

USER GUIDE

**EtherFast® Cable/DSL VPN Router  
with 4-Port Switch**

Model: BEFVP41



# About This Guide

## Icon Descriptions

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



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



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



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

## Online Resources

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

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

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## Chapter 1: Introduction

Thank you for choosing the Linksys by Cisco EtherFast Cable/DSL VPN Router with 4-Port Switch. The Router lets you access the Internet through 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 online. Security features include Virtual Private Network (VPN) technology and a Stateful Packet Inspection (SPI) firewall. Configuring the Router is easy using the provided browser-based utility.

### Introduction to VPNs

A VPN is a connection between two endpoints—a VPN Router, for instance—in different networks that allows private data to be sent securely over a shared or public network, such as the Internet. This establishes a private network that can send data securely between these two locations or networks.

The private network is established by creating a “tunnel”. A VPN tunnel connects the two computers or networks and allows data to be transmitted over the Internet as if it were still within those networks. A VPN tunnel uses industry-standard encryption and authentication techniques to secure the data sent between the two networks.

Virtual Private Networking was created as a cost-effective alternative to using a private, dedicated, leased line for a private network. It can be used to create secure networks linking a central office with branch offices, telecommuters, and/or professionals on the road.

There are two basic ways to create a VPN connection:

- VPN Router to VPN Router
- computer (using VPN client software) to VPN Router

The VPN Router creates a “tunnel” or channel between two endpoints, so that data transmissions between them are secure. A computer with VPN client software can be one of the two endpoints.

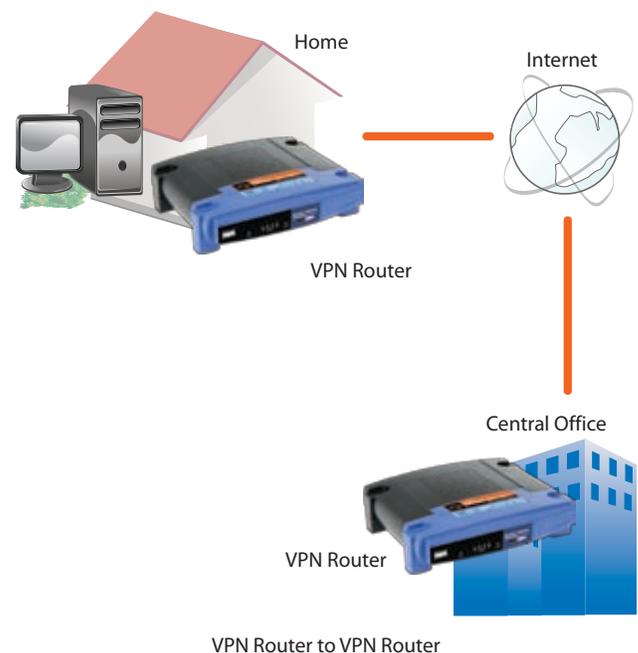
For an Internet Protocol Security (IPSec) VPN tunnel, the VPN Router and any computer with the built-in IPSec Security Manager (Windows 2000 and XP) can create a VPN tunnel using IPSec (Windows Vista uses a similar utility). Other Windows operating systems require additional, third-party VPN client software applications that support IPSec to be installed.

### VPN Examples

The following are examples of a VPN tunnel between two VPN routers and a VPN tunnel between a computer using VPN client software and a VPN router.

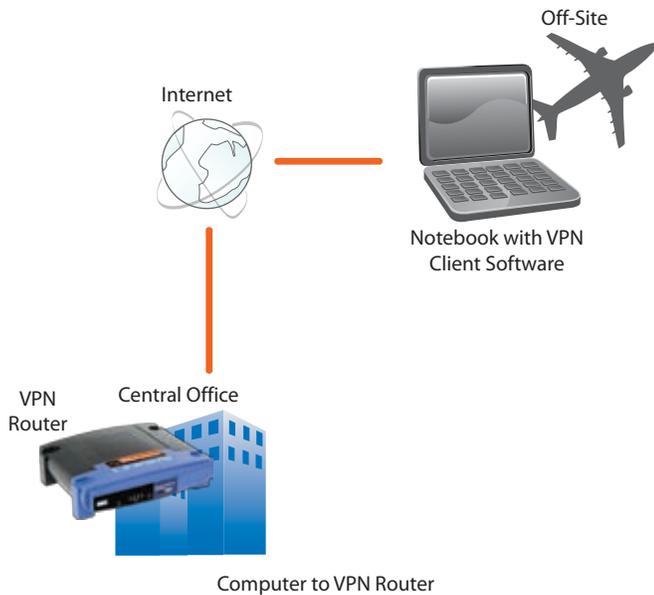
#### VPN Router to VPN Router

For example, at home, a telecommuter uses his VPN Router for his always-on Internet connection. His Router is configured with his office’s VPN settings. When he connects to his office’s router, the two routers create a VPN tunnel, encrypting and decrypting data. As VPNs use the Internet, distance is not a factor. Using the VPN, the telecommuter now has a secure connection to the central office’s network, as if he were physically connected.



#### Computer (using VPN client software) to VPN Router

The following is an example of a computer-to-VPN Router VPN. In her hotel room, a traveling businesswoman connects to her Internet Service Provider (ISP). Her notebook computer has VPN client software that is configured with her office’s VPN settings. She accesses the VPN client software and connects to the VPN Router at the central office. As VPNs use the Internet, distance is not a factor. Using the VPN, the businesswoman now has a secure connection to the central office’s network, as if she were physically connected.



For additional information and instructions about creating your own VPN, refer to “Appendix B: VPN Tunnel” or visit the Linksys website at [www.linksys.com](http://www.linksys.com).

## VPN Security

IPSec is compatible with most VPN endpoints and ensures privacy and authentication for data, while authenticating user identification. With IPSec, authentication is based upon the computer’s IP address. This confirms the user’s identity and establishes the secure tunnel at the network layer, protecting all data that passes through.

By operating at the network layer, IPSec is independent of any applications running on the network. This way, it does not affect your computer’s performance and still allows you to do more with greater security. Still, it is important to note that IPSec encryption does create a slight slowdown in network throughput, due to the encryption and decryption of data.

Some VPNs will still leave the IP headers decrypted. These headers contain the IP addresses for the users at both ends of the tunnel and can be used by potential hackers in future attacks. The VPN Router, however, does not leave the IP headers decrypted, if you enable and set up Perfect Forward Secrecy (PFS). With PFS, both the IP headers and secret keys used to secure the tunnel are encrypted.

The VPN Router allows users on your local network to secure their data over the Internet (using VPN tunnels) without having to purchase the extra client licenses that other VPN hardware manufacturers and software packages may require. With VPN functions handled by the Router, rather than your computer (which software packages would require), then your computer would have fewer tasks to process. Also, you would not have to reconfigure your computer for VPN usage.

There are additional ways to enhance data security beyond the VPN Router. Here are some suggestions:

- Enhance security on your other networks. Install firewall routers for your Internet connections, and use the most up-to-date security measures for wireless networking.
- Narrow the scope of your VPN tunnel as much as possible. Rather than allowing a range of IP addresses, use the addresses specific to the endpoints (such as computers) required.
- Do not set the Remote Security Group to the Any setting, as this will open the VPN to any IP address. Host a specific IP address.
- Use the strongest encryption and authentication methods available on the VPN Router, 3DES encryption and SHA authentication.
- Manage your pre-shared keys; change them periodically.

## Chapter 2: Product Overview

### Front Panel



- **Power** (Green) The Power LED lights up and will stay on while the Router is powered on. It flashes when the Router goes through its self-diagnostic mode during every boot-up or upgrades its firmware.
- **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.
- **Internet** (Green) The Internet LED lights up when there is a connection made through the Internet port. A flashing LED indicates network activity over the Internet port.

### Back Panel



- **Reset** There are two ways to reset the Router to its factory default settings. Use a straightened paper clip or similar object to press and hold the Reset button for approximately five seconds. You can also restore the defaults from the *Administration > Factory Defaults* screen of the Router's web-based utility.
- **Internet** The Internet port is where you will connect your cable or DSL Internet connection.
- **1, 2, 3, 4** These Ethernet ports (1, 2, 3, 4) connect the Router to computers on your wired network and other Ethernet network devices.
- **Power** The Power port is where you will connect the power adapter.

## 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'd like to change its advanced settings, use the Router's web-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 web-based utility has these main tabs: Setup, Security, 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 web-based utility.

### How to Access the Web-Based Utility

To access the web-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. Leave the *User Name* field blank. The first time you open the web-based utility, use the default password **admin**. (You can set a new password from the *Administration > Management* screen.) 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).

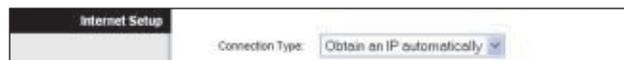
#### Connection Type

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

- Obtain an IP Automatically
- Static IP
- PPPoE
- RAS
- PPTP
- Heart Beat Signal

#### Obtain an IP Automatically

By default, the Router's Connection Type is set to **Obtain an IP automatically**, 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.)



Connection Type > Obtain an IP Automatically

## Static IP

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

The screenshot shows the 'Internet Setup' page with 'Connection Type' set to 'Static IP'. The fields are as follows:

IP Address:	0	0	0	0
Subnet Mask:	255	255	255	0
Default Gateway:	0	0	0	0
Primary DNS:	0	0	0	0
Secondary DNS:	0	0	0	0

Connection Type > Static IP

**IP Address** Enter the Router's IP address, as seen from the Internet. This is provided by your ISP.

**Subnet Mask** Enter the Router's subnet mask, as seen by users on the Internet (including your ISP). This is provided by your ISP.

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

**Primary and Secondary DNS** 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**.

The screenshot shows the 'Internet Setup' page with 'Connection Type' set to 'PPPoE'. The fields are as follows:

User Name:	
Password:	
Service Name:	
Connection:	<input type="radio"/> Connect on Demand (Max Idle 5 Min.) <input checked="" type="radio"/> Keep Alive: Redial Period 30 Sec.

Connection Type > PPPoE

**User Name and Password** Enter the User Name and Password provided by your ISP.

**Service Name** 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.

## RAS

Remote Access Service (RAS) is a service that applies to connections in Singapore only. For users in Singapore, check with Singtel for information on RAS.

The screenshot shows the 'Internet Setup' page with 'Connection Type' set to 'RAS (for SingTel)'. The fields are as follows:

User Name:	
Password:	
RAS Plan:	512k Ethernet
Connection:	<input type="radio"/> Connect on Demand (Max Idle 5 Min.) <input checked="" type="radio"/> Keep Alive: Redial Period 30 Sec.
Host Name:	DefVp41v2
Domain Name:	
MTU:	<input checked="" type="radio"/> Manual <input type="radio"/> Automatic
Size:	1400

Connection Type > RAS

**User Name and Password** Enter the User Name and Password provided by Singtel.

**RAS Plan** Select the type of plan you have.

**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.

## PPTP

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

The screenshot shows the 'Internet Setup' configuration page. The 'Connection Type' dropdown is set to 'PPTP'. Below it, there are input fields for IP Address (0.0.0.0), Subnet Mask (255.255.255.0), and Default Gateway (0.0.0.0). There are also fields for User Name and Password, both masked with asterisks. At the bottom, there are two radio button options: 'Connect on Demand (Max Idle: 5 Min.)' and 'Keep Alive: Redial Period: 30 Sec.', with the latter being selected.

Connection Type > PPTP

**IP Address** Enter the Router's IP address, as seen from the Internet. This is provided by your ISP.

**Subnet Mask** Enter the Router's subnet mask, as seen by users on the Internet (including your ISP). This is provided by your ISP.

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

**User Name and Password** Enter the User Name 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.

### Heart Beat Signal

Heart Beat Signal is a service used in Australia only. If you are using a Heart Beat Signal connection, check with your ISP for the necessary setup information.

The screenshot shows the 'Internet Setup' configuration page. The 'Connection Type' dropdown is set to 'Heart Beat Signal'. Below it, there are input fields for User Name and Password, both masked with asterisks. There is also a field for Heart Beat Server (0.0.0.0). At the bottom, there are two radio button options: 'Connect on Demand (Max Idle: 5 Min.)' and 'Keep Alive: Redial Period: 30 Sec.', with the latter being selected.

Connection Type > Heart Beat Signal

**User Name and Password** Enter the User Name and Password provided by your ISP.

**Heart Beat Server** Enter the IP address of your ISP's Heart Beat server. This is 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.

### Optional Settings and MTU

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

The screenshot shows the 'Optional Settings (required by some ISPs)' and 'MTU' configuration page. There are input fields for Host Name (defvp41v2) and Domain Name. Below that, there are radio button options for MTU: 'Manual' (selected) and 'Automatic'. There is also a field for Size (1400).

Optional Settings and MTU

**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 and Size** 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 setting, **Automatic**.

**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 is **1400**.

## Network Setup

The Network Setup section changes the settings on the network connected to the Router's Ethernet ports.

Network Setup

### Router IP

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

### Network Address Server Settings (DHCP)

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.

**Local DHCP Server** DHCP is enabled by factory default. If you already have a DHCP server on your network, or you don't want a DHCP server, then select **Disable** (no other DHCP features will be available).

**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**.

**Number of Address** 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**.

**DHCP Address Range** Displayed here is the range of available IP addresses.

**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 is up, the user will be automatically assigned a new dynamic IP address. The default is **0** minutes, which means one day.

### Time Setting

**Time Zone** Select the time zone in which your network functions.

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

### DDNS

**DDNS Service** If your DDNS service is provided by DynDNS.org, then select **DynDNS.org**. If you do not want to use this feature, keep the default setting, **Disabled**.

Setup > DDNS > DynDNS.org

### DynDNS.org

**User Name** Enter the User Name for your DDNS account.

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

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

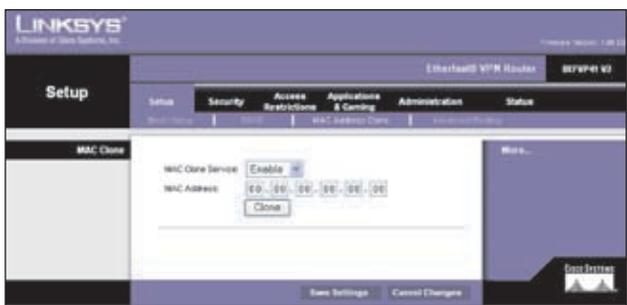
**Internet IP Address** The Router's Internet IP address is displayed here. Because it is dynamic, it will change.

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

Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel 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 > MAC Address Clone

### MAC Clone

**MAC Clone Service** To have the MAC address cloned, select **Enable**.

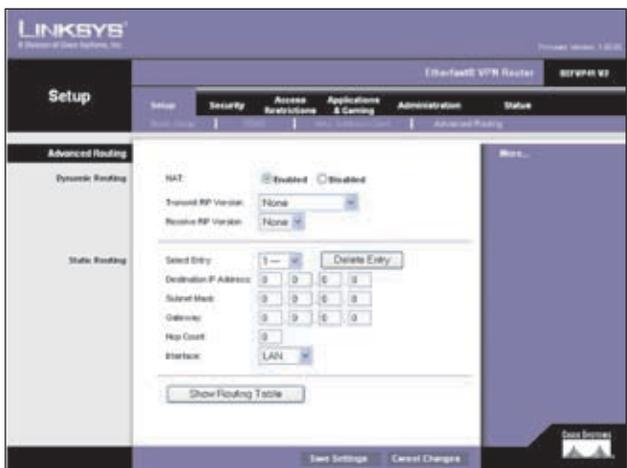
**MAC Address** Enter the MAC address registered with your ISP here.

**Clone** 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 cancel your changes.

## Setup > Advanced Routing

This screen is used to set up the Router's advanced functions. Dynamic Routing automatically adjusts how packets travel on your network. Static Routing sets up a fixed route to another network destination.



Setup > Advanced Routing

## Advanced Routing

### Dynamic Routing

**NAT** If this Router is hosting your network's connection to the Internet, keep the default, **Enabled**. If another router exists on your network, select **Disabled**. (When NAT is disabled, the DHCP server feature is also disabled.)

**Transmit RIP Version** To use dynamic routing for transmission of network data, select the protocol you want: **RIP1**, **RIP1-Compatible**, or **RIP2**.

**Receive RIP Version** To use dynamic routing for reception of network data, select the protocol you want, **RIP1** or **RIP2**.

### Static Routing

A static route is a pre-determined pathway that network information must travel to reach a specific host or network. Enter the information described below to set up a new static route.

**Select Entry** To set up a static route between the Router and another network, select a number from the drop-down list. Click **Delete Entry** to delete a static route.

**Destination IP Address** Enter the IP address of the remote network or host to which you want to assign a static route.

**Subnet Mask** Enter the subnet mask. This determines which portion of a Destination IP Address is the network portion, and which portion is the host portion.

**Gateway** Enter the IP address of the gateway device that allows for contact between the Router and the remote network or host.

**Hop Count** Enter the maximum number of steps between network nodes that data packets will travel. A node is any device on the network, such as a computer, print server, or router.

**Interface** Select the appropriate interface. This tells you whether the Destination IP Address is on the **LAN** (Local Area Network) or the **Internet**.

Click **Show Routing Table** to view the static routes you have already set up.

Destination LAN IP	Subnet Mask	Default Gateway	Hop Count	Interface
0.0.0.0	0.0.0.0	172.154.243.181	1	WAN
172.154.243.0	255.255.255.0	0.0.0.0	1	WAN
192.168.1.0	255.255.255.0	0.0.0.0	1	LAN

Advanced Routing > Routing Table

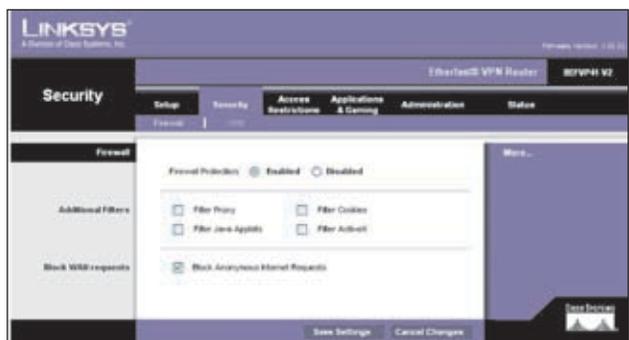
## Routing Table

For each route, the Destination LAN IP address, Subnet Mask, Gateway, Hop Count, and Interface are displayed. Click **Refresh** to update the information.

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

### Additional Filters

**Filter 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. Deselect the option to allow proxy access.

**Filter Java Applets** 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. Deselect the option to allow Java usage.

**Filter 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. Deselect the option to allow cookie usage.

**Filter 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. Deselect the option to allow ActiveX usage.

## Block WAN Requests

**Block 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. Select **Disabled** to allow anonymous Internet requests.

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

## Security > VPN

The *VPN* screen allows you to configure Virtual Private Network (VPN) tunnels. The VPN tunnel is a secure connection between two locations, which are also called endpoints.



Security > VPN

## 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, select **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, select **Enabled**.

## VPN Tunnel

The Router creates a tunnel between two endpoints, so that the data traveling between these endpoints is secure.

**Select Tunnel Entry** Select the tunnel you wish to create. It is possible to create up to 50 simultaneous tunnels.

**Delete** To delete a tunnel, select it from the drop-down menu, and then click **Delete**.

**Summary** To view summary information about a tunnel, select it from the drop-down menu, and then click **Summary**.

**VPN Tunnel** To enable a tunnel, select it from the drop-down menu, and then click **Enabled**. To disable a tunnel, select **Disabled**.

**Tunnel Name** Enter a name for this VPN tunnel, such as Los Angeles Office, Chicago Branch, or New York Division. This allows you to identify multiple tunnels and does not have to match the name used at the other end of the tunnel.

**Interface** Select the appropriate WAN port, **WAN1** or **WAN2** (available if the Dual WAN feature is enabled).

**Enable** Check this box to enable a VPN tunnel. (When you create a VPN tunnel, this check box will be disabled.)

### Local Secure Group and Remote Secure Group

A Local Secure Group is a computer(s) on your network that can access the tunnel. A Remote Secure Group is a computer(s) on the remote end of the tunnel that can access the tunnel. For the Local Secure Group, select **Subnet**, **IP Address**, or **IP Range**. For the Remote Secure Group, select **Subnet**, **IP Address**, **IP Range**, **Host**, or **Any**.



**NOTE:** The Local Secure Group you select should match the Remote Secure Group selected on the VPN device at the other end of the tunnel.

Local and Remote Secure Group

### Subnet

The default is **Subnet**. All computers on the local subnet will be able to access the tunnel.

**IP and Mask** Enter the appropriate addresses. The default value of **0** should remain in the last fields of the IP and Mask settings.

### IP Address

Only the computer with a specific IP address will be able to access the tunnel.

**IP Addr.** Enter the appropriate address.

### IP Range

This option is a combination of the Subnet and IP Address options.

**IP Range** Specify a range of IP addresses within the subnet that will have access to the tunnel.

Host and Any are options for the Remote Secure Group only.

### Host

The Remote Secure Group will be the same as the Remote Security Gateway Setting: IP Address, FQDN (Fully Qualified Domain Name), or Any.

### Any

The local VPN Router will accept a request from any IP address. Select this option when the other endpoint is using DHCP or PPPoE on the Internet side.

### Remote Security Gateway

The Remote Security Gateway is the VPN device, such as a second VPN Router, on the remote end of the VPN tunnel. Select **IP Address**, **FQDN**, or **Any**.

Remote Security Gateway

### IP Address

**IP Addr.** Enter the IP address of the VPN device on the other end of the tunnel. The remote VPN device can be another VPN Router, a VPN server, or a computer with VPN client software that supports IPSec. Make sure that you have entered the address correctly.



**NOTE:** Make sure you enter the IP address of the remote VPN device, NOT the local VPN Router.

### FQDN

**FQDN** Enter the Fully Qualified Domain Name (FQDN) of the VPN device at the other end of the tunnel. The remote VPN device can be another VPN Router, a VPN server, or a computer with VPN client software that supports IPSec. The FQDN is the host name and domain name

for a specific computer on the Internet (for example: [vpn.myvpnserver.com](http://vpn.myvpnserver.com)).

### Any

The remote VPN Router will accept a request from any IP address. The remote VPN device can be another VPN Router, a VPN server, or a computer with VPN client software that supports IPSec. If the remote user has an unknown or dynamic IP address (such as a professional on the road or a telecommuter using DHCP or PPPoE), then select this option.

**Encryption** Encryption helps make your connection more secure. Select **DES** or **3DES**. 3DES is recommended because it is more secure. Both ends of the tunnel can also choose to disable encryption.



**NOTE:** The encryption method you select must match the encryption method on the remote VPN device.

**Authentication** Authentication acts as another level of security. Select **MD5** or **SHA**. SHA is recommended because it is more secure. Both ends of the tunnel can also choose to disable authentication.



**NOTE:** Then authentication method you select must match the authentication method on the remote VPN device.

## Key Management

In order for any encryption to occur, the two ends of a VPN tunnel must agree on the methods of encryption, decryption, and authentication. This is done by sharing a key to the encryption code. For key management, the default is **Auto (IKE)**. To generate the key yourself, select **Manual**. Follow the instructions for the Key Management option you have selected.



Remote Security Group Type > IP

### Auto (IKE)

IKE is an Internet Key Exchange protocol used to negotiate key material for Security Association (SA). IKE uses the Preshared Key to authenticate the remote IKE peer.

**Perfect Forward Secrecy** If the Perfect Forward Secrecy (PFS) feature is enabled, IKE Phase 2 negotiation will generate new key material for IP traffic encryption and authentication, so hackers using brute force to break

encryption keys will not be able to obtain future IPSec keys. Select **Enabled** to ensure that the initial key exchange and IKE proposals are secure.

**Pre-shared Key** This specifies the pre-shared key used to authenticate the remote IKE peer. Based on this Pre-shared key, a key is generated to encrypt the data being transmitted over the tunnel; at the end of the tunnel, the key is decrypted. Enter a key of up to 24 alphanumeric characters. No special characters or spaces are allowed. Both ends of the VPN tunnel must use the same Pre-shared Key. It is strongly recommended that you change the Preshared Key periodically to maximize VPN security.

**Key Lifetime** Enter the number of seconds you want the key to last before it expires. Leave the field blank for the key to last indefinitely. The default is **3600** seconds.

### Manual

No key negotiation is needed. Manual key management is used in small static environments or for troubleshooting purposes.

**Encryption Key** This field specifies a key used to encrypt and decrypt IP traffic. Enter a key of up to 24 alphanumeric characters. Make sure both ends of the VPN tunnel use the same Encryption Key.

**Authentication Key** This field specifies a key used to authenticate IP traffic. Enter a key of up to 20 alphanumeric characters. Make sure both ends of the VPN tunnel use the same Authentication Key.

**Inbound SPI** Enter the Inbound SPI value (numbers only). This must match the Outbound SPI value of the remote VPN device. After you click Save Settings, hexadecimal characters (a series of letters and numbers) are displayed in this field.

**Outbound SPI** Enter the Outbound SPI value (numbers only). This must match the Inbound SPI value of the remote VPN device. After you click Save Settings, hexadecimal characters (a series of letters and numbers) are displayed in this field.

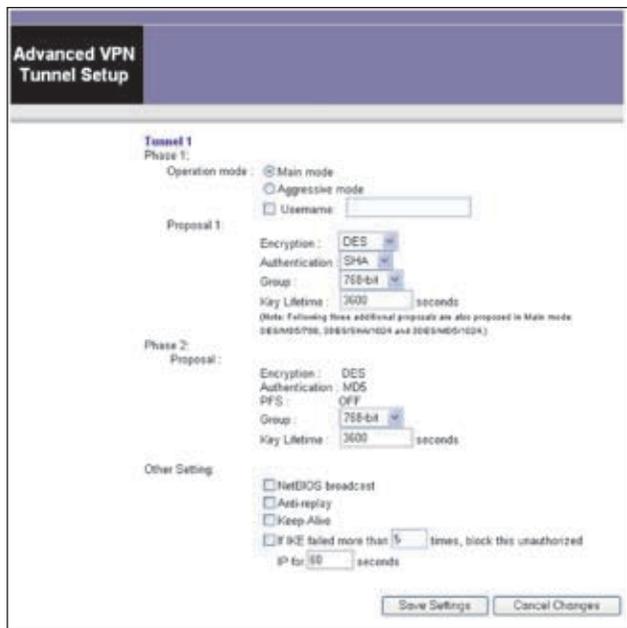
### Status

The status of the VPN tunnel is displayed.

To create a VPN tunnel, click **Connect**. To display VPN activity on a separate screen, click **View Logs**. The *VPN Log* screen displays connections, transmissions, receptions, and encryption methods (this is available if you enable the log function on the *Administration > Log* screen). For more advanced VPN options, click **Advanced Setting**.

### Advanced Setting

For most users, the settings on the VPN page should suffice; however, the Router provides advanced IPSec settings for advanced users.



Advanced VPN Tunnel Setup

### Phase 1

Phase 1 is used to create a security association (SA), often called the IKE SA. After Phase 1 is completed, Phase 2 is used to create one or more IPSec SAs, which are then used to key IPSec sessions.

**Operation mode** There are two types of Phase 1 exchanges, Main mode and Aggressive mode, which exchange the same IKE payloads in different sequences. Main mode is for normal usage and includes more authentication requirements than Aggressive mode. If network security is preferred, select **Main mode**. If network speed is preferred, select **Aggressive mode**. No matter which mode is selected, the VPN Router will accept both Main and Aggressive requests from the remote VPN device.

**Username** If a user on one side of the tunnel is using a unique firewall identifier, then select this option and enter the unique firewall identifier.

### Proposal 1

**Encryption** Select the length of the key used to encrypt/decrypt ESP packets. Select **DES** or **3DES**. 3DES is recommended because it is more secure.

**Authentication** Select the method used to authenticate ESP packets. Select **MD5** or **SHA**. SHA is recommended because it is more secure.

**Group** Select the Diffie-Hellman Group, which is a cryptographic technique that uses public and private keys for encryption and decryption. Select **768-bit** or **1024-bit**.

**Key Lifetime** Enter the number of seconds you want the key to last before a re-key negotiation between each endpoint is completed. The default is **3600** seconds.

### Phase 2

The Encryption, Authentication, and PFS settings are automatically displayed.

**Group** Select the Diffie-Hellman Group, which is a cryptographic technique that uses public and private keys for encryption and decryption. Select **768-bit** or **1024-bit**.

**Key Lifetime** Enter the number of seconds you want the key to last before a re-key negotiation between each endpoint is completed. The default is **3600** seconds.

### Other Settings

**NetBIOS broadcast** To enable NetBIOS traffic to pass through the VPN tunnel, select this option.

**Anti-replay** Anti-replay protection keeps track of sequence numbers as packets arrive, ensuring security at the IP packet level. To enable the Anti-replay protection, select this option.

**Keep-Alive** Keep-Alive helps maintain IPSec VPN tunnel connections. To re-establish the VPN tunnel whenever it is dropped, select this option.

**If IKE failed more than \_ times, block this unauthorized IP for \_ seconds** To block unauthorized IP addresses, select this option. Specify how many times IKE must fail before blocking that unauthorized IP address for a length of time that you specify.

On the *Advanced VPN Tunnel Setup* screen, click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

On the *VPN* screen, click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

## Access Restrictions

The *Access Restrictions* 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 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**. To view all the policies, click **Summary**. (To delete policies from the *Summary* screen, select the policy or policies, and then click **Delete**. To return to the *Access Restrictions* screen, click **Close**.)

### To create an Internet Access policy:

1. Select a number from the *Internet Access Policy* drop-down menu.
2. Enter a Policy Name in the field provided.
3. Click **Edit List** to select which computers will be affected by the policy. 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 cancel your changes.
5. Select the appropriate option, **Deny** or **Allow**, depending on whether you want to block or allow Internet access for the computers you listed.
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**.

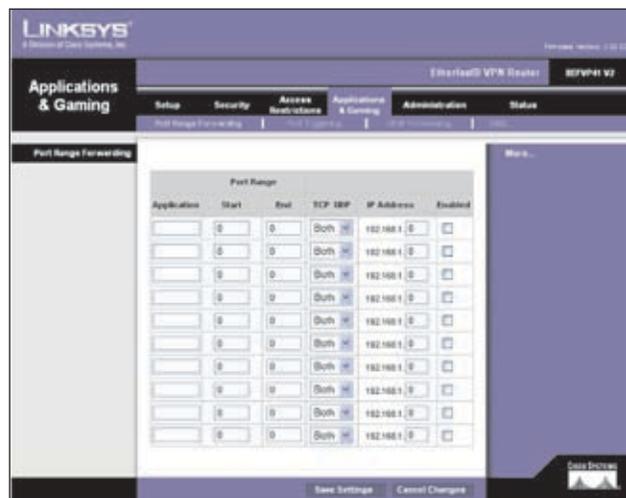
7. Select any Blocked Services and enter a range of ports in the fields provided. If the service you want to block is not listed or you want to edit a service's settings, then click **Add/Edit Service**.
8. If you want to block websites with specific URL addresses, enter each URL in a separate field next to *Website Blocking by URL Address*.
9. If you want to block websites using specific keywords, enter each keyword in a separate field next to *Website Blocking by Keyword*.
10. Click **Save Settings** to save the policy's settings, or click **Cancel Changes** to cancel the policy's settings.

## 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.

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



Applications and Gaming &gt; Port Range Forwarding

## Port Range Forwarding

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

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

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

**TCP UDP** Select the protocol used for this application, either **TCP** or **UDP**, or **Both**.

**IP Address** For each application, enter the IP address of the PC running the specific application.

**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 cancel your changes.

## Applications & Gaming > Port Triggering

The *Port 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 Triggering

## Port Triggering

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

### Triggered Range

**Start Port and End Port** 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

**Start Port and End Port** 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.

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

## Applications and Gaming > UPnP Forwarding

The *UPnP Forwarding* screen displays preset application settings as well as options to customize port services for other applications.



Applications and Gaming > UPnP Forwarding

## UPnP Forwarding

**Application** Ten applications are preset. For custom applications, enter the name of your application in one of the available fields.

The preset applications are among the most widely used Internet applications. They include the following:

**FTP (File Transfer Protocol)** - A protocol used to transfer files over a TCP/IP network (Internet, UNIX, etc.). For example, after developing the HTML pages for a website on a local machine, they are typically uploaded to the web server using FTP.

**Telnet** - A terminal emulation protocol commonly used on Internet and TCP/IP-based networks. It allows a user at a terminal or computer to log onto a remote device and run a program.

**SMTP (Simple Mail Transfer Protocol)** - The standard e-mail protocol on the Internet. It is a TCP/IP protocol that defines the message format and the message transfer agent (MTA), which stores and forwards the mail.

**DNS (Domain Name System)** - The way that Internet domain names are located and translated into IP addresses. A domain name is a meaningful and easy-to-remember "handle" for an Internet address.

TFTP (Trivial File Transfer Protocol) - A version of the TCP/IP FTP protocol that has no directory or password capability.

Finger - A UNIX command widely used on the Internet to find out information about a particular user, such as a telephone number, whether the user is currently logged on, and the last time the user was logged on. The person being “fingered” must have placed his or her profile on the system in order for the information to be available. Fingering requires entering the full user@domain address.

HTTP (HyperTextTransportProtocol)-The communications protocol used to connect to servers on the World Wide Web. Its primary function is to establish a connection with a web server and transmit HTML pages to the client web browser.

POP3 (Post Office Protocol 3) - A standard mail server commonly used on the Internet. It provides a message store that holds incoming e-mail until users log on and download it. POP3 is a simple system with little selectivity. All pending messages and attachments are downloaded at the same time. POP3 uses the SMTP messaging protocol.

NNTP (Network News Transfer Protocol) - The protocol used to connect to Usenet groups on the Internet. Usenet newsreaders support the NNTP protocol.

SNMP (Simple Network Management Protocol) - A widely used network monitoring and control protocol. Data is passed from SNMP agents, which are hardware and/or software processes reporting activity in each network device (hub, router, bridge, etc.), to the workstation console used to oversee the network. The agents return information contained in a MIB (Management Information Base), which is a data structure that defines what is obtainable from the device and what can be controlled (turned off, on, etc.).

**Ext. Port.** Enter the number of the external port used by the server in the Ext. Port column. Check with the Internet application documentation for more information.

**TCP UDP** Select the protocol **UDP** or **TCP** for each application. You cannot select both protocols.

**Int. Port** Enter the number of the internal port used by the server in the Int. Port column. Check with the Internet application software documentation for more information.

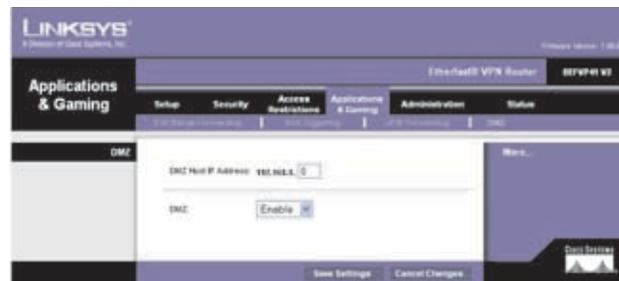
**IP Address** Enter the IP address of the server that you want the Internet users to be able to access.

**Enabled** Select **Enabled** to enable the service you have defined.

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

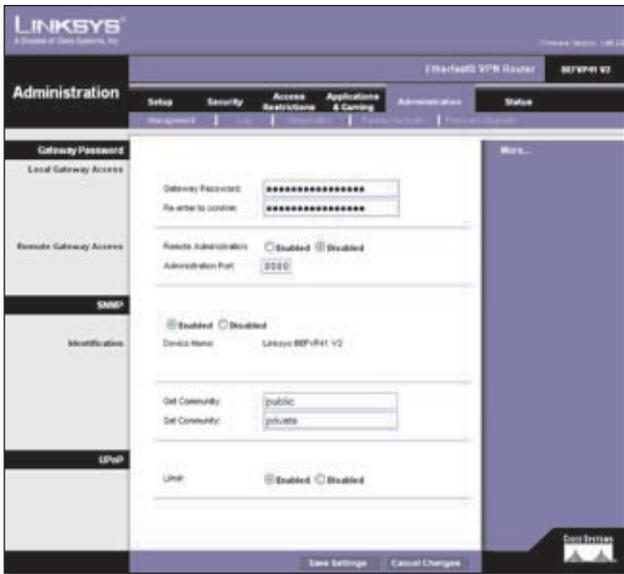
**DMZ Host IP Address** Enter the IP address of the computer you want to expose.

**DMZ** To disable DMZ hosting, keep the default, **Disable**. To expose one PC, select **Enable**.

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

## Administration > Management

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



Administration &gt; Management

## Gateway Password

### Local Gateway Access

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

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

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

### Remote Gateway Access

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

**Administration 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://<Internet\_IP\_address>:port**, depending on whether you use HTTP or HTTPS. Enter the Router's specific Internet IP address in place of <Internet\_IP\_address>, and enter the Administration Port number in place of the word port.

## SNMP

Simple Network Management Protocol (SNMP) is a widely used network monitoring and control protocol. Network supervisors can use SNMP to monitor the Router using network management systems.

Data is passed from an SNMP agent, such as the Router, to the workstation console used to oversee the network. The Router then returns information contained in a Management Information Base (MIB), a data structure that defines what is obtainable from the device and what can be controlled.

SNMP functions, such as statistics, configuration, and device information, are not available without third-party management software. The Router is compatible with all HP OpenView compliant software.

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

### Identification

**Device Name** The name of the Router is displayed.

**Get Community** Enter the password that allows read-only access to the Router's SNMP information.

**Set Community** Enter the password that allows read/write access to the Router's SNMP information.

## UPnP

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

**UPnP** If you want to use UPnP, keep the default setting, **Enabled**. Otherwise, select **Disabled**.

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

## Administration > Log

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



Administration &gt; Log

## Log

### Email Alerts

**E-mail Alerts** To have logs or alert messages e-mailed to you, select **Enable**. Otherwise, select **Disable**.

**Denial of Service Thresholds** Enter the number of Denial of Service (DoS) attacks the Router detects before it sends an e-mail alert. The default is **20**.

**SMTP Mail Server** If you want any log or alert information e-mailed to you, then enter the name or numerical IP address of your SMTP server. Your ISP can provide you with this information.

**Email Address for Alert Logs** Enter the e-mail address that will receive your log files. If you do not want copies of the log information e-mailed to you, then leave this field blank.

**Return Email Address** Your mail server may require a return e-mail address. Enter that address in this field. If you are not sure, then enter the same e-mail address in the *Email Address for Alert Logs* field.

**Log** To monitor traffic between the network and the Internet, select **Yes**. To disable the Log function, select **No**. With logging enabled, you can choose to view temporary logs or keep a permanent record using the Logviewer software. (To view temporary logs, click the **Security** > **VPN** tab. Then click **View Logs**.)

**Logviewer IP Address** For a permanent record of these logs, the Logviewer software must be used. Download this software from the Linksys website, [www.linksys.com](http://www.linksys.com). The Logviewer software saves all incoming and outgoing activity in a permanent file on your computer's hard drive. Enter the fixed IP address of the computer running the Logviewer software. The Router will now send updated logs to that computer.

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

## Administration > Diagnostics

The ping test allows you to check the connections of your network devices, including connection to the Internet.



Administration > Diagnostics

## Ping Test

### Ping Test Parameters

**Ping Target IP** Enter the address of the PC or other device whose connection you wish to test.

**Ping Size** Enter the number of bytes that will be sent. The default is **60** bytes. The range is 60 to 1514 bytes.

**No. of Pings** Enter many times you wish the Router to ping the location. The default is **1**. The range is 1 to 4.

**Ping Interval** Enter the number of milliseconds that the Router should wait between pings. The default is **1000** milliseconds. The range is 0 to 9999.

**Ping Timeout** Enter the number of milliseconds that the Router should wait before it times out after a failed test. A failed test is determined when a computer or other device does not respond to a ping. The default is **5000** milliseconds. The range is 0 to 9999.

**Start Test** Click this option to begin the ping test. The results will be displayed after the test is run.

Click **Save Settings** to save these settings for future ping tests, or click **Cancel Changes** to return these settings to their previous configuration.

## Administration > Factory Defaults

The *Administration* > *Factory Defaults* screen allows you to restore the Router's configuration to its factory default settings.



Administration > 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 Factory Defaults** To reset the Router's settings to the default values, select **Yes** and click **Save Settings**. Then follow the on-screen instructions. Any 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 > 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 will have to re-enter all of your configuration settings.

## Upgrade Firmware

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

**File Path** Enter the path and name of the extracted firmware upgrade file, or click **Browse** to select the extracted firmware upgrade file.

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

## Status > Gateway

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



Status > Gateway

## Gateway Information

**Hardware Version** The model and version numbers of the Router are displayed.

**Software Version** The version number and date of the Router's firmware are displayed.

**MAC Address** The MAC address of the Router's Internet interface is displayed.

**Current Time** The time according to the time zone selected on the *Basic Setup* screen is displayed.

## 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 *Basic Setup* screen.

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 interface is displayed.

**IP Address** The local IP address of the Router is displayed.

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

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

**DHCP Clients Table** Click this option to view a list of PCs that are using the Router as a DHCP server.

Client Hostname	IP Address	MAC Address	Interface	Delete
eee	192.168.1.100	00-04-5a-86-4c-a2	Ethernet	<input type="checkbox"/>
winme-chaps	192.168.1.101	00-04-5a-86-d5-7c	Ethernet	<input type="checkbox"/>

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 DHCP Server IP Address is the IP address of the Router. The table lists the Client Hostname, IP Address, MAC Address, and Interface for each DHCP client. To remove a DHCP client, select the client and click **Delete**. To retrieve the most up-to-date information, click **Refresh**.

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

# Appendix A: Troubleshooting

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## ***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 green 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, insert the setup CD into your computer, and then 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, insert the setup CD into your computer, and then follow the on-screen instructions.

## ***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, leave the *User name* field blank and 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.linksys.com](http://www.linksys.com).

## Appendix B: VPN Tunnel

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### Overview

This appendix describes an example of how to set up a VPN tunnel between two VPN Routers. Refer to “Chapter 3: Advanced Configuration” for more information.

### Instructions

1. Open your web browser, and enter **192.168.1.1** in the *Address* field. Press **Enter**.
2. On the login screen, enter the password you have set up for the Router (the default is **admin**). Press **Enter**.
3. Click the **Security > VPN** tab.
4. For the Select Tunnel Entry setting, select an entry number.
5. For the VPN Tunnel setting, select **Enable**.
6. Enter a Tunnel Name. This name should be unique for this particular tunnel.
7. For the Local Secure Group setting, select **Subnet**. Then complete the *IP* and *Mask* fields (refer to your local network’s IP address scheme).
8. For the Remote Secure Group setting, select **IP Addr**. Then enter the IP address of the remote computer on the other end of the tunnel.
9. For the Remote Security Gateway setting, select **IP Addr**. Then enter the Internet IP address of the remote VPN Router.
10. Select the Encryption and Authentication methods for the tunnel you want to create. Make sure both ends of the tunnel use the same methods.
11. For the Perfect Forward Secrecy (PFS) setting, select **Enabled**. Then complete the *Pre-shared Key* and *Key Lifetime* fields.
12. Click **Save Settings**.
13. To test your connection, click **Connect**.

## Appendix C: Specifications

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Model	BEFVP41
Standards	IEEE 802.3 (10BaseT), IEEE 802.3u (100BaseTX)
VPN Encryption	DES (56-bit), 3DES (168-bit)
VPN Authentication	MD5, SHA
Ports	Internet: One 10/100 RJ-45 Port Local Network: Four 10/100 RJ-45 Ports
Cabling Type	UTP Category 5 or Better
LEDs	Power, Ethernet (1-4), Internet

### Environmental

Dimensions	7.31" x 6.06" x 1.88" (186 x 154 x 48 mm)
Unit Weight	12.8 oz. (360 g)
Power	External, 12VDC, 1A
Certifications	FCC, CE
Operating Temp.	0 to 45°C (32 to 113°F)
Storage Temp.	-20 to 70°C (-4 to 158°F)
Operating Humidity	0% to 90%, Noncondensing
Storage Humidity	5% to 90%, Noncondensing

Specifications are subject to change without notice.

## Appendix D: Warranty Information

### Limited Warranty

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

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

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

### Exclusions and Limitations

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

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

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

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

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

### Obtaining Warranty Service

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

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

### **Technical Support**

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

**[www.linksys.com/support](http://www.linksys.com/support)**.

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

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

## Appendix E: Regulatory Information

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### FCC Statement

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

### Safety Notices

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



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

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### Industry Canada Statement

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

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.

### Avis d'Industrie Canada

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Le fonctionnement est soumis aux conditions suivantes :

1. Ce périphérique ne doit pas causer d'interférences;
2. Ce périphérique doit accepter toutes les interférences reçues, y compris celles qui risquent d'entraîner un fonctionnement indésirable.

## 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 последици. За по-подробна информация относно изхвърлянето на вашите стари уреди се обърнете към местните власти, службите за сметосъбиране или магазина, от който сте закупили уреда.

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

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

### Dansk (Danish) - Miljøinformation for kunder i EU

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

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

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

### **Eesti (Estonian) - Keskkonnaalane informatsioon Euroopa Liidus asuvatele klientidele**

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

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

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

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

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 fih is-simbolu  fuq il-prodott u/jew fuq l-ippakkjar ma jistax jintrema ma' skart municipali li ma għex isseparat. Is-simbolu jindika li dan il-prodott għandu jintrema separatament minn ma' l-iskart domestiku regolari. Hija responsabbiltà tiegħek li tarmi dan it-tagħmir u kull tagħmir ieħor ta' l-elettriku u elettroniku permezz ta' faċilitajiet ta' għbir appuntati apposta mill-gvern jew mill-awtoritajiet lokali. Ir-rimi b'mod korrett u r-riċiklaġġ jgħin jipprevjeni konsegwenzi negattivi potenzjali għall-ambjent u għas-saħħa tal-bniedem. Għal aktar informazzjoni dettaljata dwar ir-rimi tat-tagħmir antik tiegħek, jekk jogħġbok ikkuntattja lill-awtoritajiet lokali tiegħek, is-servizzi għar-rimi ta' l-iskart, jew il-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 eljárás 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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