPE :

Use this Internet connection type if your Internet Service Provider (ISP) didn't provide you with IP Address information and/or a username and password.

Host Name :

Use Unicasting : (compatibility for some DHCP Servers)

Primary DNS Server :

Secondary DNS Server :

MTU : (bytes) MTU default = 1500

MAC Address :

WIRELESS

Helpful Hints...

When configuring the router to access the Internet, be sure to choose the correct **Internet Connection Type** from the drop down menu. If you are unsure of which option to choose, contact your **Internet Service Provider (ISP)**.

If you are having trouble accessing the Internet through the router, double check any settings you have entered on this page and verify them with your ISP if needed.

For added security, it is recommended that you disable the WAN Ping Respond option. Ping is often used by malicious Internet users to locate active networks or PCs.

If you are having trouble receiving multicast streams from the Internet, make sure the Multicast Streams option is enabled.

More...

Dynamic IP (DHCP)

Select Dynamic IP(DHCP) to obtain IP Address information automatically from your ISP. Select this option if your ISP does not give you any IP number to use. This option is commonly used for Cable modem services.

Host Name: The Host Name is optional but may be required by some ISPs.

Use Unicasting: Select if you are having problems obtaining an IP address from your DHCP server.

DNS Server: Enter the Primary and Secondary DNS server IP address assigned by your ISP.

MTU: You may need to change the MTU (Maximum Transmission Unit) for optimal performance with your specific ISP. The default MTU size is 1500.

MAC Address: The default MAC address is set to the Ethernet MAC address your DAP-1350. You can click the **Clone Your PC's MAC Address** button to replace the AP's MAC address with the MAC address of the PC that you used to register with your ISP. It is not recommended that you change the default MAC address unless required by your ISP.

INTERNET CONNECTION TYPE

Choose the mode to be used by the router to connect to the Internet.

My Internet Connection is :

DYNAMIC IP (DHCP) INTERNET CONNECTION TYPE :

Use this Internet connection type if your Internet Service Provider (ISP) didn't provide you with IP Address information and/or a username and password.

Host Name :

Use Unicasting : (compatibility for some DHCP Servers)

Primary DNS Server :

Secondary DNS Server :

MTU : (bytes) MTU default = 1500

MAC Address :

Static IP

Select Static IP if all WAN IP information is provided to you by your ISP. You will need to enter in the IP address, subnet mask, gateway address, and DNS address(es) provided to you by your ISP.

IP Address: Enter the IP Address provided by your ISP (Internet Service Provider).

Subnet Mask: 255.255.255.0 is the default subnet mask. All devices on the network must have the same subnet mask to communicate on the network.

Default Gateway: Enter the IP Address of the gateway in your network.

Primary DNS Server: Enter the Primary DNS (Domain Name System) server IP address assigned by your ISP.

Secondary DNS Server: Enter the Secondary DNS (optional) server IP address assigned by your ISP.

MTU: You may need to change the MTU (Maximum Transmission Unit) for optimal performance with your specific ISP. The default MTU size is 1500.

Clone MAC Address: The default MAC address is set to the MAC address on the AP (Access Point). You can click the Clone Your PC's MAC Address button to replace the AP's MAC address with the MAC address of your Ethernet card. It is not recommended that you change the default MAC address unless required by your ISP.

INTERNET CONNECTION TYPE

Choose the mode to be used by the router to connect to the Internet.

My Internet Connection is :

STATIC IP ADDRESS INTERNET CONNECTION TYPE :

Enter the static address information provided by your Internet Service Provider (ISP).

IP Address :	<input type="text" value="0.0.0.0"/>
Subnet Mask :	<input type="text" value="255.255.255.0"/>
Default Gateway :	<input type="text" value="0.0.0.0"/>
Primary DNS Server :	<input type="text" value="0.0.0.0"/>
Secondary DNS Server :	<input type="text" value="0.0.0.0"/>
MTU :	<input type="text" value="1500"/> (bytes) MTU default = 1500
MAC Address :	<input type="text" value="00:00:00:00:00:00"/>

PPPoE

Select PPPoE (Point-to-Point Protocol over Ethernet) if your ISP uses a PPPoE connection. Your ISP will provide you with a username and password. This option is typically used for DSL services. Make sure to remove your PPPoE software from your computer. The software is no longer needed and will not work through the DAP-1350.

Username: Enter your PPPoE user name.

Password: Enter your PPPoE password and then retype the password in the next box.

Service Name: Enter the ISP Service Name (optional).

Reconnect Mode: Select **Always on**, **On Demand** or **Manual**.

Maximum Idle Time: Enter the time (in minutes) where the router will disconnect if idle for the time specified.

DNS Servers: Enter the Primary and Secondary DNS (Domain Name System) server IP address assigned by your ISP.

MTU: You may need to change the MTU (Maximum Transmission Unit) for optimal performance with your specific ISP. The default MTU size is 1400.

Clone MAC Address: The default MAC address is set to the MAC address on the AP (Access Point). You can click the **Clone Your PC's MAC Address** button to replace the AP's MAC address with the MAC address of your Ethernet card. It is not recommended that you change the default MAC address unless required by your ISP.

The screenshot shows the 'INTERNET CONNECTION TYPE' section with the sub-section 'PPPOE INTERNET CONNECTION TYPE'. The 'My Internet Connection is' dropdown is set to 'PPPoE (Username / Password)'. The 'Address Mode' radio button is selected for 'Dynamic IP'. The 'IP Address' field contains '0.0.0.0'. The 'Username' and 'Password' fields are empty. The 'Verify Password' field is also empty. The 'Service Name' field is empty with '(optional)' text. The 'Reconnect Mode' radio button is selected for 'On demand'. The 'Maximum Idle Time' field contains '5' with '(minutes, 0=infinite)' text. The 'Primary DNS Server' and 'Secondary DNS Server' fields both contain '0.0.0.0' with '(optional)' text. The 'MTU' field contains '1492' with '(bytes) MTU default = 1492' text. The 'MAC Address' field contains '00:00:00:00:00:00'. A blue button at the bottom right labeled 'Clone Your PC's MAC address' is visible.

PPTP

Choose PPTP (Point-to-Point Tunneling Protocol) if your ISP uses a PPTP connection. Your ISP will provide you with a username and password. This option is typically used for DSL services.

PPTP IP Address: Enter the IP address (Static PPTP only).

PPTP Subnet Mask: Enter the subnet mask.

PPTP Server IP Address: Enter the Server IP Address provided by your ISP.

Username: Enter your PPTP username.

Password: Enter your PPTP password and then retype the password in the next box.

Reconnect Mode: Select **Always on**, **On Demand** or **Manual**.

Maximum Idle Time: Enter the time (in minutes) where the router will disconnect if idle for the time specified.

DNS Servers: Enter the Primary and Secondary DNS (Domain Name System) server IP address assigned by your ISP.

MTU: You may need to change the MTU (Maximum Transmission Unit) for optimal performance with your specific ISP. The default MTU size is 1400.

Clone MAC Address: The default MAC address is set to the MAC address on the AP (Access Point). You can click the **Clone Your PC's MAC Address** button to replace the AP's MAC address with the MAC address of your Ethernet card. It is not recommended that you change the default MAC address unless required by your ISP.

INTERNET CONNECTION TYPE

Choose the mode to be used by the router to connect to the Internet.

My Internet Connection is : PPTP (Username / Password)

PPTP INTERNET CONNECTION TYPE :

Enter the information provided by your Internet Service Provider (ISP).

Address Mode : Dynamic IP Static IP

PPTP IP Address : 0.0.0.0

PPTP Subnet Mask : 255.255.255.0

PPTP Gateway IP Address : 0.0.0.0

PPTP Server IP Address : 0.0.0.0

Username :

Password :

Verify Password :

Reconnect Mode : Always on On demand Manual

Maximum Idle Time : 5 (minutes, 0=infinite)

Primary DNS Server : 0.0.0.0

Secondary DNS Server : 0.0.0.0

MTU : 1400 (bytes) MTU default = 1492

MAC Address : 00:00:00:00:00:00

Clone Your PC's MAC address

L2TP

Choose L2TP (Point-to-Point Tunneling Protocol) if your ISP uses a L2TP connection. Your ISP will provide you with a username and password. This option is typically used for DSL services.

PPTP IP Address: Enter the IP address (Static PPTP only).

PPTP Subnet Mask: Enter the subnet mask.

PPTP Server IP Address: Enter the Server IP Address provided by your ISP.

Username: Enter your PPTP username.

Password: Enter your PPTP password and then retype the password in the next box.

Reconnect Mode: Select **Always on**, **On Demand** or **Manual**.

Maximum Idle Time: Enter the time (in minutes) where the router will disconnect if idle for the time specified.

DNS Servers: Enter the Primary and Secondary DNS (Domain Name System) server IP address assigned by your ISP.

MTU: You may need to change the MTU (Maximum Transmission Unit) for optimal performance with your specific ISP. The default MTU size is 1400.

Clone MAC Address: The default MAC address is set to the MAC address on the AP (Access Point). You can click the **Clone Your PC's MAC Address** button to replace the AP's MAC address with the MAC address of your Ethernet card. It is not recommended that you change the default MAC address unless required by your ISP.

INTERNET CONNECTION TYPE	
Choose the mode to be used by the router to connect to the Internet.	
My Internet Connection is : <input type="button" value="L2TP (Username / Password)"/>	
L2TP INTERNET CONNECTION TYPE :	
Enter the information provided by your Internet Service Provider (ISP).	
Address Mode :	<input type="radio"/> Dynamic IP <input checked="" type="radio"/> Static IP
L2TP IP Address :	<input type="text" value="0.0.0"/>
L2TP Subnet Mask :	<input type="text" value="255.255.255.0"/>
L2TP Gateway IP Address :	<input type="text" value="0.0.0.0"/>
L2TP Server IP Address :	<input type="text" value="0.0.0.0"/>
Username :	<input type="text"/>
Password :	<input type="text"/>
Verify Password :	<input type="text"/>
Reconnect Mode :	<input type="radio"/> Always on <input checked="" type="radio"/> On demand <input type="radio"/> Manual
Maximum Idle Time :	<input type="text" value="5"/> (minutes, 0=infinite)
Primary DNS Server :	<input type="text" value="0.0.0.0"/>
Secondary DNS Server :	<input type="text" value="0.0.0.0"/>
MTU :	<input type="text" value="1400"/> (bytes) MTU default = 1492
MAC Address :	<input type="text" value="00:00:00:00:00:00"/>
<input type="button" value="Clone Your PC's MAC address"/>	

3G Mobile Connection

Choose USB3G if you want to connect your router to the Internet through a compatible D-Link 3G USB adapter. Plug in your USB 3G adapter to the DAP-1350's USB port, then select **USB3G** from the drop down box and click on **Save Settings**. Your DAP-1350 will reboot and auto-load most of the required settings from the 3G adapter.

ISP Name: Displays the name of your **Internet Service Provider** (ISP).

APN: Enter a name for the access point. This is set to **Auto** by default, though you can select **Manual** to manually enter an access point name.

Dial Number: Enter the dial-up number.

PIN: Enter the PIN code required to unlock the 3G SIM card in your 3G USB adapter, then enter it again in the **Verify PIN** box. This field is only necessary if your SIM card is locked with a PIN code.

Auth Protocol: Choose the authentication type from the drop-down list. The default setting is **Auto**.

Username: Enter the username required to log in to your 3G Internet service. This field is only necessary if you need to use a username and password to connect to your 3G service.

Password: Enter the password required to log in to your 3G Internet service, then enter it again in the **Verify Password** box. This field is only necessary if you need to use a username and password to connect to your 3G service.

The screenshot shows two configuration panels for 3G mobile connection. The top panel is titled "INTERNET CONNECTION TYPE" and contains the instruction "Choose the mode to be used by the router to connect to the Internet." It has a dropdown menu labeled "My Internet Connection is:" with the option "Usb3g (Username / Password)" selected. The bottom panel is titled "USB3G INTERNET CONNECTION TYPE:" and contains fields for entering ISP information. These fields include "ISP Name" (00000), "APN" (radio button selected for "Auto"), "Dial Number" (empty), "PIN" (empty), "Verify PIN" (empty), "Auth Protocol" (radio button selected for "Auto (CHAP + PAP)"), "Username" (empty), "Password" (empty), "Verify Password" (empty), "Reconnect Mode" (radio button selected for "Always on"), "Maximum Idle Time" (5 minutes, 0=infinite), "Keep-alive Interval" (60 seconds), "Keep-alive Server1" (empty), and "Keep-alive Server2" (empty). All fields marked with "(Option)" are optional.

Reconnect Mode: Select **Always-on**, **On Demand**, or **Manual** to configure how the DAP-1350 stays connected.

Maximum Idle Time: Enter the maximum idle time during which the Internet connection is maintained during inactivity. This function does not apply if you have selected **Reconnect Mode** as **Always on**.

Keep-alive Interval: Set the number of seconds to send a keepalive signal. This is set to 60 seconds by default.

Keep-alive Server: Enter the servers you want to send keepalive signals to for your connection.

INTERNET CONNECTION TYPE	
Choose the mode to be used by the router to connect to the Internet.	
My Internet Connection is : <input type="button" value="Usb3g (Username / Password)"/>	
USB3G INTERNET CONNECTION TYPE :	
Enter the information provided by your Internet Service Provider (ISP).	
ISP Name :	<input type="text" value="00000"/>
APN :	<input checked="" type="radio"/> Auto <input type="radio"/> Manual <input type="text"/>
Dial Number :	<input type="text"/>
PIN :	<input type="text"/> (Option)
Verify PIN :	<input type="text"/> (Option)
Auth Protocol :	<input type="button" value="Auto (CHAP + PAP)"/>
Username :	<input type="text"/> (Option)
Password :	<input type="text"/> (Option)
Verify Password :	<input type="text"/> (Option)
Reconnect Mode :	<input checked="" type="radio"/> Always on <input type="radio"/> On demand <input type="radio"/> Manual
Maximum Idle Time :	<input type="text" value="5"/> (minutes, 0=infinite)
Keep-alive Interval :	<input type="text" value="60"/> (seconds)
Keep-alive Server1 :	<input type="text"/> (Option)
Keep-alive Server2 :	<input type="text"/> (Option)

Wireless Setup Wizard

You may click **Wireless Network Setup Wizard** to quickly configure your router. Refer to the next page.

To set up your wireless network, click **Add Wireless Device With WPS** and skip to page 76.

If you want to enter your settings without running the wizard, click **Manual Wireless Network Setup** and skip to page 77.

The screenshot shows the D-Link DAP-1350 RT web interface. At the top, there's a navigation bar with tabs: DAP-1350 // RT, SETUP (which is selected), ADVANCED, MAINTENANCE, STATUS, and HELP. On the left, a sidebar menu includes INTERNET SETTINGS, WIRELESS SETTINGS (selected), NETWORK SETTINGS, USB SETTINGS, and LOGOUT. The main content area has three sections:

- WIRELESS SETTINGS**: Describes the Web-based wizards for wireless setup and device connection. It includes a note about following the Quick Installation Guide and a "Wireless Network Setup Wizard" button.
- WIRELESS NETWORK SETUP WIZARD**: Describes the wizard for setting up a wireless network. It includes a note about step-by-step instructions and a "Wireless Network Setup Wizard" button.
- ADD WIRELESS DEVICE WITH WPS (WI-FI PROTECTED SETUP) WIZARD**: Describes the wizard for connecting a wireless device. It includes a note about step-by-step instructions and a "Add Wireless Device With WPS" button.
- MANUAL WIRELESS NETWORK SETUP**: Describes manual configuration of the wireless network. It includes a note about destroying the existing network and a "Manual Wireless Network Setup" button.

At the bottom of the main content area, there's a "WIRELESS" tab. To the right of the main content area, there's a "Helpful Hints..." section with two paragraphs of text and a "More..." link.

Type your desired wireless network name (SSID).

Automatically: Select this option to automatically generate the router's network key and click **Next**.

Manually: Select this option to manually enter your network key and click **Next**.

STEP 1: WELCOME TO THE D-LINK WIRELESS SECURITY SETUP WIZARD

Give your network a name, using up to 32 characters.

Wireless Network Name (SSID) :

Automatically assign a network key(Recommended)
To prevent outsiders from accessing your network, the router will automatically assign a security to your network.

Manually assign a network key
Use this options if you prefer to create our own key.

Use WPA encryption instead of WEP(WPA is stronger than WEP and all D-Link wireless client adapters support WPA)

Note: All D-Link wireless adapters currently support WPA.

If you selected **Automatically**, the summary window will display your settings. Write down the security key and enter this on your wireless clients. Click **Save** to save your settings.

SETUP COMPLETE!

Below is a detailed summary of your wireless security settings. Please print this page out, or write the information on a piece of paper, so you can configure the correct settings on your wireless client adapters.

Wireless Network Name dlink
(SSID) :

WEP Key Length : 128 bits

Default WEP Key to Use : 1

Authentication : Both

WEP Key : 662247F9E4A672D452B052C6CD

If you selected **Manually assign a network key** as the configuration method, enter your network key. This key must be entered on your wireless clients.

Check the **Use WPA encryption instead of WEP** box to use WPA Encryption instead of WEP.

Click **Next** to continue.

STEP 1: WELCOME TO THE D-LINK WIRELESS SECURITY SETUP WIZARD

Give your network a name, using up to 32 characters.

Wireless Network Name (SSID) :

Automatically assign a network key(Recommended)
To prevent outsiders from accessing your network, the router will automatically assign a security to your network.

Manually assign a network key
Use this options if you prefer to create our own key.

Use WPA encryption instead of WEP(WPA is stronger than WEP and all D-Link wireless client adapters support WPA)

Note: All D-Link wireless adapters currently support WPA.

For **WEP** encryption, enter a Network Key exactly 5 or 13 characters long or exactly 10 or 26 characters using 0-9 and A-F.

Click **Next** to continue.

STEP 2: SET YOUR WIRELESS SECURITY PASSWORD

You have selected your security level - you will need to set a wireless security password.

The WEP (Wired Equivalent Privacy) key must meet one of following guidelines:

- Exactly 5 or 13 characters
- Exactly 10 or 26 characters using 0-9 and A-F

A longer WEP key is more secure than a short one

Wireless Security Password :

Note: You will need to enter the same password as keys in this step into your wireless clients in order to enable proper wireless communication.

The summary screen will appear.

Click **Save** to continue.

SETUP COMPLETE!

Below is a detailed summary of your wireless security settings. Please print this page out, or write the information on a piece of paper, so you can configure the correct settings on your wireless client adapters.

Wireless Network Name dlink
(SSID) :

WEP Key Length : 64 bits

Default WEP Key to Use : 1

Authentication : Both

WEP Key : 12345

Prev **Next** **Cancel** **Save**

If you select **WPA**, enter the wireless security password (8-32 characters). Click **Next** to complete the Setup Wizard.

Click **Next** to continue.

STEP 2: SET YOUR WIRELESS SECURITY PASSWORD

You have selected your security level - you will need to set a wireless security password.

The WPA (Wi-Fi Protected Access) key must meet one of following guidelines:

- Between 8 and 64 characters (A longer WPA key is more secure than a short one)
- Exactly 64 characters using 0-9 and A-F

Wireless Security Password :

Note: You will need to enter the same password as keys in this step into your wireless clients in order to enable proper wireless communication.

Prev **Next** **Cancel** **Save**

The summary screen will appear.

Click **Save** to continue.

SETUP COMPLETE!

Below is a detailed summary of your wireless security settings. Please print this page out, or write the information on a piece of paper, so you can configure the correct settings on your wireless client adapters.

Wireless Network Name dlink
(SSID) :

Security Mode : Auto (WPA or WPA2) - Personal

Cipher Type : TKIP and AES

Pre-Shared Key : 123456789

Prev **Next** **Cancel** **Save**

Add Wireless Device with WPS Wizard

From the **Setup > Wireless Settings** screen, click **Add Wireless Device with WPS**.



Select **Auto** to add a wireless client using WPS (Wi-Fi Protected Setup). Once you select **Auto** and click **Connect**, you will have a 120 second time limit to apply the settings to your wireless client(s) and successfully establish a connection.

If you select **Manual**, a settings summary screen will appear. Write down the security key and enter this on your wireless clients.



PIN: Select this option to use PIN method. In order to use this method you must know the wireless client's 8 digit PIN and click **Connect**.

PBC: Select this option to use PBC (Push Button) method to add a wireless client. Click **Connect**.



Wireless Settings

Enable Wireless: Select this to turn the Wi-Fi module on and off. Use the drop-down box to select if you want to use a schedule. Click **Add New Schedule** to add or change a schedule.

Wireless Network Name: Enter a wireless network name (SSID) for your network (up to 32 characters).

Wireless Mode: Select the appropriate 802.11 mode based on the wireless clients in your network. The drop-down menu options are **802.11g Only**, **Mixed 802.11b/g**, **802.11b Only**, **802.11n Only**, or **Mixed 802.11b/g/n**.

Enable Auto Channel Scan: Check this box to have the device automatically scan for the best available channel.

Wireless Channel: Select a wireless channel. It is recommended to use channels 1,6, or 11. This option will be disabled if the **Auto Channel Scan** box is checked.

Transmission Rate: Select the transmission rate. It is strongly suggested to use the Auto setting for optimal performance.

Channel Width: Select the appropriate channel width between **20MHz** or **Auto 20/40MHz** from the drop-down menu.

Visibility Status: Select **Invisible** if you do not want the SSID of your wireless network to be broadcast by the DAP-1350. If Invisible is selected, the SSID of the DAP-1350 will not be seen by Site Survey utilities so your wireless clients will have to know the SSID of your DAP-1350 in order to connect to it.

Wireless Security Mode: Select a wireless security setting. Options are None, WEP, WPA, or WPA2. Refer to the **Wireless Security** section of this manual for a detailed explanation of the wireless security options.

The screenshot displays the 'WIRELESS' configuration page of the D-Link DAP-1350 router's web interface. The main area contains fields for 'Enable Wireless' (set to 'Always'), 'Wireless Network Name' ('dlink'), 'Wireless Mode' ('Mixed 802.11n, 802.11g and 802.11b'), and 'Enable Auto Channel Scan' (checked). Below these are dropdowns for 'Wireless Channel' (set to 6), 'Transmission Rate' (Auto), 'Channel Width' (20 MHz), and 'Visibility Status' (Visible). A 'WIRELESS SECURITY MODE' section at the bottom has a 'Security Mode' dropdown set to 'None'. To the right of the main form, there are two columns of helpful hints: one about changing the wireless network name for security and another about enabling auto channel scan to select the best channel.

Network Settings

IP Address: Enter the IP address of the router. The default IP address is 192.168.0.1.

If you change the IP address, once you click **Apply**, you will need to enter the new IP address in your browser to get back into the configuration utility.

Subnet Mask: Enter the Subnet Mask. The default subnet mask is 255.255.255.0.

Local Domain: Enter the Domain name (Optional).

Enable DNS Relay: Uncheck the box to transfer the DNS server information from your ISP to your computers. If checked, your computers will use the router for a DNS server.

The screenshot shows the D-Link DAP-1350 configuration interface under the 'NETWORK SETTINGS' tab. The interface includes the following sections:

- ROUTER SETTINGS:** Set Router IP Address to 192.168.0.50, Subnet Mask to 255.255.255.0, Device Name to dlinkap, Local Domain Name to (optional), and Enable DNS Relay to checked.
- DHCP SERVER SETTINGS:** Set Enable DHCP Server to checked, DHCP IP Address Range to 192.168.0.100 to 192.168.0.199, and DHCP Lease Time to 10080 (minutes).
- ADD DHCP RESERVATION:** Fields for Enable, Computer Name, IP Address, MAC Address, and a button to Clone Your PC's MAC address. Buttons for Save and Clear are also present.
- DHCP RESERVATIONS LIST:** A table with columns for Enable, Computer Name, MAC Address, and IP Address.
- NUMBER OF DYNAMIC DHCP CLIENTS:** A table with columns for Hardware Address, Assigned IP, Hostname, and Expires. One entry is shown: 00:1e:58:48:cc:86, 192.168.0.100, dlinkpm2-niszmn, Tue Jan 8 00:01:02 2008.

A sidebar on the right provides 'Helpful Hints...' and notes about enabling the DHCP server or using static IP reservations.

DHCP Server Settings

DHCP stands for Dynamic Host Control Protocol. The DAP-1350 has a built-in DHCP server. The DHCP Server will automatically assign an IP address to the computers on the LAN/private network. Be sure to set your computers to be DHCP clients by setting their TCP/IP settings to “Obtain an IP Address Automatically.” When you turn your computers on, they will automatically load the proper TCP/IP settings provided by the DAP-1350. The DHCP Server will automatically allocate an unused IP address from the IP address pool to the requesting computer. You must specify the starting and ending address of the IP address pool.

Enable DHCP Check this box to enable the DHCP server on **Server:** your router. Uncheck to disable this function.

DHCP IP Address Range: Enter the starting and ending IP addresses for **Range:** the DHCP server’s IP assignment.

Note: If you statically (manually) assign IP addresses to your computers or devices, make sure the IP addresses are outside of this range or you may have an IP conflict.

Lease Time: The length of time for the IP address lease. Enter the Lease time in minutes.

Add DHCP Reservation: Refer to the next page for the DHCP Reservation function.

Hardware Address	Assigned IP	Hostname	Expires
00:1e:58:48:cc:86	192.168.0.101	dlinkpm2-niszmn	Tue Jan 8 00:00:04 2008

DHCP Reservation

If you want a computer or device to always have the same IP address assigned, you can create a DHCP reservation. The router will assign the IP address only to that computer or device.

Note: This IP address must be within the DHCP IP Address Range.

Enable: Check this box to enable the reservation.

Computer Name: Enter the computer name or select from the drop-down menu and click <<.

IP Address: Enter the IP address you want to assign to the computer or device. This IP Address must be within the DHCP IP Address Range.

MAC Address: Enter the MAC address of the computer or device.

Copy Your PC's If you want to assign an IP address to the computer

MAC Address: you are currently on, click this button to populate the fields.

Save: Click **Save** to save your entry. You must click **Save Settings** at the top to activate your reservations.

Number of In this section you can see what LAN devices are
Dynamic DHCP currently leasing IP addresses.

Clients:

The screenshot shows the 'DHCP SERVER SETTINGS' section with the 'Enable DHCP Server' checkbox checked. The 'DHCP IP Address Range' is set from 192.168.0.100 to 192.168.0.199, and the 'DHCP Lease Time' is set to 10080 minutes. Below this is the 'ADD DHCP RESERVATION' section, which includes fields for 'Enable', 'Computer Name' (with a dropdown arrow), 'IP Address', 'MAC Address', and a 'Clone Your PC's MAC address' button. At the bottom are 'Save' and 'Clear' buttons. The 'DHCP RESERVATIONS LIST' section shows a table with columns for 'Enable', 'Computer Name', 'MAC Address', and 'IP Address'. The 'NUMBER OF DYNAMIC DHCP CLIENTS:' section shows a table with columns for 'Hardware Address', 'Assigned IP', 'Hostname', and 'Expires', containing one entry: 00:1e:58:48:cc:86, 192.168.0.101, dlinkpm2-niszmn, and Tue Jan 8 00:00:04 2008.

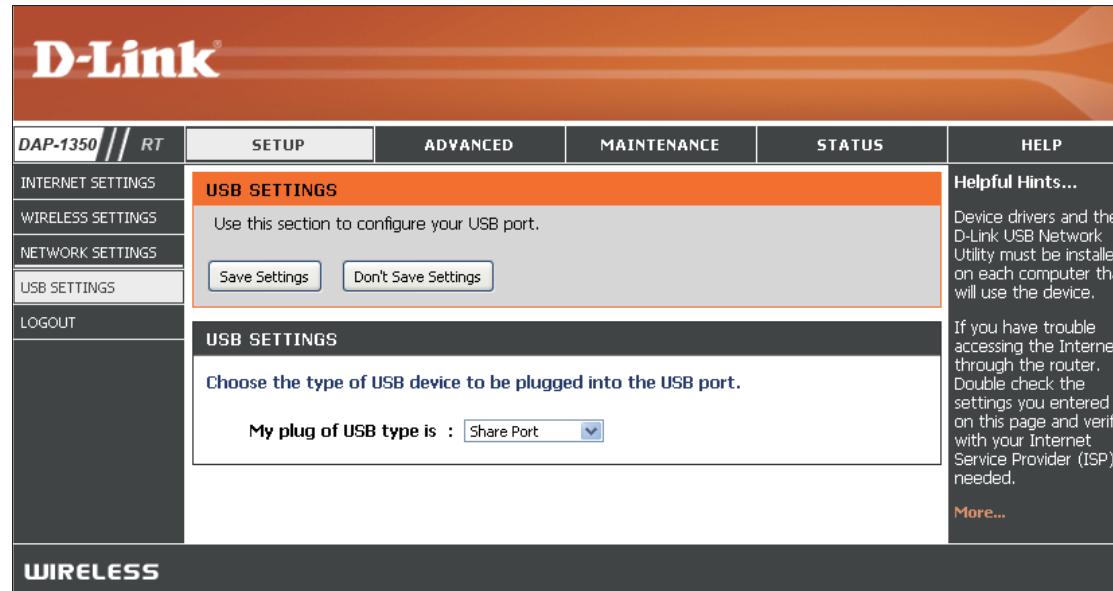
Enable	Computer Name	MAC Address	IP Address

Hardware Address	Assigned IP	Hostname	Expires
00:1e:58:48:cc:86	192.168.0.101	dlinkpm2-niszmn	Tue Jan 8 00:00:04 2008

USB Settings

Use this section to configure your USB port. Share Port will be selected.

Note: If using the SharePort option, users will need to install the SharePort Utility into the computers to share the USB device through the router. Please see the SharePort Manual on the CD for more information.



Note: The USB port may be used for 3G adapters. Currently only D-Link's 3G cards will be supported.

Virtual Server

The DAP-1350 can be configured as a virtual server so that remote users accessing Web or FTP services via the public IP address can be automatically redirected to local servers in the LAN (Local Area Network).

The DAP-1350 firewall feature filters out unrecognized packets to protect your LAN network so all computers networked with the DAP-1350 are invisible to the outside world. If you wish, you can make some of the LAN computers accessible from the Internet by enabling Virtual Server. Depending on the requested service, the DAP-1350 redirects the external service request to the appropriate server within the LAN network.

The DAP-1350 is also capable of port-redirection meaning incoming traffic to a particular port may be redirected to a different port on the server computer.

Each virtual service that is created will be listed at the bottom of the screen in the Virtual Servers List. There are pre-defined virtual services already in the table. You may use them by enabling them and assigning the server IP to use that particular virtual service.

For a list of ports for common applications, please visit http://www.dlink.com/support/faq/?prod_id=1191.

This will allow you to open ports (port forwarding).

Name: Enter a name for the rule or select an application from the drop-down menu. Select an application and click << to populate the fields.

IP Address: Enter the IP address of the computer on your local network that you want to allow the incoming service to. If your computer is receiving an IP address automatically from the router (DHCP), your computer will be listed in the “Computer Name” drop-down menu. Select your computer and click <<.

Private Port/ Public Port: Enter the port that you want to open next to Private Public Port. The private and public ports are usually the same. The public port is the port seen from the Internet side, and the private port is the port being used by the application on the computer within your local network.

Protocol Type: Select **TCP**, **UDP**, or **Both** from the drop-down menu.

Inbound Filter: Select **Allow All** (most common) or a created Inbound filter. You may create your own inbound filters in the **Advanced > Inbound Filter** page.

Schedule: The schedule of time when the Virtual Server Rule will be enabled. The schedule may be set to Always, which will allow the particular service to always be enabled. You can create your own times in the **Tools > Schedules** section.

Name	Application Name	Port	Traffic Type
IP Address 0.0.0.0	Computer Name	Private 0	6
Name	Application Name	Public 0	Protocol TCP
IP Address 0.0.0.0	Computer Name	Private 0	6
Name	Application Name	Public 0	Protocol TCP
IP Address 0.0.0.0	Computer Name	Private 0	6
Name	Application Name	Public 0	Protocol TCP
IP Address 0.0.0.0	Computer Name	Private 0	6

Application Rules

Some applications require multiple connections, such as Internet gaming, video conferencing, Internet telephony and others. These applications have difficulties working through NAT (Network Address Translation). Special Applications makes some of these applications work with the DAP-1350. If you need to run applications that require multiple connections, specify the port normally associated with an application in the “Trigger Port” field, select the protocol type as TCP or UDP, then enter the firewall (public) ports associated with the trigger port to open them for inbound traffic.

The DAP-1350 provides some predefined applications in the table on the bottom of the web page. Select the application you want to use and enable it.

Name: Enter a name for the rule. You may select a pre-defined application from the drop-down menu and click <<.

Trigger: This is the port used to trigger the application. It can be either a single port or a range of ports.

Traffic Type: Select the protocol of the trigger port (TCP, UDP, or Both).

Firewall: This is the port number on the Internet side that will be used to access the application. You may define a single port or a range of ports. You can use a comma to add multiple ports or port ranges.

Traffic Type: Select the protocol of the firewall port (TCP, UDP, or Both).

The screenshot shows the D-Link DAP-1350 web interface with the following details:

- Header:** D-Link logo, DAP-1350 // RT, and navigation tabs: SETUP, ADVANCED, MAINTENANCE, STATUS, HELP.
- Left Sidebar:** VIRTUAL SERVER, APPLICATION RULES (highlighted), MAC ADDRESS FILTER, WEBSITE FILTER, FIREWALL SETTINGS, ADVANCED WIRELESS, WI-FI PROTECTED SETUP, UPNP SETTINGS, GUEST ZONE, DMZ, LOGOUT.
- Central Content:**
 - APPLICATION RULES:** A help section with "Helpful Hints..." and a note about triggering applications via a "trigger" port or range. Buttons: Save Settings, Don't Save Settings.
 - 8 -- APPLICATION RULES:** A table with 8 rows for configuring application rules. Each row has columns: Name (checkbox), Application (dropdown menu), Port (dropdown menu), and Traffic Type (dropdown menu).
 - Row 1: Application Name: File Transfer, Port: Trigger, Traffic Type: TCP.
 - Row 2: Application Name: File Transfer, Port: Trigger, Traffic Type: TCP.
 - Row 3: Application Name: File Transfer, Port: Trigger, Traffic Type: TCP.
 - Row 4: Application Name: File Transfer, Port: Trigger, Traffic Type: TCP.
 - Row 5: Application Name: File Transfer, Port: Trigger, Traffic Type: TCP.
 - Row 6: Application Name: File Transfer, Port: Trigger, Traffic Type: TCP.
 - Row 7: Application Name: File Transfer, Port: Trigger, Traffic Type: TCP.
 - Row 8: Application Name: File Transfer, Port: Trigger, Traffic Type: TCP.
- Right Sidebar:** A "More..." link.

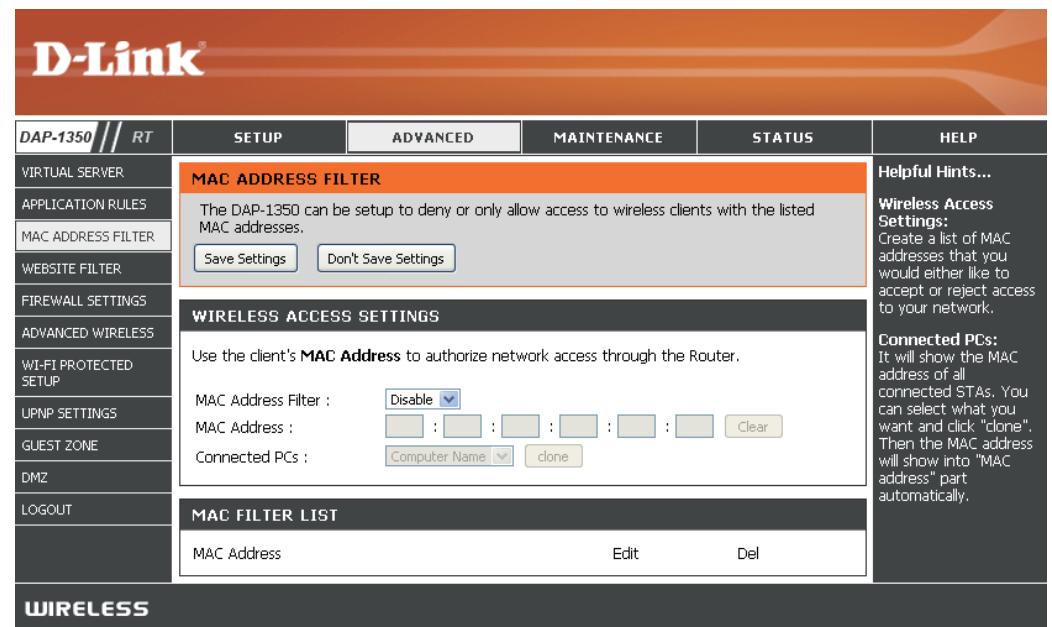
MAC Address Filter

Use MAC (Media Access Control) Filters to allow or deny LAN (Local Area Network) computers by their MAC addresses from accessing the Network. You can either manually add a MAC address or select the MAC address from the list of clients that are currently connected to the Broadband Router.

Configure MAC Select Turn MAC Filtering Off, allow MAC Filtering: addresses listed below, or deny MAC addresses listed below from the drop-down menu.

MAC Address: Enter the MAC address you would like to filter. To find the MAC address on a computer, please refer to the Networking Basics section in this manual.

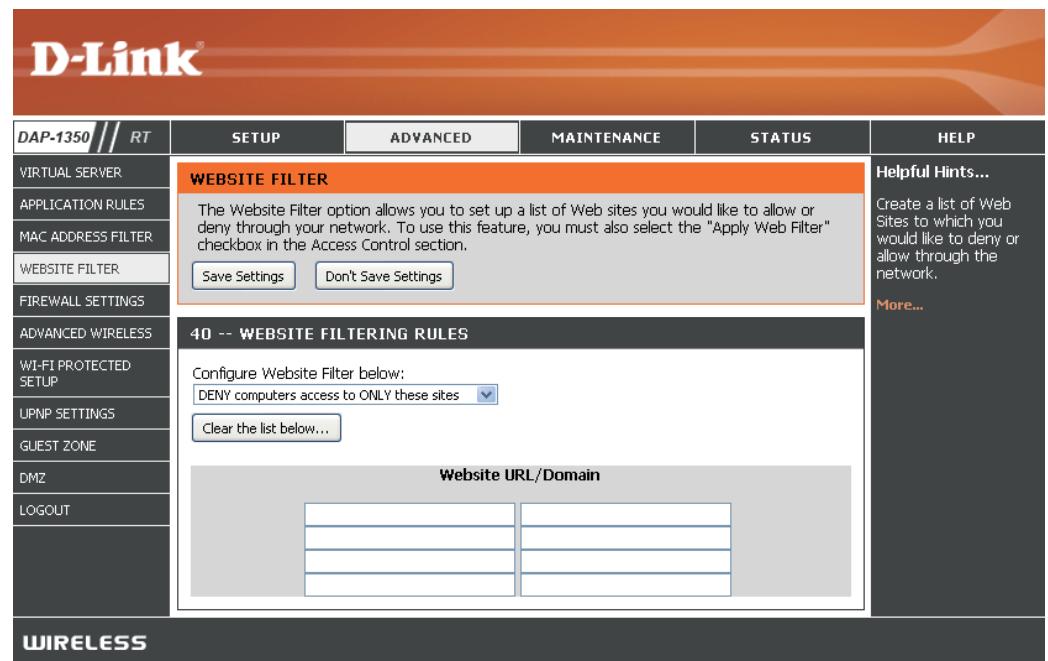
DHCP Client: Select a DHCP client from the drop-down menu and click << to copy that MAC Address.



Website Filters

Website Filters are used to deny LAN computers from accessing specific web sites by the URL or domain. A URL is a specially formatted text string that defines a location on the Internet. If any part of the URL contains the blocked word, the site will not be accessible and the web page will not display. To use this feature, enter the text string to be blocked and click **Save Settings**. The text to be blocked will appear in the list. To delete the text, click **Clear the List Below**.

Website URL/ Domain: Enter the keywords or URLs that you want to block (or allow). Any URL with the keyword in it will be blocked.



Firewall Settings

A firewall protects your network from the outside world. The D-Link DAP-1350 offers a firewall type functionality. The SPI feature helps prevent cyber attacks. Sometimes you may want a computer exposed to the outside world for certain types of applications. If you choose to expose a computer, you can enable DMZ. DMZ is short for Demilitarized Zone. This option will expose the chosen computer completely to the outside world.

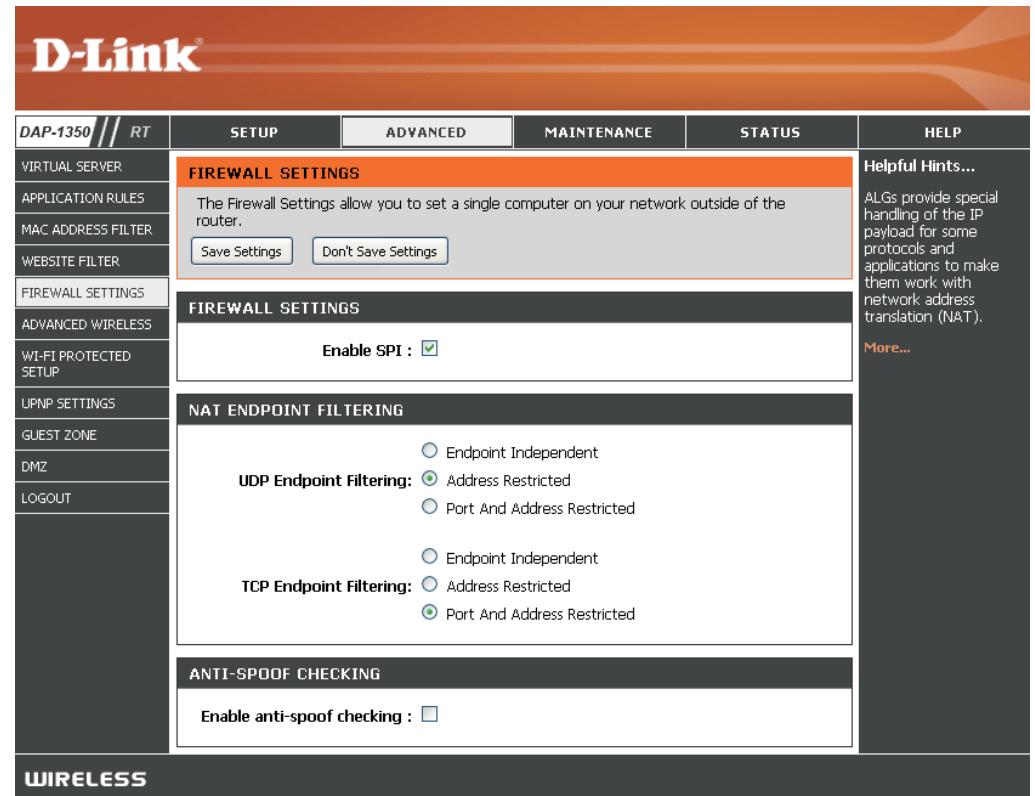
Enable SPI: SPI (Stateful Packet Inspection, also known as dynamic packet filtering) helps to prevent cyber attacks by tracking more state per session. It validates that the traffic passing through the session conforms to the protocol.

NAT Endpoint Filtering: Select one of the following for TCP and UDP ports:

Endpoint Independent - Any incoming traffic sent to an open port will be forwarded to the application that opened the port. The port will close if idle for 5 minutes.

Address Restricted - Incoming traffic must match the IP address of the outgoing connection.

Address + Port Restriction - Incoming traffic must match the IP address and port of the outgoing connection.



Advanced Wireless Settings

Transmit Power: Set the transmit power of the antennas.

Note: Transmit power is regulated by international standard. Users are forbidden to change its maximum limit.

Beacon Period: Beacons are packets sent by an Access Point to synchronize a wireless network. Specify a value. 100 is the default setting and is recommended.

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

RTS Threshold: This value should remain at its default setting of 2346. If inconsistent data flow is a problem, only a minor modification should be made.

Fragmentation Threshold: 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.

WMM Function: WMM is QoS for your wireless network. This will improve the quality of video and voice applications for your wireless clients.

Short GI: Check this box to reduce the guard interval time therefore increasing the data capacity. However, it's less reliable and may create higher data loss.

The screenshot shows the D-Link DAP-1350 configuration interface. The top navigation bar includes links for DAP-1350 // RT, SETUP, ADVANCED (which is selected), MAINTENANCE, STATUS, and HELP. A sidebar on the left lists various settings: VIRTUAL SERVER, APPLICATION RULES, MAC ADDRESS FILTER, WEBSITE FILTER, FIREWALL SETTINGS, ADVANCED WIRELESS (selected), WI-FI PROTECTED SETUP, UPNP SETTINGS, GUEST ZONE, DMZ, and LOGOUT. The main content area has two tabs: ADVANCED WIRELESS (top) and ADVANCED WIRELESS SETTINGS (bottom). The ADVANCED WIRELESS tab contains a note about familiarity with the settings and buttons for Save Settings and Don't Save Settings. The ADVANCED WIRELESS SETTINGS tab displays the following configuration options:

Transmit Power :	100% <input type="button" value="▼"/>
Beacon Period :	100 <input type="text"/> (20..1024)
DTIM Interval :	1 <input type="text"/> (1..255)
RTS Threshold :	2346 <input type="text"/> (1..2347)
Fragmentation Threshold :	2346 <input type="text"/> (256..2346)
WMM Enable :	<input checked="" type="checkbox"/>
Short GI :	<input checked="" type="checkbox"/>
IGMP Snooping :	<input type="checkbox"/>
WLAN Partition :	<input type="checkbox"/>

A "Helpful Hints..." section on the right provides a note about leaving parameters at their default values and adjusting them to limit performance. It also notes that enabling WMM can help control latency and jitter. A "More..." link is present at the bottom of this section.

Wi-Fi Protected Setup

Wi-Fi Protected Setup (WPS) System is a simplified method for securing your wireless network during the “Initial setup” as well as the “Add New Device” processes. The Wi-Fi Alliance (WFA) has certified it across different products as well as manufactures. The process is just as easy, as depressing a button for the Push-Button Method or correctly entering the 8-digit code for the Pin-Code Method. The time reduction in setup and ease of use are quite beneficial, while the highest wireless Security setting of WPA2 is automatically used.

Enable: Enable the Wi-Fi Protected Setup feature.

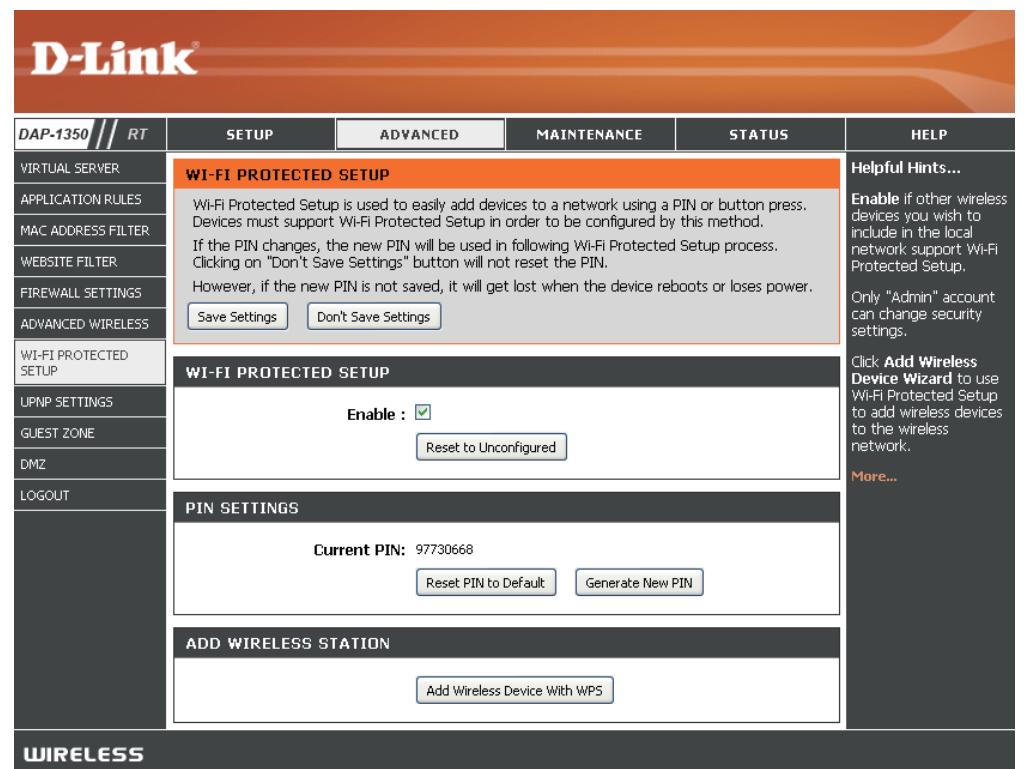
Lock Wireless Security: Locking the wireless security settings prevents the settings from being changed by the Wi-Fi Protected Setup feature of the router. Devices can still be added to the network using Wi-Fi Protected Setup. However, the settings of the network will not change once this option is checked.

PIN Settings: A PIN is a unique number that can be used to add the router to an existing network or to create a new network. The default PIN may be printed on the bottom of the router. For extra security, a new PIN can be generated. You can restore the default PIN at any time. Only the Administrator (“admin” account) can change or reset the PIN.

Current PIN: Shows the current value of the router’s PIN.

Reset PIN to Default: Restore the default PIN of the router.

Generate New PIN: Create a random number that is a valid PIN. This becomes the router’s PIN. You can then copy this PIN to the user interface of the registrar.



Add Wireless This Wizard helps you add wireless devices to the wireless network.

Station:

The wizard will either display the wireless network settings to guide you through manual configuration, prompt you to enter the PIN for the device, or ask you to press the configuration button on the device. If the device supports Wi-Fi Protected Setup and has a configuration button, you can add it to the network by pressing the configuration button on the device and then the on the router within 60 seconds. The status LED on the router will flash three times if the device has been successfully added to the network.

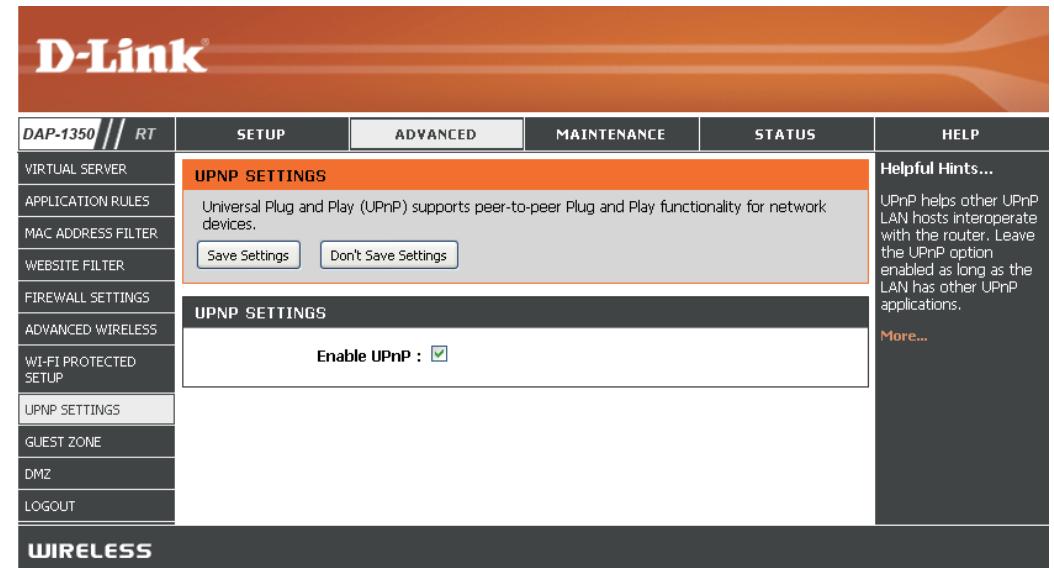
There are several ways to add a wireless device to your network. A “registrar” controls access to the wireless network. A registrar only allows devices onto the wireless network if you have entered the PIN, or pressed a special Wi-Fi Protected Setup button on the device. The router acts as a registrar for the network, although other devices may act as a registrar as well.

Add Wireless

Device Wizard: Start the wizard.

UPnP Settings

UPnP Settings: To use the Universal Plug and Play (UPnP™) feature click on **Enabled**. UPnP provides compatibility with networking equipment, software and peripherals.



Guest Zone

The Guest Zone feature will allow you to create temporary zones that can be used by guests to access the Internet. These zones will be separate from your main wireless network.

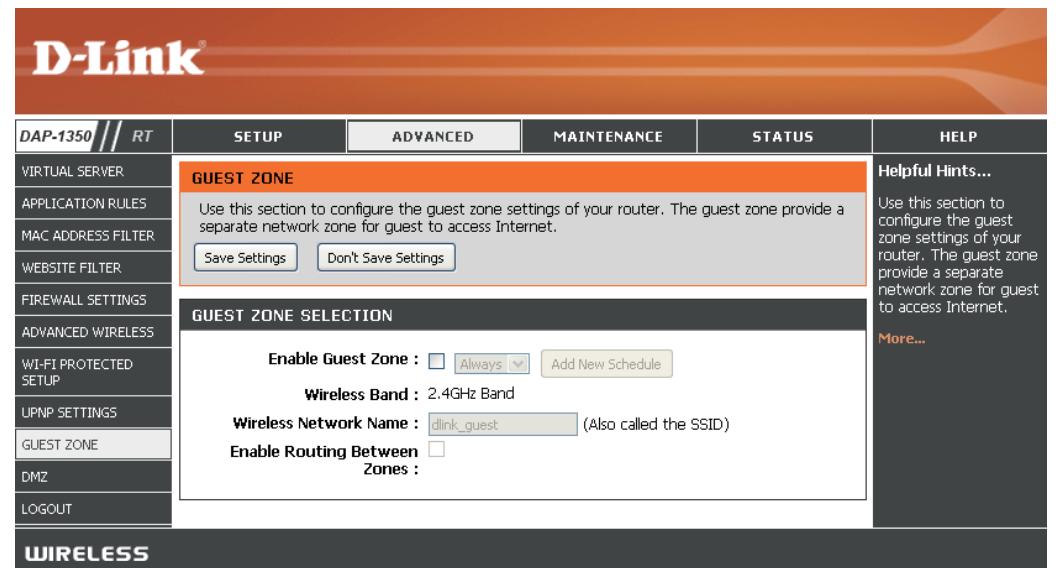
Enable Guest Zone: Check to enable the Guest Zone feature.

Schedule: The schedule of time when the Guest Zone will be active. The schedule may be set to Always, which will allow the particular service to always be enabled. You can create your own times in the **Tools > Schedules** section.

Wireless Network Name: Enter a wireless network name (SSID) that is different from your main wireless network.

Enable Routing Between Zones: Check to allow network connectivity between the different zones created.

Security Mode: Select the type of security or encryption you would like to enable for the guest zone.

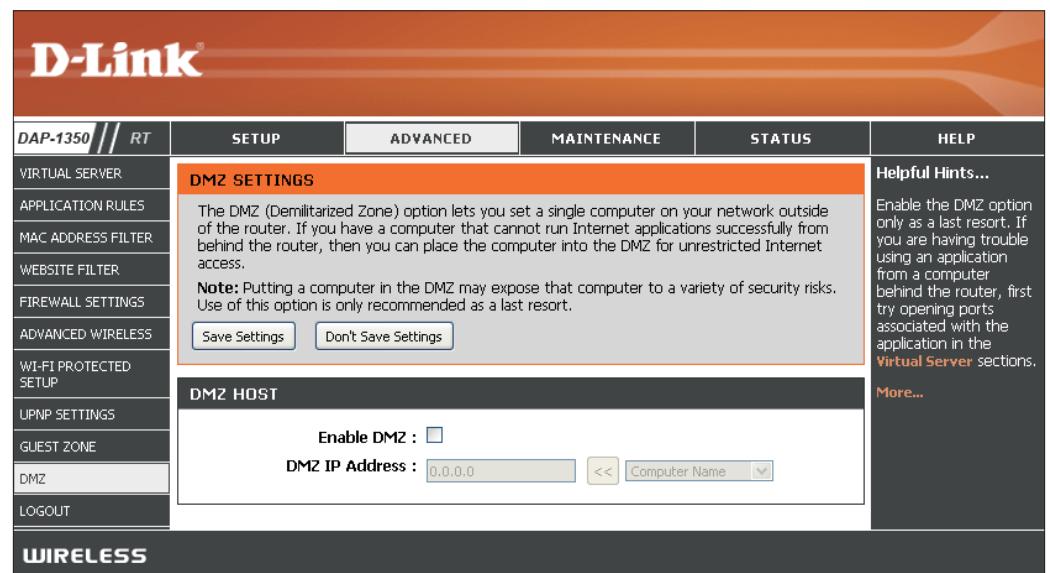


DMZ

This feature allows you to set up a DMZ (Demilitarized Zone) host. If you have a client PC that cannot run Internet applications properly from behind the DAP-1350, then you can set the client up for unrestricted Internet access. The DMZ allows a computer to be exposed to the Internet. This feature is useful for gaming purposes. Enter the IP address of the computer that will be the DMZ host. Adding a client to the DMZ may expose your local network to a variety of security risks, so only use this option as a last resort.

Enable DMZ: Check this box to enable DMZ.

DMZ Host IP Address: Enter the IP address of the computer you would like to open all ports to. You can select a computer from the Computer Name drop-down menu and click << to enter the computer name into the DMZ Host IP Address field.



Administrator Settings

This page will allow you to change the Administrator and User passwords. You can also enable Remote Management. There are two accounts that can access the management interface through the web browser. The accounts are admin and user. Admin has read/write access while user has read-only access. User can only view the settings but cannot make any changes. Only the admin account has the ability to change both admin and user account passwords.

Admin Password: Enter a new password for the Administrator Login Name. The administrator can make changes to the settings.

User Password: Enter the new password for the User login. If you login as the User, you can only see the settings, but cannot change them.

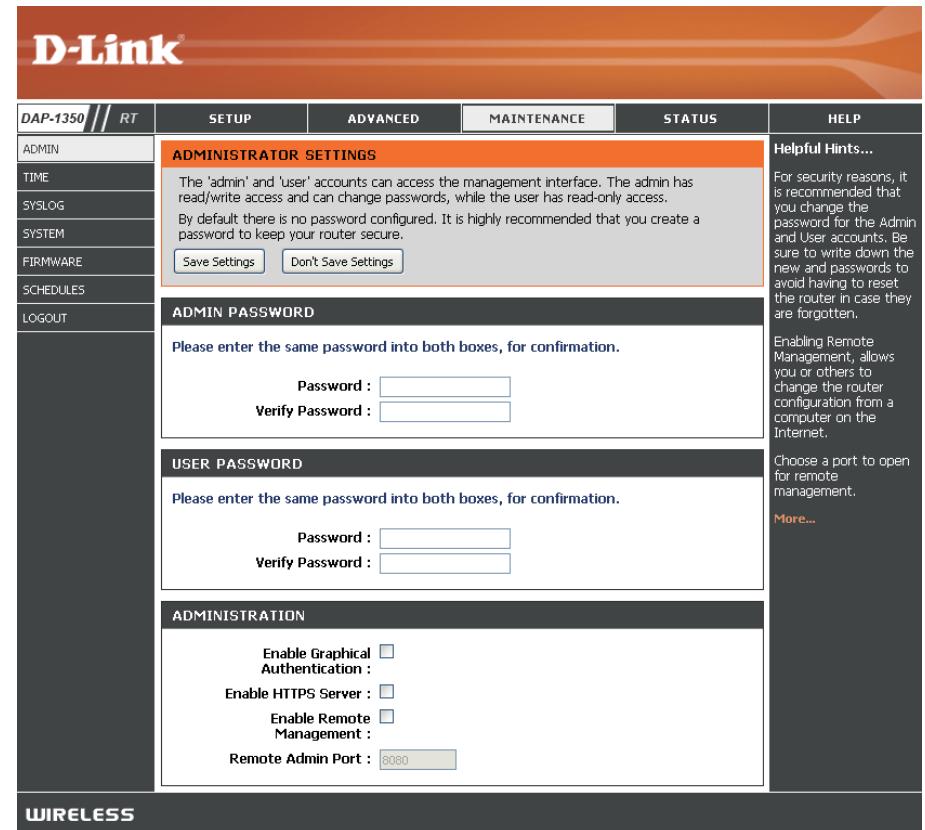
Gateway Name: Enter a name for the DAP-1350 router.

Enable Graphical Authentication: Enables a challenge-response test to require users to type letters or numbers from a distorted image displayed on the screen to prevent online hackers and unauthorized users from gaining access to your router's network settings.

Enable HTTPS Server: Check to enable HTTPS to connect to the router securely.

Remote Management: Remote management allows the DAP-1350 to be configured from the Internet by a web browser. A username and password is still required to access the Web-Management interface. In general, only a member of your network can browse the built-in web pages to perform Administrator tasks. This feature enables you to perform Administrator tasks from the remote (Internet) host.

Remote Admin Port: The port number used to access the DAP-1350.



Time Settings

The Time Configuration option allows you to configure, update, and maintain the correct time on the internal system clock. From this section you can set the time zone that you are in and set the Time Server. Daylight Saving can also be configured to automatically adjust the time when needed.

Time Zone: Select the Time Zone from the drop-down menu.

Daylight Saving: To select Daylight Saving time manually, select enabled or disabled, and enter a start date and an end date for daylight saving time.

Enable NTP NTP is short for Network Time Protocol. **NTP Server:** synchronizes computer clock times in a network of computers. Check this box to use a NTP server. This will only connect to a server on the Internet, not a local server.

NTP Server Used: Enter the NTP server or select one from the drop-down menu.

Manual: To manually input the time, enter the values in these fields for the Year, Month, Day, Hour, Minute, and Second and then click **Set Time**. You can also click **Copy Your Computer's Time Settings**.

The screenshot shows the D-Link DAP-1350 RT web interface under the 'TIME' tab. The left sidebar lists navigation options: ADMIN, TIME (which is selected), SYSLOG, SYSTEM, FIRMWARE, SCHEDULES, and LOGOUT. The main content area has several sections:

- TIME**: A brief description of the Time Configuration option, a 'Save Settings' button, and a 'Don't Save Settings' button.
- TIME CONFIGURATION**: Displays the 'Current Router Time' as Jan/01/2008 00:52:12 and the 'Time Zone' as (GMT-08:00) Pacific Time (US/Canada), Tijuana. It also includes a checkbox for 'Enable Daylight Saving' and a dropdown for 'Daylight Saving Dates' with fields for 'Month' (Mar), 'Week' (3rd), 'Day of Week' (Sun), and 'Time' (2 am). Another dropdown for 'DST End' shows 'Nov' and '2nd'.
- AUTOMATIC TIME CONFIGURATION**: Contains a checkbox for 'Enable NTP Server' and a field for 'NTP Server Used' with a 'Select NTP Server' dropdown.
- SET THE DATE AND TIME MANUALLY**: Allows setting the date and time manually via dropdown menus for Year (2008), Month (Jan), Day (01), Hour (00), Minute (00), and Second (00). A 'Copy Your Computer's Time Settings' button is also present.

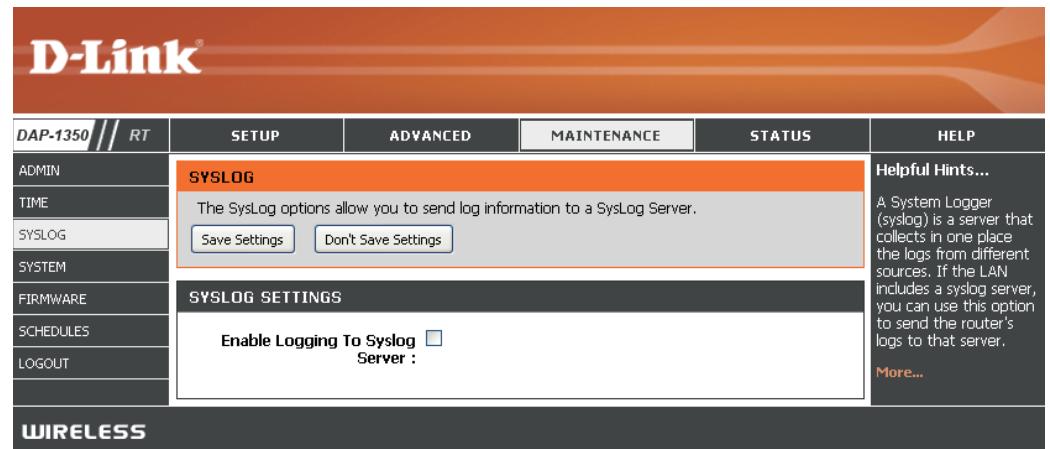
A sidebar on the right titled 'Helpful Hints...' contains the text: 'Good timekeeping is important for accurate logs and scheduled firewall rules.' and a 'More...' link.

SysLog

The Broadband Router keeps a running log of events and activities occurring on the Router. You may send these logs to a SysLog server on your network.

Enable Logging to Check this box to send the router logs to a
SysLog Server: SysLog Server.

SysLog Server IP The address of the SysLog server that will be
Address: used to send the logs. You may also select
your computer from the drop-down menu (only
if receiving an IP address from the router via
DHCP).



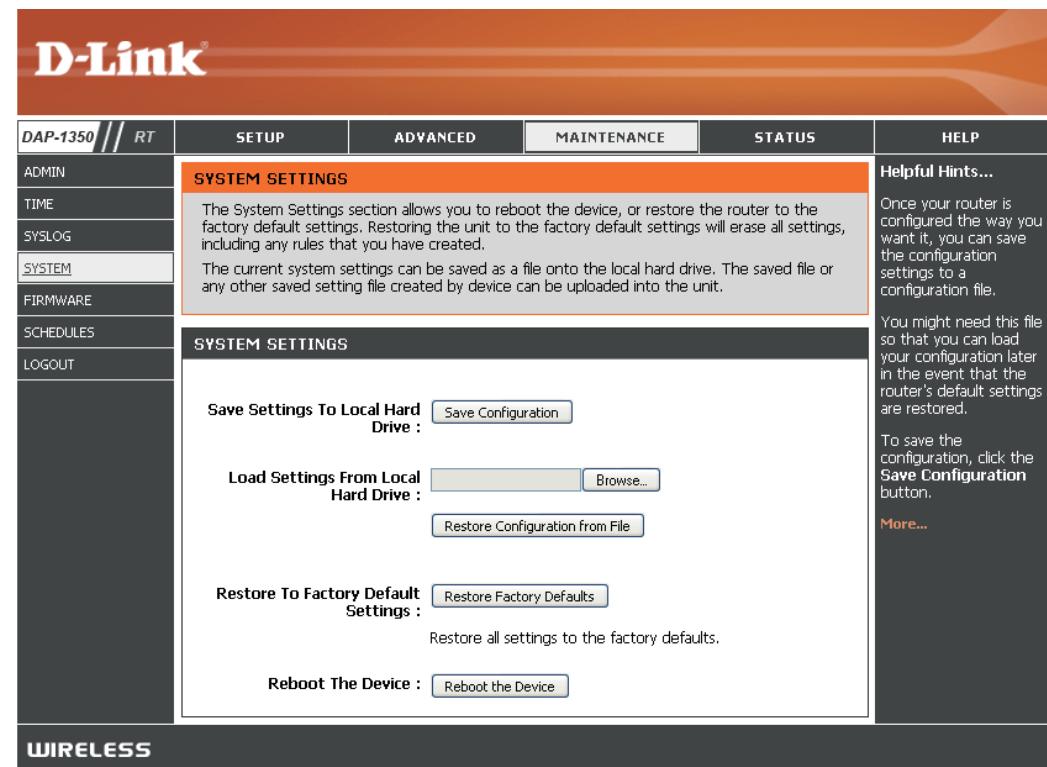
System Settings

Save Settings to Local Hard Drive: Use this option to save the current router configuration settings to a file on the hard disk of the computer you are using. First, click the **Save** button. You will then see a file dialog, where you can select a location and file name for the settings.

Load Settings from Local Hard Drive: Use this option to load previously saved router configuration settings. First, use the **Browse** control to find a previously save file of configuration settings. Then, click the **Restore Configuration from File** button to transfer those settings to the router.

Restore to Factory Default Settings: This option will restore all configuration settings back to the settings that were in effect at the time the router was shipped from the factory. Any settings that have not been saved will be lost, including any rules that you have created. If you want to save the current router configuration settings, use the **Save** button above.

Reboot Device: Click to reboot the router.



Firmware Update

You can upgrade the firmware of the Router here. Make sure the firmware you want to use is on the local hard drive of the computer. Click on **Browse** to locate the firmware file to be used for the update. Please check the D-Link support site for firmware updates at <http://www.dlink.com/support>. You can download firmware upgrades to your hard drive from the D-Link support site.

Firmware Click on **Check Online Now for Latest Firmware**

Upgrade: **Version** to find out if there is an updated firmware; if so, download the new firmware to your hard drive.

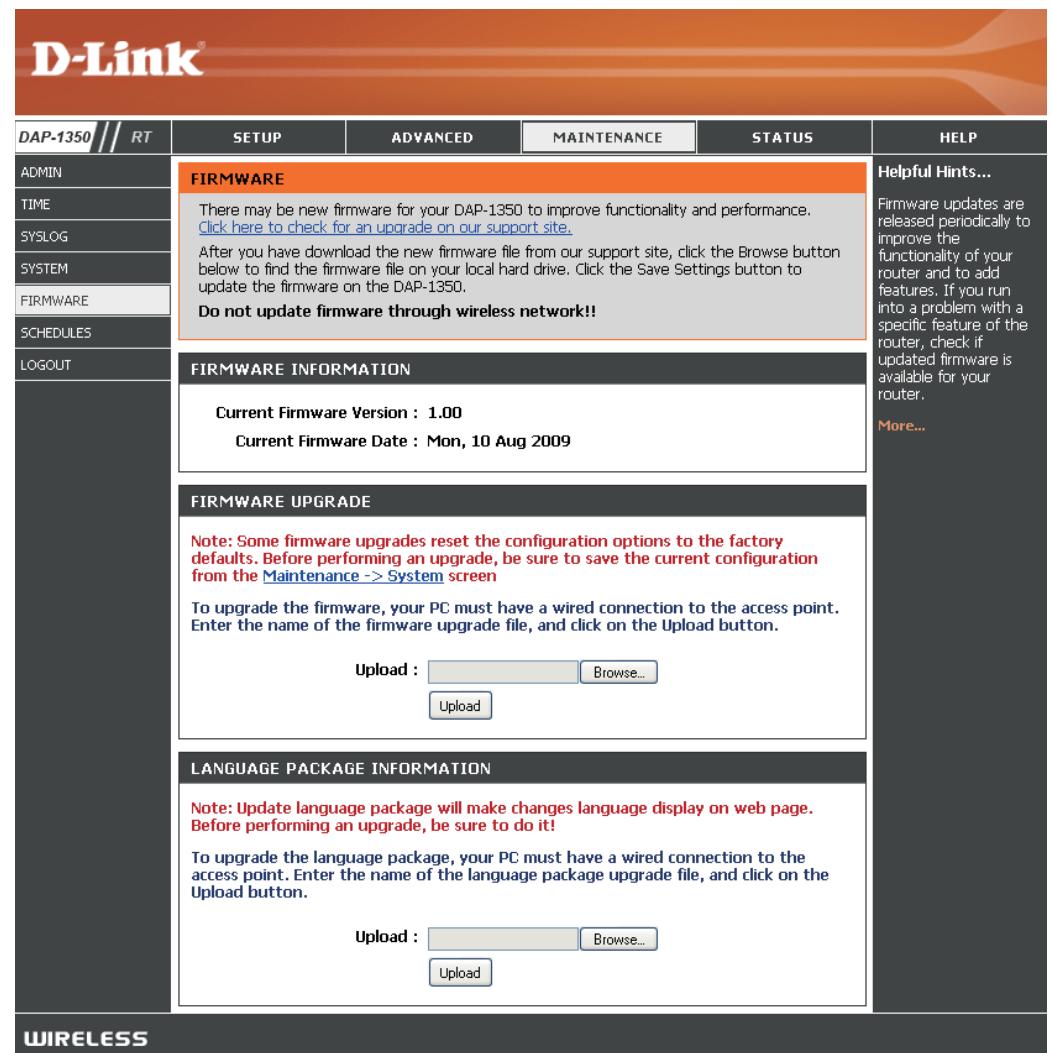
Browse: After you have downloaded the new firmware, click **Browse** to locate the firmware update on your hard drive. Click **Upload** to complete the firmware upgrade.

Notifications Check **Automatically Check Online for Latest**

Options: **Firmware Version** to have the router check automatically to see if there is a new firmware upgrade.

Check **Email Notification of Newer Firmware**

Version to have the router send an e-mail when there is a new firmware available.



Schedules

Name: Enter a name for your new schedule.

Days: Select a day, a range of days, or All Week to include every day.

Time: Check **All Day - 24hrs** or enter a start and end time for your schedule.

Save: Click **Save** to save your schedule. You must click Save Settings at the top for your schedules to go into effect.

Schedule Rules List: The list of schedules will be listed here. Click the **Edit** icon to make changes or click the **Delete** icon to remove the schedule.

Device Information

This page displays the current information for the DAP-1350. It will display the LAN, WAN (Internet), and Wireless information.

If your Internet connection is set up for a Dynamic IP address then a **Release** button and a **Renew** button will be displayed. Use **Release** to disconnect from your ISP and use **Renew** to connect to your ISP.

If your Internet connection is set up for PPPoE, a **Connect** button and a **Disconnect** button will be displayed. Use **Disconnect** to drop the PPPoE connection and use **Connect** to establish the PPPoE connection.

General: Displays the router's time and firmware version.

WAN: Displays the MAC address and the public IP settings for the router.

LAN: Displays the MAC address and the private (local) IP settings for the router.

Wireless LAN: Displays the wireless MAC address and your wireless settings such as SSID and Channel.

LAN Computers: Displays computers and devices that are connected to the router via Ethernet and that are receiving an IP address assigned by the router (DHCP).

The screenshot shows the D-Link DAP-1350 configuration interface. The top navigation bar includes tabs for DAP-1350, RT, SETUP, ADVANCED, MAINTENANCE, STATUS, and HELP. A sidebar on the left lists DEVICE INFO, WIRELESS, LOGS, STATISTICS, INTERNET SESSIONS, and LOGOUT. The main content area is divided into several sections: **DEVICE INFORMATION** (General tab), **WAN**, **LAN**, **WIRELESS LAN**, **SSID List**, **LAN COMPUTERS**, and **WIRELESS**. The **GENERAL** tab under DEVICE INFORMATION shows the following details:

Time :	Jan/01/2008 01:48:38
System Up Time :	0 Day, 01:49:00
Firmware Version :	1.00, Mon, 10 Aug 2009

The **WAN** section shows:

Connection Type :	DHCP client
Cable Status :	Connected
Network Status :	Connected
DHCP Renew	DHCP Release
Connection Up Time :	0 Day, 01:48:44
MAC Address :	00:18:e7:6a:20:ff
IP Address :	67.130.140.148
Subnet Mask :	255.255.255.0
Default Gateway :	67.130.140.1
Primary DNS Server :	67.130.140.2
Secondary DNS Server :	192.168.81.1

The **LAN** section shows:

MAC Address :	00:18:e7:6a:20:fe
IP Address :	192.168.0.50
Subnet Mask :	255.255.255.0
DHCP Server :	Enable

The **WIRELESS LAN** section shows:

Wireless Radio :	Enable
Wireless Mode :	Mixed 802.11n, 802.11g and 802.11b
Channel Width :	20 MHz
Channel :	10
Wi-Fi Protected Setup :	Enable / Configured

The **SSID List** table shows:

Network Name (SSID)	Guest	MAC Address	Security Mode
dlink	No	00:18:e7:6a:23:40	Disable

The **LAN COMPUTERS** table shows:

IP Address	Name(If Any)	MAC
192.168.0.100	dlinkpm2-nlszmn	00:1e:58:48:cc:86

Wireless

The wireless client table displays a list of current connected wireless clients. This table also displays the connection rate and MAC address of the connected wireless clients.

The screenshot shows the D-Link DAP-1350 // RT web interface. The top navigation bar includes links for SETUP, ADVANCED, MAINTENANCE, STATUS, and HELP. On the left, a vertical menu lists DEVICE INFO, WIRELESS (which is selected and highlighted in orange), LOGS, STATISTICS, INTERNET SESSIONS, and LOGOUT. The main content area has a title 'WIRELESS' with a sub-instruction: 'Use this option to view the wireless clients that are connected to your wireless router.' Below this, it displays 'NUMBER OF WIRELESS CLIENTS : 1'. A table provides detailed information for the single client:

MAC Address	IP Address	Mode	Rate (Mbps)	Signal (%)
00:1E:58:48:CC:86	192.168.0.100	802.11n (2.4GHz)	130	100

To the right of the table, a 'Helpful Hints...' section states: 'This is a list of all wireless clients that are currently connected to your wireless router.' It also features a 'More...' link.

Logs

The router automatically logs (records) events of possible interest in its internal memory. If there isn't enough internal memory for all events, logs of older events are deleted but logs of the latest events are retained. The Logs option allows you to view the router logs. You can define what types of events you want to view and the level of the events to view. This router also has external Syslog Server support so you can send the log files to a computer on your network that is running a Syslog utility.

Log Options: You can select the types of messages that you want to display from the log: **System Activity**, **Debug Information**, **Attacks**, **Dropped Packets**, and **Notice**. Select and click **Apply Log Settings Now**.

First Page: This button directs you to the first page of the log.

Last Page: This button directs you to the last page of the log.

Previous: This button directs you to the previous page of the log.

Next: This button directs you to the next page of the log.

Clear: This button clears all current log content.

Log Settings: This button opens a new menu where you can configure the log settings.

Refresh: This button refreshes the log.

Save Log: This option will save the router log to a file on your computer.

Time	Message
Jan 1 00:04:51	Sending discover...
Jan 1 00:04:49	Sending discover...
Jan 1 00:04:47	Sending discover...
Jan 1 00:04:33	Sending discover...
Jan 1 00:04:31	Sending discover...
Jan 1 00:04:29	Sending discover...
Jan 1 00:04:27	UDHCPD Inform: add_lease 192.168.0.100
Jan 1 00:04:22	UDHCPD sending OFFER of 192.168.0.100
Jan 1 00:04:15	Sending discover...
Jan 1 00:04:13	Sending discover...

Statistics

The screen below displays the Traffic Statistics. Here you can view the amount of packets that pass through the DAP-1350 on the Internet, wireless, and the LAN ports. The traffic counter will reset if the device is rebooted.

D-Link®

DAP-1350 // RT

SETUP **ADVANCED** **MAINTENANCE** **STATUS** **HELP**

TRAFFIC STATISTICS

Traffic Statistics display Receive and Transmit packets passing through your router.

LAN STATISTICS

Sent : 20	Received : 24
TX Packets Dropped : 0	RX Packets Dropped : 0
Collisions : 0	Errors : 0

WAN STATISTICS

Sent : 33	Received : 46
TX Packets Dropped : 0	RX Packets Dropped : 0
Collisions : 0	Errors : 0

WIRELESS STATISTICS

Sent : 116	Received : 235
TX Packets Dropped : 0	RX Packets Dropped : 0
Collisions : 0	Errors : 0

WIRELESS

Helpful Hints...

This is a summary of the number of packets that have passed between the WAN and the LAN since the router was last initialized.

[More...](#)

Internet Sessions

The Internet Sessions page displays full details of active Internet sessions through your router. An Internet session is a conversation between a program or application on a LAN-side computer and a program or application on a WAN-side computer.

Local: The IP address and, where appropriate, port number of the local application.

NAT: The port number of the LAN-side application as viewed by the WAN-side application.

Internet: The IP address and, where appropriate, port number of the application on the Internet.

Protocol: The communications protocol used for the conversation.

State: State for sessions that use the TCP protocol:

NO: None -- This entry is used as a placeholder for a future connection that may occur.

SS: SYN Sent -- One of the systems is attempting to start a connection.

EST: Established -- the connection is passing data.

FW: FIN Wait -- The client system has requested that the connection be stopped.

CW: Close Wait -- The server system has requested that the connection be stopped.

TW: Time Wait -- Waiting for a short time while a connection that was in FIN Wait is fully closed.

LA: Last ACK -- Waiting for a short time while a connection that was in Close Wait is fully closed.

CL: Closed -- The connection is no longer active but the session is being tracked in case there are any retransmitted packets still pending.

Local	Nat	Internet Settings	Protocol	State	Dir	Time-Out
219.77.195.156:4260	4260	192.168.0.101:4147	UDP	-	IN	68
192.168.0.101:4147	4147	119.145.130.15:17788	UDP	-	IN	5
219.78.149.227:8733	8733	192.168.0.101:4147	UDP	-	IN	69
94.194.226.253:14917	14917	192.168.0.101:4147	UDP	-	IN	37
75.6.228.232:49158	49158	192.168.0.101:4147	UDP	-	IN	51
192.168.0.101:4147	4147	75.22.69.114:4747	UDP	-	IN	63
222.73.25.118:17788	17788	192.168.0.101:4147	UDP	-	IN	12
192.168.0.101:4147	4147	208.120.72.146:2967	UDP	-	IN	58
121.9.13.20:17788	17788	192.168.0.101:4147	UDP	-	IN	37
113.254.188.21:3183	3183	192.168.0.101:4147	UDP	-	IN	62

Dir: The direction of initiation of the conversation:

Out - Initiated from LAN to WAN.

In - Initiated from WAN to LAN.

Priority: The preference given to outbound packets of this conversation by the QoS Engine logic. Smaller numbers represent higher priority.

Time Out: The number of seconds of idle time until the router considers the session terminated. The initial value of Time Out depends on the type and state of the connection.

300 seconds - UDP connections.

240 seconds - Reset or closed TCP connections. The connection does not close instantly so that lingering packets can pass or the connection can be re-established.

7800 seconds - Established or closing TCP connections.

Help

The screenshot shows the 'Help' section of the D-Link DAP-1350 User Interface. The left sidebar lists navigation options: MENU, SETUP, ADVANCED, MAINTENANCE, and STATUS. The main content area is titled 'SUPPORT MENU' and contains four sections: 'SETUP HELP', 'ADVANCED HELP', 'MAINTENANCE HELP', and 'STATUS HELP'. Each section lists several help topics as links. A vertical sidebar on the right is titled 'Helpful Hints...' and provides a general note about the purpose of the links.

DAP-1350 // RT	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
MENU	SUPPORT MENU				Helpful Hints... Click on the links for more informations of each section in the GUI.
SETUP	<ul style="list-style-type: none">SetupAdvancedMaintenanceStatus				
ADVANCED					
MAINTENANCE					
STATUS	SETUP HELP <ul style="list-style-type: none">Internet ConnectionInternet SettingsWireless SettingsNetwork SettingsUSB Settings ADVANCED HELP <ul style="list-style-type: none">Virtual ServerApplication RulesMAC Address FilterWebsite FilterFirewall SettingsAdvanced WirelessWi-Fi Protected SetupUPnP SettingsGuest ZoneDMZ MAINTENANCE HELP <ul style="list-style-type: none">AdminTimeSysLogSystemFirmwareSchedules STATUS HELP <ul style="list-style-type: none">Device InfoWirelessLogsStatisticsInternet Sessions				

WIRELESS

Wireless Security

This section will show you the different levels of security you can use to protect your data from intruders. The DAP-1350 offers the following types of security:

- WPA2 (Wi-Fi Protected Access 2)
- WPA (Wi-Fi Protected Access)
- WEP (Wired Equivalent Privacy)
- WPA2-PSK (Pre-Shared Key)
- WPA-PSK (Pre-Shared Key)

What is WEP?

WEP stands for Wired Equivalent Privacy. It is based on the IEEE 802.11 standard and uses the RC4 encryption algorithm. WEP provides security by encrypting data over your wireless network so that it is protected as it is transmitted from one wireless device to another.

To gain access to a WEP network, you must know the key. The key is a string of characters that you create. When using WEP, you must determine the level of encryption. The type of encryption determines the key length. 128-bit encryption requires a longer key than 64-bit encryption. Keys are defined by entering in a string in HEX (hexadecimal - using characters 0-9, A-F) or ASCII (American Standard Code for Information Interchange – alphanumeric characters) format. ASCII format is provided so you can enter a string that is easier to remember. The ASCII string is converted to HEX for use over the network. Four keys can be defined so that you can change keys easily.

What is WPA?

WPA, or Wi-Fi Protected Access, is a Wi-Fi standard that was designed to improve the security features of WEP (Wired Equivalent Privacy).

The 2 major improvements over WEP:

- Improved data encryption through the Temporal Key Integrity Protocol (TKIP). TKIP scrambles the keys using a hashing algorithm and, by adding an integrity-checking feature, ensures that the keys haven't been tampered with. WPA2 is based on 802.11i and uses Advanced Encryption Standard (AES) instead of TKIP.
- User authentication, which is generally missing in WEP, through the extensible authentication protocol (EAP). WEP regulates access to a wireless network based on a computer's hardware-specific MAC address, which is relatively simple to be sniffed out and stolen. EAP is built on a more secure public-key encryption system to ensure that only authorized network users can access the network.

WPA-PSK/WPA2-PSK uses a passphrase or key to authenticate your wireless connection. The key is an alpha-numeric password between 8 and 63 characters long. The password can include symbols (!?*&_) and spaces. This key must be the exact same key entered on your wireless bridge or access point.

WPA/WPA2 incorporates user authentication through the Extensible Authentication Protocol (EAP). EAP is built on a more secure public key encryption system to ensure that only authorized network users can access the network.

Configure WEP

It is recommended to enable encryption on your wireless access point before your wireless network adapters. Please establish wireless connectivity before enabling encryption. Your wireless signal may degrade when enabling encryption due to the added overhead.

1. Log into the web-based configuration by opening a web browser and entering the IP address of the access point (192.168.0.50). Click on **Setup** and then click **Wireless Settings** on the left side.
2. Next to Security Mode in the Wireless Security Mode section, select **Enable WEP Wireless Security (Basic)**.
3. Next to **Authentication**, select **Open** or **Shared Key**.
4. Next to **WEP Encryption**, select **64-bit** or **128-bit** encryption.
5. Next to **Key Type**, select either **Hex** or **ASCII**.
Hex (recommended) - Letters A-F and numbers 0-9 are valid.
ASCII - All numbers and letters are valid.
6. Next to Key 1, enter a WEP key that you create. Make sure you enter this key exactly on all your wireless devices. You may enter up to 4 different keys.
7. Click **Save Settings** at the top of the window to save your settings. If you are configuring the access point with a wireless adapter, you will lose connectivity until you enable WEP on your adapter and enter the same WEP key as you did on the access point.

The screenshot shows a configuration interface for 'WIRELESS SECURITY MODE'. At the top, under 'Security Mode', the dropdown is set to 'Enable WEP Wireless Security (basic)'. Below this, the 'WEP' section is expanded. It contains a detailed description of WEP, stating it's a wireless encryption standard requiring matching keys for AP and stations. It specifies 10 hex digits for 64-bit and 26 hex digits for 128-bit keys, with characters ranging from 0-9 and A-F. It also notes that ASCII input can be converted. Below the description are four input fields for 'WEP Key 1' through 'WEP Key 4', each with a dropdown menu above it. The dropdowns are set to 'Open', '64Bit', 'HEX', and 'WEP Key 1' respectively. The 'WEP Key 1' field is currently empty.

WIRELESS SECURITY MODE :	
Security Mode :	Enable WEP Wireless Security (basic)
WEP :	
WEP is the wireless encryption standard. To use it you must enter the same key(s) into the AP and the wireless stations. For 64 bit keys you must enter 10 hex digits into each key box. For 128 bit keys you must enter 26 hex digits into each key box. A hex digit is either a number from 0 to 9 or a letter from A to F. For the most secure use of WEP set the authentication type to "Open Key" when WEP is enabled.	
Authentication :	Open
WEP Encryption :	64Bit
Key Type :	HEX
Default WEP Key :	WEP Key 1
WEP Key 1 :	<input type="text"/>
WEP Key 2 :	<input type="text"/>
WEP Key 3 :	<input type="text"/>
WEP Key 4 :	<input type="text"/>

Configure WPA/WPA2 Personal

It is recommended to enable encryption on your wireless access point before your wireless network adapters. Please establish wireless connectivity before enabling encryption. Your wireless signal may degrade when enabling encryption due to the added overhead.

1. Log into the web-based configuration by opening a web browser and entering the IP address of the access point (192.168.0.50). Click on Setup and then click Wireless Settings on the left side.
2. Next to **Security Mode**, select **Enable WPA Wireless Security**, **Enable WPA2 Wireless Security**, or **Enable WPA2-Auto Wireless Security**.
3. Next to **Cipher Type**, select **TKIP**, **AES**, or **Auto**.
4. Next to **PSK / EAP**, select **Personal**.
5. Next to **Passphrase**, enter a key. The key is entered as a passphrase in ASCII format at both ends of the wireless connection. The passphrase must be between 8-63 characters.
6. Click **Save Settings** at the top of the window to save your settings. If you are configuring the access point with a wireless adapter, you will lose connectivity until you enable WPA-PSK on your adapter and enter the same passphrase as you did on the access point.

The screenshot shows a configuration interface for wireless security. At the top, it says "WIRELESS SECURITY MODE :". Below that, "Security Mode : Enable WPA Wireless Security (enhanced)". Under the "WPA :" section, there is a note: "WPA requires stations to use high grade encryption and authentication." It includes fields for "Cipher Type : AUTO", "PSK / EAP : Personal", and two input fields for "Passphrase" and "Confirmed Passphrase".

Configure WPA/WPA2 Enterprise

It is recommended to enable encryption on your wireless access point before your wireless network adapters. Please establish wireless connectivity before enabling encryption. Your wireless signal may degrade when enabling encryption due to the added overhead.

1. Log into the web-based configuration by opening a web browser and entering the IP address of the access point (192.168.0.50). Click on **Setup** and then click **Wireless Settings** on the left side.
2. Next to **Security Mode**, select **Enable WPA Wireless Security**, **Enable WPA2 Wireless Security**, or **Enable WPA2-Auto Wireless Security**.
3. Next to **Cipher Mode**, select **TKIP**, **AES**, or **Auto**.
4. Next to **Personal / Enterprise**, select **Enterprise**.
5. Next to **RADIUS Server**, enter the IP Address of your RADIUS server.
6. Next to **Port**, enter the port you are using with your RADIUS server. 1812 is the default port.
7. Next to **Shared Secret**, enter the security key.
8. Click **Save Settings** to save your settings.

WIRELESS SECURITY MODE :

Security Mode : Enable WPA Wireless Security (enhanced)

WPA :

WPA requires stations to use high grade encryption and authentication.

802.1X

Cipher Type : AUTO

PSK / EAP : Enterprise

RADIUS Server 1 : IP : 192.168.0.1
Port : 1812
Shared Secret

RADIUS Server 2 : IP : 192.168.0.1
Port : 1812
Shared Secret

Connect to a Wireless Network Using Windows® 7

It is recommended to enable wireless security (WPA/WPA2) on your wireless router or access point before configuring your wireless adapter. If you are joining an existing network, you will need to know the security key or passphrase being used.

1. Click on the wireless icon in your system tray (lower-right corner).



2. The utility will display any available wireless networks in your area.

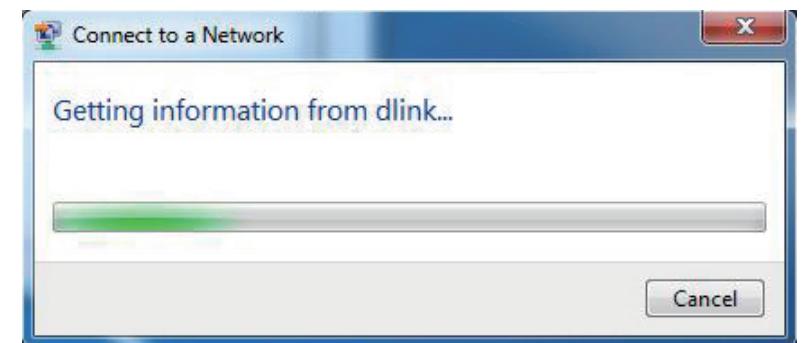


3. Highlight the wireless network (SSID) you would like to connect to and click the Connect button.

If you get a good signal but cannot access the Internet, check your TCP/IP settings for your wireless adapter. Refer to the Networking Basics section in this manual for more information.



4. The following window appears while your computer tries to connect to the router.



5. Enter the same security key or passphrase that is on your router and click **Connect**. You can also connect by pushing the WPS button on the router.

It may take 20-30 seconds to connect to the wireless network. If the connection fails, please verify that the security settings are correct. The key or passphrase must be exactly the same as on the wireless router.



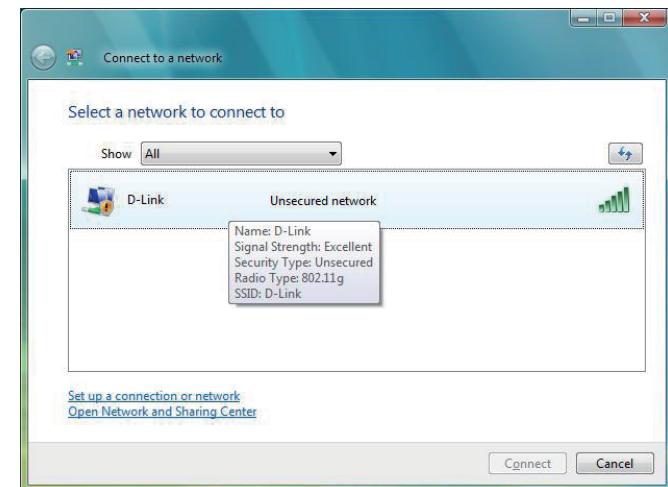
Connect to a Wireless Network Using Windows Vista®

Windows Vista® users may use the convenient, built-in wireless utility. Follow these instructions:

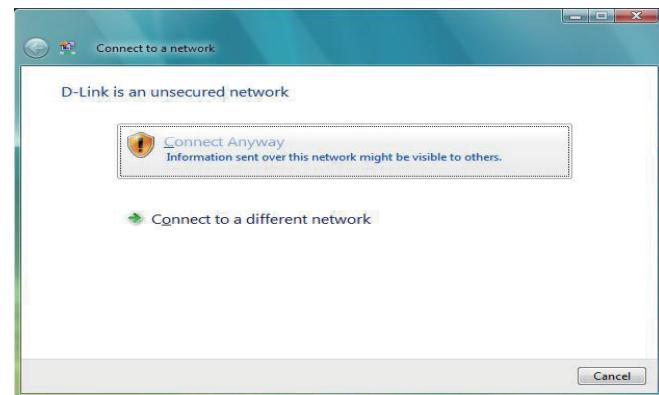
From the Start menu, go to Control Panel, and then click on **Network and Sharing Center**.



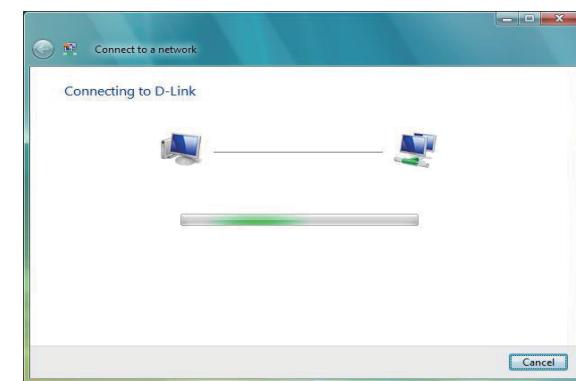
The utility will display any available wireless networks in your area. Click on a network (displayed using the SSID) under **Select a network to connect to** and then click the **Connect** button.



Click **Connect Anyway** to continue.

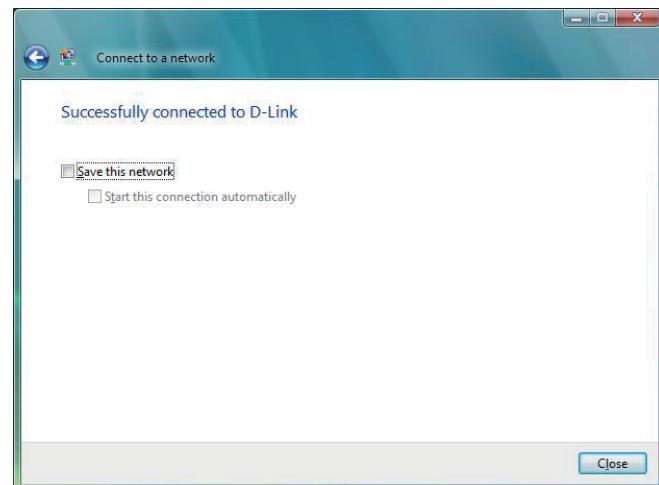


The utility will display the following window to indicate a connection is being made.



The final window indicates the establishment of a successful connection.

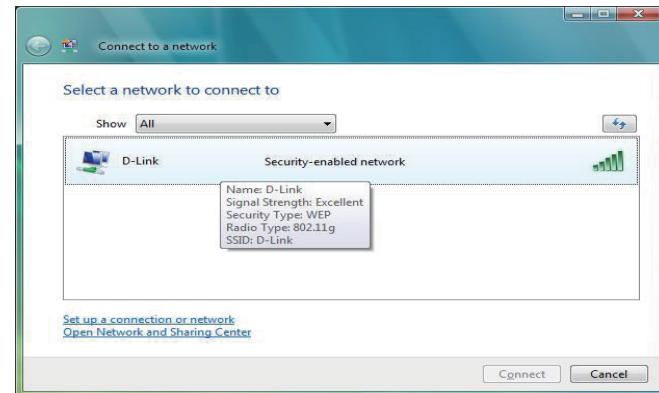
The next two pages display the windows used to connect to either a WEP or a WPA-PSK wireless network.



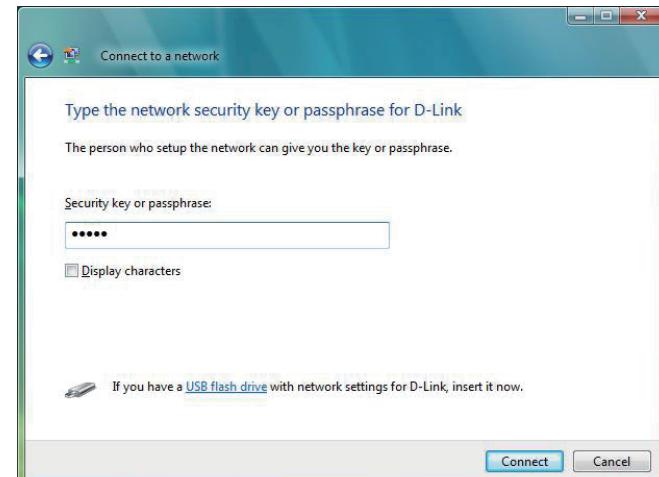
Configure WEP

It is recommended to enable WEP on your wireless bridge or access point before configuring your wireless adapter. If you are joining an existing network, you will need to know the WEP key being used.

Click on a network (displayed using the SSID) using WEP under Select a network to connect to and then click the **Connect** button.



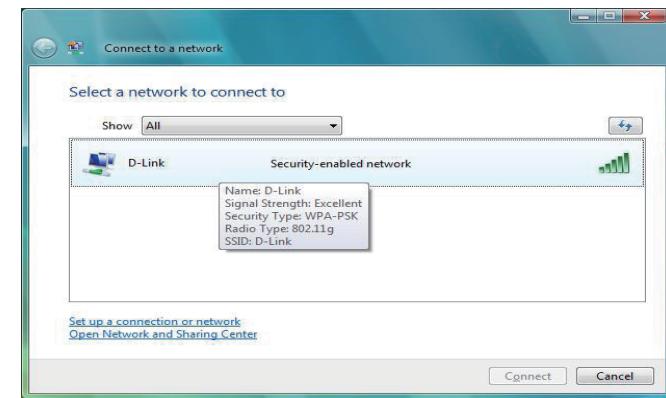
Enter the appropriate security key or passphrase in the field provided and then click the **Connect** button.



Configure WPA-PSK

It is recommended to enable WEP on your wireless bridge or access point before configuring your wireless adapter. If you are joining an existing network, you will need to know the WEP key being used.

Click on a network (displayed using the SSID) using WPA-PSK under Select a network to connect to and then click the **Connect** button.



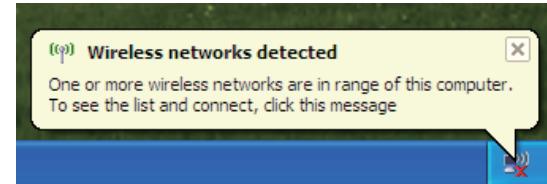
Enter the appropriate security key or passphrase in the field provided and then click the **Connect** button.



Connect to a Wireless Network Using Windows® XP

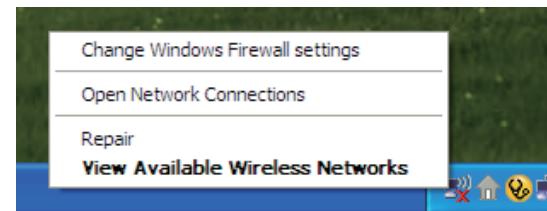
Windows® XP users may use the built-in wireless utility (Zero Configuration Utility). The following instructions are for Service Pack 2 users. If you are using another company's utility or Windows® 2000, please refer to the user manual of your wireless adapter for help with connecting to a wireless network. Most utilities will have a "site survey" option similar to the Windows® XP utility as seen below.

If you receive the **Wireless Networks Detected** bubble, click on the center of the bubble to access the utility.



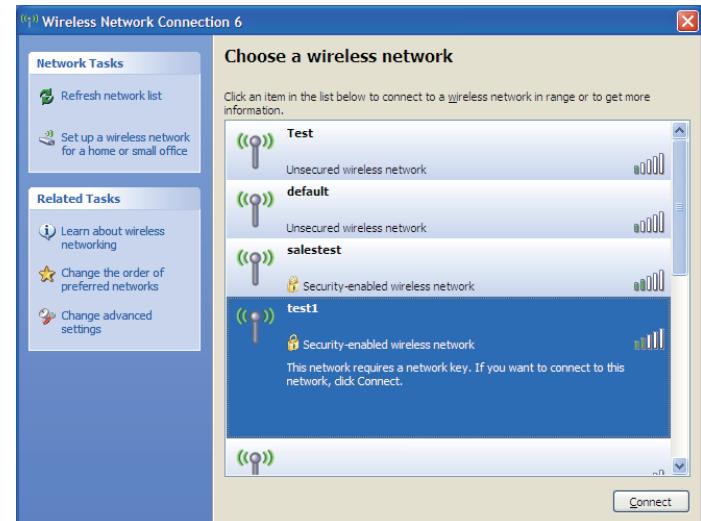
or

Right-click on the wireless computer icon in your system tray (lower-right corner next to the time). Select **View Available Wireless Networks**.



The utility will display any available wireless networks in your area. Click on a network (displayed using the SSID) and click the **Connect** button.

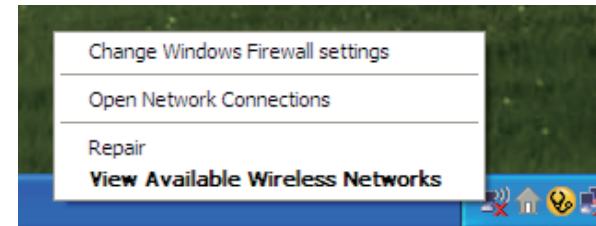
If you get a good signal, but cannot access the Internet, check your TCP/IP settings for your wireless adapter. Refer to the **Networking Basics** section in this manual for more information.



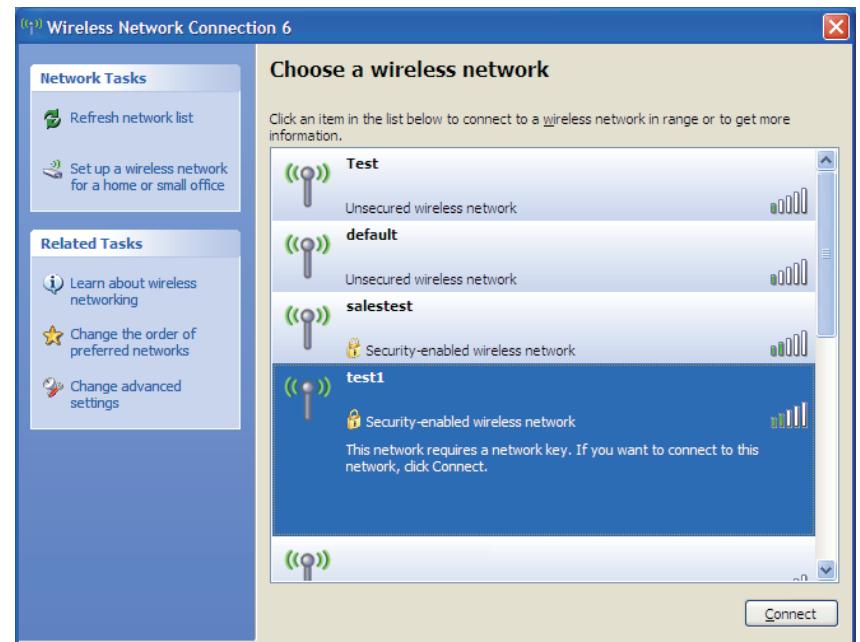
Configure WEP

It is recommended to enable WEP on your wireless bridge or access point before configuring your wireless adapter. If you are joining an existing network, you will need to know the WEP key being used.

1. Open the Windows® XP Wireless Utility by right-clicking on the wireless computer icon in your system tray (lower-right corner of screen). Select **View Available Wireless Networks**.



2. Highlight the wireless network (SSID) you would like to connect to and click **Connect**.



3. The **Wireless Network Connection** box will appear. Enter the same WEP key that is on your access point and click **Connect**.

It may take 20-30 seconds to connect to the wireless network. If the connection fails, please verify that the WEP settings are correct. The WEP key must be exactly the same as on the wireless access point.



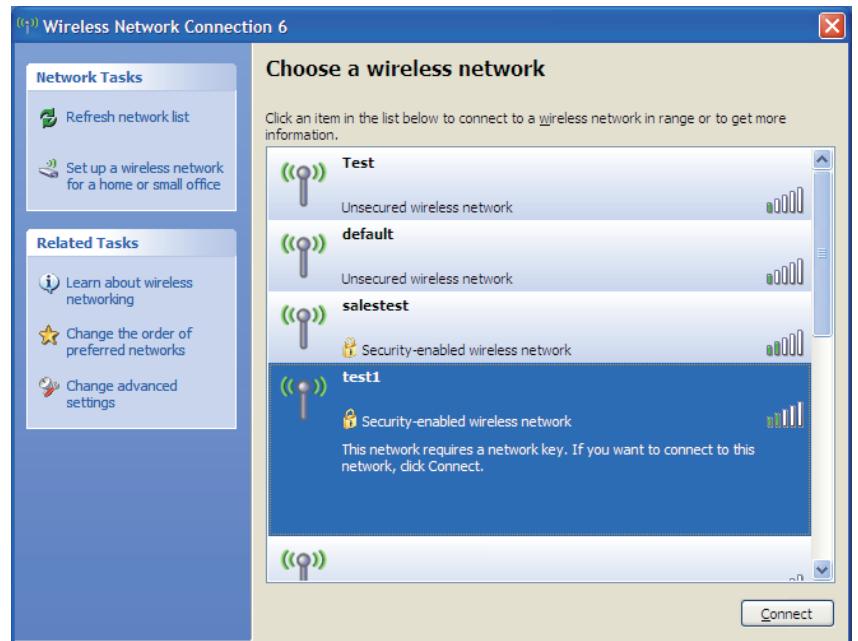
Configure WPA-PSK

It is recommended to enable WEP on your wireless bridge or access point before configuring your wireless adapter. If you are joining an existing network, you will need to know the WEP key being used.

1. Open the Windows® XP Wireless Utility by right-clicking on the wireless computer icon in your system tray (lower-right corner of screen). Select **View Available Wireless Networks**.

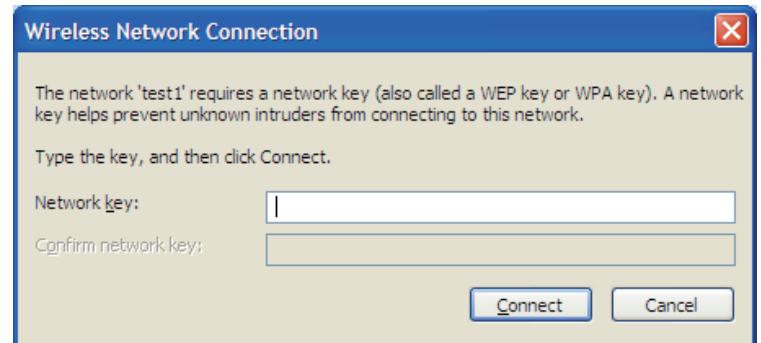


2. Highlight the wireless network (SSID) you would like to connect to and click **Connect**.



3. The **Wireless Network Connection** box will appear. Enter the WPA-PSK passphrase and click **Connect**.

It may take 20-30 seconds to connect to the wireless network. If the connection fails, please verify that the WPA-PSK settings are correct. The WPA-PSK passphrase must be exactly the same as on the wireless access point.



Troubleshooting

This chapter provides solutions to problems that can occur during the installation and operation of the DAP-1350. Read the following descriptions if you are having problems. (The examples below are illustrated in Windows® XP. If you have a different operating system, the screenshots on your computer will look similar to the following examples.)

1. Why can't I access the web-based configuration utility?

When entering the IP address of the D-Link access point (192.168.0.50 for example), you are not connecting to a website on the Internet or have to be connected to the Internet. The device has the utility built-in to a ROM chip in the device itself. Your computer must be on the same IP subnet to connect to the web-based utility.

- Make sure you have an updated Java-enabled web browser. We recommend the following:
 - Microsoft Internet Explorer® 6.0 and higher
 - Mozilla Firefox 3.0 and higher
 - Google™ Chrome 2.0 and higher
 - Apple Safari 3.0 and higher
- Verify physical connectivity by checking for solid link lights on the device. If you do not get a solid link light, try using a different cable or connect to a different port on the device if possible. If the computer is turned off, the link light may not be on.
- Disable any internet security software running on the computer. Software firewalls such as Zone Alarm, Black Ice, Sygate, Norton Personal Firewall, and Windows® XP firewall may block access to the configuration pages. Check the help files included with your firewall software for more information on disabling or configuring it.

- Configure your Internet settings:
 - Go to **Start > Settings > Control Panel**. Double-click the **Internet Options** Icon. From the Security tab, click the button to restore the settings to their defaults.
 - Click the Connection tab and set the dial-up option to Never Dial a Connection. Click the LAN Settings button. Make sure nothing is checked. Click OK.
 - Go to the Advanced tab and click the button to restore these settings to their defaults. Click OK three times.
 - Close your web browser (if open) and open it.
- Access the web management. Open your web browser and enter the IP address of your D-Link access point in the address bar. This should open the login page for your the web management.
- If you still cannot access the configuration, unplug the power to the access point for 10 seconds and plug back in. Wait about 30 seconds and try accessing the configuration. If you have multiple computers, try connecting using a different computer.

2. What can I do if I forgot my password?

If you forgot your password, you must reset your access point. Unfortunately this process will change all your settings back to the factory defaults.

To reset the access point, locate the reset button (hole) on the rear panel of the unit. With the access point powered on, use a paperclip to hold the button down for 5 seconds. Release the button and the access point will go through its reboot process. Wait about 30 seconds to access the access point. The default IP address is 192.168.0.50. When logging in, the username is admin and leave the password box empty.

3. Why can't I connect to certain sites or send and receive emails when connecting through my pocket router (router mode only)?

If you are having a problem sending or receiving email, or connecting to secure sites such as eBay, banking sites, and Hotmail, we suggest lowering the MTU in increments of ten (Ex. 1492, 1482, 1472, etc).

Note: AOL DSL+ users must use MTU of 1400.

To find the proper MTU Size, you'll have to do a special ping of the destination you're trying to go to. A destination could be another computer, or a URL.

- Click on Start and then click Run.
- Windows® 95, 98, and Me users type in command (Windows® NT, 2000, and XP users type in cmd) and press Enter (or click OK).
- Once the window opens, you'll need to do a special ping. Use the following syntax:

ping [url] [-f] [-l] [MTU value]

Example: ping yahoo.com -f -l 1472

```
C:\>ping yahoo.com -f -l 1482
Pinging yahoo.com [66.94.234.13] with 1482 bytes of data:
Packet needs to be fragmented but DF set.

Ping statistics for 66.94.234.13:
  Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
Approximate round trip times in milli-seconds:
  Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping yahoo.com -f -l 1472
Pinging yahoo.com [66.94.234.13] with 1472 bytes of data:
Reply from 66.94.234.13: bytes=1472 time=93ms TTL=52
Reply from 66.94.234.13: bytes=1472 time=109ms TTL=52
Reply from 66.94.234.13: bytes=1472 time=125ms TTL=52
Reply from 66.94.234.13: bytes=1472 time=203ms TTL=52

Ping statistics for 66.94.234.13:
  Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
  Minimum = 93ms, Maximum = 203ms, Average = 132ms

C:\>
```

You should start at 1472 and work your way down by 10 each time. Once you get a reply, go up by 2 until you get a fragmented packet. Take that value and add 28 to the value to account for the various TCP/IP headers. For example, lets say that 1452 was the proper value, the actual MTU size would be 1480, which is the optimum for the network we're working with ($1452+28=1480$).

Once you find your MTU, you can now configure your access point with the proper MTU size.

To change the MTU rate on your access point follow the steps below:

- Open your browser, enter the IP address of your access point (192.168.0.50) and click **OK**.
- Enter your username (admin) and password (blank by default). Click **OK** to enter the web configuration page for the device.
- Click on **Setup** and then click **Manual Configure**.
- To change the MTU enter the number in the MTU field and click **Save Settings** to save your settings.
- Test your email. If changing the MTU does not resolve the problem, continue changing the MTU in increments of ten.

Wireless Basics

D-Link wireless products are based on industry standards to provide easy-to-use and compatible high-speed wireless connectivity within your home, business or public access wireless networks. Strictly adhering to the IEEE standard, the D-Link wireless family of products will allow you to securely access the data you want, when and where you want it. You will be able to enjoy the freedom that wireless networking delivers.

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

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

Under many circumstances, it may be desirable for mobile network devices to link to a conventional Ethernet LAN in order to use servers, printers or an Internet connection supplied through the wired LAN. A Wireless Access point is a device used to provide this link.

What is Wireless?

Wireless or Wi-Fi technology is another way of connecting your computer to the network without using wires. Wi-Fi uses radio frequency to connect wirelessly, so you have the freedom to connect computers anywhere in your home or office.

D-Link is the worldwide leader and award winning designer, developer, and manufacturer of networking products. D-Link delivers the performance you need at a price you can afford. D-Link has all the products you need to build your network.

How does wireless work?

Wireless works similar to how cordless phone work, through radio signals to transmit data from one point A to point B. But wireless technology has restrictions as to how you can access the network. You must be within the wireless network range area to be able to connect your computer. There are two different types of wireless networks Wireless Local Area Network (WLAN), and Wireless Personal Area Network (WPAN).

Wireless Local Area Network (WLAN)

In a wireless local area network, a device called an Access Point (AP) connects computers to the network. The access point has a small antenna attached to it, which allows it to transmit data back and forth over radio signals. With an indoor access point as seen in the picture, the signal can travel up to 300 feet. With an outdoor access point the signal can reach out up to 30 miles to serve places like manufacturing plants, industrial locations, college and high school campuses, airports, golf courses, and many other outdoor venues.

Wireless Personal Area Network (WPAN)

Bluetooth is the industry standard wireless technology used for WPAN. Bluetooth devices in WPAN operate in a range up to 30 feet away.

Compared to WLAN the speed and wireless operation range are both less than WLAN, but in return it doesn't use nearly as much power which makes it ideal for personal devices, such as mobile phones, PDAs, headphones, laptops, speakers, and other devices that operate on batteries.

Who uses wireless?

Wireless technology has become so popular in recent years that almost everyone is using it, whether it's for home, office, business, D-Link has a wireless solution for it.

Home

- Gives everyone at home broadband access
- Surf the web, check email, instant message, etc.
- Gets rid of the cables around the house
- Simple and easy to use

Small Office and Home Office

- Stay on top of everything at home as you would at office
- Remotely access your office network from home
- Share Internet connection and printer with multiple computers
- No need to dedicate office space

Where is wireless used?

Wireless technology is expanding everywhere not just at home or office. People like the freedom of mobility and it's becoming so popular that more and more public facilities now provide wireless access to attract people. The wireless connection in public places is usually called "hotspots".

Using a D-Link Cardbus Adapter with your laptop, you can access the hotspot to connect to Internet from remote locations like: Airports, Hotels, Coffee Shops, Libraries, Restaurants, and Convention Centers.

Wireless network is easy to setup, but if you're installing it for the first time it could be quite a task not knowing where to start. That's why we've put together a few setup steps and tips to help you through the process of setting up a wireless network.

Tips

Here are a few things to keep in mind, when you install a wireless network.

Centralize your access point or Access Point

Make sure you place the bridge/access point in a centralized location within your network for the best performance. Try to place the bridge/access point as high as possible in the room, so the signal gets dispersed throughout your home. If you have a two-story home, you may need a repeater to boost the signal to extend the range.

Eliminate Interference

Place home appliances such as cordless telephones, microwaves, wireless speakers, and televisions as far away as possible from the bridge/access point. This would significantly reduce any interference that the appliances might cause since they operate on same frequency.

Security

Don't let your next-door neighbors or intruders connect to your wireless network. Secure your wireless network by turning on the WPA or WEP security feature on the access point. Refer to product manual for detail information on how to set it up.

Wireless Modes

There are basically two modes of networking:

- **Infrastructure** – All wireless clients will connect to an access point or wireless bridge.
- **Ad-Hoc** – Directly connecting to another computer, for peer-to-peer communication, using wireless network adapters on each computer, such as two or more wireless network Cardbus adapters.

An Infrastructure network contains an Access Point or wireless bridge. All the wireless devices, or clients, will connect to the wireless bridge or access point.

An Ad-Hoc network contains only clients, such as laptops with wireless cardbus adapters. All the adapters must be in Ad-Hoc mode to communicate.

Networking Basics

Check your IP address

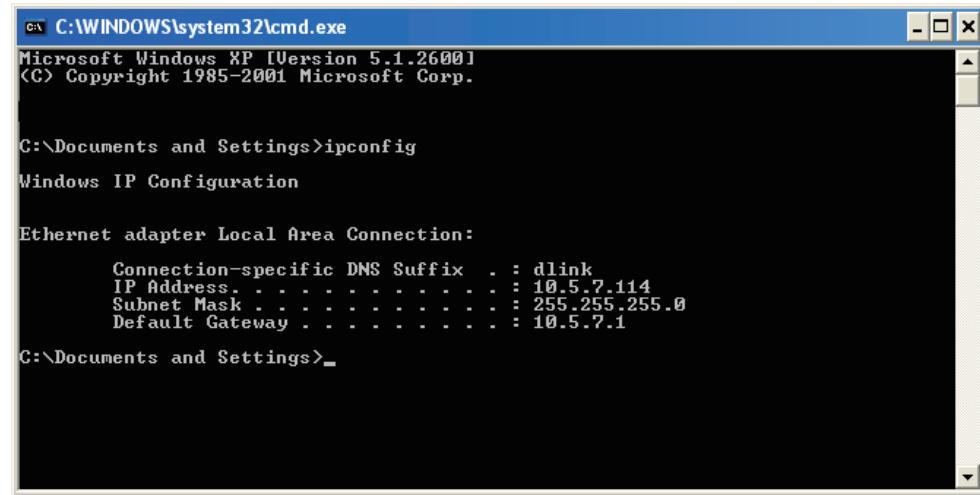
After you install your new D-Link adapter, by default, the TCP/IP settings should be set to obtain an IP address from a DHCP server (i.e. wireless router) automatically. To verify your IP address, please follow the steps below.

Click on **Start > Run**. In the run box type **cmd** and click **OK**. (Windows Vista® users type **cmd** in the **Start Search** box.)

At the prompt, type **ipconfig** and press **Enter**.

This will display the IP address, subnet mask, and the default gateway of your adapter.

If the address is 0.0.0.0, check your adapter installation, security settings, and the settings on your access point. Some firewall software programs may block a DHCP request on newly installed adapters.



The screenshot shows a Windows XP Command Prompt window titled 'C:\WINDOWS\system32\cmd.exe'. The window displays the following text:

```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings>ipconfig
Windows IP Configuration

Ethernet adapter Local Area Connection:
  Connection-specific DNS Suffix . : dlink
  IP Address . . . . . : 10.5.7.114
  Subnet Mask . . . . . : 255.255.255.0
  Default Gateway . . . . . : 10.5.7.1

C:\Documents and Settings>
```

If you are connecting to a wireless network at a hotspot (e.g. hotel, coffee shop, airport), please contact an employee or administrator to verify their wireless network settings.

Statically Assign an IP address

If you are not using a DHCP capable gateway/access point, or you need to assign a static IP address, please follow the steps below:

Step 1

Windows Vista® - Click on **Start > Control Panel > Network and Internet > Network and Sharing Center > Manage Network Connections.**

Windows® XP - Click on **Start > Control Panel > Network Connections.**

Windows® 2000 - From the desktop, right-click **My Network Places > Properties.**

Step 2

Right-click on the **Local Area Connection** which represents your D-Link network adapter and select **Properties.**

Step 3

Highlight **Internet Protocol (TCP/IP)** and click **Properties.**

Step 4

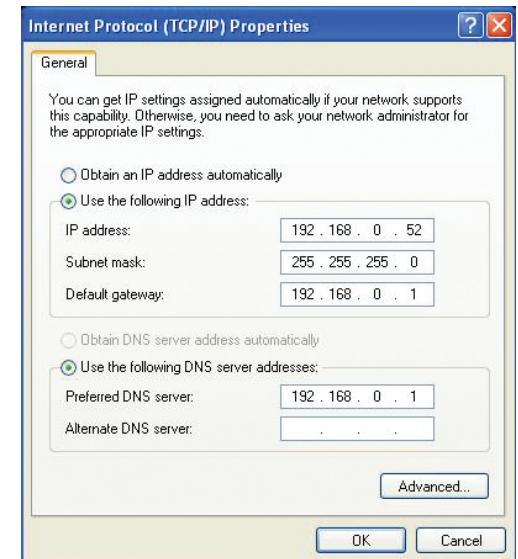
Click **Use the following IP address** and enter an IP address that is on the same subnet as your network or the LAN IP address on your router.

Example: If the router's LAN IP address is 192.168.0.1, make your IP address 192.168.0.X where X is a number between 2 and 99. Make sure that the number you choose is not in use on the network. Set Default Gateway the same as the LAN IP address of your router (192.168.0.1).

Set Primary DNS the same as the LAN IP address of your router (192.168.0.1). The Secondary DNS is not needed or you may enter a DNS server from your ISP.

Step 5

Click **OK** twice to save your settings.



Technical Specifications

Standards

- IEEE 802.11n
- IEEE 802.11g
- IEEE 802.3
- IEEE 802.3u

Security

- Wi-Fi Protected Access (WPA, WPA2)[®]
- Wi-Fi Protected Setup[™] (WPS)
 - WPS Push Button
 - PIN

Interface Type

- 1 10/100 LAN/WAN Port
- 1 USB Port for SharePort^{™1}
- 1 Push-Button (for Wi-Fi Protected Setup[™])

Antenna Type

- Embedded Antennas

Wireless Signal Rates²

- | | |
|-----------|-----------|
| • 300Mbps | • 108Mbps |
| • 54Mbps | • 48Mbps |
| • 36Mbps | • 24Mbps |
| • 18Mbps | • 12Mbps |
| • 11Mbps | • 9Mbps |
| • 6Mbps | • 5.5Mbps |
| • 2Mbps | • 1Mbps |

Maximum Operating Voltage

- 5V 2.5A

¹. USB SharePort only supported in Router Mode.

². Maximum wireless signal rate derived from IEEE Standard 802.11g and 802.11n specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate. Environmental conditions will adversely affect wireless signal range.

³. Range varies depending on country's regulation.

Modulation

- DQPSK
- DBPSK
- CCK
- OFDM

Frequency Range³

- 2.4GHz to 2.483GHz

LEDs

- Power
- Ethernet
- WLAN

Operating Temperature

- 32°F to 131°F (0°C to 55°C)

Humidity

- 90% maximum (non-condensing)

Safety & Emissions

- FCC Class B
- CE
- C-Tick
- IC
- Wi-Fi[®]

Dimensions

- W3.6" x D2.6" x H0.8" (91.4mm x 66mm x 20.3mm)

Weight

- 0.15lbs (0.066kg)