

LINKSYS[®] by Cisco



USER GUIDE

Wireless-G Access Point

Model: WAP54G



About This Guide

Icon Descriptions

While reading through the User Guide you may see various icons that call attention to specific items. Below is a description of these icons:



NOTE: This check mark indicates that there is a note of interest and is something that you should pay special attention to while using the product.



WARNING: This exclamation point indicates that there is a caution or warning and it is something that could damage your property or product.



WEB: This globe icon indicates a noteworthy website address or e-mail address.

Online Resources

Website addresses in this document are listed without **http://** in front of the address because most current web browsers do not require it. If you use an older web browser, you may have to add **http://** in front of the web address.

Resource	Website
Linksys	www.linksys.com
Linksys International	www.linksys.com/international
Glossary	www.linksys.com/glossary
Network Security	www.linksys.com/security

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Chapter 1:

Product Overview

Thank you for choosing the Wireless-G Access Point. Use the instructions in this User Guide to help you connect the Access Point, set it up, and configure it to bridge your different networks. These instructions should be all you need to get the most out of the Access Point.

Front Panel





 **Cisco logo** (Orange/White) The Cisco logo is the Access Point's SecureEasySetup button. It lights up when the Access Point is powered on. The Cisco logo is orange when the SecureEasySetup feature is not used, while the color white indicates that the SecureEasySetup feature is being used. When the Access Point enters SecureEasySetup mode, the Cisco logo will turn white and start flashing. Then the Access Point will generate its SSID (network name) and WPA-Personal (also called WPA-PSK) key. If the Access Point successfully associates with a client using SecureEasySetup, the Cisco logo will stop flashing and stay white. If the association is unsuccessful, then the Cisco logo will stop flashing and stay orange.


To clear the SSID and WPA-Personal key, press and hold down the Cisco logo for ten seconds. The Cisco logo will turn orange to indicate a successful reset.



NOTE: SecureEasySetup is a feature that makes it easy to set up your wireless network. If you have SecureEasySetup devices, run the Setup Wizard on the Access Point's Setup Wizard CD-ROM. Then follow the on-screen instructions.

 **Power** (Red) The Power LED lights up when the Access Point is powered on.

 **Act** (Green) The Activity LED lights up when the Access Point is ready for wireless use. It flashes when the Access Point is transmitting or receiving data wirelessly.

 **Link** (Orange) The Link LED lights up when the Access Point is successfully connected to a device through the Ethernet network port. The LED flashes when the Access Point is transmitting or receiving data through the Ethernet network port.

Back Panel



LAN The Ethernet network port connects to an Ethernet network device, such as a switch or router.



RESET There are two ways to reset the Access Point's factory defaults. Either press the Reset button for approximately ten seconds, or use the *Administration > Factory Defaults* screen of the Access Point's Web-based Utility.



NOTE: Resetting the Access Point will erase all of your settings (including wireless security, IP address, and power output) and replace them with the factory defaults. Do not reset the Access Point if you want to retain these settings.



POWER The Power port connects to the Access Point's power adapter.

Chapter 2: Wireless Security Checklist

Wireless networks are convenient and easy to install, so homes with high-speed Internet access are adopting them at a rapid pace. Because wireless networking operates by sending information over radio waves, it can be more vulnerable to intruders than a traditional wired network. Like signals from your cellular or cordless phones, signals from your wireless network can also be intercepted. Since you cannot physically prevent someone from connecting to your wireless network, you need to take some additional steps to keep your network secure.

1. Change the default wireless network name or SSID

Wireless devices have a default wireless network name or Service Set Identifier (SSID) set by the factory. This is the name of your wireless network, and can be up to 32 characters in length. Linksys wireless products use **linksys** as the default wireless network name. You should change the wireless network name to something unique to distinguish your wireless network from other wireless networks that may exist around you, but do not use personal information (such as your Social Security number) because this information may be available for anyone to see when browsing for wireless networks.

2. Change the default password

For wireless products such as access points, routers, and gateways, you will be asked for a password when you want to change their settings. These devices have a default password set by the factory. The Linksys default password is **admin**. Hackers know these defaults and may try to use them to access your wireless device and change your network settings. To thwart any unauthorized changes, customize the device's password so it will be hard to guess.

3. Enable MAC address filtering

Linksys routers and gateways give you the ability to enable Media Access Control (MAC) address filtering. The MAC address is a unique series of numbers and letters assigned to every networking device. With MAC address filtering enabled, wireless network access is provided solely for wireless devices with specific MAC addresses. For example, you can specify the MAC address of each computer in your home so that only those computers can access your wireless network.

4. Enable encryption

Encryption protects data transmitted over a wireless network. Wi-Fi Protected Access (WPA/WPA2) and Wired Equivalency Privacy (WEP) offer different levels of security for wireless communication.

A network encrypted with WPA/WPA2 is more secure than a network encrypted with WEP, because WPA/WPA2 uses dynamic key encryption. To protect the information as it passes over the airwaves, you should enable the highest level of encryption supported by your network equipment.

WEP is an older encryption standard and may be the only option available on some older devices that do not support WPA.

General Network Security Guidelines

Wireless network security is useless if the underlying network is not secure.

- Password protect all computers on the network and individually password protect sensitive files.
- Change passwords on a regular basis.
- Install anti-virus software and personal firewall software.
- Disable file sharing (peer-to-peer). Some applications may open file sharing without your consent and/or knowledge.

Additional Security Tips

- Keep wireless routers, access points, or gateways away from exterior walls and windows.
- Turn wireless routers, access points, or gateways off when they are not being used (at night, during vacations).
- Use strong passphrases that are at least eight characters in length. Combine letters and numbers to avoid using standard words that can be found in the dictionary.



WEB: For more information on wireless security, visit www.linksys.com/security

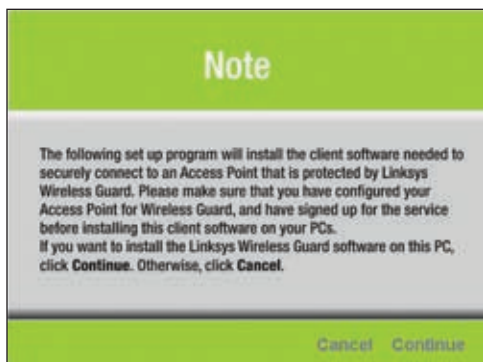
Chapter 2: Using the Linksys Wireless Guard Service

This chapter is only for users who have signed up for Linksys Wireless Guard to secure their network and have configured the Access Point for Linksys Wireless Guard. (For information on configuring the Access Point for Linksys Wireless Guard, refer to the Quick Installation Guide.)

You will now install the client software needed to securely connect a PC to the Access Point that is protected by Linksys Wireless Guard. This chapter will also show you how to access your protected network and manage your account.

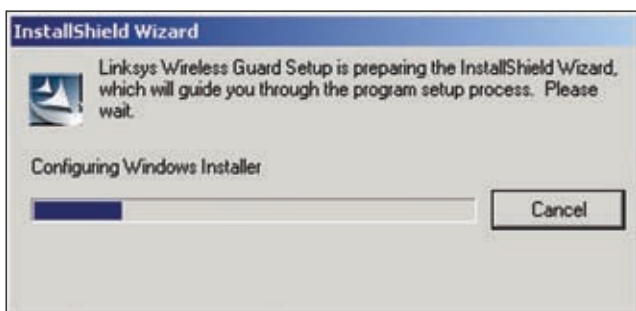
Client Software Installation

1. If you haven't already done so, on the Welcome screen of the Setup Wizard on the CD-ROM, click **Linksys Wireless Guard Client**. The Note screen shown below will appear. To install the software on this PC, click **Continue**. Click **Cancel** to cancel the installation.



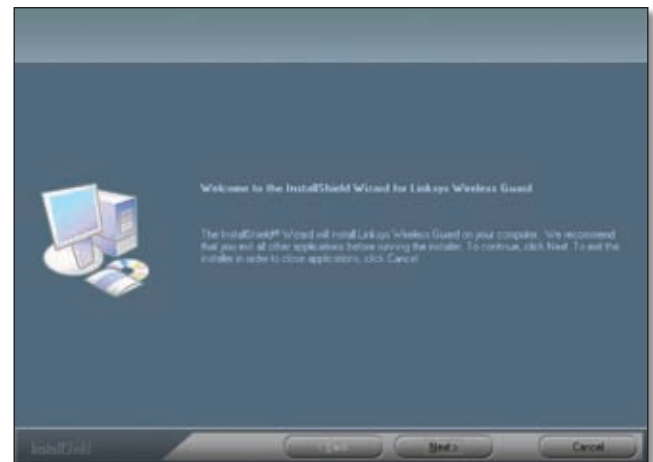
Note

2. A screen will appear to notify you that the setup is in process. Wait until the next screen appears. If you want to end the installation process, click **Cancel**.



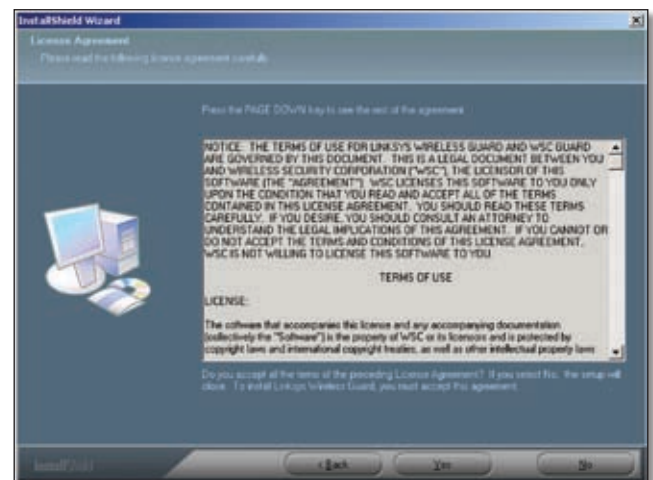
Configuring Windows Installer

3. The next screen will tell you to close all other applications before continuing. If no other applications are open, click **Next** to continue. If you want to exit to close your other applications, click **Cancel**.



Exit Other Applications

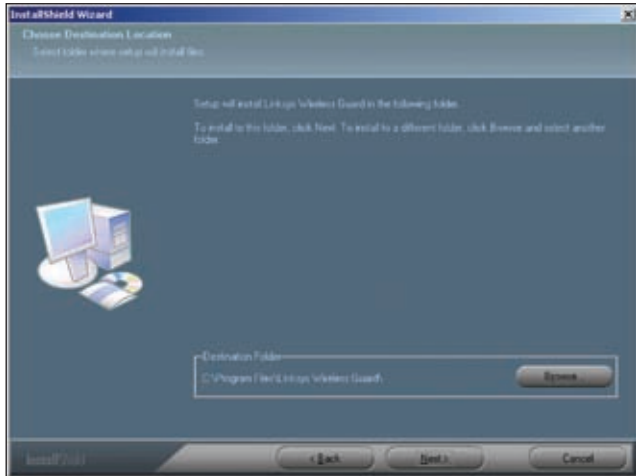
4. A license agreement will appear next. Scroll down or press **PAGE DOWN** to read the entire agreement. To accept the terms and continue the installation, click **Yes**. To quit the installation, click **No**.



License Agreement

5. On this screen, you will be informed where the Linksys Wireless Guard client software will be installed. To install to this folder, click **Next**. If you want to choose a different location for the folder, click **Browse** and select the location.

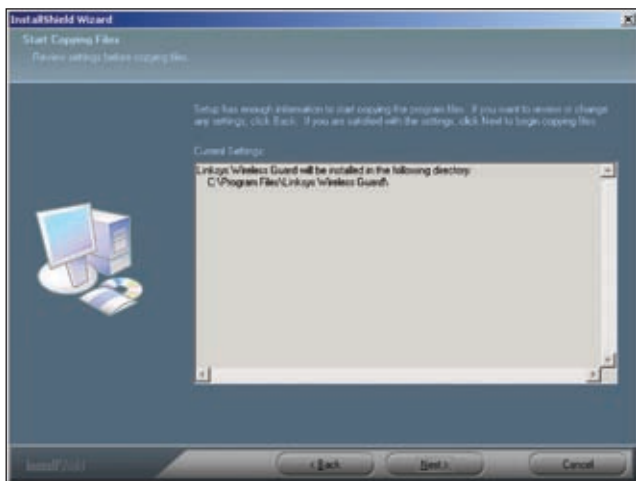
Click **Back** to return to the previous screen. Click **Cancel** to cancel the installation.



Destination Location

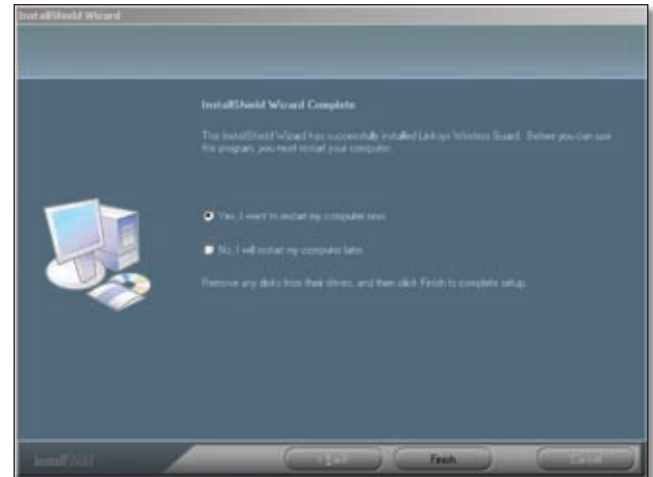
6. The InstallShield Wizard will start copying program files. Click **Next** to continue.

Click **Back** to return to the previous screen. Click **Cancel** to cancel the installation.



Copying Files

7. The Linksys Wireless Guard client software is successfully installed. Before you can use the program, you must restart your computer. Select **Yes** to restart your computer now. Select **No** to restart your computer at a later time. Remove any disks that are in their drives, and then click **Finish**.



Restart Your Computer

8. After the Linksys Wireless Guard client software is installed, a key icon will be displayed on the right side of the system tray at the bottom of your screen. The color of the key will change according to the status of the network connection. The most common colors are described below.



Key Icon

- Green - Connected.
- Green with Red X - Connected, but waiting for authentication.
- Gray - Not connected.
- Red - Connected to a network that is not protected by Linksys Wireless Guard.

Network Access

After Linksys Wireless Guard is installed, any time you access a Linksys Wireless Guard protected network, the *Wireless Guard Login* screen will appear. To access your network, click **Login as a Wireless Guard Member**, or if you are a guest, click **Login as a Wireless Guard Guest**. Enter your user name and password, and then click **Login**.

Wireless Guard Login Screen

Login as a Wireless Guard Member Select this option if you are a registered member.

Login as a Wireless Guard Guest Select this option if you are a registered guest member. The guest must first be added as a guest at the Membership and Network Administration Website. Refer to **Add a Guest**, page 9.

Save Password Select this if you want the system to remember your password so you don't have to enter it when you log in.

Enable Auto Login Select this if you want the system to bypass the login.

Click **Cancel** to cancel the login, or if you forget your password, click **Lost Password**.

Your Account

This section explains how to access your account, how to add a guest, how to add another member to your account, and how to secure and unprotect the Linksys Wireless Guard network.

For more detailed information on your account and the website, click your computer's **Start** button, select the **Linksys Wireless Guard** folder, and then click **Linksys Wireless Guard Help**. For further information on Linksys Wireless Guard only, you can contact Linksys Wireless Guard Technical Support at 888 231-5506 or send an e-mail to wirelessguard@linksys.com.

Accessing Your Account

Right-click on the green Wireless Guard Network key icon, and then click **View Membership and Network Administration Website** to log in to the Linksys Wireless Guard website.

You can also click on your computer's **Start** button, select the **Linksys Wireless Guard** folder, then click **Membership and Network Administration Website**.

1. The *Member Login* screen will appear. Enter the administrator's user name and password in the fields provided. Click **Login**.

Member Login Screen

2. The Wireless Guard Member Website home screen will appear. Through this website, you can modify your member or billing profile, view information about your account or subscription, add or remove members, modify access privileges of members and guests, change network settings, and download updates and documentation. There is a Help tab with extensive information to help you with everything on the website. The instructions for adding a guest or member, as well as securing and unprotecting your network, are also explained below.

Add a Guest

1. On the Wireless Guard Member Website home screen, click the Network Admin tab.



Home

2. The *Network Administration* screen will appear. Under Network Administration, click **Modify Access Control**.



Network Administration

3. The *Modify Access Control* screen will appear. Under Guests, click **Add Guest**.



Modify Access Control

4. The *Add Guest* screen will appear. Enter the Guest User Name, Guest First Name, Guest Last Name, Password, Password Verify, and Access Duration. Then click **Submit**.



Add Guest

Guest User Name Enter a user name of the guest you want to add.

Guest First Name Enter the first name of the guest you want to add.

Guest Last Name Enter the last name of the guest you want to add.

Password Enter a password that's at least six characters long for the guest you want to add.

Password Verify Enter the password again.

Access Duration Enter the length of time (in hours) that the guest will be on the network.

5. The guest will need to install the Linksys Wireless Guard Client software on his or her PC. The software can be downloaded from the Setup CD-ROM or from www.linksys.com/support. Refer to **Client Software Installation, page 6**.

Add a Member

To add a member, follow the instructions in steps 1 through 3 of **Add a Guest, page 9**, except in step 3, click **Add Member**.

The *Add Member* screen will appear. Registered members can enter their e-mail address in the field provided and select the duration for access from the drop-down menu. If you want this network member to have the authority to put the network in Fallback Mode in case network security is lost, select **Permission to Initiate Network Fallback**. When finished, click **Submit**.



Add Member

To register as a member for Linksys Wireless Guard, refer to the following instructions, and then when you are finished with the registration process, return to this screen.

The member will need to install the Linksys Wireless Guard Client software on his or her PC. The software can be downloaded from the Setup CD-ROM or from linksys.com/support. Refer to **Client Software Installation, page 6**.

Member Registration

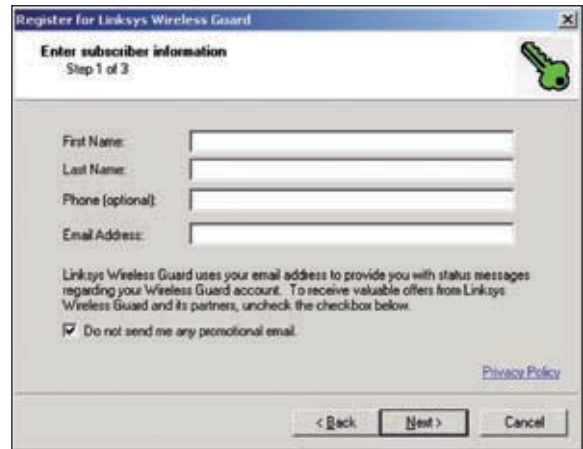
1. Right-click on the green Wireless Guard Network key icon, and then click **Register Member**.
2. The *Welcome* screen will appear. Click **Next**.



Welcome

3. When the *Subscriber information* screen appears, enter the first and last names, phone number, if desired, and then e-mail address of the new member. Click **Next**.

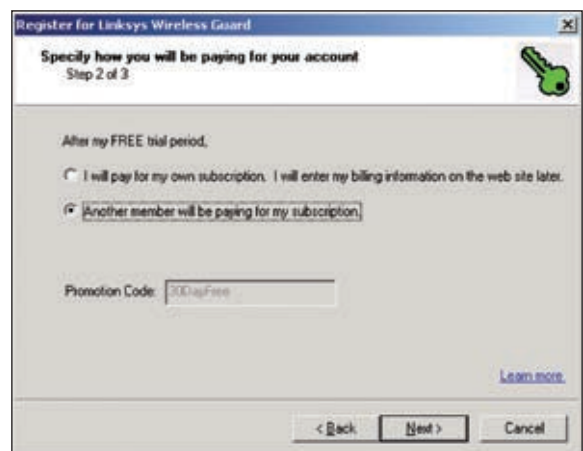
Click **Back** to return to the previous screen. Click **Cancel** to cancel the member registration.



Subscriber Information

4. When the next screen appears, choose who will be paying for the account. If the new member will be paying for the account, click **I will pay for my own subscription. I will enter my billing information on the web site later**. If the administrator will be paying for the account, click **Another member will be paying for my subscription**. Click **Next**.

Click **Back** to return to the previous screen. Click **Cancel** to cancel the member registration.



Account Finances

- When this screen appears, enter the information you will be using with the account. Enter a user name and password, and then enter the password again. Also select a security question and answer in case you forget your password in the future. Click **Next** to continue.

Click **Back** to return to the previous screen. Click **Cancel** to cancel the member registration.

Credentials Information

- When the *Congratulations* screen appears, you will be successfully registered for Linksys Wireless Guard. Click **Finish**.

Congratulations

- You should now ask the administrator to add you to his or her Wireless Guard Protected Network's Access Control List. To do so, the network administrator needs to return to the *Add Member* screen (refer to **Add a Member**, page 10).

Securing or Unprotecting Your Wireless Guard Network

There may be some instances when you would want to completely unprotect your network connection so it is not using the Wireless Guard security. For example, if you take your laptop to another location to give a presentation, and connect to a network that is running 802.1x security, the Linksys Wireless Guard software on your laptop will block you from logging in to another network. You will need to manually unprotect your network connection so you can log in. When you come back to your own network, you won't have to manually re-secure the network connection. Linksys Wireless Guard will recognize it and automatically reinstate security.

To unprotect a network

Right-click the green Wireless Guard Network key icon on the right-side of the system tray at the bottom of your screen. Select **Unprotect this Network Connection** from the menu.

When the screen asks if you're sure you want to unprotect the network, click **Yes**.

To secure an unprotected network

Right-click the green Wireless Guard Network key icon. Select **Secure this Network Connection** from the menu.

When the screen asks if you're sure you want to secure the network, click **Yes**.



NOTE: For more detailed information on your account and the website, click your computer's **Start** button, select the **Linksys Wireless Guard** folder, and then click **Linksys Wireless Guard Help**.

Chapter 3: Configuring the Wireless-G Access Point

The Access Point has been designed to be functional right out of the box, with the default settings in the Setup Wizard. However, if you want to change these settings, the Access Point can be configured through your web browser with the Web-based Utility. This chapter explains how to use the Utility.

The Utility can be accessed via a web browser through use of a computer that is networked with the Access Point.

For a basic network setup, most users only have to use the following screens of the Utility:

- **Setup** On the *Setup > Network Setup* screen, enter your basic network settings here.
- **Management** Click the **Administration** tab and then select the **Management** screen. To secure the Access Point, change the password from the default value (**admin**). Enter a new password in the *Password* and *Re-enter to confirm* fields.

How to Access the Web-Based Utility

To access the web-based utility of the Access Point, launch your web browser. In the *Address* field, enter the Access Point's default IP address, **192.168.1.245**, or the IP address you entered during the Setup Wizard. (Should you need to learn what IP address the Access Point presently uses, run the Setup Wizard again. It will scan the Access Point and give you its IP address.) Press **Enter**.



Internet Explorer Address Bar

The login screen will appear. Leave the *User Name* field blank. The first time you open the Web-based Utility, use the default password, **admin**. (You can set a new password from the *Administration > Management* screen.) Then click **OK**.



Login Screen

How to Navigate within the Utility

There are four main tabs: **Setup**, **Wireless**, **Administration**, and **Status**. When you select a main tab, the screens for that tab are listed below the main tab. To display a screen, click its name in the list.

The Setup Tab > Network Setup

The first screen that appears is the *Network Setup* screen. This allows you to change the Access Point's general settings.



Setup > Network Setup (Automatic Configuration - DHCP)



Setup > Network Setup (Static IP)

Network Setup

Device Name

You may assign any Device Name to the Access Point. Unique, memorable names are helpful, especially if you are employing multiple access points on the same network.

Configuration Type

Select **Automatic Configuration - DHCP** if your network router will assign an IP address to the Access Point. The Access Point's IP Address, Subnet Mask, and Default Gateway address will then be displayed.

Select **Static IP** if you want to assign a static or fixed IP address to the Access Point. Then complete the following:

IP Address The IP address must be unique to your network. It is recommended to use the default IP address of **192.168.1.245**.

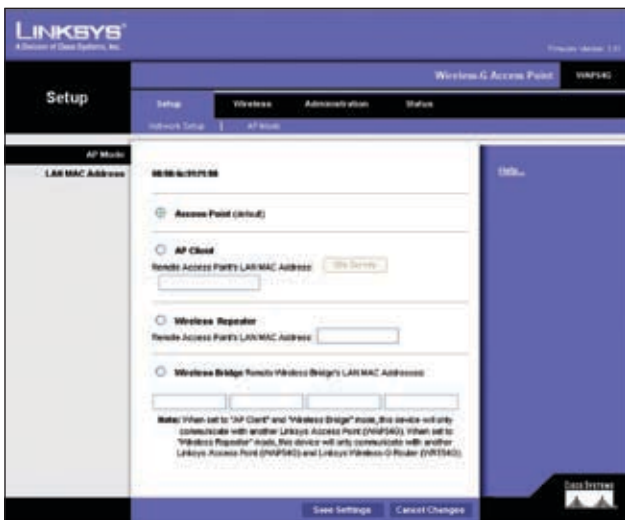
Subnet Mask The Subnet Mask must be the same as that set on your Ethernet network.

Default Gateway Enter the IP address of your network's gateway. The gateway is the device that enables communication between your computers and the Internet. In most cases, your router acts as your gateway.

Change these settings as described here and click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes. Click **Help** for more information.

The Setup Tab > AP Mode

On this screen you can change the Access Point's mode of operation. In most cases, you can keep the default, **Access Point**. You may wish to change the Access Point's mode of operation if you want to use the Access Point as a wireless repeater to extend the range of your wireless network. You may also wish to change the Access Point's mode of operation if you want to use the Access Point as a wireless bridge; for example, you can use two Access Points in Wireless Bridge mode to connect two wired networks that are in two different buildings.



Setup > AP Mode



NOTE: For the AP Client and Wireless Bridge modes, the remote access point must be a second Linksys Wireless-G Access Point (model number: WAP54G). For the Wireless Repeater mode, the remote wireless bridge must be a second Linksys Wireless-G Access Point (model number: WAP54G) or Wireless-G Router (model number: WRT54G).

AP Mode

The Access Point offers four modes of operation: Access Point, AP Client, Wireless Repeater, and Wireless Bridge. For the Repeater and Bridge modes, make sure the SSID, channel, and security settings are the same for the other wireless access points/devices.

LAN MAC Address

The MAC address of the Access Point is displayed here.

Access Point The AP Mode is set to **Access Point** by default. This connects your wireless PCs to a wired network. In most cases, no change is necessary.

AP (Access Point) Client When set to AP Client mode, the AP Client is able to talk to one remote access point within its range. This feature only works with another Wireless-G Access Point (model number: WAP54G).

This mode allows the AP Client to act as a client of a remote access point. The AP Client cannot communicate directly with any wireless clients. A separate network attached to the AP Client can then be wirelessly bridged to the remote access point.

To use this mode, select **AP Client** and enter the LAN MAC address of the remote access point in the *Remote Access Point's LAN MAC Address* field. If you do not know the remote access point's MAC address, click **Site Survey**. Select the access point you want to use and click **Close**. If you do not see the access point you want, click **Refresh** to search for access points again.



Site Survey

Wireless Repeater When set to Wireless Repeater mode, the Wireless Repeater is able to talk to up a remote access point within its range and retransmit its signal. This feature only works with the Linksys Wireless-G Router (model number: WRT54G) or another Wireless-G Access Point (model number: WAP54G).

To configure a Wireless Repeater environment, select **Wireless Repeater** and enter the MAC address of the remote access point in the *Remote Access Point's LAN MAC Address* field.



Wireless Repeater Diagram

Wireless Bridge This mode connects two physically separated wired networks using two access points (use additional access points to connect more wired networks). This feature only works with another Wireless-G Access Point (model number: WAP54G).

To configure a Wireless Bridge environment, select **Wireless Bridge**, and enter the MAC addresses of the wireless bridges/access points in the *Remote Wireless Bridge's LAN MAC Addresses* fields. You will also need to set the remote wireless bridges/access points to Wireless Bridge mode.



NOTE: In Wireless Bridge mode, the Access Point can **ONLY** be accessed by another access point in Wireless Bridge mode. In order for your other wireless devices to access the Access Point, you must reset it to Access Point mode. The two modes are mutually exclusive.



Wireless Bridge Diagram

Change these settings as described here and click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes. Click **Help** for more information.

The Wireless Tab > Basic Wireless Settings

Change the wireless network settings on this screen.



Wireless > Basic Wireless Settings

Basic Wireless Settings

Configure the Access Point using the available settings.

Mode Select **Mixed** to allow both Wireless-G and Wireless-B computers on the network, but with the speed reduced. Select **G-Only** for maximum speed with Wireless-G products only. The final selection, **B-Only**, allows only Wireless-B products on the network. To disable wireless performance, select **Disabled**.

Network Name (SSID) Enter the name of the Access Point's wireless network.

Channel Select the appropriate channel from the list provided; this will be the channel that all of your wireless devices will use.

SSID Broadcast This feature allows the SSID to be broadcast by the Access Point. You may want to enable this function while configuring your network, but make sure that you disable it when you are finished. With this enabled, someone could easily obtain the SSID information with site survey software and gain unauthorized access to your main network. Click **Enabled** to broadcast the SSID to all wireless devices in range. Click **Disabled** to increase network security and block the SSID from being seen on networked PCs.

Current Encryption This shows the encryption method currently used by the Access Point.

SecureEasySetup Button The status of the Access Point's SecureEasySetup feature is displayed here. If you want to use the Access Point's SecureEasySetup feature, click the **SecureEasySetup** button.

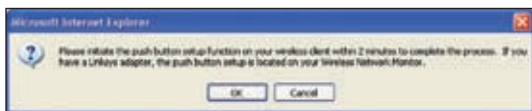


NOTE: If you have already set up your network using your router's SecureEasySetup feature, then you cannot use the Access Point's SecureEasySetup feature. You must manually configure the Access Point's wireless settings to match your existing network's settings.



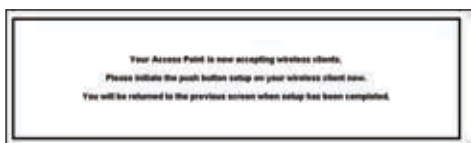
NOTE: SecureEasySetup uses WPA Personal encryption. If your current wireless devices do not support WPA Personal security, then you cannot use SecureEasySetup on your network. You will need to manually configure your network security using the encryption supported by your existing devices.

You will be asked to press the SecureEasySetup button (hardware or software) on your wireless client (computer or other network device) within two minutes to complete the SecureEasySetup process. Click **OK** to continue.



Press the SecureEasySetup Button for Your Wireless Client

A new screen will be displayed while the Access Point is waiting for you to push the SecureEasySetup button on your wireless client.



Waiting for Completion of SecureEasySetup

When the SecureEasySetup process is complete, the Basic Wireless Settings screen will appear, and the Current Encryption and Status information will be updated.

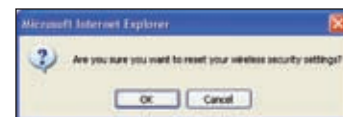


SecureEasySetup Completed Screen



NOTE: You can only add one SecureEasySetup device at a time. For additional devices, click **SecureEasySetup** on the *Wireless > Basic Wireless Settings* screen and repeat the process.

Reset Security If you already set up the network using the Access Point's SecureEasySetup feature and you want to replace your current settings with new SecureEasySetup settings, click **Reset Security**. A new screen will appear. You will be asked to confirm that you want to reset your wireless security settings. Click **OK** to continue.



Confirm Reset

The Access Point will generate a new network name (SSID) and set of keys. To configure your wireless network using SecureEasySetup, return to the previous page of this User Guide and follow the instructions for the SecureEasySetup button.

Change these settings as described here and click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes. Click **Help** for more information.

The Wireless Tab > Wireless Security

Change the Access Point's wireless security settings on this screen.

Wireless Security

Security Mode Select the security method you want to use, **WPA-Personal**, **WPA2-Personal**, **WPA2-Mixed**, **WPA-Enterprise**, **RADIUS**, or **WEP**. (WPA stands for Wi-Fi Protected Access, which is a security standard stronger than WEP encryption. WPA2 is a stronger version of WPA. WEP stands for Wired Equivalent Privacy, while RADIUS stands for Remote Authentication Dial-In User Service.) Refer to the appropriate instructions below. For detailed instructions on configuring wireless security for the Access Point, refer to **Chapter 2: Wireless Security Checklist, page 5**. To disable such security, select **Disabled**.

WPA-Personal



Wireless > Wireless Security (WPA-Personal)

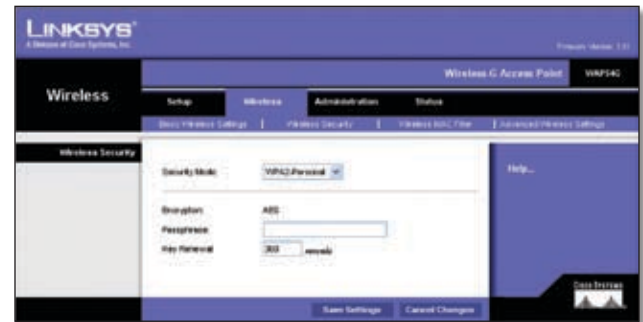
Encryption WPA offers you two encryption methods, TKIP and AES, with dynamic encryption keys. Select the type of algorithm you want to use, **TKIP** or **AES**.

Passphrase Enter a Passphrase (also called a WPA Shared Key) of 8-32 characters.

Key Renewal Enter a Key Renewal timeout period, which instructs the Access Point how often it should change the encryption keys.

Change these settings as described here and click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes. Click **Help** for more information.

WPA2-Personal



Wireless > Wireless Security (WPA2-Personal)

Encryption **AES** is automatically selected as the encryption method.

Passphrase Enter a Passphrase (also called a WPA Shared Key) of 8-32 characters.

Key Renewal Enter a Key Renewal timeout period, which instructs the Access Point how often it should change the encryption keys.

Change these settings as described here and click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes. Click **Help** for more information.

WPA2-Mixed



Wireless > Wireless Security (WPA2-Mixed)

Encryption **TKIP + AES** is automatically selected so both methods can be used.

Passphrase Enter a Passphrase (also called a WPA Shared Key) of 8-32 characters.

Key Renewal Enter a Key Renewal timeout period, which instructs the Access Point how often it should change the encryption keys.

Change these settings as described here and click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes. Click **Help** for more information.

WPA-Enterprise

This option features WPA used in coordination with a RADIUS server. (This should only be used when a RADIUS server is connected to the Access Point.)



Wireless > Wireless Security (WPA-Enterprise)

Encryption WPA offers you two encryption methods, TKIP and AES, with dynamic encryption keys. Select the type of algorithm you want to use, **TKIP** or **AES**.

RADIUS Server Enter the RADIUS server's IP address.

RADIUS Port Enter the port number used by the RADIUS server.

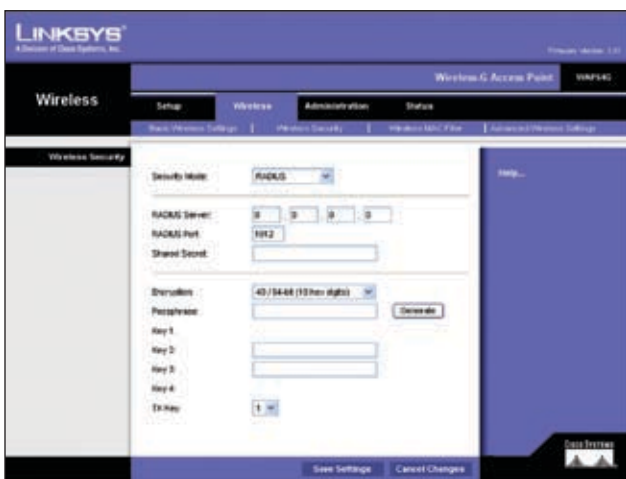
Shared Secret Enter the Shared Secret key used by the Access Point and RADIUS server.

Key Renewal Enter a Key Renewal timeout period, which instructs the Access Point how often it should change the encryption keys.

Change these settings as described here and click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes. Click **Help** for more information.

RADIUS

This option features WEP used in coordination with a RADIUS server. (This should only be used when a RADIUS server is connected to the Access Point.)



Wireless > Wireless Security (RADIUS)

RADIUS Server Enter the RADIUS server's IP address.

RADIUS Port Enter the port number used by the RADIUS server.

Shared Secret Enter the Shared Secret key used by the Access Point and RADIUS server.

Encryption Select a level of WEP encryption, **40/64 bits (10 hex digits)** or **128 bits (26 hex digits)**.

Passphrase To generate WEP keys using a Passphrase, enter the Passphrase and click the **Generate** key.

Key 1-4 If you want to manually enter WEP keys, then complete the fields provided. Each WEP key can consist of the letters "A" through "F" and the numbers "0" through "9". It should be 10 characters in length for 64-bit encryption or 26 characters in length for 128-bit encryption.

TX Key Select which Key to use for data transmissions.

Change these settings as described here and click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes. Click **Help** for more information.

WEP



Wireless > Wireless Security (WEP)

Encryption Select a level of WEP encryption, **40/64 bits (10 hex digits)** or **128 bits (26 hex digits)**.

Passphrase To generate WEP keys using a Passphrase, enter the Passphrase and click **Generate**.

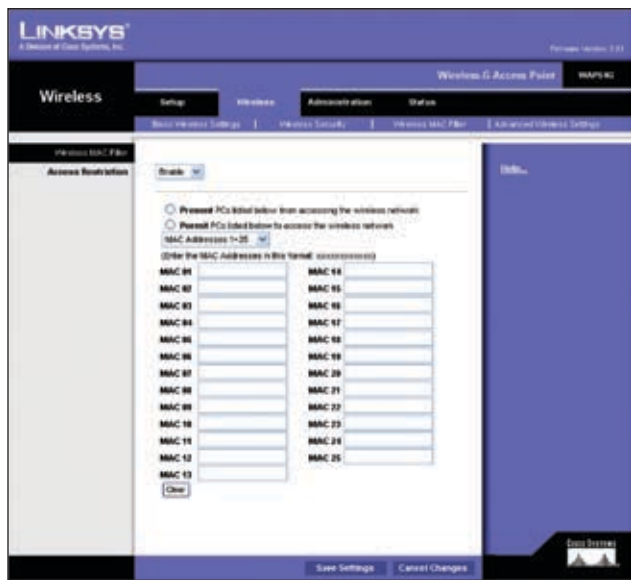
Key 1-4 If you want to manually enter WEP keys, then complete the fields provided. Each WEP key can consist of the letters "A" through "F" and the numbers "0" through "9". It should be 10 characters in length for 64-bit encryption or 26 characters in length for 128-bit encryption.

TX Key Select which Key to use for data transmissions.

Change these settings as described here and click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes. Click **Help** for more information.

The Wireless Tab > Wireless MAC Filter

This screen allows you to permit or block wireless access for computers with specific MAC addresses.



Wireless > Wireless MAC Filter

Wireless MAC Filter

Access Restriction

If you want to control access to your wireless network, select **Enable**. If you do not wish to filter users by MAC address, select **Disable**.

To deny access, click **Prevent PCs listed below from accessing the wireless network**. To permit access, click **Permit PCs listed below to access the wireless network**.

MAC 01-25 Enter the MAC addresses of the computers whose access you want to control. If you want to list more than 25 MAC addresses, then select **MAC Addresses 26~50** from the drop-down menu.

Click **Clear** to delete the MAC addresses you have entered.

Change these settings as described here and click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes. Click **Help** for more information.

The Wireless Tab > Advanced Wireless Settings

This screen allows you to configure the advanced settings for the Access Point. In most cases, these settings do not need to be changed.



Wireless > Advanced Wireless Settings

Advanced Wireless

You can change the data transmission and output power settings for the Access Point.

Authentication Type Select the authentication method you want the Access Point to use, **Shared Key** or **Open System (Default)**. Shared Key is when both the sender and the recipient share a WEP key for authentication. Open System is when the sender and the recipient do not share a WEP key for authentication. All devices on your network must use the same authentication type. In most cases, keep the default, **Open System (Default)**.

Basic Rates This setting is not actually one rate of transmission but a series of rates that are advertised to the other wireless devices in your network, so they know at which rates the Access Point can transmit. At the **Default** setting, the Access Point will advertise that it will automatically select the best rate for transmission. Other options are **1-2Mbps**, for use with older wireless technology, and **All**, when you wish to have all rates advertised. The Basic Data Rates are not the rates transmitted; the rates transmitted can be configured through the Transmission Rates setting on this screen.

Transmission Rates The range is from 1 to 54Mbps. The rate of data transmission should be set depending on the speed of your wireless network. You can select from a range of transmission speeds, or you can keep the default setting, **Auto (Default)**, to have the Access Point automatically use the fastest possible data rate and enable the Auto-Fallback feature. Auto-Fallback will negotiate the best possible connection speed between the Access Point and a wireless client.

Transmission Power You can adjust the output power of the Access Point to get the appropriate coverage for your wireless network. Select the level you need for your environment. If you are not sure which setting to choose, then keep the default setting, **Full (Default)**.

CTS Protection Mode The CTS (Clear-To-Send) Protection Mode function boosts the Access Point's ability to catch all Wireless-G transmissions but will severely decrease performance. Select **Enable** if you want to permanently enable this feature, or keep the default, **Disable**, if you want to permanently disable this feature. In most cases, CTS Protection Mode should remain disabled, unless the Wireless-G products are experiencing severe problems trying to transmit to the Access Point in an environment with heavy 802.11b traffic.

Frame Burst Mode Enabling this option should reduce overhead and enhance your network performance, depending on the manufacturer of your wireless products. If you are not sure how to use this option, keep the default, **Disabled**.

Antenna Selection This selection is for choosing which antenna transmits data, left or right. If you are not sure which antenna to use, keep the default, **Diversity**, to increase reception.

Beacon Interval This value indicates the frequency interval of the beacon. A beacon is a packet broadcast by the Access Point to keep the network synchronized. A beacon includes the wireless networks service area, the Access Point address, the Broadcast destination addresses, a time stamp, Delivery Traffic Indicator Maps, and the Traffic Indicator Message (TIM).

DTIM Interval This value indicates how often the Access Point sends out a Delivery Traffic Indication Message (DTIM). Lower settings result in more efficient networking, while preventing your PC from dropping into power-saving sleep mode. Higher settings allow your PC to enter sleep mode, thus saving power, but interferes with wireless transmissions.

Fragmentation Threshold This specifies the maximum size a data packet can be before splitting and creating a new packet. It should remain at its default setting of **2346**. A smaller setting means smaller packets, which will create more packets for each transmission. If you have decreased this value and experience high packet error rates, you can increase it again, but it will likely decrease overall network performance. Only minor modifications of this value are recommended.

RTS Threshold This setting determines how large a packet can be before the Access Point coordinates transmission and reception to ensure efficient communication. This value should remain at its default setting of **2347**. Should you encounter inconsistent data flow, only minor modifications are recommended.

Change these settings as described here and click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes. Click **Help** for more information.

The Administration Tab > Management

On this screen you can configure the password as well as back up or restore the Access Point's configuration file.



Administration > Management

Management

You should change the password that controls access to the Access Point's Web-based Utility.

AP's Password

Password Create a Password for the Access Point's Web-based Utility.

Re-enter to Confirm To confirm the new Password, enter it again in this field.

Backup and Restore

On this screen you can create a backup configuration file or save a configuration file to the Access Point.

Backup Settings To save a backup configuration file on a computer, click **Backup Settings** and follow the on-screen instructions.

Restore Settings To upload a configuration file to the Access Point, click **Restore Settings** and follow the on-screen instructions.

Change these settings as described here and click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes. Click **Help** for more information.

The Administration Tab > SNMP

SNMP is a popular network monitoring and management protocol. It provides network administrators with the ability to monitor the status of the Access Point and receive notification of any critical events as they occur on the Access Point.



Administration > SNMP

SNMP V1/V2c

To enable the SNMP support feature, select **Enable**. Otherwise, select **Disable**.

Contact Enter the name of the contact person, such as a network administrator, for the Access Point.

Device Name Enter the name you wish to give to the Access Point.

Location Enter the location of the Access Point.

SNMP Community

You can have up to two passwords. Then select the level of access you want to assign to each password.

(public) Enter the first password that allows access to the Access Point's SNMP information. The default is **public**. Then select the level of access you want to assign, **Read-Only** or **Read/Write**.

(private) Enter the second password that allows access to the Access Point's SNMP information. The default is **private**. Then select the level of access you want to assign, **Read-Only** or **Read/Write**.

Change these settings as described here and click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes. Click **Help** for more information.

The Administration Tab > Log

On this screen you can configure the log settings.



Administration > Log

Management

You can have logs that keep track of the Access Point's activities.

Log

To enable the Log support feature, select **Enabled**. Otherwise, select **Disabled**.

Logviewer IP Address If you have chosen to monitor the Access Point's traffic, then you can designate a PC that will receive permanent log files periodically. In the field provided, enter the IP address of this PC. To view these permanent logs, you must use Logviewer software, which can be downloaded free of charge from www.linksys.com.

View Log To see a temporary log of the Access Point's most recent activities, click this button. The *View Log* screen appears.



View Log Screen

On the *View Log* screen, click **First Page** to see the first page of log entries. Click **Last Page** to see the last page of log entries. Click **Previous Page** to see the previous page of log entries, and click **Next Page** to see the next page of log entries. To delete all log entries, click **Clear Log**. To update the log with the most recent activities, click **Refresh**.

Change these settings as described here and click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes. Click **Help** for more information.

The Administration Tab > Factory Defaults

On this screen you can restore the Access Point's factory default settings.



Administration > Factory Defaults

Management

Write down any custom settings before you restore the factory defaults. Once the Access Point is reset, you will have to re-enter all of your configuration settings.

Factory Defaults

Restore Factory Defaults To restore the Access Point's factory default settings, click this button. Then follow the on-screen instructions.

Click **Help** for more information.

The Administration Tab > Firmware Upgrade

On this screen you can upgrade the Access Point's firmware. Do not upgrade the firmware unless you are experiencing problems with the Access Point or the new firmware has a feature you want to use.



Administration > Firmware Upgrade

Firmware Upgrade

Before you upgrade the Access Point's firmware, write down all of your custom settings. After you upgrade its firmware, you will have to re-enter all of your configuration settings. To upgrade the Access Point's firmware:

1. Download the firmware upgrade file from the Linksys website, www.linksys.com.
2. Extract the firmware upgrade file on your computer.
3. On the *Firmware Upgrade* screen, enter the location of the firmware upgrade file in the field provided, or click **Browse** to find the file.
4. Click **Upgrade**, and follow the on-screen instructions. You can also click **Cancel** to cancel the upgrade, or click **Help** for more information.

Click **Help** for more information.

The Status Tab > Local Network

The *Local Network* screen displays the Access Point's current status information for the local network.



Status > Local Network

AP's Information

Firmware Version This is the version of the Access Point's current firmware.

Local Network

MAC Address The MAC Address of the Access Point's Local Area Network (LAN) interface is displayed here.

AP's IP Address This shows the Access Point's IP address, as it appears on your local network.

Subnet Mask This shows the Access Point's Subnet Mask.

Default Gateway Displayed here is the IP address of the Access Point's Default Gateway.

Click **Help** for more information.

The Status Tab > Wireless Network

The *Wireless Network* screen displays the Access Point's current status information for its wireless network.



Status > Wireless Network

Wireless Network

MAC Address The MAC Address of the Access Point's wireless interface is displayed here.

Mode The Access Point's mode is displayed here.

Network Name (SSID) The Access Point's main SSID is displayed here.

Channel The Access Point's channel setting for wireless broadcast is shown here.

Security The wireless security setting for the Access Point is displayed here.

SSID Broadcast Shown here is the setting of the Access Point's SSID Broadcast feature.

Click **Help** for more information.

Appendix A: Troubleshooting

I can't connect to the Internet.

1. Verify the proper LEDs are lit on the Access Point.
 - Make sure the Power LED has a steady green light and is not flashing.
 - Verify the Ethernet LED has a fairly steady green light. It will flash occasionally, indicating activity.
 - Verify the Signal Strength LEDs are lit.
2. Power down everything, and power on each device in the following order:
 - Access Point
 - PC
3. Ensure that the proper wireless network name (SSID) has been selected. You can use the **Site Survey** button on the *Wireless > Basic Wireless Settings* screen (refer to **The Wireless Tab > Basic Wireless Settings, page 14**) to scan for a list of available wireless network names (SSIDs). If necessary, check with your ISP to verify the proper wireless network name (SSID).
4. Make sure that you are using the proper encryption settings required by your ISP to connect to their service. The encryption settings of the Access Point are configured on the *Wireless > Wireless Security* screen (refer to **The Wireless Tab > Wireless Security, page 16**).

The wireless signal strength is very poor.

- Try moving the location of the Access Point, if possible move the Access Point near a window.
- Adjust the direction of the antenna.

I cannot access the web-based utility after my computer goes into sleep mode.

Disconnect the power from the Access Point and reconnect it. You should be able to access the web-based utility once the Access Point has fully booted.

I need to modify the settings on my Access Point.

1. Open your web browser.
2. Type your Access Point's IP address into the address bar (the default IP address is 192.168.1.245).
3. When prompted, enter the user name and password for your Access Point. (The default user name is none [leave the field blank], and the default password is **admin**.)
4. Click the appropriate tab to change the settings.



WEB: If your questions are not addressed here, refer to the Linksys website, www.linksys.com

Appendix B: Specifications

Model	WAP54G
Standards	IEEE 802.11g, IEEE 802.11b, IEEE 802.3, IEEE 802.3u
Ports	One 10/100 Auto-Cross Over (MDI/MDI-X) port, power port
Buttons	Reset, SES (SecureEasySetup)
Cabling Type	RJ-45
LEDs	Power, Activity, Link, SecureEasySetup
Transmit Power	802.11g: Typ. 13.5 ± 2 dBm @ Normal Temp Range 802.11b: Typ. 16.5 ± 2 dBm @ Normal Temp Range
Security Features	WPA, Linksys Wireless Guard, WEP Encryption, MAC Filtering, SSID Broadcast enable/disable
WEP Key Bits	64/128-bit

Environmental

Dimensions	7.32" x 1.89" x 6.65" (186 x 48 x 169 mm)
Weight	16.23 oz. (460 g)
Power	External, 12V DC
Certification	FCC
Operating Temp.	32 to 150°F (0 to 40°C)
Storage Temp.	-40 to 185°F (0 to 70°C)
Operating Humidity	10 to 85% Noncondensing
Storage Humidity	5 to 90% Noncondensing

Appendix C: Warranty Information

Limited Warranty

Linksys warrants this Linksys hardware product against defects in materials and workmanship under normal use for the Warranty Period, which begins on the date of purchase by the original end-user purchaser and lasts for the period specified below:

- One (1) year for new product
- Ninety (90) days for refurbished product

This limited warranty is non-transferable and extends only to the original end-user purchaser. Your exclusive remedy and Linksys' entire liability under this limited warranty will be for Linksys, at its option, to (a) repair the product with new or refurbished parts, (b) replace the product with a reasonably available equivalent new or refurbished Linksys product, or (c) refund the purchase price of the product less any rebates. Any repaired or replacement products will be warranted for the remainder of the original Warranty Period or thirty (30) days, whichever is longer. All products and parts that are replaced become the property of Linksys.

Exclusions and Limitations

This limited warranty does not apply if: (a) the product assembly seal has been removed or damaged, (b) the product has been altered or modified, except by Linksys, (c) the product damage was caused by use with non-Linksys products, (d) the product has not been installed, operated, repaired, or maintained in accordance with instructions supplied by Linksys, (e) the product has been subjected to abnormal physical or electrical stress, misuse, negligence, or accident, (f) the serial number on the Product has been altered, defaced, or removed, or (g) the product is supplied or licensed for beta, evaluation, testing or demonstration purposes for which Linksys does not charge a purchase price or license fee.

ALL SOFTWARE PROVIDED BY LINKSYS WITH THE PRODUCT, WHETHER FACTORY LOADED ON THE PRODUCT OR CONTAINED ON MEDIA ACCOMPANYING THE PRODUCT, IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND. Without limiting the foregoing, Linksys does not warrant that the operation of the product or software will be uninterrupted or error free. Also, due to the continual development of new techniques for intruding upon and attacking networks, Linksys does not warrant that the product, software or any equipment, system or network on which the product or software is used will be free of vulnerability to intrusion or attack. The product may include or be bundled with third party software or

service offerings. This limited warranty shall not apply to such third party software or service offerings. This limited warranty does not guarantee any continued availability of a third party's service for which this product's use or operation may require.

TO THE EXTENT NOT PROHIBITED BY LAW, ALL IMPLIED WARRANTIES AND CONDITIONS OF MERCHANTABILITY, SATISFACTORY QUALITY OR FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED TO THE DURATION OF THE WARRANTY PERIOD. ALL OTHER EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF NON-INFRINGEMENT, ARE DISCLAIMED. Some jurisdictions do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. This limited warranty gives you specific legal rights, and you may also have other rights which vary by jurisdiction.

TO THE EXTENT NOT PROHIBITED BY LAW, IN NO EVENT WILL LINKSYS BE LIABLE FOR ANY LOST DATA, REVENUE OR PROFIT, OR FOR SPECIAL, INDIRECT, CONSEQUENTIAL, INCIDENTAL OR PUNITIVE DAMAGES, REGARDLESS OF THE THEORY OF LIABILITY (INCLUDING NEGLIGENCE), ARISING OUT OF OR RELATED TO THE USE OF OR INABILITY TO USE THE PRODUCT (INCLUDING ANY SOFTWARE), EVEN IF LINKSYS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT WILL LINKSYS' LIABILITY EXCEED THE AMOUNT PAID BY YOU FOR THE PRODUCT. The foregoing limitations will apply even if any warranty or remedy provided under this limited warranty fails of its essential purpose. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

Obtaining Warranty Service

If you have a question about your product or experience a problem with it, please go to www.linksys.com/support where you will find a variety of online support tools and information to assist you with your product. If the product proves defective during the Warranty Period, contact Linksys Technical Support for instructions on how to obtain warranty service. The telephone number for Linksys Technical Support in your area can be found in the product User Guide and at www.linksys.com. Have your product serial number and proof of purchase on hand when calling. A DATED PROOF OF ORIGINAL PURCHASE IS REQUIRED TO PROCESS WARRANTY CLAIMS. If you are requested to return your product, you will be given a Return Materials Authorization (RMA) number. You are responsible for properly packaging and shipping your product to Linksys at your cost and risk. You must include the RMA number and a copy of your dated proof of original purchase when returning your product. Products received without a RMA number and dated proof of original purchase will be

rejected. Do not include any other items with the product you are returning to Linksys. Defective product covered by this limited warranty will be repaired or replaced and returned to you without charge. Customers outside of the United States of America and Canada are responsible for all shipping and handling charges, custom duties, VAT and other associated taxes and charges. Repairs or replacements not covered under this limited warranty will be subject to charge at Linksys' then-current rates.

Technical Support

This limited warranty is neither a service nor a support contract. Information about Linksys' current technical support offerings and policies (including any fees for support services) can be found at:

www.linksys.com/support.

This limited warranty is governed by the laws of the jurisdiction in which the Product was purchased by you.

Please direct all inquiries to: Linksys, P.O. Box 18558, Irvine, CA 92623.

Appendix D: Regulatory Information

FCC Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment or devices
- Connect the equipment to an outlet other than the receiver's
- Consult a dealer or an experienced radio/TV technician for assistance

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

FCC Radiation Exposure Statement

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

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. IEEE 802.11b or 802.11g operation of this product in the USA is firmware-limited to channels 1 through 11.

Safety Notices

- Caution: To reduce the risk of fire, use only No.26 AWG or larger telecommunication line cord.
- Do not use this product near water, for example, in a wet basement or near a swimming pool.
- Avoid using this product during an electrical storm. There may be a remote risk of electric shock from lightning.



WARNING: This product contains lead, known to the State of California to cause cancer, and birth defects or other reproductive harm. Wash hands after handling.

Industry Canada Statement

This Class B digital apparatus complies with Canadian ICES-003 and RSS210.

Operation is subject to the following two conditions:

1. This device may not cause interference and
2. This device must accept any interference, including interference that may cause undesired operation of the device. This device has been designed to operate with an antenna having a maximum gain of 2dBi. Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the EIRP is not more than required for successful communication.

Industry Canada Radiation Exposure Statement:

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

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

Avis d'Industrie Canada

Cet appareil numérique de la classe B est conforme aux normes NMB-003 et RSS210 du Canada.

L'utilisation de ce dispositif est autorisée seulement aux conditions suivantes :

1. il ne doit pas produire de brouillage et
2. il doit accepter tout brouillage radioélectrique reçu, même si ce brouillage est susceptible de compromettre le fonctionnement du dispositif. Le dispositif a été conçu pour fonctionner avec une antenne ayant un gain maximum de 2 dBi. Les règlements d'Industrie Canada interdisent strictement l'utilisation d'antennes dont le gain est supérieur à cette limite. L'impédance requise de l'antenne est de 50 ohms.

Afin de réduire le risque d'interférence aux autres utilisateurs, le type d'antenne et son gain doivent être choisis de façon à ce que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne soit pas supérieure au niveau requis pour obtenir une communication satisfaisante.

Avis d'Industrie Canada concernant l'exposition aux radiofréquences :

Ce matériel est conforme aux limites établies par IC en matière d'exposition aux radiofréquences dans un environnement non contrôlé. Ce matériel doit être installé et utilisé à une distance d'au moins 20 cm entre l'antenne et le corps de l'utilisateur.

L'émetteur ne doit pas être placé près d'une autre antenne ou d'un autre émetteur, ou fonctionner avec une autre antenne ou un autre émetteur.

Wireless Disclaimer

The maximum performance for wireless is derived from IEEE Standard 802.11 specifications. Actual performance can vary, including lower wireless network capacity, data throughput rate, range and coverage. Performance depends on many factors, conditions and variables, including distance from the access point, volume of network traffic, building materials and construction, operating system used, mix of wireless products used, interference and other adverse conditions.

Avis de non-responsabilité concernant les appareils sans fil


Les performances maximales pour les réseaux sans fil sont tirées des spécifications de la norme IEEE 802.11. Les performances réelles peuvent varier, notamment en fonction de la capacité du réseau sans fil, du débit de la transmission de données, de la portée et de la couverture. Les performances dépendent de facteurs, conditions et variables multiples, en particulier de la distance par rapport au point d'accès, du volume du trafic réseau, des matériaux utilisés dans le bâtiment et du type de construction, du système d'exploitation et de la combinaison de produits sans fil utilisés, des interférences et de toute autre condition défavorable.

User Information for Consumer Products Covered by EU Directive 2002/96/EC on Waste Electric and Electronic Equipment (WEEE)


This document contains important information for users with regards to the proper disposal and recycling of Linksys products. Consumers are required to comply with this notice for all electronic products bearing the following symbol:




English - Environmental Information for Customers in the European Union

European Directive 2002/96/EC requires that the equipment bearing this symbol  on the product and/or its packaging must not be disposed of with unsorted municipal waste. The symbol indicates that this product should be disposed of separately from regular household waste streams. It is your responsibility to dispose of this and other electric and electronic equipment via designated collection facilities appointed by the government or local authorities. Correct disposal and recycling will help prevent potential negative consequences to the environment and human health. For more detailed information about the disposal of your old equipment, please contact your local authorities, waste disposal service, or the shop where you purchased the product.


Български (Bulgarian) - Информация относно опазването на околната среда за потребители в Европейския съюз

Европейска директива 2002/96/EC изисква уредите, носещи този символ  върху изделието и/или опаковката му, да не се изхвърлят с несортирани битови отпадъци. Символът обозначава, че изделието трябва да се изхвърля отделно от сметосъбирането на обикновените битови отпадъци. Ваша е отговорността този и другите електрически и електронни уреди да се изхвърлят в предварително определени от държавните или общински органи специализирани пунктове за събиране. Правилното изхвърляне и рециклиране ще спомогнат да се предотвратят евентуални вредни за околната среда и здравето на населението последствия. За по-подробна информация относно изхвърлянето на вашите стари уреди се обърнете към местните власти, службите за сметосъбиране или магазина, от който сте закупили уреда.


Čeština (Czech) - Informace o ochraně životního prostředí pro zákazníky v zemích Evropské unie

Evropská směrnice 2002/96/ES zakazuje, aby zařízení označené tímto symbolem  na produktu anebo na obalu bylo likvidováno s netříděným komunálním odpadem. Tento symbol udává, že daný produkt musí být likvidován odděleně od běžného komunálního odpadu. Odpovídáte za likvidaci tohoto produktu a dalších elektrických a elektronických zařízení prostřednictvím určených sběrných míst stanovených vládou nebo místními úřady. Správná likvidace a recyklace pomáhá předcházet potenciálním negativním dopadům na životní prostředí a lidské zdraví. Podrobnější informace o likvidaci starého vybavení si laskavě vyžádejte od místních úřadů, podniku zabývajícího se likvidací komunálních odpadů nebo obchodu, kde jste produkt zakoupili.


Dansk (Danish) - Miljøinformation for kunder i EU

EU-direktiv 2002/96/EF kræver, at udstyr der bærer dette symbol  på produktet og/eller emballagen ikke må bortskaffes som usorteret kommunalt affald. Symbolet betyder, at dette produkt skal bortskaffes adskilt fra det almindelige husholdningsaffald. Det er dit ansvar at bortskaffe dette og andet elektrisk og elektronisk udstyr via bestemte indsamlingssteder udpeget af staten eller de lokale myndigheder. Korrekt bortskaffelse og genvinding vil hjælpe med til at undgå mulige skader for miljøet og menneskers sundhed. Kontakt venligst de lokale myndigheder, renovationstjenesten eller den butik, hvor du har købt produktet, angående mere detaljeret information om bortskaffelse af dit gamle udstyr.


Deutsch (German) - Umweltinformation für Kunden innerhalb der Europäischen Union

Die Europäische Richtlinie 2002/96/EC verlangt, dass technische Ausrüstung, die direkt am Gerät und/oder an der Verpackung mit diesem Symbol versehen ist , nicht zusammen mit unsortiertem Gemeindeabfall entsorgt werden darf. Das Symbol weist darauf hin, dass das Produkt von regulärem Haushaltsmüll getrennt entsorgt werden sollte. Es liegt in Ihrer Verantwortung, dieses Gerät und andere elektrische und elektronische Geräte über die dafür zuständigen und von der Regierung oder örtlichen Behörden dazu bestimmten Sammelstellen zu entsorgen. Ordnungsgemäßes Entsorgen und Recyceln trägt dazu bei, potentielle negative Folgen für Umwelt und die menschliche Gesundheit zu vermeiden. Wenn Sie weitere Informationen zur Entsorgung Ihrer Altgeräte benötigen, wenden Sie sich bitte an die örtlichen Behörden oder städtischen Entsorgungsdienste oder an den Händler, bei dem Sie das Produkt erworben haben.


Eesti (Estonian) - Keskkonnaalane informatsioon Euroopa Liidus asuvatele klientidele

Euroopa Liidu direktiivi 2002/96/EÜ nõuete kohaselt on seadmeid, millel on tootel või pakendil käesolev sümbol , keelatud kõrvaldada koos sorteerimata olmejäätmetega. See sümbol näitab, et toode tuleks kõrvaldada eraldi tavalistest olmejäätmevoogudest. Olete kohustatud kõrvaldama käesoleva ja ka muud elektri- ja elektroonikaseadmed riigi või kohalike ametiasutuste poolt ette nähtud kogumispunktide kaudu. Seadmete korrektn kõrvaldamine ja ringlussevõtt aitab vältida võimalikke negatiivseid tagajärgi keskkonnale ning inimeste tervisele. Vanade seadmete kõrvaldamise kohta täpsema informatsiooni saamiseks võtke palun ühendust kohalike ametiasutustega, jäätmekäitlusfirmaga või kauplusega, kust te toote ostsite.


Español (Spanish) - Información medioambiental para clientes de la Unión Europea

La Directiva 2002/96/CE de la UE exige que los equipos que lleven este símbolo , en el propio aparato y/o en su embalaje no deben eliminarse junto con otros residuos urbanos no seleccionados. El símbolo indica que el producto en cuestión debe separarse de los residuos domésticos convencionales con vistas a su eliminación. Es responsabilidad suya desechar este y cualesquiera otros aparatos eléctricos y electrónicos a través de los puntos de recogida que ponen a su disposición el gobierno y las autoridades locales. Al desechar y reciclar correctamente estos aparatos estará contribuyendo a evitar posibles consecuencias negativas para el medio ambiente y la salud de las personas. Si desea obtener información más detallada sobre la eliminación segura de su aparato usado, consulte a las autoridades locales, al servicio de recogida y eliminación de residuos de su zona o pregunte en la tienda donde adquirió el producto.


Ελληνικά (Greek) - Στοιχεία περιβαλλοντικής προστασίας για πελάτες εντός της Ευρωπαϊκής Ένωσης

Η Κοινοτική Οδηγία 2002/96/ΕΚ απαιτεί ότι ο εξοπλισμός ο οποίος φέρει αυτό το σύμβολο , στο προϊόν και/ή στη συσκευασία του δεν πρέπει να απορρίπτεται μαζί με τα μικτά κοινотικά απορρίμματα. Το σύμβολο υποδεικνύει ότι αυτό το προϊόν θα πρέπει να απορρίπτεται ξεχωριστά από τα συνήθη οικιακά απορρίμματα. Είστε υπεύθυνος για την απόρριψη του παρόντος και άλλου ηλεκτρικού και ηλεκτρονικού εξοπλισμού μέσω των καθορισμένων εγκαταστάσεων συγκέντρωσης απορριμμάτων οι οποίες παρέχονται από το κράτος ή τις αρμόδιες τοπικές αρχές. Η σωστή απόρριψη και ανακύκλωση συμβάλλει στην πρόληψη πιθανών αρνητικών συνεπειών για το περιβάλλον και την υγεία. Για περισσότερες πληροφορίες σχετικά με την απόρριψη του παλιού σας εξοπλισμού, παρακαλώ επικοινωνήστε με τις τοπικές αρχές, τις υπηρεσίες απόρριψης ή το κατάστημα από το οποίο αγοράσατε το προϊόν.


Français (French) - Informations environnementales pour les clients de l'Union européenne

La directive européenne 2002/96/CE exige que l'équipement sur lequel est apposé ce symbole , sur le produit et/ou son emballage ne soit pas jeté avec les autres ordures ménagères. Ce symbole indique que le produit doit être éliminé dans un circuit distinct de celui pour les déchets des ménages. Il est de votre responsabilité de jeter ce matériel ainsi que tout autre matériel électrique ou électronique par les moyens de collecte indiqués par le gouvernement et les pouvoirs publics des collectivités territoriales. L'élimination et le recyclage en bonne et due forme ont pour but de lutter contre l'impact néfaste potentiel de ce type de produits sur l'environnement et la santé publique. Pour plus d'informations sur le mode d'élimination de votre ancien équipement, veuillez prendre contact avec les pouvoirs publics locaux, le service de traitement des déchets, ou l'endroit où vous avez acheté le produit.


Italiano (Italian) - Informazioni relative all'ambiente per i clienti residenti nell'Unione Europea

La direttiva europea 2002/96/EC richiede che le apparecchiature contrassegnate con questo simbolo , sul prodotto e/o sull'imballaggio non siano smaltite insieme ai rifiuti urbani non differenziati. Il simbolo indica che questo prodotto non deve essere smaltito insieme ai normali rifiuti domestici. È responsabilità del proprietario smaltire sia questi prodotti sia le altre apparecchiature elettriche ed elettroniche mediante le specifiche strutture di raccolta indicate dal governo o dagli enti pubblici locali. Il corretto smaltimento ed il riciclaggio aiuteranno a prevenire conseguenze potenzialmente negative per l'ambiente e per la salute dell'essere umano. Per ricevere informazioni più dettagliate circa lo smaltimento delle vecchie apparecchiature in Vostro possesso, Vi invitiamo a contattare gli enti pubblici di competenza, il servizio di smaltimento rifiuti o il negozio nel quale avete acquistato il prodotto.


Latviešu valoda (Latvian) - Ekoloģiska informācija klientiem Eiropas Savienības jurisdikcijā

Direktīvā 2002/96/EK ir prasība, ka aprīkojumu, kam pievienota zīme , uz paša izstrādājuma vai uz tā iesaiņojuma, nedrīkst izmest nešķīrotā veidā kopā ar komunālajiem atkritumiem (tiem, ko rada vietēji iedzīvotāji un uzņēmumi). Šī zīme nozīmē to, ka šī ierīce ir jāizmet atkritumos tā, lai tā nenonāktu kopā ar parastiem mājsaimniecības atkritumiem. Jūsu pienākums ir šo un citas elektriskas un elektroniskas ierīces izmest atkritumos, izmantojot īpašus atkritumu savākšanas veidus un līdzekļus, ko nodrošina valsts un pašvaldību iestādes. Ja izmešana atkritumos na pārstrāde tiek veikta pareizi, tad mazinās iespējamais kaitējums dabai un cilvēku veselībai. Sīkākas ziņas par novecojuša aprīkojuma izmešanu atkritumos jūs varat saņemt vietējā pašvaldībā, atkritumu savākšanas dienestā, kā arī veikalā, kur iegādājāties šo izstrādājumu.


Lietuvškai (Lithuanian) - Aplinkosaugos informacija, skirta Europos Sąjungos vartotojams

Europos direktyva 2002/96/EC numato, kad įrangos, kuri ir  kurios pakuotė yra pažymėta šiuo simboliu (įveskite simbolį), negalima šalinti kartu su nerūšiuotomis komunalinėmis atliekomis. Šis simbolis rodo, kad gaminį reikia šalinti atskirai nuo bendro buitinių atliekų srauto. Jūs privalote užtikrinti, kad ši ir kita elektros ar elektroninė įranga būtų šalinama per tam tikras nacionalinės ar vietinės valdžios nustatytas atliekų rinkimo sistemas. Tinkamai šalinant ir perdirbant atliekas, bus išvengta galimos žalos aplinkai ir žmonių sveikatai. Daugiau informacijos apie jūsų senos įrangos šalinimą gali pateikti vietinės valdžios institucijos, atliekų šalinimo tarnybos arba parduotuvės, kuriose įsigijote tą gaminį.


Malti (Maltese) - Informazzjoni Ambjentali għal Kliġenti fl-Unjoni Ewropea

Id-Direttiva Ewropea 2002/96/KE titlob li t-tagħmir li jkun fi h is-simbolu  fuq il-prodott u/jew fuq l-ippakkjar ma jistax jintrema ma' skart muniċipali li ma għex isseparat. Is-simbolu jindika li dan il-prodott għandu jintrema separatament minn ma' l-iskart domestiku regolari. Hija responsabbiltà tiegħek li tarmi dan it-tagħmir u kull tagħmir ieħor ta' l-elettriku u elettroniku permezz ta' faċilitajiet ta' għbir appuntati apposta mill-gvern jew mill-awtoritajiet lokali. Ir-rimi b'mod korrett u r-riċiklaġġ jgħin jipprevjeni konsegwenzi negattivi potenzjali għall-ambjent u għas-saħħa tal-bniedem. Għal aktar informazzjoni dettaljata dwar ir-rimi tat-tagħmir antik tiegħek, jekk jogħġbok ikkuntattja lill-awtoritajiet lokali tiegħek, is-servizzi għar-rimi ta' l-iskart, jew il-ħanut minn fejn xtrajt il-prodott.


Magyar (Hungarian) - Környezetvédelmi információ az európai uniós vásárlók számára

A 2002/96/EC számú európai uniós irányelv megkívánja, hogy azokat a termékeket, amelyeken, és/vagy amelyek csomagolásán az alábbi címke  megjelenik, tilos a többi szelektálatlan lakossági hulladékkal együtt kidobni. A címke azt jelöli, hogy az adott termék kidobásakor a szokványos háztartási hulladékészállítási rendszerektől elkülönített eljárást kell alkalmazni. Az Ön felelőssége, hogy ezt, és más elektromos és elektronikus berendezéseit a kormányzati vagy a helyi hatóságok által kijelölt gyűjtőredszereken keresztül számolja fel. A megfelelő hulladékfeldolgozás segít a környezetre és az emberi egészségre potenciálisan ártalmas negatív hatások megelőzésében. Ha elavult berendezéseinek felszámolásához további részletes információra van szüksége, kérjük, lépjen kapcsolatba a helyi hatóságokkal, a hulladékfeldolgozási szolgálattal, vagy azzal üzlettel, ahol a terméket vásárolta.


Nederlands (Dutch) - Milieu-informatie voor klanten in de Europese Unie

De Europese Richtlijn 2002/96/EC schrijft voor dat apparatuur die is voorzien van dit symbool  op het product of de verpakking, niet mag worden ingezameld met niet-gescheiden huishoudelijk afval. Dit symbool geeft aan dat het product apart moet worden ingezameld. U bent zelf verantwoordelijk voor de vernietiging van deze en andere elektrische en elektronische apparatuur via de daarvoor door de landelijke of plaatselijke overheid aangewezen inzamelingskanalen. De juiste vernietiging en recycling van deze apparatuur voorkomt mogelijke negatieve gevolgen voor het milieu en de gezondheid. Voor meer informatie over het vernietigen van uw oude apparatuur neemt u contact op met de plaatselijke autoriteiten of afvalverwerkingsdienst, of met de winkel waar u het product hebt aangeschaft.


Norsk (Norwegian) - Miljøinformasjon for kunder i EU

EU-direktiv 2002/96/EF krever at utstyr med følgende symbol  avbildet på produktet og/eller pakningen, ikke må kastes sammen med usortert avfall. Symbolet indikerer at dette produktet skal håndteres atskilt fra ordinær avfallsinnsamling for husholdningsavfall. Det er ditt ansvar å kvitte deg med dette produktet og annet elektrisk og elektronisk avfall via egne innsamlingsordninger slik myndighetene eller kommunene bestemmer. Korrekt avfallshåndtering og gjenvinning vil være med på å forhindre mulige negative konsekvenser for miljø og helse. For nærmere informasjon om håndtering av det kasserte utstyret ditt, kan du ta kontakt med kommunen, en innsamlingsstasjon for avfall eller butikken der du kjøpte produktet.


Polski (Polish) - Informacja dla klientów w Unii Europejskiej o przepisach dotyczących ochrony środowiska

Dyrektywa Europejska 2002/96/EC wymaga, aby sprzęt oznaczony symbolem  znajdującym się na produkcie i/lub jego opakowaniu nie był wyrzucany razem z innymi niesortowanymi odpadami komunalnymi. Symbol ten wskazuje, że produkt nie powinien być usuwany razem ze zwykłymi odpadami z gospodarstw domowych. Na Państwu spoczywa obowiązek wyrzucania tego i innych urządzeń elektrycznych oraz elektronicznych w punktach odbioru wyznaczonych przez władze krajowe lub lokalne. Pozbywanie się sprzętu we właściwy sposób i jego recykling pomogą zapobiec potencjalnie negatywnym konsekwencjom dla środowiska i zdrowia ludzkiego. W celu uzyskania szczegółowych informacji o usuwaniu starego sprzętu, prosimy zwrócić się do lokalnych władz, służb oczyszczania miasta lub sklepu, w którym produkt został nabyty.


Português (Portuguese) - Informação ambiental para clientes da União Europeia

A Directiva Europeia 2002/96/CE exige que o equipamento que exibe este símbolo  no produto e/ou na sua embalagem não seja eliminado junto com os resíduos municipais não separados. O símbolo indica que este produto deve ser eliminado separadamente dos resíduos domésticos regulares. É da sua responsabilidade eliminar este e qualquer outro equipamento eléctrico e electrónico através das instalações de recolha designadas pelas autoridades governamentais ou locais. A eliminação e reciclagem correctas ajudarão a prevenir as consequências negativas para o ambiente e para a saúde humana. Para obter informações mais detalhadas sobre a forma de eliminar o seu equipamento antigo, contacte as autoridades locais, os serviços de eliminação de resíduos ou o estabelecimento comercial onde adquiriu o produto.


Română (Romanian) - Informații de mediu pentru clienții din Uniunea Europeană

Directiva europeană 2002/96/CE impune ca echipamentele care prezintă acest simbol  pe produs și/sau pe ambalajul acestuia să nu fie casate împreună cu gunoiul menajer municipal. Simbolul indică faptul că acest produs trebuie să fie casat separat de gunoiul menajer obișnuit. Este responsabilitatea dvs. să cașiți acest produs și alte echipamente electrice și electronice prin intermediul unităților de colectare special desemnate de guvern sau de autoritățile locale. Casarea și reciclarea corecte vor ajuta la prevenirea potențialelor consecințe negative asupra sănătății mediului și a oamenilor. Pentru mai multe informații detaliate cu privire la casarea acestui echipament vechi, contactați autoritățile locale, serviciul de salubritate sau magazinul de la care ați achiziționat produsul.


Slovenčina (Slovak) - Informácie o ochrane životného prostredia pre zákazníkov v Európskej únii

Podľa európskej smernice 2002/96/ES zariadenie s týmto symbolom  na produkte a/alebo jeho balení nesmie byť likvidované spolu s netriedeným komunálnym odpadom. Symbol znamená, že produkt by sa mal likvidovať oddelene od bežného odpadu z domácností. Je vašou povinnosťou likvidovať toto i ostatné elektrické a elektronické zariadenia prostredníctvom špecializovaných zberných zariadení určených vládou alebo miestnymi orgánmi. Správna likvidácia a recyklácia pomôže zabrániť prípadným negatívnym dopadom na životné prostredie a zdravie ľudí. Ak máte záujem o podrobnejšie informácie o likvidácii starého zariadenia, obráťte sa, prosím, na miestne orgány, organizácie zaoberajúce sa likvidáciou odpadov alebo obchod, v ktorom ste si produkt zakúpili.


Slovenčina (Slovene) - Okoljske informacije za stranke v Evropski uniji

Evropska direktiva 2002/96/EC prepoveduje odlaganje opreme, označene s tem simbolom  – na izdelku in/ali na embalaži – med običajne, nerazvrščene odpadke. Ta simbol opozarja, da je treba izdelek odvreči ločeno od preostalih gospodinjskih odpadkov. Vaša odgovornost je, da to in preostalo električno in elektronsko opremo odnesete na posebna zbirališča, ki jih določijo državne ustanove ali lokalna uprava. S pravilnim odlaganjem in recikliranjem boste preprečili morebitne škodljive vplive na okolje in zdravje ljudi. Če želite izvedeti več o odlaganju stare opreme, se obrnite na lokalno upravo, odpad ali trgovino, kjer ste izdelek kupili.

Suomi (Finnish) - Ympäristöä koskevia tietoja EU-alueen asiakkaille

EU-direktiivi 2002/96/EY edellyttää, että jos laitteistossa on tämä symboli  itse tuotteessa ja/tai sen pakkauksessa, laitteistoa ei saa hävittää lajittelemattoman yhdyskuntajätteen mukana. Symboli merkitsee sitä, että tämä tuote on hävitettävä erillään tavallisesta kotitalousjätteestä. Sinun vastuullasi on hävittää tämä elektroniikkatuote ja muut vastaavat elektroniikkatuotteet viemällä tuote tai tuotteet viranomaisten määräämään keräyspisteeseen. Laitteiston oikea hävittäminen estää mahdolliset kielteiset vaikutukset ympäristöön ja ihmisten terveyteen. Lisätietoja vanhan laitteiston oikeasta hävitystavasta saa paikallisilta viranomaisilta, jätteenhävityspalvelusta tai siitä myymälästä, josta ostit tuotteen.

Svenska (Swedish) - Miljöinformation för kunder i Europeiska unionen

Det europeiska direktivet 2002/96/EC kräver att utrustning med denna symbol  på produkten och/eller förpackningen inte får kastas med osorterat kommunalt avfall. Symbolen visar att denna produkt bör kastas efter att den avskiljts från vanligt hushållsavfall. Det faller på ditt ansvar att kasta denna och annan elektrisk och elektronisk utrustning på fastställda samlingsplatser utsedda av regeringen eller lokala myndigheter. Korrekt kassering och återvinning skyddar mot eventuella negativa konsekvenser för miljön och personhälsa. För mer detaljerad information om kassering av din gamla utrustning kontaktar du dina lokala myndigheter, avfallshanteringen eller butiken där du köpte produkten.



WEB: For additional information, please visit www.linksys.com

Appendix E: Software License Agreement

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END OF SCHEDULE 3

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