

**LINKSYS**® by Cisco



USER GUIDE

# Wireless-G Home Router with SpeedBurst

Model: WRT54GH



# 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	<a href="http://www.linksysbycisco.com">www.linksysbycisco.com</a>
Linksys International	<a href="http://www.linksysbycisco.com/international">www.linksysbycisco.com/international</a>
Glossary	<a href="http://www.linksysbycisco.com/glossary">www.linksysbycisco.com/glossary</a>
Network Security	<a href="http://www.linksysbycisco.com/security">www.linksysbycisco.com/security</a>

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## Chapter 1: Product Overview

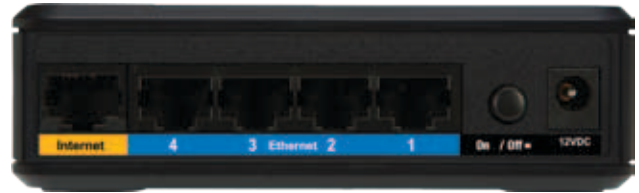
Thank you for choosing the Linksys by Cisco Wireless-G Home Router with SpeedBurst. The Router lets you access the Internet via a wireless connection or through one of its four switched ports. You can also use the Router to share resources such as computers, printers and files. A variety of security features help to protect your data and your privacy while you are online. Security features include WPA2 security, a Stateful Packet Inspection (SPI) firewall, and NAT technology. Configuring the Router is easy using the provided browser-based utility.





### Front Panel



-  **1, 2, 3, 4** (Green) These numbered LEDs, corresponding with the numbered ports on the Router's back panel, serve two purposes. If the LED is continuously lit, the Router is successfully connected to a device through that port. A flashing LED indicates network activity over that port.
-  **Wireless** (Green) The Wireless LED lights up when the wireless feature is enabled. If the LED is flashing, the Router is sending or receiving data over the network.
-  **Internet** (Green) The Internet LED lights up when there is a connection made through the Internet port. It flashes to indicate network activity over the Internet port.
-  **Power** (Green) The Power LED lights up and will stay on while the Router is powered on. When the Router goes through its self-diagnostic mode during every boot-up, this LED will flash. When the diagnostic is complete, the LED will be solidly lit.


### Back Panel



-  **Internet** The Internet port is where you will connect your cable or DSL Internet connection.
-  **4, 3, 2, 1** These Ethernet ports (4, 3, 2, 1) connect the Router to computers on your wired network and other Ethernet network devices.
-  **On/Off** Push the On/Off button to power on or off the Router.
-  **Power** The Power port connects to the included power adapter.

### Side Panel



-  **Reset** There are two ways to reset the Router to its factory defaults. Either press and hold the Reset button for approximately five seconds, or restore the defaults from the *Administration > Factory Defaults* screen of the Router's browser-based utility. (Refer to **Administration > Factory Defaults, page 20.**)

### Horizontal Placement

The Router has four rubber feet on its bottom panel. Place the Router on a level surface near an electrical outlet.





## Wall-Mounting Placement

The Router has two wall-mount slots on its bottom panel. The distance between the slots is 51.3 mm (2.02 inches).

Two screws are needed to mount the Router.

### Suggested Mounting Hardware

		2.5-3.0 mm
4-5 mm	1-1.5 mm	

†Note: Mounting hardware illustrations are not true to scale.

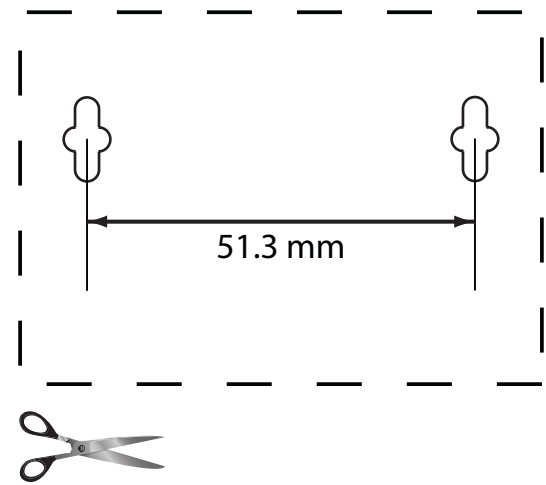


**NOTE:** Linksys is not responsible for damages incurred by insecure wall-mounting hardware.

Follow these instructions:

1. Determine where you want to mount the Router. Make sure that the wall you use is smooth, flat, dry, and sturdy. Also make sure the location is within reach of an electrical outlet.
2. Drill two holes into the wall. Make sure the holes are 51.3 mm (2.02 inches) apart.
3. Insert a screw into each hole and leave 3 mm (0.12 inches) of its head exposed.
4. Maneuver the Router so the wall-mount slots line up with the two screws.

5. Place the wall-mount slots over the screws and slide the Router down until the screws fit snugly into the wall-mount slots.



Wall-Mounting Template

Print this page at 100% size.

Cut along the dotted line, and place on the wall to drill precise spacing.

## 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 and routers, 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 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 Equivalent 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.linksysbycisco.com/security](http://www.linksysbycisco.com/security)

## Chapter 3: Advanced Configuration

After setting up the Router with the Setup Wizard (located on the CD-ROM), the Router will be ready for use. However, if you want to change its advanced settings, use the Router's browser-based utility. This chapter describes each web page of the utility and each page's key functions. You can access the utility via a web browser on a computer connected to the Router.

The browser-based utility has these main tabs: Setup, Wireless, Security, Access Restrictions, Applications & Gaming, Administration, and Status. Additional tabs will be available after you click one of the main tabs.

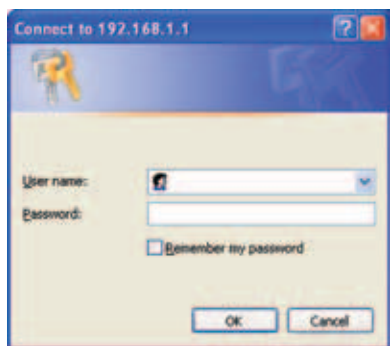


**NOTE:** When first installing the Router, you should use the Setup Wizard on the Setup CD-ROM. If you want to configure advanced settings, use this chapter to learn about the browser-based utility.

### Access the Browser-Based Utility

To access the browser-based utility, launch the web browser on your computer, and enter the Router's default IP address, **192.168.1.1**, in the *Address* field. Then press **Enter**.

A login screen will appear. (Non-Windows XP users will see a similar screen.) Leave the *User name* field blank. The first time you open the browser-based utility, use the default password **admin**. (You can set a new password from the *Administration > Management* screen.) Click **OK** to continue.



Login Screen

### Setup > Basic Setup

The first screen that appears is the *Basic Setup* screen. This allows you to change the Router's general settings.



Setup > Basic Setup

### Internet Setup

The Internet Setup section configures the Router to your Internet connection. Most of this information can be obtained through your Internet Service Provider (ISP).

#### Internet Connection Type

Select the type of Internet connection your ISP provides from the drop-down menu. These are the available types:

- Automatic Configuration - DHCP
- Static IP
- PPPoE
- PPTP
- L2TP
- Telstra Cable

#### Automatic Configuration - DHCP

By default, the Router's Internet Connection Type is set to **Automatic Configuration - DHCP**, which should be kept only if your ISP supports DHCP or you are connecting through a dynamic IP address. (This option usually applies to cable connections.)



Internet Connection Type > Automatic Configuration - DHCP



## Static IP

If you are required to use a permanent IP address to connect to the Internet, select **Static IP**.

Internet Connection Type > Static IP

**Internet IP Address** This is the Router's IP address, when seen from the Internet. Your ISP will provide you with the IP Address you need to specify here.

**Subnet Mask** This is the Router's Subnet Mask, as seen by users on the Internet (including your ISP). Your ISP will provide you with the Subnet Mask.

**Default Gateway** Your ISP will provide you with the IP address of the ISP server.

**DNS 1-3** Your ISP will provide you with at least one DNS (Domain Name System) server IP address.

## PPPoE

Some DSL-based ISPs use PPPoE (Point-to-Point Protocol over Ethernet) to establish Internet connections. If you are connected to the Internet through a DSL line, check with your ISP to see if they use PPPoE. If they do, you will have to enable **PPPoE**.

Internet Connection Type > PPPoE

**Username and Password** Enter the Username and Password provided by your ISP.

**Service Name (Optional)** If provided by your ISP, enter the Service Name.

**Connect on Demand: Max Idle Time** You can configure the Router to cut the Internet connection after it has been inactive for a specified period of time (Max Idle Time). If your Internet connection has been terminated due to inactivity, Connect on Demand enables the Router to automatically re-establish your connection as soon as you attempt to access the Internet again. To use this option, select **Connect on Demand**. In the *Max Idle Time* field, enter the number of minutes you want to have elapsed

before your Internet connection terminates. The default Max Idle Time is **5** minutes.

**Keep Alive: Redial Period** If you select this option, the Router will periodically check your Internet connection. If you are disconnected, then the Router will automatically re-establish your connection. To use this option, select **Keep Alive**. In the *Redial Period* field, you specify how often you want the Router to check the Internet connection. The default Redial Period is **30** seconds.

## PPTP

Point-to-Point Tunneling Protocol (PPTP) is a service that applies to connections in Europe only.

Internet Connection Type > PPTP

If your ISP supports DHCP or you are connecting through a dynamic IP address, then select **Obtain an IP Address Automatically**. If you are required to use a permanent IP address to connect to the Internet, then select **Specify an IP Address**. Then configure the following:

- **Specify an IP Address** This is the Router's IP address, as seen from the Internet. Your ISP will provide you with the IP Address you need to specify here.
- **Subnet Mask** This is the Router's Subnet Mask, as seen by users on the Internet (including your ISP). Your ISP will provide you with the Subnet Mask.
- **Default Gateway** Your ISP will provide you with the IP address of the ISP server.
- **DNS 1-3** Your ISP will provide you with at least one DNS (Domain Name System) server IP address.

**PPTP Server IP Address** Your ISP will provide you with the IP address of the PPTP server.

**Username and Password** Enter the Username and Password provided by your ISP.

**Connect on Demand: Max Idle Time** You can configure the Router to cut the Internet connection after it has been inactive for a specified period of time (Max Idle Time). If your Internet connection has been terminated due to inactivity, Connect on Demand enables the Router to

automatically re-establish your connection as soon as you attempt to access the Internet again. To use this option, select **Connect on Demand**. In the *Max Idle Time* field, enter the number of minutes you want to have elapsed before your Internet connection terminates. The default Max Idle Time is **5** minutes.

**Keep Alive: Redial Period** If you select this option, the Router will periodically check your Internet connection. If you are disconnected, then the Router will automatically re-establish your connection. To use this option, select **Keep Alive**. In the *Redial Period* field, you specify how often you want the Router to check the Internet connection. The default value is **30** seconds.

## L2TP

L2TP is a service that applies to connections in Israel only.

Internet Connection Type > L2TP

**Server IP Address** This is the IP address of the L2TP Server. Your ISP will provide you with the IP Address you need to specify here.

**Username and Password** Enter the Username and Password provided by your ISP.

**Connect on Demand: Max Idle Time** You can configure the Router to cut the Internet connection after it has been inactive for a specified period of time (Max Idle Time). If your Internet connection has been terminated due to inactivity, Connect on Demand enables the Router to automatically re-establish your connection as soon as you attempt to access the Internet again. To use this option, select **Connect on Demand**. In the *Max Idle Time* field, enter the number of minutes you want to have elapsed before your Internet connection terminates. The default Max Idle Time is **5** minutes.

**Keep Alive: Redial Period** If you select this option, the Router will periodically check your Internet connection. If you are disconnected, then the Router will automatically re-establish your connection. To use this option, select **Keep Alive**. In the *Redial Period* field, you specify how often you want the Router to check the Internet connection. The default Redial Period is **30** seconds.

## Telstra Cable

Telstra Cable is a service that applies to connections in Australia only.

Internet Connection Type > Telstra Cable

**Server IP Address** This is the IP address of the Heartbeat Server. Your ISP will provide you with the IP Address you need to specify here.

**Username and Password** Enter the Username and Password provided by your ISP.

**Connect on Demand: Max Idle Time** You can configure the Router to cut the Internet connection after it has been inactive for a specified period of time (Max Idle Time). If your Internet connection has been terminated due to inactivity, Connect on Demand enables the Router to automatically re-establish your connection as soon as you attempt to access the Internet again. To use this option, select **Connect on Demand**. In the *Max Idle Time* field, enter the number of minutes you want to have elapsed before your Internet connection terminates. The default Max Idle Time is **5** minutes.

**Keep Alive: Redial Period** If you select this option, the Router will periodically check your Internet connection. If you are disconnected, then the Router will automatically re-establish your connection. To use this option, select **Keep Alive**. In the *Redial Period* field, you specify how often you want the Router to check the Internet connection. The default Redial Period is **30** seconds.

## Optional Settings

Some of these settings may be required by your ISP. Verify with your ISP before making any changes.

Optional Settings

**Host Name and Domain Name** These fields allow you to supply a host and domain name for the Router. Some ISPs, usually cable ISPs, require these names as identification. You may have to check with your ISP to see if your broadband Internet service has been configured with a host and domain name. In most cases, leaving these fields blank will work.

**MTU** MTU is the Maximum Transmission Unit. It specifies the largest packet size permitted for Internet transmission. Select Manual if you want to manually enter the largest packet size that is transmitted. To have the Router select

the best MTU for your Internet connection, keep the default, **Auto**.

**Size** When Manual is selected in the *MTU* field, this option is enabled. Leave this value in the 1200 to 1500 range. The default size depends on the Internet Connection Type:

- DHCP, Static IP, or Telstra: **1500**
- PPPoE: **1492**
- PPTP or L2TP: **1460**

## Network Setup

The Network Setup section changes the settings of the local network. Wireless setup is performed through the Wireless tab.

### Router IP

This presents both the Router's Local IP Address and Subnet Mask as seen by your network.

Router IP

### DHCP Server Setting

The settings allow you to configure the Router's Dynamic Host Configuration Protocol (DHCP) server function. The Router can be used as a DHCP server for your network. A DHCP server automatically assigns an IP address to each computer on your network. If you choose to enable the Router's DHCP server option, make sure there is no other DHCP server on your network.

DHCP Server Setting

**DHCP Server** DHCP is enabled by factory default. If you already have a DHCP server on your network, or you do not want a DHCP server, then select **Disabled** (no other DHCP features will be available).

**DHCP Reservation** Click this button if you want to assign a fixed local IP address to a MAC address.

### DHCP Reservation

You will see a list of DHCP clients with the following information: Client Name, Interface, IP Address, and MAC Address.

DHCP Reservation

- **Select Clients from DHCP Table** Click the **Select** check box to reserve a client's IP address. Then click **Add Clients**.
- **Manually Adding Client** To manually assign an IP address, enter the client's name in the *Enter Client Name* field. Enter the IP address you want it to have in the *Assign IP Address* field. Enter its MAC address in the *To This MAC Address* field. Then click **Add**.

### Clients Already Reserved

A list of DHCP clients and their fixed local IP addresses will be displayed at the bottom of the screen. If you want to remove a client from this list, click **Remove**.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to clear your changes. To update the on-screen information, click **Refresh**. To exit this screen and return to the *Basic Setup* screen, click **Close**.

**Start IP Address** Enter a value for the DHCP server to start with when issuing IP addresses. Because the Router's default IP address is 192.168.1.1, the Start IP Address must be 192.168.1.2 or greater, but smaller than 192.168.1.253. The default is **192.168.1.100**.

**Maximum Number of Users** Enter the maximum number of computers that you want the DHCP server to assign IP addresses to. This number cannot be greater than 253. The default is **50**.

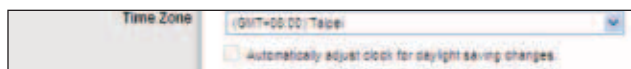
**IP Address Range** The range of available IP addresses. is displayed.

**Client Lease Time** The Client Lease Time is the amount of time a network user will be allowed connection to the Router with their current dynamic IP address. Enter the amount of time, in minutes, that the user will be "leased" this dynamic IP address. After the time has expired, the user will be automatically assigned a new dynamic IP address, or the lease will be renewed. The default is **0** minutes, which means one day.

**Static DNS 1-3** The Domain Name System (DNS) is how the Internet translates domain or website names into Internet addresses or URLs. Your ISP will provide you with at least one DNS Server IP Address. If you wish to use another, enter that IP Address in one of these fields. You can enter up to three DNS Server IP Addresses here. The Router will use these for quicker access to functioning DNS servers.

**WINS** The Windows Internet Naming Service (WINS) manages each computer's interaction with the Internet. If you use a WINS server, enter that server's IP Address here. Otherwise, leave this blank.

### Time Settings



Time Settings

**Time Zone** Select the time zone in which your network functions from this drop-down menu.

**Automatically adjust clock for daylight saving changes** Select this option to have the Router automatically adjust for daylight saving time.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to clear your changes.

### Setup > DDNS

The Router offers a Dynamic Domain Name System (DDNS) feature. DDNS lets you assign a fixed host and domain name to a dynamic Internet IP address. It is useful when you are hosting your own website, FTP server, or other server behind the Router.

Before you can use this feature, you need to sign up for DDNS service with a DDNS service provider, [www.dyndns.org](http://www.dyndns.org) or [www.TZO.com](http://www.TZO.com). If you do not want to use this feature, keep the default, **Disabled**.

### DDNS

#### DDNS Service

If your DDNS service is provided by DynDNS.org, then select **DynDNS.org** from the drop-down menu. If your DDNS service is provided by TZO, then select **TZO.com**. The features available on the *DDNS* screen will vary, depending on which DDNS service provider you use.

### DynDNS.org



Setup > DDNS > DynDNS

**Username** Enter the Username for your DDNS account.

**Password** Enter the Password for your DDNS account.

**Host Name** This is the DDNS URL assigned by the DDNS service.

**System** Select the DynDNS service you use: **Dynamic**, **Static**, or **Custom**. The default selection is **Dynamic**.

**Mail Exchange (Optional)** Enter the address of your mail exchange server, so e-mails to your DynDNS address go to your mail server.

**Backup MX** This feature allows the mail exchange server to be a backup. To disable this feature, keep the default, **Disabled**. To enable the feature, select **Enabled**. If you are not sure which setting to select, keep the default, **Disabled**.

**Wildcard** This setting enables or disables wildcards for your host. For example, if your DDNS address is *myplace.dyndns.org* and you enable wildcards, then *x.myplace.dyndns.org* will work as well (x is the wildcard). To disable wildcards, keep the default, **Disabled**. To enable wildcards, select **Enabled**. If you are not sure which setting to select, keep the default, **Disabled**.

**Internet IP Address** The Router's Internet IP address is displayed here. Because it is dynamic, it will change.

**Status** The status of the DDNS service connection is displayed here.

**Update** To manually trigger an update, click this button.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to clear your changes.

TZO.com



Setup &gt; DDNS &gt; TZO

**E-mail Address, TZO Key, and Domain Name** Enter the settings of the account you set up with TZO.

**Internet IP Address** The Router's Internet IP address is displayed here. Because it is dynamic, it will change.

**Status** The status of the DDNS service connection is displayed here.

**Update** To manually trigger an update, click this button.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to clear your changes.

## Setup > MAC Address Clone

A MAC address is a 12-digit code assigned to a unique piece of hardware for identification. Some ISPs will require you to register a MAC address in order to access the Internet. If you do not wish to re-register the MAC address with your ISP, you may assign the MAC address you have currently registered with your ISP to the Router with the MAC Address Clone feature.



Setup &gt; MAC Address Clone

## MAC Address Clone

**Enabled/Disabled** To have the MAC address cloned, select **Enabled**.

**MAC Address** Enter the MAC address registered with your ISP here.

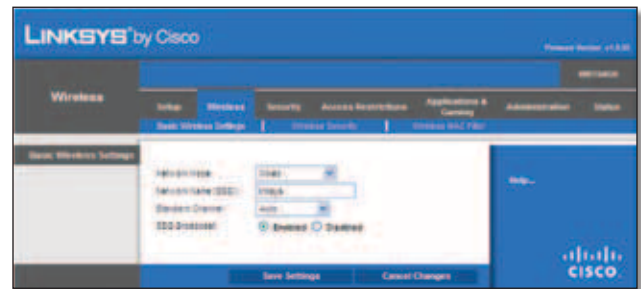
**Clone My PC's MAC** Click this button to clone the MAC address of the computer you are using.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to clear your changes.

## Wireless > Basic Wireless Settings

The basic settings for wireless networking are set on this screen.

## Basic Wireless Settings



Wireless &gt; Basic Wireless Settings

**Network Mode** From this drop-down menu, you can select the wireless standards running on your network. If you have Wireless-G and Wireless-B devices in your network, keep the default, **Mixed**. If you have only Wireless-G devices, select **Wireless-G Only**. If you have only Wireless-B devices, select **Wireless-B Only**. If you do not have any wireless devices in your network, select **Disabled**.

**Network Name (SSID)** The SSID is the network name shared among all points in a wireless network. The SSID must be identical for all devices in the wireless network. It is case-sensitive and must not exceed 32 characters (use any of the characters on the keyboard). Make sure this setting is the same for all points in your wireless network. For added security, you should change the default SSID (**linksys**) to a unique name.

**Standard Channel** Select the appropriate channel for your wireless network. If you are not sure which channel to select, then keep the default, **Auto**.

**SSID Broadcast** When wireless clients survey the local area for wireless networks to associate with, they will detect the SSID broadcast by the Router. To broadcast the Router's SSID, keep the default, **Enabled**. If you do not want to broadcast the Router's SSID, then select **Disabled**.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to clear your changes.

## Wireless > Wireless Security

The *Wireless Security* screen configures the security of your wireless network. The Router supports the following wireless security mode options: WPA2 Personal, WPA Personal, and WEP. (WPA stands for Wi-Fi Protected Access, which is a security standard stronger than WEP encryption. WEP stands for Wired Equivalent Privacy.)

### Wireless Security

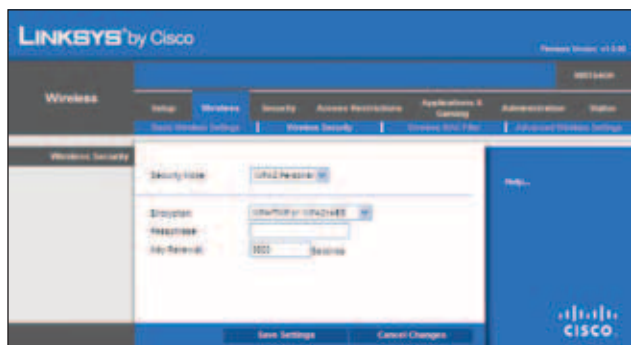
#### Security Mode

Select the security method for your wireless network. If you do not want to use wireless security, keep the default, **Disabled**.

#### WPA2 Personal



**NOTE:** If you are using WPA2, then each device in your wireless network **MUST** use the same WPA2 method and shared key, or else the network will not function properly.



Security Mode > WPA2 Personal

**Encryption** WPA2 supports two encryption methods, TKIP and AES, with dynamic encryption keys. Select the type of algorithm, **AES** or **WPA-TKIP** or **WPA2-AES**. The default is **WPA-TKIP** or **WPA2-AES**.

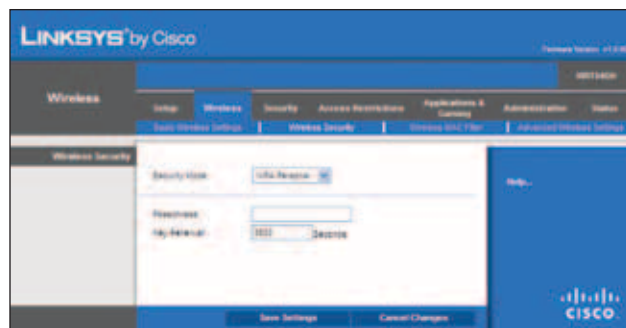
**Passphrase** Enter a Passphrase of 8-63 characters.

**Key Renewal** Enter a Key Renewal period, which instructs the Router how often it should change the encryption keys. The default is **3600** seconds.

#### WPA Personal



**NOTE:** If you are using WPA, then each device in your wireless network **MUST** use the same WPA method and shared key, or else the network will not function properly.



Security Mode > WPA Personal

**Passphrase** Enter a Passphrase of 8-63 characters.

**Key Renewal** Enter a Key Renewal period, which instructs the Router how often it should change the encryption keys. The default is **3600** seconds.

#### WEP

WEP is a basic encryption method, which is not as secure as WPA.



**IMPORTANT:** If you are using WEP encryption, then each device in your wireless network **MUST** use the same WEP encryption method and key, or else the network will not function properly.



Security Mode > WEP

**Encryption** Select a level of WEP encryption, **40/64 bits (10 hex digits)** or **104/128 bits (26 hex digits)**. The default is **40/64 bits (10 hex digits)**.

**Passphrase** Enter a Passphrase to automatically generate WEP keys. Then click **Generate**.

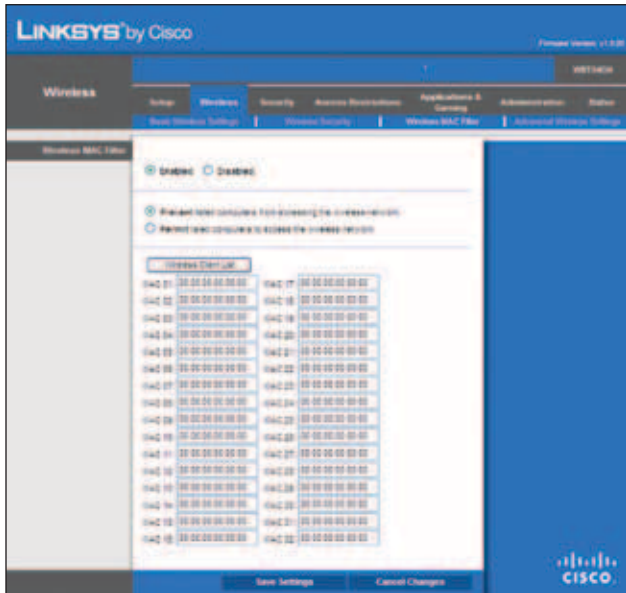
**Key 1** If you did not enter a Passphrase, enter the WEP key manually.

**Transmit Key** Transmit Key 1 is used.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to clear your changes.

## Wireless > Wireless MAC Filter

Wireless access can be filtered by using the MAC addresses of the wireless devices transmitting within your network's radius.



Wireless > Wireless MAC Filter

### Wireless MAC Filter

**Enabled/Disabled** To filter wireless users by MAC address, either permitting or blocking access, select **Enabled**. If you do not wish to filter users by MAC address, keep the default, **Disabled**.

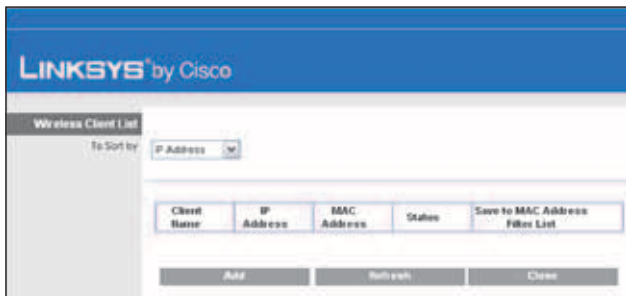
#### Access Restriction

**Prevent** Select this option to block wireless access by MAC address. This button is selected by default.

**Permit** Select this option to allow wireless access by MAC address. This button is not selected by default.

#### MAC Address Filter List

**Wireless Client List** Click this button to open the *Wireless Client List* screen.



Wireless Client List

### Wireless Client List

This screen shows computers and other devices on the wireless network. The list can be sorted by Client Name, IP Address, MAC Address, and Status.

Select **Save to MAC Address Filter List** for any device you want to add to the MAC Address Filter List. Then click **Add**.

To update the on-screen information, click **Refresh**. To exit this screen and return to the *Wireless MAC Filter* screen, click **Close**.

**MAC 01-32** Enter the MAC addresses of the devices whose wireless access you want to block or allow.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to clear your changes.

## Wireless > Advanced Wireless Settings

The *Advanced Wireless Settings* screen is used to set up the Router's advanced wireless functions. These settings should only be adjusted by an expert administrator as incorrect settings can reduce wireless performance.



Wireless > Advanced Wireless Settings

### Advanced Wireless

**AP Isolation** This option isolates all wireless clients and wireless devices on your network from each other. Wireless devices will be able to communicate with the Router but not with each other. To use this option, select **Enable**. AP Isolation is disabled by default.

**Frame Burst** Enabling this option should provide your network with greater performance, depending on the manufacturer of your wireless products. To use the Frame Burst option, keep the default, **Enabled**.

**Authentication Type** The Authentication Type setting is available if the Security Mode is WEP. The default is **Auto**, which allows either Open System or Shared Key authentication to be used. With Open System

authentication, the sender and the recipient do NOT use a WEP key for authentication. With Shared Key authentication, the sender and recipient use a WEP key for authentication. Select **Shared Key** to only use Shared Key authentication.

**Basic Rate** The Basic Rate setting is not actually one rate of transmission but a series of rates at which the Router can transmit. (The Basic Rate is not the actual rate of data transmission. If you want to specify the Router's rate of data transmission, configure the Transmission Rate setting.) The Router will advertise its Basic Rate to the other wireless devices in your network, so they know which rates will be used. The Router will also advertise that it will automatically select the best rate for transmission. The default setting is **Default**, when the Router can transmit at all standard wireless rates (1-2 Mbps, 5.5 Mbps, 11 Mbps, 18 Mbps, and 24Mbps). Select **1-2 Mbps** for use with older wireless technology. Select **All**, when the Router can transmit at all wireless rates.

**Transmission Rate** The Transmission setting is available if the Network Mode is Mixed, Wireless-G Only, or Wireless-B Only. The rate of data transmission should be set depending on the speed of your wireless network. Select from a range of transmission speeds, or keep the default, **Auto**, to have the Router automatically use the fastest possible data rate and enable the Auto-Fallback feature. Auto-Fallback will negotiate the best possible connection speed between the Router and a wireless client.

**CTS Protection Mode** The Router automatically uses CTS (Clear-To-Send) Protection Mode when your Wireless-G devices are experiencing severe problems and are not able to transmit to the Router in an environment with heavy 802.11b traffic. This option boosts the Router's ability to catch all Wireless-G transmissions but severely decreases performance. To use this option, keep the default, **Auto**. To disable this option, select **Disabled**.

**Beacon Interval** Enter a value between 1 and 65,535 milliseconds. The Beacon Interval value indicates the frequency interval of the beacon. A beacon is a packet broadcast by the Router to synchronize the wireless network. The default is **100** milliseconds.

**DTIM Interval** This value, between 1 and 255, indicates the interval of the Delivery Traffic Indication Message (DTIM). A DTIM field is a countdown field informing clients of the next window for listening to broadcast and multicast messages. When the Router has buffered broadcast or multicast messages for associated clients, it sends the next DTIM with a DTIM Interval value. Its clients hear the beacons and awaken to receive the broadcast and multicast messages. The default value is **1**.

**Fragmentation Threshold** This value specifies the maximum size for a packet before data is fragmented into multiple packets. If you experience a high packet

error rate, you may slightly increase the Fragmentation Threshold. Setting the Fragmentation Threshold too low may result in poor network performance. Only minor reduction of the default value is recommended. In most cases, it should remain at its default value of **2346**.

**RTS Threshold** Should you encounter inconsistent data flow, only minor reduction of the default value, **2347**, is recommended. If a network packet is smaller than the preset RTS threshold size, the RTS/CTS mechanism will not be enabled. The Router sends Request to Send (RTS) frames to a particular receiving station and negotiates the sending of a data frame. After receiving an RTS, the wireless station responds with a Clear to Send (CTS) frame to acknowledge the right to begin transmission. The RTS Threshold value should remain at its default value of **2347**.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to clear your changes.

## Security > Firewall

The *Firewall* screen is used to configure a firewall that can filter out various types of unwanted traffic on the Router's local network.



Security > Firewall

### Firewall

**SPI Firewall Protection** To use firewall protection, keep the default selection, **Enabled**. To turn off firewall protection, select **Disabled**.

### Internet Filter

For the following options, select the option to enable it, or deselect the option to disable it.

**Filter Anonymous Internet Requests** This feature makes it more difficult for outside users to work their way into your network. This feature is enabled by default. Deselect this option to allow anonymous Internet requests.



**Filter Multicast** Multicasting allows for multiple transmissions to specific recipients at the same time. If multicasting is permitted, then the Router will allow IP multicast packets to be forwarded to the appropriate computers. Select this option to filter multicasting. This option is disabled by default.

**Filter Internet NAT Redirection** This feature uses port forwarding to block access to local servers from local networked computers. Select this option to filter Internet NAT redirection. This option is disabled by default.

**Filter IDENT (Port 113)** This feature keeps port 113 from being scanned by devices outside of your local network. This feature is enabled by default. Deselect this option to disable it.

## Web Filter

For the following options, select the option to enable it, or deselect the option to disable it.

**Proxy** Use of WAN proxy servers may compromise the Gateway's security. Denying Proxy will disable access to any WAN proxy servers. Select this option to enable proxy filtering. This option is disabled by default.

**Java** Java is a programming language for websites. If you deny Java, you run the risk of not having access to Internet sites created using this programming language. Select this option to enable Java filtering. This option is disabled by default.

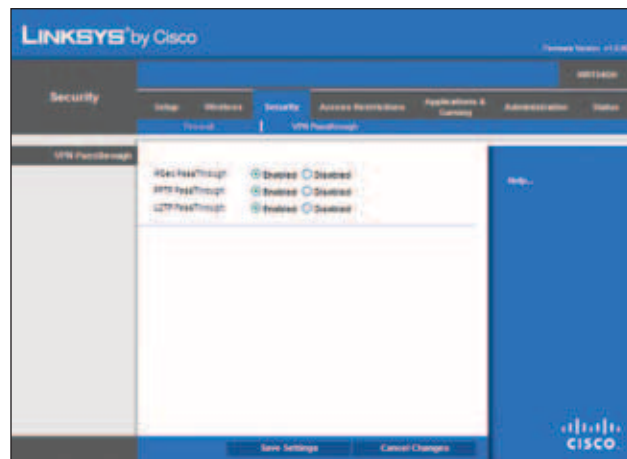
**ActiveX** ActiveX is a programming language for websites. If you deny ActiveX, you run the risk of not having access to Internet sites created using this programming language. Select this option to enable ActiveX filtering. This option is disabled by default.

**Cookies** A cookie is data stored on your computer and used by Internet sites when you interact with them. Select this option to filter cookies. This option is disabled by default.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to clear your changes.

## Security > VPN Passthrough

The *VPN Passthrough* screen allows you to enable VPN tunnels using IPSec, PPTP, or L2TP protocols to pass through the Router's firewall.



Security > VPN Passthrough

### VPN Passthrough

**IPSec Passthrough** Internet Protocol Security (IPSec) is a suite of protocols used to implement secure exchange of packets at the IP layer. To allow IPSec tunnels to pass through the Router, keep the default, **Enabled**.

**PPTP Passthrough** Point-to-Point Tunneling Protocol (PPTP) allows the Point-to-Point Protocol (PPP) to be tunneled through an IP network. To allow PPTP tunnels to pass through the Router, keep the default, **Enabled**.

**L2TP Passthrough** Layer 2 Tunneling Protocol is the method used to enable Point-to-Point sessions via the Internet on the Layer 2 level. To allow L2TP tunnels to pass through the Router, keep the default, **Enabled**.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to clear your changes.

## Access Restrictions > Internet Access

The *Internet Access* screen allows you to block or allow specific kinds of Internet usage and traffic, such as Internet access, designated services, and websites during specific days and times.



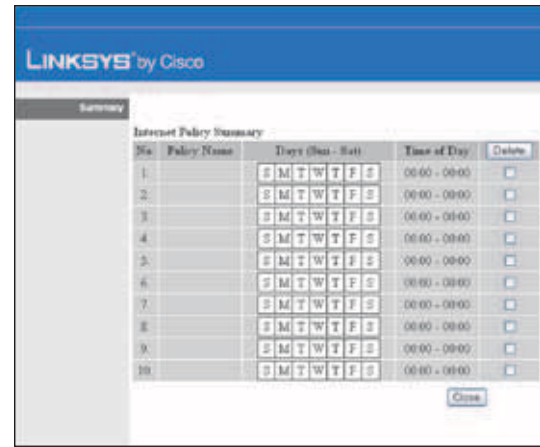
Access Restrictions > Internet Access

### Internet Access Policy

**Access Policy** Access can be managed by a policy. Use the settings on this screen to establish an access policy (after **Save Settings** is clicked). Selecting a policy from the drop-down menu will display that policy's settings. To delete a policy, select that policy's number and click **Delete This Entry**. To view all the policies, click **Summary**.

#### Summary

The policies are listed with the following information: No., Policy Name, Days, and Time of Day. To delete a policy, select the policy's **Delete** option, and then click **Delete**. To return to the *Internet Access Policy* screen, click **Close**.

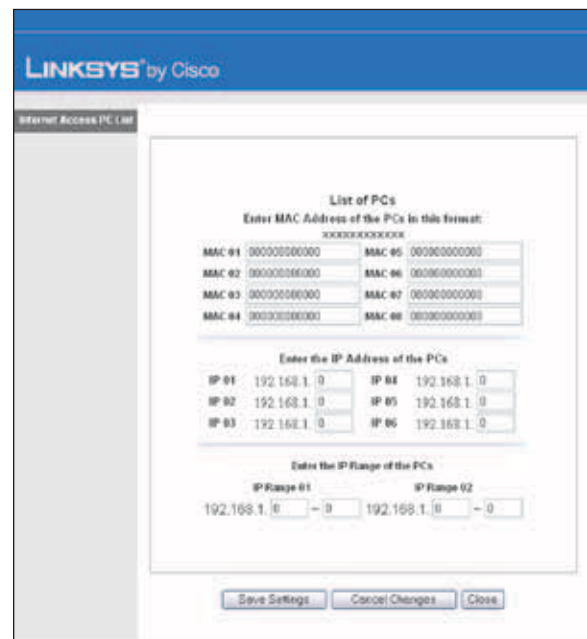


Summary

**Status** Policies are disabled by default. To enable a policy, select the policy number from the drop-down menu, and select **Enabled**.

To create a policy, follow steps 1-11. Repeat these steps to create additional policies, one at a time.

1. Select a number from the *Access Policy* drop-down menu.
2. Enter a Policy Name in the field provided.
3. To enable this policy, select **Enabled**.
4. Click **Edit List** to select which computers will be affected by the policy. The *Internet Access PC List* screen appears. You can select a computer by MAC address or IP address. You can also enter a range of IP addresses if you want this policy to affect a group of computers. After making your changes, click **Save Settings** to apply your changes, or click **Cancel Changes** to clear your changes. Then click **Close**.



Internet Access PC List

5. Select the appropriate option, **Deny** or **Allow**, depending on whether you want to block or allow Internet access for the computers you listed on the *Internet Access PC List* screen.
6. Decide which days and what times you want this policy to be enforced. Select the individual days during which the policy will be in effect, or select **Everyday**. Then enter a range of hours and minutes during which the policy will be in effect, or select **24 Hours**.
7. You can block websites with specific URL addresses. Enter each URL in a separate *Website Blocking by URL Address* field.
8. You can also block websites using specific keywords. Enter each keyword in a separate *Website Blocking by Keyword* field.
9. You can filter access to various services accessed over the Internet, such as FTP or telnet. (You can block up to three applications per policy.)

From the Applications list, select the application you want to block. Then click the >> button to move it to the Blocked List. To remove an application from the Blocked List, select it and click the << button.

10. If the application you want to block is not listed or you want to edit a service's settings, enter the application's name in the *Application Name* field. Enter its range in the **Port Range** fields. Select its protocol from the *Protocol* drop-down menu. Then click **Add**.

To modify a service, select it from the Application list. Change its name, port range, and/or protocol setting. Then click **Modify**.

To delete a service, select it from the Application list. Then click **Delete**.

11. Click **Save Settings** to save the policy's settings, or click **Cancel Changes** to clear the changes.

## Applications and Gaming > Single Port Forwarding

The *Single Port Forwarding* screen allows you to customize port services for common applications on this screen.

When users send these types of requests to your network via the Internet, the Router will forward those requests to the appropriate servers (computers). Before using forwarding, you should assign static IP addresses to the designated servers (use the DHCP Reservation feature on the *Basic Setup* screen; refer to [DHCP Reservation, page 7](#)).



Applications and Gaming > Single Port Forwarding

### Single Port Forwarding

Common applications are available for the first five entries. Select the appropriate application. Then enter the IP address of the server that should receive these requests. Select **Enabled** to activate this entry.

For additional applications, complete the following fields:

**Application Name** Enter the name you wish to give the application. Each name can be up to 12 characters.

**External Port** Enter the external port number used by the server or Internet application. Check with the Internet application documentation for more information.

**Internal Port** Enter the internal port number used by the server or Internet application. Check with the Internet application documentation for more information.

**Protocol** Select the protocol(s) used for this application, **TCP**, **UDP**, or **Both**.

**To IP Address** For each application, enter the IP address of the computer that should receive the requests. If you assigned a static IP address to the computer, then you can look up its IP address; click **DHCP Reservation** on the *Basic Setup* screen (refer to [DHCP Reservation, page 7](#)).

**Enabled** For each application, select **Enabled** to enable port forwarding.

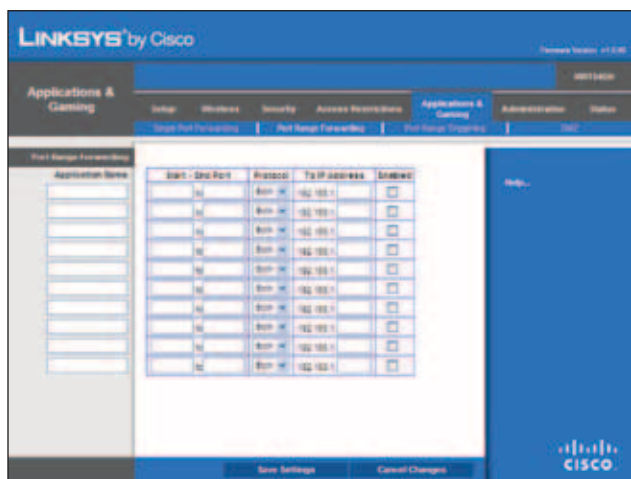
Click **Save Settings** to apply your changes, or click **Cancel Changes** to clear your changes.

## Applications and Gaming > Port Range Forwarding

The *Port Range Forwarding* screen allows you to set up public services on your network, such as web servers, ftp servers, e-mail servers, or other specialized Internet applications. (Specialized Internet applications are any applications that use Internet access to perform functions such as videoconferencing or online gaming. Some Internet applications may not require any forwarding.)

When users send these types of requests to your network via the Internet, the Router will forward those requests to the appropriate servers (computers). Before using forwarding, you should assign static IP addresses to the designated servers (use the DHCP Reservation feature on the *Basic Setup* screen; refer to [DHCP Reservation, page 7](#)).

If you need to forward all ports to one computer, click the **DMZ** tab.



Applications and Gaming > Port Range Forwarding

### Port Range Forwarding

To forward a port, enter the information on each line for the criteria required.

**Application Name** In this field, enter the name you wish to give the application. Each name can be up to 12 characters.

**Start~End Port** Enter the number or range of port(s) used by the server or Internet applications. Check with the Internet application documentation for more information.

**Protocol** Select the protocol(s) used for this application, **TCP**, **UDP**, or **Both**.

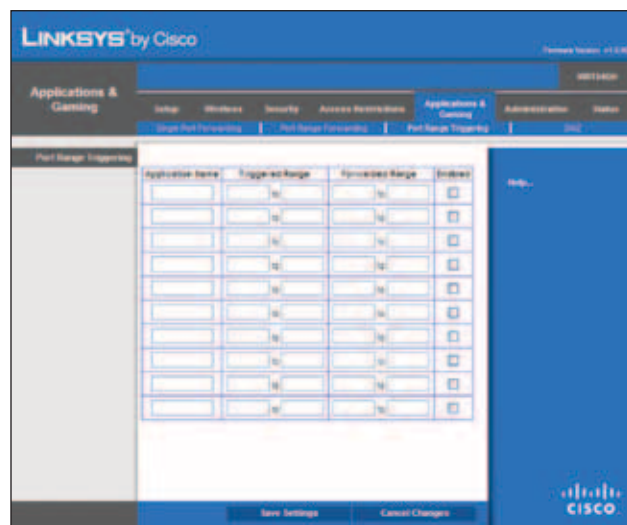
**To IP Address** For each application, enter the IP address of the computer that should receive the requests. If you assigned a static IP address to the computer, then you can look up its IP address; click **DHCP Reservation** on the *Basic Setup* screen (refer to [DHCP Reservation, page 7](#)).

**Enabled** Select **Enabled** to enable port forwarding for the applications you have defined.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to clear your changes.

## Applications & Gaming > Port Range Triggering

The *Port Range Triggering* screen allows the Router to watch outgoing data for specific port numbers. The IP address of the computer that sends the matching data is remembered by the Router, so that when the requested data returns through the Router, the data is pulled back to the proper computer by way of IP address and port mapping rules.



Applications and Gaming > Port Range Triggering

### Port Range Triggering

**Application Name** Enter the application name of the trigger.

**Triggered Range** For each application, enter the starting and ending port numbers of the triggered port number range. Check with the Internet application documentation for the port number(s) needed.

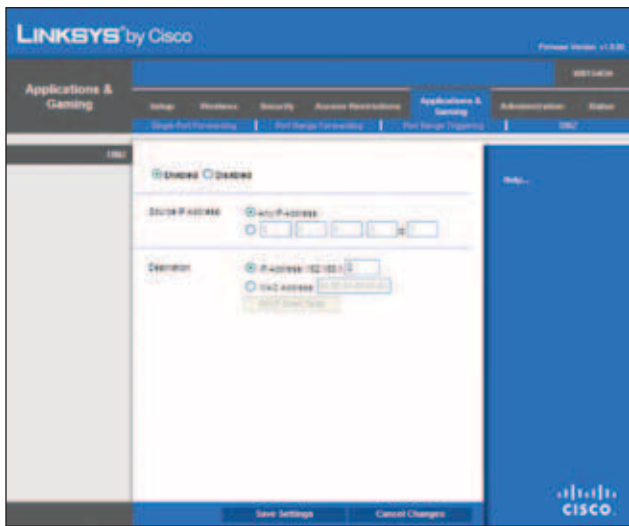
**Forwarded Range** For each application, enter the starting and ending port numbers of the forwarded port number range. Check with the Internet application documentation for the port number(s) needed.

**Enabled** Select **Enabled** to enable port triggering for the applications you have defined.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to clear your changes.

## Applications and Gaming > DMZ

The DMZ feature allows one network computer to be exposed to the Internet for use of a special-purpose service such as Internet gaming or videoconferencing. DMZ hosting forwards all the ports at the same time to one computer. The Port Range Forwarding feature is more secure because it only opens the ports you want to have opened, while DMZ hosting opens all the ports of one computer, exposing the computer to the Internet.



Applications and Gaming > DMZ

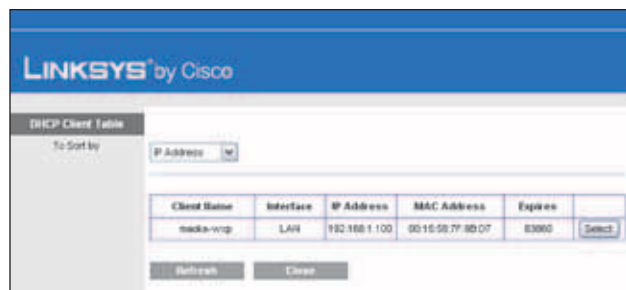
### DMZ

Any computer whose port is being forwarded must have its DHCP client function disabled and should have a new static IP address assigned to it because its IP address may change when using the DHCP function.

**Enabled/Disabled** To disable DMZ hosting, select **Disabled**. To expose one computer, select **Enabled**. Then configure the following settings:

**Source IP Address** If you want any IP address to be the source, select **Any IP Address**. If you want to specify an IP address or range of IP addresses as the designated source, select and complete the IP address range fields.

**Destination** If you want to specify the DMZ host by IP address, select **IP Address** and enter the IP address in the field provided. If you want to specify the DMZ host by MAC address, select **MAC Address** and enter the MAC address in the field provided. To retrieve this information, click **DHCP Client Table**.



DMZ > DHCP Client Table

### DHCP Client Table

The DHCP Client Table lists computers and other devices that have been assigned IP addresses by the Router. The list can be sorted by Client Name, Interface, IP Address, MAC Address, and Expires time (how much time is left for the current IP address). To select a DHCP client, click **Select**. To update the on-screen information, click **Refresh**. To exit this screen and return to the DMZ screen, click **Close**.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to clear your changes.

## Administration > Management

The *Administration > Management* screen allows the network's administrator to manage specific Router functions for access and security.



Administration > Management

## Management

### Router Access

To ensure the Router's security, you will be asked for your password when you access the Router's browser-based utility. The default is **admin**.

**Router Password** Enter a new password for the Router.

**Re-enter to Confirm** Enter the password again to confirm.

### Local Management Access

**Access via Wireless** If you are using the Router in a public domain where you are giving wireless access to your guests, you can disable wireless access to the Router's browser-based utility. You will only be able to access the utility via a wired connection if you disable the setting. Keep the default, **Enabled**, to allow wireless access to the utility, or select **Disabled** to block wireless access to the utility.

### Remote Management Access

**Remote Management** To permit remote access of the Router, from outside the local network, select **Enabled**. Otherwise, keep the default, **Disabled**.

**Remote Upgrade** If you want to be able to upgrade the Router remotely, from outside the local network, select **Enabled**. (You must have the Remote Management

feature enabled as well.) Otherwise, keep the default, **Disabled**.

**Allowed Remote IP Address** If you want to be able to access the Router from any external IP address, select **Any IP Address**. If you want to specify an external IP address or range of IP addresses, then select the second option and complete the fields provided.

**Remote Management Port** Enter the port number that will be open to outside access.



**NOTE:** When you are in a remote location and wish to manage the Router, enter **http://xxx.xxx.xxx.xxx:yyyy** or **https://xxx.xxx.xxx.xxx:yyyy**, depending on whether you use HTTP or HTTPS. Enter the Router's specific Internet IP address in place of xxx.xxx.xxx.xxx, and enter the Remote Management Port number in place of yyyy.

### UPnP

Universal Plug and Play (UPnP) allows the appropriate Windows operating system to automatically configure the Router for various Internet applications, such as gaming and videoconferencing.

**UPnP** To use UPnP, keep the default, **Enabled**. Otherwise, select **Disabled**.

**Allow Users to Configure** Keep the default, **Enabled**, if you want to be able to make manual changes to the Router while using the UPnP feature. Otherwise, select **Disabled**.

**Allow Users to Disable Internet Access** Select **Enabled**, if you want to be able to prohibit any and all Internet connections. Otherwise, keep the default, **Disabled**.

### Backup and Restore

**Backup Configuration** To back up the Router's configuration settings, click this button and follow the on-screen instructions.

**Restore Configuration** To restore the Router's configuration settings, click this button and follow the on-screen instructions. (You must have previously backed up the Router's configuration settings.)

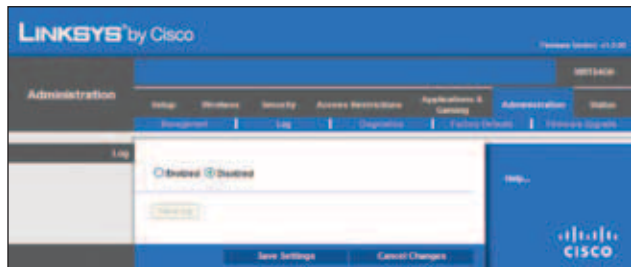
### System Reboot

**Start to Reboot** If you need to restart the Router, click this button.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to clear your changes.

## Administration > Log

The Router can keep logs of all traffic for your Internet connection.

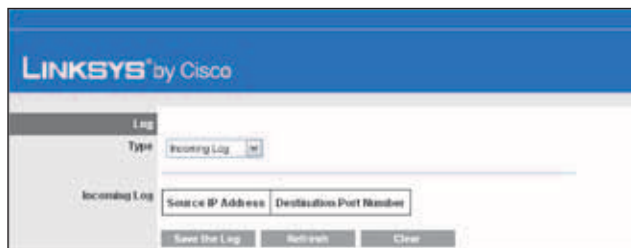


Administration > Log

### Log

**Enabled/Disabled** To disable the Log function, select **Disabled**. To monitor traffic between the network and the Internet, keep the default, **Enabled**. With logging enabled, you can choose to view temporary logs.

**View Log** To view the logs, click **View Log**.



Log > View Log

### Log

- **Type** Select **Incoming Log**, **Outgoing Log**, **Security Log**, or **DHCP Client Log**.
- **<Type> Log** The Incoming Log displays a temporary log of the source IP addresses and destination port numbers for the incoming Internet traffic. The Outgoing Log displays a temporary log of the local IP addresses, destination URLs/IP addresses, and service/port numbers for the outgoing Internet traffic. The Security log displays the login information for the browser-based utility. The DHCP Client Log displays the LAN DHCP server status information.

Click **Save the Log** to save this information to a file on your computer's hard drive. Click **Refresh** to update the log. Click **Clear** to clear all the information that is displayed.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to clear your changes.

## Administration > Diagnostics

The diagnostic tests (Ping and Traceroute) allow you to check the connections of your network devices, including connection to the Internet.



Administration > Diagnostics

### Diagnostics

#### Ping Test

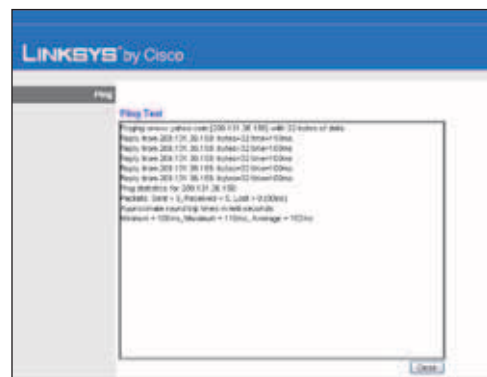
Ping checks the status of a connection.

**IP or URL Address** Enter the address of the computer whose connection you wish to test.

**Packet Size** Enter the packet size you want to use. The default is **32** bytes.

**Number to Ping** Enter the number of times you wish to test the connection. The default is **5**.

**Start to Ping** To run the test, click this button. The *Ping* screen shows if the test is successful. Click **Close** to return to the *Diagnostics* screen.



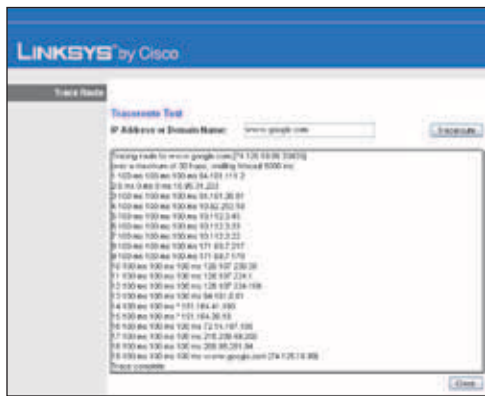
Diagnostics > Ping

#### Traceroute Test

Traceroute checks the performance of a connection.

**IP or URL Address** Enter the address of the computer whose connection you wish to test.

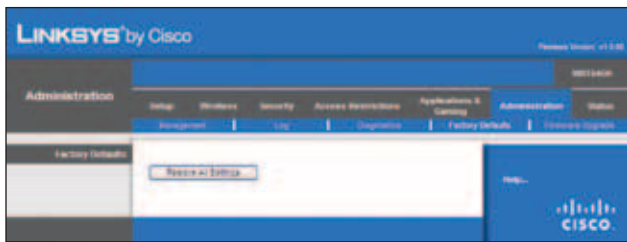
**Start to Traceroute** To run the test, click this button. The *Traceroute* screen shows if the test is successful. Click **Close** to return to the *Diagnostics* screen.



Diagnostics &gt; Traceroute

## Administration > Factory Defaults

Restore the Router to its factory default settings.



Administration &gt; Factory Defaults



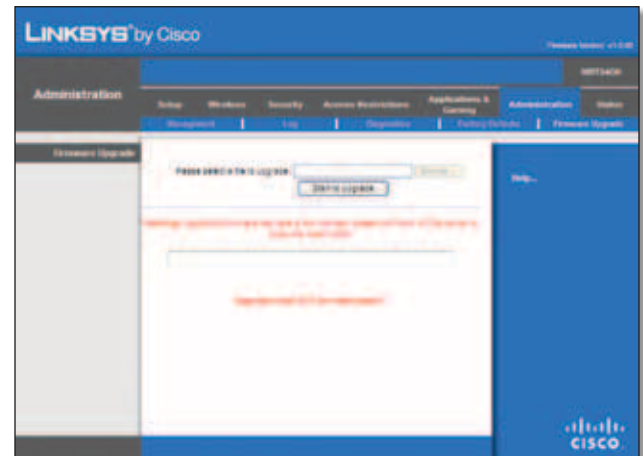
**NOTE:** Do not restore the factory defaults unless you are having difficulties with the Router and have exhausted all other troubleshooting measures. Once the Router is reset, you will have to re-enter all of your configuration settings.

## Factory Defaults

**Restore All Settings** To reset the Router's settings to the defaults, click this button and then follow the on-screen instructions. Any custom settings you have saved will be lost when the default settings are restored.

## Administration > Firmware Upgrade

The *Firmware Upgrade* screen allows you to upgrade the Router's firmware. Do not upgrade the firmware unless you are experiencing problems with the Router or the new firmware has a feature you want to use.



Administration &gt; Firmware Upgrade



**NOTE:** The Router may lose the settings you have customized. Before you upgrade its firmware, write down all of your custom settings. After you upgrade its firmware, you may have to re-enter all of your configuration settings.

## Firmware Upgrade

Before upgrading the firmware, download the Router's firmware upgrade file from the Linksys website, [www.linksysbycisco.com](http://www.linksysbycisco.com).

**Please select a file to upgrade** To select the firmware upgrade file, click **Browse** and follow the on-screen instructions.

**Start to Upgrade** After you have selected the appropriate file, click this button, and follow the on-screen instructions.



**WARNING:** The firmware upgrade must not be interrupted; do not reboot or power off the Router during the firmware upgrade.



## Status > Router

The *Router* screen displays information about the Router and its current settings.



Status > Router

### Router Information

**Firmware Version** The version number of the Router's current firmware is displayed.

**Firmware Verification** The unique identifier of the firmware is displayed.

**Current Time** The time set on the Router is displayed.

**Internet MAC Address** The Router's MAC Address, as seen by your ISP, is displayed.

**Host Name** The Host Name of the Router is displayed (if it was entered on the *Setup > Basic Setup* screen).

**Domain Name** The Domain Name of the Router is displayed (if it was entered on the *Setup > Basic Setup* screen).

### Internet Connection

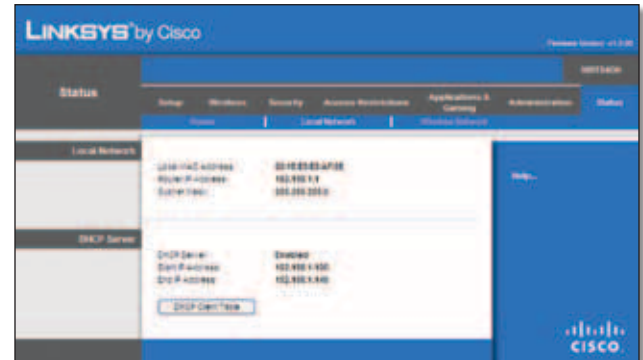
This section shows the current network information stored in the Router. The information varies depending on the Internet connection type selected on the *Setup > Basic Setup* screen.

For a DHCP connection, select **Release IP Address** or **Renew IP Address** as appropriate to release or renew a DHCP lease. For a PPPoE or similar connection, select **Connect** or **Disconnect** as appropriate to connect to or disconnect from the Internet.

Click **Refresh** to update the on-screen information.

## Status > Local Network

The *Local Network* screen displays information about the local, wired network.



Status > Local Network

### Local Network

**Local MAC Address** The MAC address of the Router's local, wired interface is displayed.

**Router IP Address** The Router's IP address, as it appears on your local network, is displayed.

**Subnet Mask** The Subnet Mask of the Router is displayed.

### DHCP Server

**DHCP Server** The status of the Router's DHCP server function is displayed.

**Start IP Address** For the range of IP addresses that can be used by devices on your local network, the starting IP address is displayed.

**End IP Address** For the range of IP addresses that can be used by devices on your local network, the ending IP address is displayed.

**DHCP Clients Table** Click this button to view a list of computers or other devices that are using the Router as a DHCP server.

Client Name	Interface	IP Address	MAC Address	Expires	
media-wp	LAN	192.168.1.100	00:1E:59:7F:9E:07	02590	Delete

DHCP Clients Table

### DHCP Client Table

The DHCP Client Table lists computers and other devices that have been assigned IP addresses by the Router. The list can be sorted by IP Address, MAC Address, Interface, and Client Name. To remove a DHCP client, click **Delete**. To update the on-screen information, click **Refresh**. To exit this screen and return to the *Local Network* screen, click **Close**.

## Status > Wireless Network

The *Wireless Network* screen displays information about your wireless network.

MAC Address:	00:1E:59:7F:9E:07
Mode:	802.11n
Network Name (SSID):	Linksys_WRT54GL
Standard Channel:	6
Security:	WPA2-PSK
SSID Broadcast:	Enabled

Status &gt; Wireless

### Wireless Network

**MAC Address** The MAC address of the Router's local, wireless interface is displayed.

**Mode** The wireless mode used by the network is displayed.

**Network Name (SSID)** The name of the wireless network, which is also called the SSID, is displayed.

**Standard Channel** The Standard Channel setting (selected on the *Wireless > Basic Wireless Settings* screen) is displayed.

**Security** The wireless security method used by the Router is displayed.

**SSID Broadcast** The status of the SSID Broadcast feature is displayed.

# Appendix A: Troubleshooting

---

## ***Your computer cannot connect to the Internet.***

Follow these instructions until your computer can connect to the Internet:

- Make sure that the Router is powered on. The Power LED should be lit and not flashing.
- If the Power LED is flashing, then power off all of your network devices, including the modem, Router, and computers. Then power on each device in the following order:
  1. Cable or DSL modem
  2. Router
  3. Computer
- Check the cable connections. The computer should be connected to one of the ports numbered 1-4 on the Router, and the modem must be connected to the Internet port on the Router.

## ***The modem does not have an Ethernet port.***

The modem is a dial-up modem for traditional dial-up service. To use the Router, you need a cable/DSL modem and high-speed Internet connection.

## ***You cannot use the DSL service to connect manually to the Internet.***

After you have installed the Router, it will automatically connect to your Internet Service Provider (ISP), so you no longer need to connect manually.

## ***The DSL telephone line does not fit into the Router's Internet port.***

The Router does not replace your modem. You still need your DSL modem in order to use the Router. Connect the telephone line to the DSL modem, and then insert the setup CD into your computer. Click **Setup** and follow the on-screen instructions.

## ***When you double-click the web browser, you are prompted for a username and password. If you want to get rid of the prompt, follow these instructions.***

Launch the web browser and perform the following steps (these steps are specific to Internet Explorer but are similar for other browsers):

1. Select **Tools > Internet Options**.
2. Click the **Connections** tab.
3. Select **Never dial a connection**.

4. Click **OK**.

## ***The Router does not have a coaxial port for the cable connection.***

The Router does not replace your modem. You still need your cable modem in order to use the Router. Connect your cable connection to the cable modem, and then insert the setup CD into your computer. Click **Setup** and follow the on-screen instructions.

## ***The computer cannot connect wirelessly to the network.***

Make sure the wireless network name or SSID is the same on both the computer and the Router. If you have enabled wireless security, then make sure the same security method and key are used by both the computer and the Router.

## ***You need to modify the settings on the Router.***

Open the web browser (for example, Internet Explorer or Firefox), and enter the Router's IP address in the address field (the default IP address is **192.168.1.1**). When prompted, enter the password to the Router (the default is **admin**). Click the appropriate tab to change the settings.



**WEB:** If your questions are not addressed here, refer to the Linksys website, [www.linksysbycisco.com](http://www.linksysbycisco.com)

## Appendix B: Specifications

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Model	WRT54GH
Standards	IEEE 802.3, IEEE 802.3u, IEEE 802.11g, IEEE 802.11b
Ports	Power, Internet, Ethernet (1-4)
Buttons	Power, Reset
LEDs	Power, Internet, Wireless, Ethernet (1-4)
Modulations	802.11b: CCK, QPSK, BPSK 802.11g: OFDM
RF Pwr (EIRP) in dBm	802.11g: Typ. 14 +/- 1.5 dBm @ Normal Temp 802.11b: Typ: 17.5 +/- 1.5 dBm @ Normal Temp
Receive Sensitivity in dBm	1 Mbps: -93 Typical @ 8% PER 11 Mbps: -82 dBm Typical @ 8% PER 54 Mbps: -68 dBm Typical @ 10% PER
# of Antennas	One Internal PIFA Antenna
Antenna Gain in dBi	PIFA <= 3 dBi
UPnP	Supported
Security Features	WEP (64 and 128), WPA-Personal, WPA2-Personal
Security Key Bits	Up to 128-Bit Encryption

### Environmental

Dimensions	4.33" x 1.26" x 4.33" (110 x 32 x 110 mm)
Unit Weight	6.0 oz (170 g)
Power	12V, 0.5A
Certifications	FCC, IC, CE, Wi-Fi b/g
Operating Temp.	0 to 40°C (32 to 104°F)
Storage Temp.	-20 to 60°C (-4 to 140°F)
Operating Humidity	10 to 80%, Noncondensing
Storage Humidity	5 to 90% Noncondensing

Specifications are subject to change without notice.

## Appendix C: Warranty Information

### Limited Warranty

FOR CONSUMERS WHO ARE COVERED BY CONSUMER PROTECTION LAWS OR REGULATIONS IN THEIR COUNTRY OF PURCHASE OR, IF DIFFERENT, THEIR COUNTRY OF RESIDENCE, THE BENEFITS CONFERRED BY THIS WARRANTY ARE IN ADDITION TO ALL RIGHTS AND REMEDIES CONVEYED BY SUCH CONSUMER PROTECTION LAWS AND REGULATIONS. THIS WARRANTY DOES NOT EXCLUDE, LIMIT OR SUSPEND ANY RIGHTS OF CONSUMERS ARISING OUT OF NONCONFORMITY WITH A SALES CONTRACT. SOME COUNTRIES, STATES AND PROVINCES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES OR ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY OR CONDITION MAY LAST, SO THE LIMITATIONS OR EXCLUSIONS DESCRIBED BELOW MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS THAT VARY BY COUNTRY, STATE OR PROVINCE. THIS LIMITED WARRANTY IS GOVERNED BY AND CONSTRUED UNDER THE LAWS OF THE COUNTRY IN WHICH THE PRODUCT PURCHASE TOOK PLACE.

Linksys warrants the hardware in this Linksys 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

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.

Linksys additionally warrants that any media on which the software may be provided will be free from defects in materials and workmanship under normal use for a period of ninety (90) days from the date of original purchase. Your exclusive remedy and Linksys' entire liability under this limited warranty will be for Linksys, at its option, to (a) replace the software media, or (b) refund the purchase price of the software media.

### 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.

EXCEPT FOR THE LIMITED WARRANTY ON MEDIA SET FORTH ABOVE AND TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, ALL SOFTWARE AND SERVICES 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, software or services 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 services, or any equipment, system or network on which the product, software or services are 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 APPLICABLE 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.

TO THE EXTENT NOT PROHIBITED BY APPLICABLE LAW, IN NO EVENT WILL LINKSYS BE LIABLE FOR ANY LOST DATA, REVENUE OR PROFIT, LOSS OF THE ABILITY TO USE ANY THIRD PARTY PRODUCTS, SOFTWARE OR SERVICES, 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, SOFTWARE OR ANY SERVICES PROVIDED IN RESPECT OF SUCH PRODUCT, SOFTWARE OR SERVICE, EVEN IF LINKSYS HAS BEEN ADVISED OF THE POSSIBILITY

OF SUCH DAMAGES. TO THE EXTENT NOT PROHIBITED BY APPLICABLE LAW, 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.

No Linksys employee, agent or reseller is authorized to make any verbal or written modification, extension or addition to this warranty, and Linksys expressly disclaims any such change to this warranty. If any portion of this limited warranty is found to be void or unenforceable, its remaining provisions shall remain in full force and effect.

### Obtaining Warranty Service

If you have a question about your product or experience a problem with it, please go to [www.linksysbycisco.com/support](http://www.linksysbycisco.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 (or, if you purchased your product from a service provider, contact the service provider) for instructions on how to obtain warranty service. The telephone number for Linksys Technical Support in your area can be found by clicking the "Contact Us" link on the home page of [www.linksysbycisco.com](http://www.linksysbycisco.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 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. 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.linksysbycisco.com/support](http://www.linksysbycisco.com/support).

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 20 cm 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



**WARNING:** Do not use this product near water, for example, in a wet basement or near a swimming pool.



**WARNING:** 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.

### 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 20 cm 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.

## 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. Вашата отговорност е 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 korrektne 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**

Σύμφωνα με την Κοινοτική Οδηγία 2002/96/EC, ο εξοπλισμός που φέρει αυτό το σύμβολο  στο προϊόν ή/και τη συσκευασία του δεν πρέπει να απορρίπτεται μαζί με τα μη διαχωρισμένα αστικά 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 ορίζονται από το κράτος ή τις αρμόδιες τοπικές αρχές. Η σωστή απόρριψη και ανακύκλωση συμβάλλει στην πρόληψη ενδεχόμενων αρνητικών επιπτώσεων στο περιβάλλον και την υγεία. Για περισσότερες πληροφορίες σχετικά με την απόρριψη του παλαιού σας εξοπλισμού, επικοινωνήστε με τις τοπικές αρχές, τις υπηρεσίες αποκομιδής απορριμμάτων 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 un 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 għin 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-fanutt 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 hulladékélezállítási 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.


### Slovenščina (Slovene) - Okoljske informacije za stranke v Evropski uniji

Evropska direktiva 2002/96/ES prepoveduje odlaganje opreme s tem simbolom  – na izdelku in/ali na embalaži z nesortiranimi komunalnimi odpadki. Ta simbol opozarja, da je treba izdelek zavreči ločeno od preostalih gospodinjskih odpadkov. Vaša odgovornost je, da to in preostalo električno in elektronsko opremo oddate na posebna zbirališča, ki jih določijo državne ustanove ali lokalne oblasti. 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 lokalne oblasti, odlagališče odpadkov 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.



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# Appendix E: Software End User License Agreement

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However, linking a “work that uses the Library” with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a “work that uses the library”. The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a “work that uses the Library” uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a “work that uses the Library” with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer’s own use and reverse engineering for debugging such modifications.

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- a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable “work that uses the Library”, as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)
- b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user’s computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.
- c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.
- d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.
- e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the “work that uses the Library” must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

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The implementation was written so as to conform with Netscape's SSL.

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