# **BELKIN**®

# Wireless G Travel Router

# Share your hotel broadband Internet connection



**User Manual** 



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# section

# Introduction

Thank you for purchasing the Belkin Wireless G Travel Router (the Router). Please be sure to read through this User Manual completely, and pay special attention to the section entitled "Placement of your Router for Optimal Performance" on page 2.

# Advantages of a Wireless Network

- Mobility you no longer need a dedicated "computer room"—now you can work on a networked laptop or desktop computer anywhere within your wireless range
- Easy installation The Belkin Easy Installation Wizard makes setup simple
- Flexibility set up and access printers, computers, and other networking devices from anywhere in your home
- Easy expansion the wide range of Belkin networking products let you expand your network to include devices such as printers and gaming consoles
- No cabling required you can spare the expense and hassle of retrofitting Ethernet cabling throughout the home or office
- Widespread industry acceptance choose from a wide range of interoperable networking products

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# Placement of your Router for Optimal Performance Important Factors for Placement and Setup

Your wireless connection will be stronger the closer your computer is to your Router. Typical indoor operating range for wireless devices is between 100 and 200 feet.

In the same way, your wireless connection and performance will degrade somewhat as the distance between your Router and connected devices increases. This may or may not be noticeable to you. As you move farther from your Router, connection speed may decrease. Factors that can weaken signals simply by getting in the way of your network's radio waves are metal appliances or obstructions, and walls.

If you have concerns about your network's performance that might be related to range or obstruction factors, try moving the computer to a position between five and 10 feet away from the Router in order to see if distance is the problem. If difficulties persist even at close range, please contact Belkin Technical Support.

**Note:** While some of the items listed below can affect network performance, they will not prohibit your wireless network from functioning; if you are concerned that your network is not operating at its maximum effectiveness, this checklist may help.

### 1. Wireless Router Placement

Place your Router, the central connection point of your network, as close as possible to the center of your wireless network devices.

To achieve the best wireless network coverage for your "wireless clients" (i.e., computers enabled by Belkin Wireless Notebook Network Cards, Wireless Desktop Network Cards, and Wireless USB Adapters):

- Ensure that your Router's networking antennas are parallel to each other, and are positioned vertically (toward the ceiling). If your Router itself is positioned vertically, point the antennas as much as possible in an upward direction.
- In multistory homes, place the Router on a floor that is as close to the center of the home as possible. This may mean placing the Router on an upper floor.
- Try not to place the Router near a cordless phone.

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### 2. Avoid Obstacles and Interference

Avoid placing your Router near devices that may emit radio "noise," such as microwave ovens. Dense objects that can inhibit wireless communication include:

- Refrigerators
- · Washers and/or dryers
- · Metal cabinets
- · Large aquariums
- Metallic-based, UV-tinted windows

If your wireless signal seems weak in some spots, make sure that objects such as these are not blocking the signal's path (between your computers and Router).

### 3. Cordless Phones

If the performance of your wireless network is impaired after attending to the above issues, and you have a cordless phone:

- Try moving cordless phones away from the Router and your wireless-enabled computers.
- Unplug and remove the battery from any cordless phone that operates on the 2.4GHz band (check the manufacturer's information). If this fixes the problem, your phone may be interfering.
- If your phone supports channel selection, change the channel on the phone to the farthest channel from your wireless network. For example, change the phone to channel 1 and move your Router to channel 11. See your phone's user manual for detailed instructions.
- If necessary, consider switching to a 900MHz cordless phone.

# 4. Choose the "Quietest" Channel for your Wireless Network

In locations where homes or offices are close together, such as apartment buildings or office complexes, there may be wireless networks nearby that can conflict with yours.

Use the Site Survey capabilities found in the wireless utility of your wireless adapter or card to locate any other wireless networks that are available (see your wireless adapter's or card's user manual), and move your Router and computers to a channel as far away from other networks as possible.

- Experiment with more than one of the available channels in order to find the clearest connection and avoid interference from neighboring cordless phones or other wireless devices.
- For Belkin wireless networking products, use the detailed Site Survey and wireless channel information included with your Wireless Network Card. See your Network Card's user guide for more information.

These guidelines should allow you to cover the maximum possible area with your Router. Should you need to cover an even wider area, we suggest the Belkin Wireless G Range Extender/Access Point.

# 5. Secure Connections, VPNs, and AOL

Secure connections typically require a user name and password, and are used where security is important. Secure connections include:

- Virtual Private Network (VPN) connections, often used to connect remotely to an office network
- The "Bring Your Own Access" program from America Online (AOL), which lets you use AOL through broadband provided by another cable or DSL service
- · Most online banking websites
- Many commercial websites that require a user name and password to access your account

Secure connections can be interrupted by a computer's power management setting, which causes it to "go to sleep." The easiest solution to avoid this is to simply reconnect by rerunning the VPN or AOL software, or by re-logging into the secure website.

A second alternative is to change your computer's power management settings so it does not go to sleep; however, this may not be appropriate for portable computers. To change your power management setting under Windows®, see the "Power Options" item in the Control Panel.

If you continue to have difficulty with secure connections, VPNs, and AOL, please review the steps above to be sure you have addressed these issues.

# Introduction

For more information regarding our networking products, visit our website at www.belkin.com/networking or call Belkin Technical Support at:

US: 877-736-5771

310-898-1100 ext. 2263

Europe: 00 800 223 55 460

Australia: 1800 235 546 New Zealand: 0800 235 546 Singapore: 800 616 1790

# **Product Overview**

### **Product Features**

In minutes you will be able to share your Internet connection and network your computers. The following is a list of features that make your new Belkin Wireless G Travel Router an ideal solution for your home or small office network.

# Works with PC Computers

The Router supports a variety of networking environments, including Windows 98, Me, 2000, and XP. All you need is an Internet browser and a network adapter that supports TCP/IP (the standard language of the Internet).

# Front-Panel LED Display

Lighted LEDs on the front of the Router indicate which functions are in operation. You'll know at-a-glance whether your Router is connected to the Internet. This feature eliminates the need for advanced software and status-monitoring procedures.

### Web-Based Advanced User Interface

You can set up the Router's advanced functions easily through your web browser, without having to install additional software onto the computer. There are no disks to install or keep track of and, best of all, you can make changes and perform setup functions from any computer on the network quickly and easily.

# **NAT IP Address Sharing**

Your Router employs Network Address Translation (NAT) to share the single IP address assigned to you by your Internet Service Provider while saving the cost of adding IP addresses to your Internet service account.

### SPI Firewall

Your Router is equipped with a firewall that will protect your network from a wide array of common hacker attacks, including IP Spoofing, Land Attack, Ping of Death (PoD), Denial of Service (DoS), IP with zero length, Smurf Attack, TCP Null Scan, SYN flood, UDP flooding, Tear Drop Attack, ICMP defect, RIP defect, and fragment flooding.

# Product Overview

# Integrated 10/100 4-Port Switch

The Router has a built-in, 4-port network switch to allow your wired computers to share printers, data and MP3 files, digital photos, and much more. The switch features automatic detection so it will adjust to the speed of connected devices. The switch will transfer data between computers and the Internet simultaneously without interrupting or consuming resources.

# Universal Plug-and-Play (UPnP) Compatibility

UPnP (Universal Plug-and-Play) is a technology that offers seamless operation of voice messaging, video messaging, games, and other applications that are UPnP-compliant.

# Support for VPN Pass-Through

If you connect to your office network from home using a VPN connection, your Router will allow your VPN-equipped computer to pass through the Router and to your office network.

# Built-In Dynamic Host Configuration Protocol (DHCP)

Built-In Dynamic Host Configuration Protocol (DHCP) on-board makes for the easiest possible connection of a network. The DHCP server will assign IP addresses to each computer automatically so there is no need for a complicated networking setup.

# Easy Install Wizard

The Easy Install Wizard takes the guesswork out of setting up your Router. This automatic software determines your network settings for you and sets up the Router for connection to your Internet Service Provider (ISP). In a matter of minutes, your Wireless Router will be up and running on the Internet.

**NOTE:** Easy Install Wizard software is compatible with Windows 98SE, Me, 2000, and XP.

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# **Product Overview**

# **MAC Address Filtering**

For added security, you can set up a list of MAC addresses (unique client identifiers) that are allowed access to your network. Every computer has its own MAC address. Simply enter these MAC addresses into a list using the Web-Based Advanced User Interface and you can control access to your network.

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# **Knowing your Router**

# **Package Contents**

- Wireless G Travel Router
- Quick Installation Guide
- Installation Software CD
- Power Supply
- USB Power Cable
- Ethernet Cable

# **System Requirements**

- PC-compatible laptop
- Windows 98, Me, 2000, or XP

# Knowing your Router

# **Product Diagrams**



# Top

- A. Wireless LED
- B. Ethernet LED
- C. Power LED



# Rear Panel

- A. Power Cable Port
- B. Ethernet Cable Port
- C. Mode Switch

# Knowing your Router



# Bottom

# A. Reset Button

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The Belkin Wireless G Travel Router is a 3-in-1 solution providing the busy traveler the versatility to meet his or her connection needs. The three installation modes are:

# Installation Modes

Router Mode - create a wireless network in a hotel, home, or office



Adapter Mode - connect your PC wirelessly to a router or hotspot



Access Point Mode - expand the coverage of an existing network



# Router Mode Installation

# 1. Install

# Run the Easy Install Wizard first!

# DO NOT CONNECT THE ROUTER AT THIS TIME.

# Important for Hotel Users:

Do not connect to the hotel's high-speed Internet connection at this time (to avoid being charged more than once).



1.1 Insert the Installation CD into vour CD-ROM drive. You will see the Wizard's welcome screen. Click "Run the Easy Install Wizard".



1.2 The Easy Install Wizard will ask you to select which mode you want the Router to use. Select "Router Mode", and click "Next".



1.3 The next screen will show you how to select the mode on the Router's back panel. Move the center of the button on the back panel to align with the word "Router". Then, click "Next".

# 2. Connect

# Connecting the Router's Cables



2.1 Connect one end of the included Ethernet cable into the Router and the other end into a hotel's Internet connection or a cable/DSL modem. Next, plug the included power supply into the Router, and then click "Next".



2.2 From your PC, wirelessly connect to the Router using your PC's built-in wireless card or external wireless adapter. The network name (SSID) of the Router is "Belkin Traveler". Once you have connected wirelessly, click "Next".



2.3 Select one of the following:

Hotel Connection – Select "Hotel Connection" if you are in a hotel. CLICK "NEXT" AND FOLLOW THE INSTRUCTIONS IN STEP 3.

Cable/DSL Connection – If you are using a cable/DSL modem, select "All Other Connections". CLICK "NEXT" AND FOLLOW THE INSTRUCTIONS IN STEP 4.

# 3. Configure

# **Hotel Users - Configuration for Hotel Connections**



3.1 Click the "Hotel Home Page" button to open up a web browser and set up the hotel's connection. You may be required to accept the terms of the hotel's high-speed Internet connection in order to access the Internet.



3.2 Your installation is now complete. However, if you would like to set up any advanced features (such as security features), you may click the "Advanced Features" button or type "192.168.2.1" into the navigation bar of your web browser, Click "Finish".

# 4. Configure

# Cable/DSL Users - Configuration for Cable/DSL Connections



connection options under "Cable or DSL modem". Select your Internet connection and click "Continue". Note: If you do not see the page

**4.1** Select one of the following Internet

pictured here, open a web browser. Once you have established a connection with the Router, type "192.168.2.1" into the navigation bar of your web browser.



**4.2** Your installation is now complete. However, if you would like to set up any advanced features (such as security features), you may click the "Advanced Features" button or type "192.168.2.1" into the navigation bar of your web browser. Click "Finish".

# Adapter Mode Installation

# 1. Mode | Selecting Adapter Mode



1.1 Select "Adapter Mode", then click "Next".



1.2 Move the center of the switch on the back panel to align with the word "Adapter". Click "Next".

# 2. Connect Connecting the Cables



2.1 Connect one end of the included Ethernet cable to the Router (which is now functioning in Adapter Mode) and the other end into your PC's RJ45 port. Next, plug the included USB power cable into the Router with the USB end in the PC's USB port, or plug the included power supply into the Router and then into a wall outlet. Click "Next".

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2.2 Check to make sure that the Ethernet and Power LEDs on the front of the Router are on. Click "Next" to go to the Router's home page on the Web.

# 3. Configure

# Configuration for Adapter Mode



3.1 Wirelessly connect to a network from the "Available Networks" window. Select a network by clicking "Join" and then "Connect". The status window will tell you the current status of the network to which the Router is currently connected. Click "Next".

**Note:** If you do not see the page pictured here once you have established a connection with the Router, please refer to the "Using the Adapter Mode" section in this manual on page 67.



3.2 Your installation is now complete. However, if you would like to set up any advanced features (such as security features), you may click the "Advanced Features" button or type "192.168.2.225" into the navigation bar of your web browser.

# **Access Point Mode Installation**

# 1. Mode

# Selecting the Access Point Mode



1.1 Select "Access Point Mode".

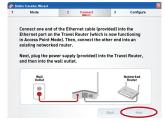
Click "Next".



1.2 Move the center of the switch on the back panel to align with the word "AP". Click "Next".

# 2. Connect

# **Connecting the Cables**



2.1 Connect one end of the included Ethernet cable to the Router (which is now functioning in Access Point Mode) and the other end to a cable/DSL modem. Next, plug the included power supply into the Router and click "Next".



2.2 From your PC, wirelessly connect to the Router using your PC's built-in wireless card or external wireless adapter. The network name (SSID) of the Router is "Belkin Traveler". Once you have wirelessly connected, click "Next".

# 3. Configure

# **Configuration for Access Point Mode**



3.1 Once you have established a connection with the Router, your installation is complete. However, if you would like to set up any advanced features (such as security features), you may click the "Advanced Features" button or type "192.168.2.254" into the navigation bar of your web browser.

# Using the Web-Based Advanced User Interface

The Web-Based Advanced User Interface is a web-based tool that you can use to set up the Router if you don't want to use the Easy Install Wizard. You can also use it to manage advanced Router functions. From the Web-Based Advanced User Interface window, you can perform the following tasks:

- View the Router's current settings and status
- Configure the Router to connect to your ISP with the settings that they provided you
- Change current network settings such as the internal IP address, the IP address pool, DHCP settings, and more
- Set the Router's firewall to work with specific applications via port forwarding
- Set up security features such as client restrictions, MAC address filtering, WEP, and WPA
- Enable the DMZ feature for a single computer on your network
- Change the Router's internal password
- Enable/disable UPnP (Universal Plug-and-Play)
- Reset the Router
- Back up your configuration settings
- Reset the Router's default settings
- Update the Router's firmware

You can access the Router's Web-Based Advanced User Interface using your Internet browser. In the navigation bar of your browser, type "192.168.2.1" (you do not need to type in "http://" or "www"). Press the "Enter" key.



**PLEASE NOTE:** If you have difficulty accessing the Router's Web-Based Advanced User Interface, go to the section of this User Manual entitled "Manually Configuring Network Settings".

# Logging into the Router

You will see the Router's home page in your browser window. The home page is visible to any user who wants to see it. To make any changes to the Router's settings, you have to log in. Clicking the "Login" button or clicking on any one of the links on the home page

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# Using the Web-Based Advanced User Interface

will take you to the login screen. The Router ships with no password. In the login screen, leave the password field blank and click "Submit" to log in.

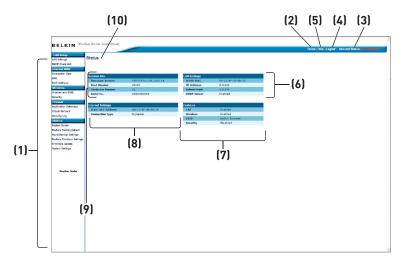


# Logging out of the Router

One computer at a time can log into the Router to make changes to Router settings. Once a user has logged in to make changes, there are two ways that the computer can be logged out. The first is to click the "Logout" button. The second method is automatic. The login will time out after a specified period of time. The default login time-out is 10 minutes. This can be changed to any period of time from 1 to 99 minutes. For more information, see the section in this manual entitled "Login Time-Out".

# Using the Web-Based Advanced User Interface

The home page is the first page you will see when you access the Web-Based Advanced User Interface (UI). The home page provides a quick view of the Router's status and settings. All advanced setup pages can be reached from this page.



# 1. Quick-Navigation Links

You can go directly to any of the Router's UI pages by clicking directly on these links. The links are divided into logical categories and grouped by tabs to make finding a particular setting easier to find. Clicking on the purple header of each tab will show you a short description of the tab's function.

### 2. Home Button

The "Home" button is available in every page of the UI. Pressing this button will take you back to the home page.

### 3. Internet Status Indicator

This indicator is visible in all pages of the UI, indicating the connection status of the Router. When the indicator says "connection OK" in GREEN, the Router is connected to the Internet. When the Router is not connected to the Internet, the indicator will read "no connection" in RED. The indicator is automatically updated when you make changes to the settings of the Router.

This button enables you to log in and out of the Router with the press of one button. When you are logged into the Router, this button will change to read "Logout". Logging into the Router will take you to a separate login page where you will need to enter a password. When you are logged into the Router, you can make changes to the settings. When you are finished making changes, you can log out of the Router by clicking the "Logout" button. For more information about logging into the Router, see the section called "Logging into the Router".

# 5. Help Button

The "Help" button gives you access to the Router's help pages. Help is also available on many pages by clicking "more info" next to certain sections of each page.

# 6. LAN Settings

Shows you the settings of the Local Area Network (LAN) side of the Router. Changes can be made to the settings by clicking on any one of the links (IP Address, Subnet Mask, DHCP Server) or by clicking the "LAN" "Quick Navigation" link on the left side of the screen.

# 7. Features

Shows the status of the Router's NAT, firewall, and wireless features. Changes can be made to the settings by clicking on any one of the links or by clicking the "Quick Navigation" links on the left side of the screen.

# 8. Internet Settings

Shows the settings of the Internet/WAN side of the Router that connects to the Internet. Changes to any of these settings can be made by clicking on the links or by clicking on the "Internet/WAN" "Quick Navigation" link on the left side of the screen.

### 9. Version Info

Shows the firmware version, boot-code version, hardware version, and serial number of the Router.

# 10. Page Name

The page you are on can be identified by this name. This User Manual will sometimes refer to pages by name. For instance "LAN > LAN Settings" refers to the "LAN Settings" page.













# **Setting your Connection Type**

# Setting your Internet Service Provider (ISP) Connection Type to Dynamic IP

A dynamic connection is the most common connection type used with cable modems. Setting the connection type to "dynamic" in many cases is enough to complete the connection to your ISP. Some dynamic connections may require a host name. If your ISP assigned you a host name, you can enter it in the space provided. Some dynamic connections may require that you clone the MAC address of the PC that was originally connected to the modem.



### 1. Host Name

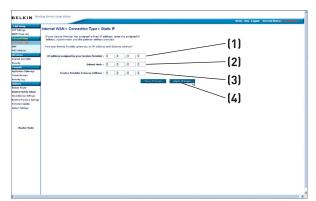
If a host name must be visible to your ISP, enter the host name your ISP has provided here. Click "Apply Changes" [3]. If your ISP did not assign you a host name, or you are uncertain about whether your ISP requires a visible host name, leave this field blank.

# 2. Change WAN MAC Address

If your ISP requires a specific MAC address to connect to the service, you can enter a specific MAC address or clone the current computer's MAC address through this link.

# Setting your Internet Service Provider (ISP) Connection Type to Static IP

A static IP connection is less common than other connection types. If your ISP uses static IP addressing, you will need your IP address, subnet mask, and ISP gateway address. This information is available from your ISP. Type in your information, then click "Apply Changes" [4]. After you apply the changes, if your Router is set up properly, the "Internet Status" indicator will read "Connected".



### 1. IP Address

Provided by your ISP. Enter your IP address here.

# 2. Subnet Mask

Provided by your ISP. Enter your subnet mask here.

# 3. ISP Gateway Address

Provided by your ISP. Enter the ISP gateway address here.

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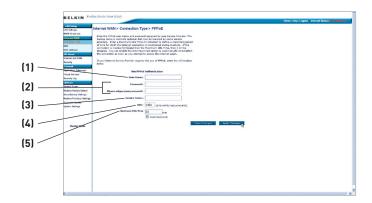
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# Using the Web-Based Advanced User Interface

# Setting your ISP Connection Type to PPPoE

Most DSL providers use PPPoE as the connection type. If you use a DSL modem to connect to the Internet, your ISP may use PPPoE to log you into the service. If you have an Internet connection in your home or small office that doesn't require a modem, you may also use PPPoE.



# Your connection type is PPPoE if:

- Your ISP gave you a user name and password, which is required to connect to the Internet;
- 2) Your ISP gave you software such as WinPOET or Enternet300 that you use to connect to the Internet; or
- You have to double-click on a desktop icon other than your browser to get on the Internet.

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# Using the Web-Based Advanced User Interface

# 1. User Name

This space is provided to type in your user name that was assigned by your ISP.

### 2. Password

Type in your password and re-type it into the "Retype Password" box to confirm it.

# 3. Service Name

A service name is rarely required by an ISP. If you are not sure if your ISP requires a service name, leave this blank.

### 4. MTU

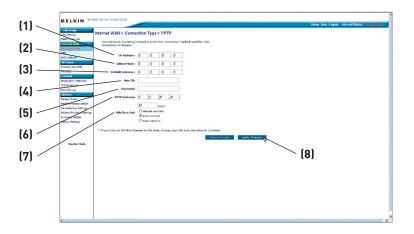
The MTU setting should never be changed unless your ISP gives you a specific MTU setting. Making changes to the MTU setting can cause problems with your Internet connection including disconnection from the Internet, slow Internet access, and problems with Internet applications working properly.

# 5. Maximum Idle Time

The "Maximum Idle Time" feature is used to automatically disconnect the Router from your ISP when there is no activity for a specified period of time. For instance, placing a check mark next to this option and entering "5" into the minute field will cause the Router to disconnect from the Internet after five minutes of no Internet activity. This option should be used if you pay for your Internet service by the minute.

# Setting your Internet Service Provider (ISP) Connection Type to Point-to-Point Tunneling Protocol (PPTP)

[European Countries Only]. Some ISPs require a connection using PPTP protocol, a type of connection most common in European countries. This sets up a direct connection to the ISP's system. Type in the information provided by your ISP in the space provided. When you have finished, click "Apply Changes" [8]. After you apply the changes, if your Router is set up properly, the "Internet Status" indicator will read "Connected".



# 1. IP Address

Provided by your ISP. Enter the IP address here.

## 2. Subnet Mask

Provided by your ISP. Enter your subnet mask here.

# 3. Default Gateway

Provided by your ISP. Enter your default gateway here.

### 4. User ID

Provided by your ISP. Enter your PPTP account name here.

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### 5. Password

Type your password here. Then retype it into the "Retype Password" box.

# 6. PPTP Default Gateway

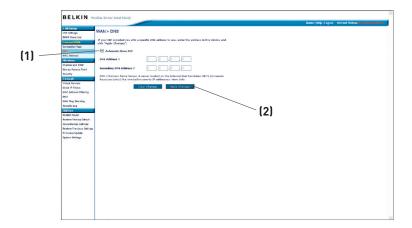
Provided by your ISP. Enter your service IP address here.

# 7. Idle Time Out

The "Maximum Idle Time" feature is used to automatically disconnect the Router from your ISP when there is no activity for a specified period of time. For instance, if you place a check mark next to this option and enter "5" into the minute field, the Router will disconnect from the Internet after five minutes of no Internet activity. This option should be used if you pay for your Internet service by the minute. This feature also allows you to select "manual connect", "auto connect", and "keep session" options.

# Setting Custom Domain Name Server (DNS) Settings

A "Domain Name Server" is a server located on the Internet that translates Universal Resource Locators (URLs) like "www.belkin.com" into IP addresses. Many Internet Service Providers (ISPs) do not require you to enter this information into the Router. The "Automatic from ISP" box (1) should be checked if your ISP did not give you a specific DNS address. If you are using a static IP connection type, then you may need to enter a specific DNS address and secondary DNS address for your connection to work properly. If your connection type is dynamic or PPPoE, it is likely that you do not have to enter a DNS address. Leave the "Automatic from ISP" box checked. To enter the DNS address settings, uncheck the "Automatic from ISP" box and enter your DNS entries in the spaces provided. Click "Apply Changes" (2) to save the settings.



# Configuring your WAN Media Access Controller (MAC) Address

All network components including cards, adapters, and routers, have a unique "serial number" called a MAC address. Your Internet Service Provider may record the MAC address of your computer's adapter and only let that particular computer connect to the Internet service. When you install the Router, its own MAC address will be "seen" by the ISP and may cause the connection not to work. Belkin has provided the ability to clone (copy) the MAC address of the computer into the Router. This MAC address, in turn, will be seen by the ISP's

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# Using the Web-Based Advanced User Interface

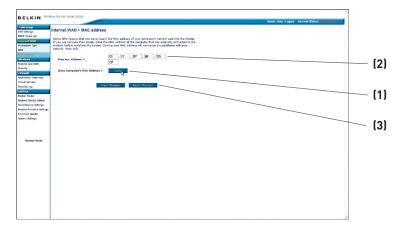
system as the original MAC address and will allow the connection to work. If you are not sure whether your ISP needs to see the original MAC address, simply clone the MAC address of the computer that was originally connected to the modem. Cloning the address will not cause any problems with your network.

# Cloning your MAC Address

To clone your MAC address, make sure that you are using the computer that was ORIGINALLY CONNECTED to your modem before the Router was installed. Click the "Clone" button [1]. Click "Apply Changes" [3]. Your MAC address is now cloned to the Router.

# Entering a Specific MAC Address

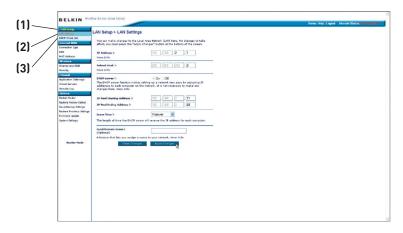
In certain circumstances you may need a specific WAN MAC address. You can manually enter one in the "MAC Address" page. Type in a MAC address in the spaces provided (2) and click "Apply Changes" (3) to save the changes. The Router's WAN MAC address will now be changed to the MAC address you specified.



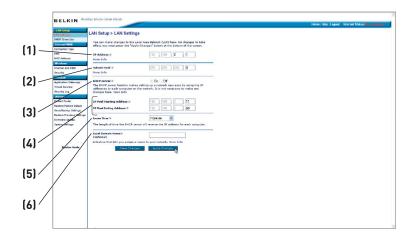
# Using the Web-Based Advanced User Interface

# Viewing LAN Settings

Clicking on the header of the "LAN Setup" tab (1) will take you to its header page. A quick description of the functions can be found here. To view the settings or make changes to any of the LAN settings, click on "LAN Settings" (2) or to view the list of connected computers, click on "DHCP Client List" (3).



All settings for the internal LAN setup of the Router can be viewed and changed here.



# 1. IP Address

The "IP address" is the internal IP address of the Router. The default IP address is "192.168.2.1". To access the Web-Based Advanced User Interface, type this IP address into the address bar of your browser. This address can be changed if needed. To change the IP address, type in the new IP address and click "Apply Changes". The IP address you choose should be a non-routable IP.

Examples of a non-routable IP are:

192.168.x.x (where x is anything between 0 and 255), and 10.x.x.x (where x is anything between 0 and 255).

# 2. Subnet Mask

There is no need to change the subnet mask. This is a unique, advanced feature of your Belkin Router. It is possible to change the subnet mask if necessary; however, do **NOT** make changes to the subnet mask unless you have a specific reason to do so. The default setting is "255.255.255.0".

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# 3. DHCP Server

The DHCP server function makes setting up a network very easy by assigning IP addresses to each computer on the network automatically. The default setting is "On". The DHCP server can be turned OFF if necessary; however, in order to do so you must manually set a static IP address for each computer on your network. To turn off the DHCP server, select "Off" and click "Apply Changes".

### 4. IP Pool

The range of IP addresses set aside for dynamic assignment to the computers on your network. The default is 2–100 (99 computers). If you want to change this number, you can do so by entering a new starting and ending IP address and clicking on "Apply Changes". The DHCP server can assign 100 IP addresses automatically. This means that you cannot specify an IP address pool larger than 100 computers. For example, starting at 50 means you have to end at 150 or lower so as not to exceed the 100-client limit. The starting IP address must be lower in number than the ending IP address.

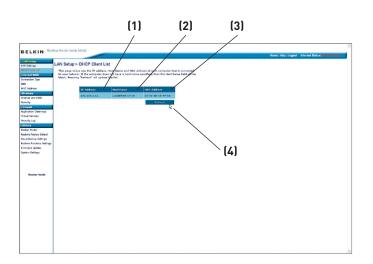
### 5. Lease Time

The length of time the DHCP server will reserve the IP address for each computer. We recommend that you leave the lease time set to "Forever". The default setting is "Forever", meaning that any time a computer is assigned an IP address by the DHCP server, the IP address will not change for that particular computer. Setting lease times for shorter intervals such as one day or one hour frees IP addresses after the specified period of time. This also means that a particular computer's IP address may change over time. If you have set any of the other advanced features of the Router such as DMZ or client IP filters, these are dependent on the IP address. For this reason, you will not want the IP address to change.

### 6. Local Domain Name

The default setting is "Belkin". You can set a local domain name (network name) for your network. There is no need to change this setting unless you have a specific advanced need to do so. You can name the network anything you want such as "MY NETWORK".

You can view a list of the computers (known as clients), which are connected to your network. You are able to view the IP address [1] of the computer, the host name [2] (if the computer has been assigned one), and the MAC address [3] of the computer's network interface card (NIC). Pressing the "Refresh" [4] button will update the list. If there have been any changes, the list will be updated.



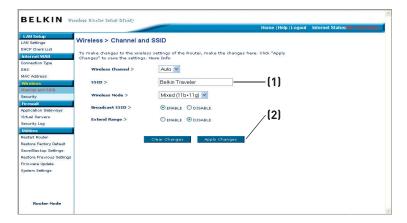
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#### Configuring the Wireless Network Settings

The "Wireless" tab lets you make changes to the wireless network settings. From this tab, you can make changes to the wireless network name (SSID), operating channel, and encryption security settings. You can also configure the Router to be used as an access point.



# Changing the Wireless Network Name (SSID)

To identify your wireless network, a name called the SSID (Service Set Identifier) is used. The default SSID of the Router is "Belkin Traveler". You can change this to a name of your choice or leave it unchanged. If there are other wireless networks operating in your area, you will want to make sure that your SSID does not match that of another wireless network in the area. To change the SSID, type the SSID that you want to use in the "SSID" field (1) and click "Apply Changes" (2). The change will be effective immediately. If you make a change to the SSID, your wireless-equipped computers may also need to be reconfigured to connect to your newly named network. Refer to the documentation of your wireless network adapter for information on making this change.

### Securing your Wi-Fi® Network

Here are a few different ways you can maximize the security of your wireless network and protect your data from prying eyes and ears. This section is intended for the home, home office, and small office user. At the time of this User Manual's publication, there are three encryption methods available.

Using the Web-Based Advanced User Interface

Name	64-bit Wired Equivalent Privacy	128-bit Wired Equivalent Privacy	Wi-Fi Protected Access-TKIP	Wi-Fi Protected Access-AES
Acronym	64-bit WEP	128-bit WEP	WPA-TKIP	WPA-AES
Security	Good	Better	Best	Best
Features	Static keys	Static keys	Dynamic key encryption and mutual authentication	Dynamic key encryption and mutual authentication
	Encryption keys based on RC4 algorithm (typically 40-bit keys)	More secure than 64-bit WEP using a key length of 104 bits plus 24 additional bits of system- generated data	TKIP (temporal key integrity protocol) added so that keys are rotated and encryption is strengthened	AES (Advanced Encryption Standard) does not cause any throughput loss

# WEP (Wired Equivalent Privacy)

WEP (Wired Equivalent Privacy) is a common protocol that adds security to all Wi-Fi-compliant wireless products. WEP was designed to give wireless networks the equivalent level of privacy protection as a comparable wired network.

#### 64-Bit WEP

64-bit WEP was first introduced with 64-bit encryption, which includes a key length of 40 bits plus 24 additional bits of system-generated data (64 bits total). Some hardware manufacturers refer to 64-bit as 40-bit encryption. Shortly after the technology was introduced, researchers found that 64-bit encryption was too easy to decode.

# Using the Web-Based Advanced User Interface

#### 128-Bit WEP

As a result of 64-bit WEP's potential security weaknesses, a more secure method of 128-bit encryption was developed. 128-bit encryption includes a key length of 104 bits plus 24 additional bits of system-generated data (128 bits total). Some hardware manufacturers refer to 128-bit as 104-bit encryption.

Most of the new wireless equipment in the market today supports both 64-bit and 128-bit WEP encryption, but you might have older equipment that only supports 64-bit WEP. All Belkin wireless products will support both 64-bit and 128-bit WEP.

#### **Encryption Keys**

After selecting either the 64-bit or 128-bit WEP encryption mode, it is critical that you generate an encryption key. If the encryption key is not consistent throughout the entire wireless network, your wireless networking devices will be unable to communicate with one another on your network and you will not be able to successfully communicate within your network.

You can enter your key by typing in the hex key manually, or you can type in a passphrase in the "Passphrase" field and click "Generate" to create a key. A hex (hexadecimal) key is a combination of numbers and letters from A–F and 0–9. For 64-bit WEP, you need to enter 10 hex keys. For 128-bit WEP, you need to enter 26 hex keys.

For instance:

### AF 0F 4B C3 D4 = 64-bit WEP key

#### C3 03 0F AF 0F 4B B2 C3 D4 4B C3 D4 E7 = 128-bit WEP key

The WEP passphrase is NOT the same as a WEP key. Your Router uses this passphrase to generate your WEP keys, but different hardware manufacturers might have different methods on generating the keys. If you have multiple vendors' equipment in your network, the easiest thing to do is to use the hex WEP key from your Router or access point and enter it manually into the hex WEP key table in your Router's configuration screen.

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# Using the Web-Based Advanced User Interface

#### WPA (Wi-Fi Protected Access)

WPA (Wi-Fi Protected Access) is a new Wi-Fi standard that was designed to improve upon the security features of WEP. To use WPA security, the drivers and software of your wireless equipment must be upgraded to support WPA. These updates will be found on the wireless vendor's website. There are two types of WPA security, WPA-PSK (no server) and WPA (with radius server).

**WPA-PSK (no server)** uses what is known as a pre-shared key as the network key. A network key is basically a password that is between eight and 63 characters long. It can be a combination of letters, numbers, or characters. Each client uses the same network key to access the network. Typically, this is the mode that will be used in a home environment.

For a list of Belkin wireless products that support WPA, please visit our website at www.belkin.com/networking.

# Using the Web-Based Advanced User Interface

### Sharing the Same Network Keys

Most Wi-Fi products ship with security turned off. So once you have your network working, you need to activate WEP or WPA and make sure your wireless networking devices are sharing the same network key.



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# Using the Web-Based Advanced User Interface

### Using a Hexadecimal Key

A hexadecimal key is a combination of numbers and letters from A–F and 0–9. 64-bit keys are five two-digit numbers. 128-bit keys are 13 two-digit numbers.

For instance:

### AF 0F 4B C3 D4 = 64-bit key

### C3 03 0F AF 0F 4B B2 C3 D4 4B C3 D4 E7 = 128-bit key

In the boxes below, make up your key by writing in two characters between A-F and 0-9 in each box. You will use this key to program the encryption settings on your Router and your wireless computers.



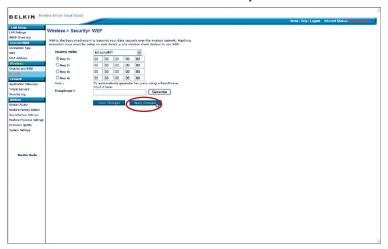
# **WEP Setup**

#### 64-Bit WEP Encryption

- 1. Select "64-bit WEP" from the drop-down menu.
- After selecting your WEP encryption mode, you can enter your key by typing in the hex key manually, or you can type a passphrase in the "Passphrase" field and click "Generate" to create a key.

A hex (hexadecimal) key is a combination of numbers and letters from A-F and 0-9. For 64-bit WEP, you need to enter 10 hex keys.

For instance: AF 0F 4B C3 D4 = 64-bit WEP key



Click "Apply Changes". Encryption in the Router is now set. Each of the computers on your wireless network will now need to be configured with the same security settings.

**WARNING:** If you are configuring the Wireless G Travel Router or access point from a computer with a wireless client, you will need to ensure that security is turned ON for this wireless client. If this is not done, your client will lose its wireless connection.

### 128-Bit WEP Encryption

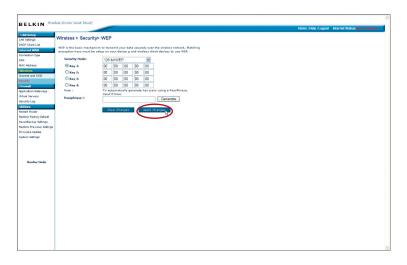
 After selecting your WEP encryption mode, you can enter your key by typing in the hex key manually, or you can type a passphrase in the "Passphrase" field and click "Generate" to create a key.

A hex (hexadecimal) key is a combination of numbers and letters from A-F and 0-9. For 128-bit WEP, you need to enter 26 hex keys.

For instance: C3 03 0F AF 0F 4B B2 C3 D4 4B C3 D4 E7 = 128-bit WEP key

Click "Apply Changes". Encryption in the Router is now set. Each of the computers on your wireless network will now need to be configured with the same security settings.

**WARNING:** If you are configuring the Wireless G Travel Router or access point from a computer with a wireless client, you will need to ensure that security is turned ON for this wireless client. If this is not done, your client will lose its wireless connection.



# Using the Web-Based Advanced User Interface

### Changing the Wireless Security Settings

Your Router is equipped with WPA (Wi-Fi Protected Access), the latest wireless security standard. It also supports the legacy security standard, WEP (Wired Equivalent Privacy). By default, wireless security is disabled. To enable security, you must first determine which standard you want to use. To access the security settings, click "Security" on the "Wireless" tab.

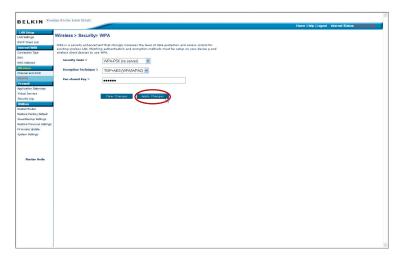
# **WPA Setup**

**Note:** To use WPA security, all your clients must be upgraded to drivers and software that support it. At the time of this User Manual's publication, a security patch download is available, for free, from Microsoft. This patch works only with the Windows XP operating system. You also need to download the latest driver for your Belkin Wireless G Desktop or Notebook Network Card from the Belkin support site. Other operating systems are not supported at this time. Microsoft's patch only supports devices with WPA-enabled drivers such as Belkin 802.11g products.

WPA uses a so-called pre-shared key as the security key. A pre-shared key is a password that is between eight and 63 characters long. It can be a combination of letters, numbers, and other characters. Each client uses the same key to access the network. Typically, this mode will be used in a home environment.

WPA2 is the second generation of WPA, offering a more advanced encryption technique over WPA.

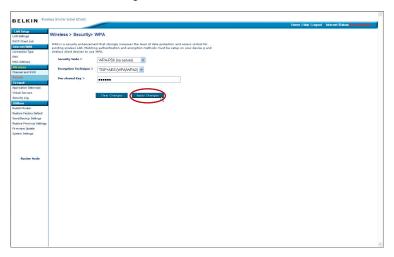
- 1. Select "WPA/WPA2" or "WPA2 only" from the "Allowed Client Type".
- 2. Select "Pre-shared key" as the authentication type.
- 3. Enter your pre-shared key. This can be from eight to 63 characters and can be letters, numbers, or symbols. This same key must be used on all of the clients that you set up. This pre-shared key will allow users full access to your network including shared files and printers.
- Click "Apply Changes" to finish. You must now set all clients to match these settings.
- Enter your pre-shared key for guest access. This can be from eight to 63 characters and can be letters, numbers, or symbols. This guest pre-shared key allows users only Internet access.
- **6.** Click "Apply Changes" to finish. You must now set all clients to match these settings depending on the type of access you want them to have.



# Using the Web-Based Advanced User Interface

### Setting WPA-PSK (no server)

- 1. From the "Security Mode" drop-down menu, select "WPA-PSK (no server)".
- 2. For "Encryption Technique", select "TKIP" or "AES". This setting will have to be identical on the clients that you set up.
- 3. Enter your pre-shared key. This can contain eight to 63 characters (letters, numbers, and/or symbols). This same key must be used on all of the clients that you set up. For example, your PSK might be something like: "Smith family network key".
- Click "Apply Changes". You must now configure all clients to match these settings.



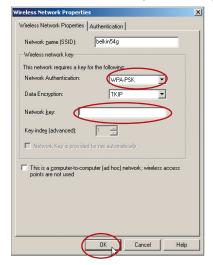
Configuring your Belkin Wireless G Cards to Use Security Features Please Note: This section will provide you with information on how to configure your Belkin Wireless G Cards to use security features.

At this point, you should already have your Router or access point set up to use WPA or WEP. To establish a wireless connection, you will need to set up your Wireless Notebook Card and Wireless Desktop Card to use the same security settings.

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# Connecting your computer to a wireless network that requires a 64-bit or 128-bit WEP key:

- Double-click the "Signal Indicator" icon to bring up the "Wireless Network" screen. The "Advanced" button will allow you to view and configure more Router options.
- Under the "Wireless Network Properties" tab, select a network name from the "Available Networks" list and click "Configure".
- 3. Under "Data Encryption", select "WEP".
- 4. Ensure that there is no check in the box next to "Network key is provided for me automatically". If you are using this computer to connect to a corporate network, please ask your network administrator whether this box needs to be checked.
- Type your WEP key in the network key box (designated as "Key" in Belkin's wireless configuration utility).

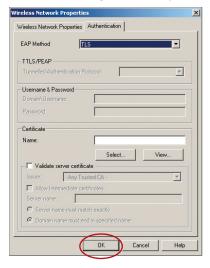


**Important:** A WEP key is a combination of numbers and letters from A–F and 0–9. For 128-bit WEP, you need to enter 26 keys. For 64-bit WEP, you need to enter 10 keys. This network key needs to match the key you assign to your Router or access point.

6. Click "OK".

# Connecting your computer to a wireless network that requires WPA-PSK (no server):

- Double-click the "Signal Indicator" icon to bring up the "Wireless Network" screen. The "Advanced" button will allow you to view and configure more Router options.
- 2. Under the "Wireless Networks" tab, select a network name from the "Available networks" list and click "Configure".
- 3. Under "Network Authentication", select "WPA-PSK (No Server)".
- Type your WPA key in the network key box, designated as "Key" on Belkin's wireless configuration utility.



**Important:** WPA-PSK is a combination of numbers and letters from A–Z and 0–9. For WPA-PSK, your key can contain from eight to 63 keys. This network key needs to match the key you assign to your Router or access point.

5. Click "OK".

- 1. Double-click the "Signal Indicator" icon to bring up the "Wireless Network" screen. The "Advanced" button will allow you to view and configure more Router options.
- 2. Under the "Wireless Networks" tab, select a network name from the "Available networks" list and click "Configure".
- 3. Under "Network Authentication", select WPA.
- Under the "Authentication" tab, select the settings that are indicated by your network administrator.
- 5. Click "OK".

# Setting Up WPA for Wireless Desktop and Wireless Notebook Cards that are NOT Manufactured by Belkin

If you do NOT have a Belkin WPA Wireless Desktop or Wireless Notebook Card and your computer is not equipped with WPA-enabled software, download Microsoft's "Windows XP Support Patch for Wireless Protected Access", which is available for free download.

**Please Note:** The file that Microsoft has made available works only with Windows XP. Other operating systems are not supported at this time.

**Important:** You also need to ensure that the wireless-card manufacturer supports WPA and that you have downloaded and installed the latest driver from the manufacturer's support site.

Supported Operating Systems:

- Windows XP Professional
- Windows XP Home Edition

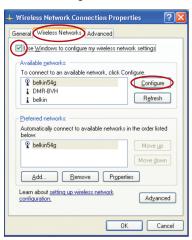
# Setting Up Windows XP Wireless Network Utility to Use WPA-PSK

In order to use WPA-PSK, ensure you are using the Windows Wireless Network Utility by doing the following:

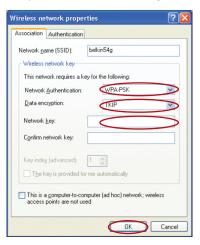
- 1. Under Windows XP, click "Start > Control Panel > Network Connections".
- 2. Right-click on "Wireless Network Connection Properties", and select "Properties".

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Clicking on the "Wireless Networks" tab will display the following screen. Ensure the "Use Windows to configure my wireless network settings" box is checked.



Under the "Wireless Networks" tab, click the "Configure" button and you will see the following screen.



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# Using the Web-Based Advanced User Interface

5. For a home or small business user, select "WPA-PSK" under "Network Authentication".

**Note:** Select "WPA" if you are using this computer to connect to a corporate network that supports an authentication server such as a radius server. Please consult your network administrator for further information.

- Select "TKIP" or "AES" under "Data Encryption". This setting will have to be identical to the Router that you set up.
- 7. Type in your encryption key in the "Network key" box.

**Important:** Enter your pre-shared key. This can be from eight to 63 characters and can be letters, numbers, or symbols. This same key must be used on all of the clients that you set up.

8. Click "OK" to apply settings.

# **Utilities Tab**

This screen lets you manage different parameters of the Router and perform certain administrative functions.



Sometimes it may be necessary to restart or reboot the Router if it begins working improperly. Restarting or rebooting the Router will NOT delete any of your configuration settings.

#### Restarting the Router to Restore Normal Operation

1. Click the "Restart Router" button.



2. The following message will appear. Click "OK".



3. The following message will appear. Restarting the Router can take up to 25 seconds. It is important not to turn off the power to the Router during the restart.



4. A 25-second countdown will appear on the screen. When the countdown reaches zero, the Router will be restarted. The Router's home page should appear automatically. If not, type in the Router's address (default = 192.168.2.1) into the navigation bar of your browser.

Section

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#### Restoring Factory Default Settings

Using this option will restore all of the settings in the Router to the factory (default) settings. It is recommended that you back up your settings before you restore all of the defaults.

1. Click the "Restore Defaults" button.



The following message will appear. Click "OK".



3. The following message will appear. Restoring the defaults includes restarting the Router. It can take up to 25 seconds. It is important not to turn the power to the Router off during the restart.

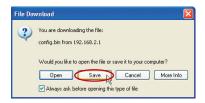


4. A 25-second countdown will appear on the screen. When the countdown reaches zero, the Router's defaults will be restored. The Router's home page should appear automatically. If it does not, type in the Router's address (default = 192.168.2.1) into the navigation bar of your browser.

You can save your current configuration by using this feature. Saving your configuration will allow you to restore it later if your settings are lost or changed. It is recommended that you back up your current configuration before performing a firmware update.



 Click "Save". A window called "File Download" will open. Click "Save".



2. A window will open that allows you to select the location where you want to save the configuration file. Select a location. You can name the file anything you want, or use the default name "Config". Be sure to name the file so you can locate it yourself later. When you have selected the location and name of the file, click "Save".



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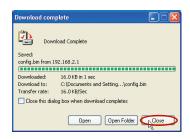
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# Using the Web-Based Advanced User Interface

When the save is complete, you will see the following window. Click "Close".

The configuration is now saved.



#### **Restoring a Previous Configuration**

This option will allow you to restore a previously saved configuration.



 Click "Browse". A window will open that allows you to select the location of the configuration file. All configuration files end with a ".bin". Locate the configuration file you want to restore and double-click on it.



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# Using the Web-Based Advanced User Interface

2. You will be asked if you want to continue. Click "OK".



A reminder window will appear. It will take up to 35 seconds for the configuration restoration to complete. Click "OK".



4. A 35-second countdown will appear on the screen. When the countdown reaches zero, the Router's configuration will be restored. The Router's home page should appear automatically. If not, type in the Router's address (default = 192.168.2.1) into the navigation bar of your browser.

#### Updating the Firmware

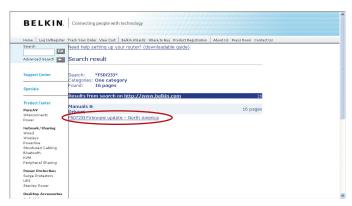
From time to time, Belkin may release new versions of the Router's firmware. Firmware updates contain feature improvements and fixes to problems that may exist. When Belkin releases new firmware, you can download the firmware from the Belkin update website and update your Router's firmware to the latest version.

#### Searching for a New Version of Firmware

From http://www.belkin.com/support/downloads.asp, type in the Belkin part number "F5D7233" on the "Search" field. Click "Search".



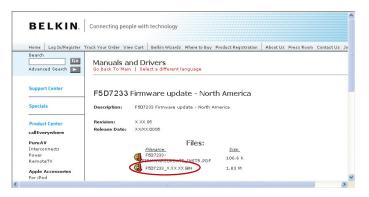
From the results page, click "F5D7233 Firmware update - North America".



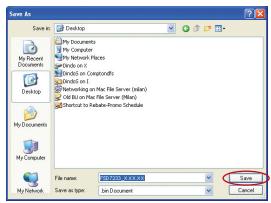
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### Downloading a New Version of Firmware

You will now be taken to the download page of "F5D7233 Firmware update - North America".



- To download the new version of firmware, click the download logo (4).
- 2. A window will open that allows you to select the location where you want to save the firmware file. Select a location. You can name the file anything you want, or use the default name. Be sure to save the file in a place where you can locate it yourself later. Note: We suggest saving this to your desktop to make it easy to locate the file. When you have selected the location, click "Save".



When the save is complete, you will see the following window. Click "Close".



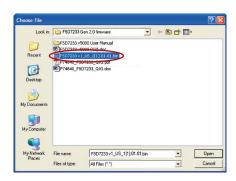
The download of the firmware is complete. To update the firmware, follow the next steps in "Updating the Router's Firmware".

### Updating the Router's Firmware

 In the "Firmware Update" page, click "Browse". A window will open that allows you to select the location of the firmware update file.



 Browse to the firmware file you downloaded.
 Select the file by double-clicking on the file name.



# Using the Web-Based Advanced User Interface

3. The "Update Firmware" box will now display the location and name of the firmware file you just selected.
Click "Update".



4. You will be asked if you are sure you want to continue. Click "OK".



5. You will see one more message. This message tells you that the Router may not respond for as long as one minute as the firmware is loaded into the Router and the Router is rebooted. Click "OK".



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6. A 60-second countdown will appear on the screen. When the countdown reaches zero, the Router's firmware update will be complete. The Router's home page should appear automatically. If not, type in the Router's address (default = 192.168.2.1) into the navigation bar of your browser.

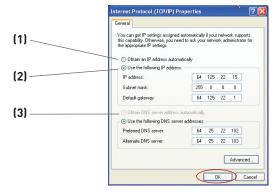
The firmware update is complete.

# Manually Configuring Network Settings

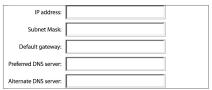
In order for your computer to properly communicate with your Router, you will need to change your PC's TCP/IP settings to DHCP.

#### Manually Configuring Network Adapters in Windows 2000, NT, or XP

- 1. Click "Start", "Settings", then "Control Panel".
- Double-click on the "Network and dial-up connections" icon (Windows 2000) or the "Network" icon (Windows XP).
- 3. Right-click on the "Local Area Connection" associated with your network adapter and select "Properties" from the drop-down menu.
- 4. In the "Local Area Connection Properties" window, click "Internet Protocol (TCP/IP)" and click the "Properties" button. The following screen will appear:



5. If "Use the following IP address" [2] is selected, your Router will need to be set up for a static IP connection type. Write the address information in the table below. You will need to enter this information into the Router.

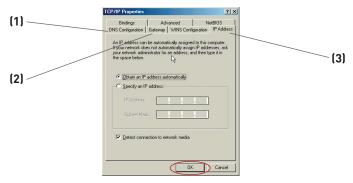


If not already selected, select "Obtain an IP address automatically"
 and "Obtain DNS server address automatically" (3). Click "OK".

Your network adapter/s is/are now configured for use with the Router.

# Manually Configuring Network Adapters in Windows 98SE or Me

- 1. Right-click on "My Network Neighborhood" and select "Properties" from the drop-down menu.
- 2. Select "TCP/IP -> settings" for your installed network adapter. You will see the following window.



3. If "Specify an IP address" is selected, your Router will need to be set up for a static IP connection type. Write the address information in the table below. You will need to enter this information into the Router.



- Write in the IP address and subnet mask from the "IP Address" tab (3).
- Click the "Gateway" tab (2). Write the gateway address down in the chart.
- Click the "DNS Configuration" tab (1). Write the DNS address(es) in the chart.
- If not already selected, select "Obtain IP address automatically" in the "IP Address" tab. Click "OK".

Restart the computer. When the computer restarts, your network adapter/s is/are now configured for use with the Router.

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# Recommended Web Browser Settings

In most cases, you will not need to make any changes to your web browser's settings. If you are having trouble accessing the Internet or the Web-Based Advanced User Interface, then change your browser's settings to the recommended settings in this section.

### Internet Explorer 4.0 or Higher

1. Start your web browser. Select "Tools" then "Internet Options".



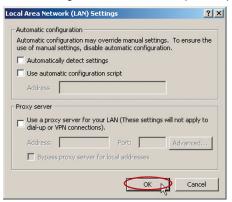
In the "Internet Options" screen, there are three selections: "Never dial a connection", "Dial whenever a network connection is not present", and "Always dial my default connection". If you can make a selection, select "Never dial a connection". If you cannot make a selection, go to the next step.



3. Under the "Internet Options" screen, click on "Connections" and select "LAN Settings...".

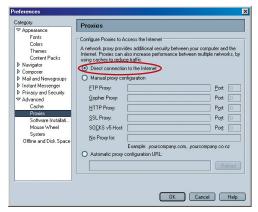
# Recommended Web Browser Settings

4. Make sure there are no check marks next to any of the displayed options: "Automatically detect settings", "Use automatic configuration script", and "Use a proxy server". Click "OK". Then click "OK" again in the "Internet Options" page.



### Netscape® Navigator® 4.0 or Higher

- Start Netscape. Click on "Edit" then "Preferences".
- 2. In the "Preferences" window, click on "Advanced" then select "Proxies". In the "Proxies" window, select "Direct connection to the Internet".



# Using the Adapser Pholionde Mode

**Note:** This advanced feature should be employed by advanced users only. The Router can be configured to work as a wireless-network access point. Using this mode will defeat the NAT IP sharing feature and DHCP server. In Access Point (AP) mode, the Router will need to be configured with an IP address that is in the same subnet as the rest of the network to which you will bridge. The default IP address is 192.168.2.254 and the default subnet mask is 255.255.255.0. These can be customized to meet your needs.



 Move the center of the button on the back panel to align with the word "AP".

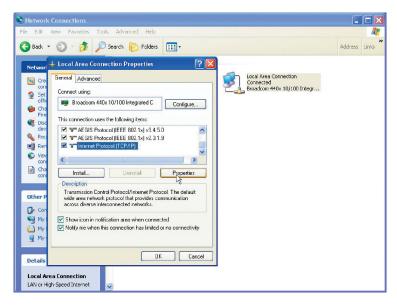
- 2. Enable the AP mode my selecting "Enable" in the "Use as Access Point only" page. When you select this option, you will be able to change the IP settings.
- 3. Set your IP settings to match your network. Click "Apply Changes".
- Connect a cable from the WAN port on the Router to your existing network.

The Router is now acting as an access point. To access the Router's Web-Based Advanced User Interface again, type the IP address you specified into your browser's navigation bar. You can set the encryption settings, MAC address filtering, SSID, and channel normally.

### Setting Up your Computer to Use the Web-Based Advanced **User Interface**

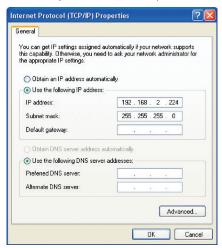
The default IP address of the Router (while functioning in Adapter Mode) is 192.168.2.225. You will need to set your computer's IP address to the same subnet (e.g., 192.168.2.224) before you can access the Web-Based Advanced User Interface. Perform the following steps from Windows 98SE, Me, 2000, or XP:

- Move the center of the switch on the back panel to align with the word "Adapter".
- 2. Go to the Windows Control Panel and double-click on the "Network" icon or the "Network Connections" icon.
- 3. Right-click on the "Local Area Connection" button for your Router and select "Properties".



- 4. In the "General" window, select the Internet Protocol TCP/IP settings for your Router and click on "Properties".
- 5. Select the "Use the following IP address" radio button.

Enter an IP address in the same subnet as the access point (for example, 192.168.2.224).



7. Enter the following subnet mask: 255.255.255.0. Click "OK".

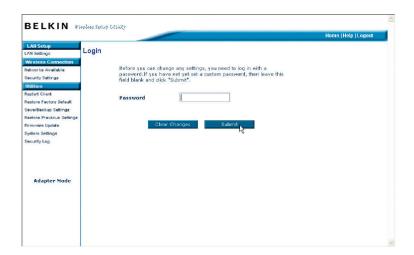
**Warning:** Once you have configured your Router, you must repeat steps 1 through 3 and select "Obtain an IP automatically" or set a valid IP for your computer on the same subnet as the network to which you are connecting.

# **Connect Using Adapter Mode**

Using your Internet browser, you can access the Web-Based Advanced User Interface. In your browser, type "192.168.2.225" (do not type in "http://" or "www"). Then press the "Enter" key.

# Logging into the Web-Based Advanced User Interface

You will see the Web-Based Advanced User Interface home page in your browser window. The home page is visible to any user who wants to see it. To make any changes to the Router's settings, you have to log in. Clicking the "Login" button or clicking on any one of the links on the home page will take you to the login screen. The Router ships with no password. In the login screen, leave the password blank and click "Submit" to log in.



### Logging Out of the Web-Based Advanced User Interface

One computer at a time can log into the Router to make changes to the Router's settings. Once a user has logged in to make changes, there are two ways that the computer can be logged out. The first is to click the "Logout" button. The second method is automatic. The login will time out after a specified period of time. The default login time-out is 10 minutes. This can be changed to any period of time from 1 to 99 minutes.

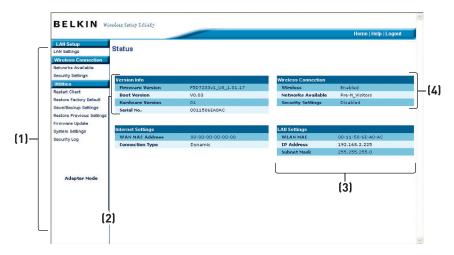
# Login Time-Out

The login time-out option allows you to set the period of time that you can be logged into the Router's Web-Based Advanced User Interface. The timer starts when activity stops. For example, you have made some changes in the Web-Based Advanced User Interface, and then left your computer alone without clicking "Logout". If the time-out is set to 10 minutes (the default setting), then 10 minutes after you leave, the login session will expire. You will have to log into the Router again to make any more changes. The login time-out option provides additional security.

**Note:** Only one computer can be logged into the Router's Web-Based Advanced User Interface at one time.

# Understanding the Web-Based Advanced User Interface

The home page is the first page you will see when you access the Web-Based Advanced User Interface (UI). The home page provides a quick view of the Router's status and settings. All setup pages can be reached from this page.



#### Status

# 1. Quick-Navigation Links

You can go directly to any of the pages by clicking directly on these links. The links are divided into logical categories and grouped by tabs to make finding a particular setting easy.

#### 2. Version Information

Shows the firmware version, boot-code version, and hardware version.

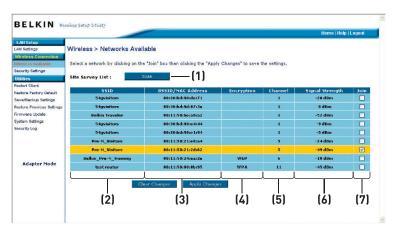
#### 3. LAN Settings

Shows the settings of the Local Area Network (LAN) side of the Router. Changes can be made to the settings by clicking the quick-navigation links on the left side of the screen.

#### 4. Wireless Connection

Shows the status of the Router's wireless setting. Changes can be made to the settings by clicking the quick-navigation links on the left side of the screen.

Click "Networks Available" from the quick-navigation links.



#### Site Survey List

#### 1. Scan

Clicking the "Scan" button will give you the most up-to-date data list of available networks.

#### 2. SSID

The SSID is the wireless network name.

#### 3. BSSID/MAC Address

This gives the MAC address of the available network.

#### 4. Encryption

Identifies the type of network security implemented (WPA or WEP). This field will show a blank if the network is unsecured.

#### 5. Channel

Identifies which channel the network is on.

#### 6. Signal Strength

Provides a measurement of the networks signal strength.

#### 7. Join

You can connect to a specific wireless network by selecting the check box and clicking "Apply Changes".

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## Troing teshooting Mode

#### Restart Client

You can restart your Router (in Adapter Mode) without losing any of your configuration settings by clicking "Restart Client".

#### **Restore Factory Defaults**

Clicking "Restore Factory Default" will erase all your current settings.

#### Save Backup Settings

You can save your current configuration by using this feature. Saving your configuration will allow you to restore it later if your settings are lost or changed. It is recommended that you back up your current configuration before performing a firmware update.

#### **Restore Previous Settings**

This option will allow you to restore a previously saved configuration.

### Firmware Update

From time to time, Belkin may release new versions of the Router's firmware. Updates contain improvements and fixes to known problems. For the latest firmware, go to the support section of www.belkin.com/networking.

#### a. Browse:

Clicking on "Browse" will open a window that allows you to select the location of the firmware-update file.

#### b. Upgrade:

Clicking on "Upgrade" will update your Router to the latest firmware.

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## **Troubleshooting**

#### Problem:

Installation CD does not automatically start.

#### Solution:

If the CD-ROM does not start the Easy Install Wizard automatically, it could be that the computer is running other applications that are interfering with the CD drive.

1. If the Easy Install Wizard screen does not appear within 15-20 seconds, open up your CD-ROM drive by double-clicking on the "My Computer" icon that is located on your desktop.



2. Next, double-click on the CD-ROM drive that the Easy Install Wizard Software CD has been placed in to start the installation.



3. The Easy Install Wizard should start within a few seconds. If, instead, a window appears showing the files on the CD, double-click on the icon labeled "EasyInstall.exe".



## **Troubleshooting**

#### Problem:

The Easy Install Wizard cannot find my Router.

#### Solution:

If the Easy Install Wizard is not able to find the Router during the installation process, please check the following items:

- Check to see if the switch on the back of the Router has been set to "Router Mode."
- 2. Unplug power to the Router for 10 seconds, and then plug the power back into the Router. Ensure that the Router's "Power" light is on; it should be solid green. If not, check to make sure that the AC adapter is correctly connected to the Router and plugged into a wall outlet.
- Check to see if the switch on the back of the Router has been set to "Router Mode".

#### Problem:

The Easy Install Wizard cannot connect my Router to the Internet.

#### Solution:

If the Easy Install Wizard is not able to connect the Router to the Internet, please check the following items:

- Ensure that you have a cable (use the cable included with the Router) connected between (1) the Ethernet port on the back of the Router to the (2) Ethernet port of your modem or service provider.
- 2. If your ISP requires a user name and password, make sure that you have typed in your user name and password correctly. Some user names require that the ISP's domain be at the end of the name. Example: "myname@myisp.com". The "@myisp.com" part of the user name may need to be typed as well as your user name.

#### Problem:

The Easy Install Wizard completed installation and the Router's "Ethernet" light is lit "On" but my web browser doesn't work.

#### Solution:

 Make sure the network cable between the modem and the Router is connected. We strongly recommend using the cable that was supplied with your cable or DSL modem for this purpose. The cable should be connected at one end to the Router's "Ethernet" port, and at the other end to the network port on your modem or service provider.

- Unplug the cable or DSL modem from its power source for three minutes. After three minutes, plug the modem back into its power source. This may force the modem to properly recognize the Router.
- 3. Unplug the power to your Router, wait 10 seconds, and then reconnect the power. This will cause the Router to reattempt communication with the modem.
  - If the "Ethernet" light on the Router is not lit after completing these steps, please contact Belkin Technical Support.
- 4. Try shutting down and restarting your computer.
- 5. If you have a "static IP address" connection, your ISP must assign you the IP address, subnet mask, and gateway address.
- 6. If you have a "PPPoE" connection, your ISP will assign you a user name and password and sometimes a service name. Make sure the Router connection type is configured to "PPPoE" and the settings are entered properly.
- You may need to configure your Router to meet the specific requirements of your ISP. To search our Knowledge Base for ISP-specific issues, go to: http://web.belkin.com/support and type in "ISP".

If you are still unable to access the Internet after verifying these settings, please contact Belkin Technical Support.

#### Problem:

I can't connect to the Internet wirelessly.

#### Solution:

If you are unable to connect to the Internet from a wireless computer, please do the following:

- Look at the lights on your Router. Your Belkin Router's lights should be as follows:
  - The "Power" light should be on.
  - The "Connected" light should be on and not blinking.
  - The "WAN" light should be either on or blinking.

## Troubleshooting

2. Open your wireless utility software by clicking on the icon in the system tray at the bottom, right-hand corner of the screen. If you are also using a Belkin Wireless Card or Adapter with this Router, the tray icon should look like this (the icon may be red or green):



 The exact window that opens will vary depending on the model of wireless card you have; however, any of the utilities should have a list of "Available Networks"—those wireless networks it can connect to.

Does the name of your wireless network appear in the results?

Yes, my network name is listed—go to the troubleshooting solution titled "I can't connect to the Internet wirelessly, but my network name is listed".

No, my network name is not listed—go to the troubleshooting solution titled "I can't connect to the Internet wirelessly, and my network name is not listed".

#### Problem:

I can't connect to the Internet wirelessly, but my network name is listed.

#### Solution:

If the name of your network is listed in the "Available Networks" list, please follow the steps below to connect wirelessly:

- 1. Click on the correct network name in the "Available Networks" list.
- If the network has security (encryption) enabled, you will need to enter the network key. For more information regarding security, see the section entitled "Securing your Wi-Fi Network" in this User Manual.
- 3. Within a few seconds, the tray icon in the lower, left-hand corner of your screen should turn green, indicating a successful connection to the network.

I can't connect to the Internet wirelessly, and my network name is not listed.

#### Solution:

If the correct network name is not listed under "Available Networks" in the wireless configuration utility, please attempt the following troubleshooting steps:

- Temporarily move your computer, if possible, five to 10 feet away from the Router. Close the wireless configuration utility, and reopen it. If the correct network name now appears under "Available Networks", you may have a range or interference problem. Please see the suggestions discussed in the section titled "Placement of your Router for Optimal Performance" in this User Manual.
- 2. Using a computer that is connected to the Router through a network cable (as opposed to wirelessly), ensure that "Broadcast SSID" is enabled. This setting is found on the Router's wireless "Channel and SSID" configuration page.

If you are still unable to access the Internet after completing these steps, please contact Belkin Technical Support.

#### Problem:

My wireless network performance is inconsistent.

Data transfer is sometimes slow.

Signal strength is poor.

I am having difficulty establishing and/or maintaining a Virtual Private Network (VPN) connection.

#### Solution:

Wireless technology is radio-based, which means connectivity and the throughput performance between devices decreases when the distance between devices increases. Other factors that will cause signal degradation (metal is generally the worst culprit) are obstructions such as walls and metal appliances. As a result, the typical indoor range of your wireless devices will be between 100 to 200 feet. Note also that connection speed may decrease as you move farther away from the Router or access point.

## **Troubleshooting**

In order to determine if wireless issues are related to range, we suggest temporarily moving the computer, if possible, five to 10 feet away from the Router.

Changing the Wireless Channel—Depending on local wireless traffic and interference, switching the wireless channel of your network can improve performance and reliability. The default channel the Router is shipped with is channel 11.

Limiting the Wireless Transmit Rate—Limiting the wireless transmit rate can help improve the maximum wireless range, and connection stability. Most wireless cards have the ability to limit the transmission rate. To change this property, go to the Windows Control Panel, open "Network Connections" and double-click on your wireless card's connection. In the "Properties" dialog, select the "Configure" button on the "General" tab (Windows 98 users will have to select the wireless card in the list box and then click "Properties"), then choose the "Advanced" tab and select the rate property. Wireless client cards are usually set to automatically adjust the wireless transmit rate for you, but doing so can cause periodic disconnects when the wireless signal is too weak; as a rule, slower transmission rates are more stable. Experiment with different connection rates until you find the best one for your environment; note that all available transmission rates should be acceptable for browsing the Internet. For more assistance, see your wireless card's user manual.

## **Technical Support**

You can find technical support information at:

http://www.belkin.com/networking or www.belkin.com through the tech support area. If you want to contact technical support by phone, please call:

US: 877-736-5771 or

310-898-1100 ext. 2263

Europe: 00 800 223 55 460

Australia: 1800 235 546 New Zealand: 0800 235 546 Singapore: 800 616 1790

## Information

#### FCC Statement

# DECLARATION OF CONFORMITY WITH FCC RULES FOR ELECTROMAGNETIC COMPATIBILITY

We, Belkin Corporation, of 501 West Walnut Street, Compton, CA 90220, declare under our sole responsibility that the product,

#### F5D7233

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

#### Caution: Exposure to Radio Frequency Radiation.

The radiated output power of this device is far below the FCC radio frequency exposure limits. Nevertheless, the device shall be used in such a manner that the potential for human contact during normal operation is minimized.

When connecting an external antenna to the device, the antenna shall be placed in such a manner to minimize the potential for human contact during normal operation. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20cm (8 inches) during normal operation.

#### **Federal Communications Commission Notice**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

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## Information

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

#### Modifications

The FCC requires the user to be notified that any changes or modifications to this device that are not expressly approved by Belkin Corporation may void the user's authority to operate the equipment.

#### Canada-Industry Canada (IC)

The wireless radio of this device complies with RSS 139 & RSS 210 Industry Canada. This Class B digital apparatus complies with Canadian ICES-003.

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

#### Europe-European Union Notice

Radio products with the CE 0682 or CE alert marking comply with the R&TTE Directive (1995/5/EC) issued by the Commission of the European Community.



Compliance with this directive implies conformity to the following European Norms (in brackets are the equivalent international standards).

- EN 60950 (IEC60950) Product Safety
- EN 300 328 Technical requirement for radio equipment
- ETS 300 826 General EMC requirements for radio equipment.



To determine the type of transmitter, check the identification label on your Belkin product.

Products with the CE marking comply with the EMC Directive (89/336/EEC) and the Low Voltage Directive (72/23/EEC) issued by the Commission of the European Community. Compliance with these directives implies conformity to the following European Norms (in brackets are the equivalent international standards).

- EN 55022 (CISPR 22) Electromagnetic Interference
- EN 55024 (IEC61000-4-2,3,4,5,6,8,11) Electromagnetic Immunity
- EN 61000-3-2 (IEC610000-3-2) Power Line Harmonics
- EN 61000-3-3 (IEC610000) Power Line Flicker
- EN 60950 (IEC60950) Product Safety

Products that contain the radio transmitter are labeled with CE 0682 or CE alert marking and may also carry the CE logo.



#### **Belkin Corporation Limited Lifetime Product Warranty**

Belkin Corporation warrants this product against defects in materials and workmanship for its lifetime. If a defect is discovered, Belkin will, at its option, repair or replace the product at no charge provided it is returned during the warranty period, with transportation charges prepaid, to the authorized Belkin dealer from whom you purchased the product. Proof of purchase may be required.

This warranty does not apply if the product has been damaged by accident, abuse, misuse, or misapplication; if the product has been modified without the written permission of Belkin; or if any Belkin serial number has been removed or defaced.

THE WARRANTY AND REMEDIES SET FORTH ABOVE ARE EXCLUSIVE IN LIEU OF ALL OTHERS, WHETHER ORAL OR WRITTEN, EXPRESSED OR IMPLIED. BELKIN SPECIFICALLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

No Belkin dealer, agent, or employee is authorized to make any modification, extension, or addition to this warranty.

BELKIN IS NOT RESPONSIBLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY, OR UNDER ANY OTHER LEGAL THEORY, INCLUDING BUT NOT LIMITED TO, LOST PROFITS, DOWNTIME, GOODWILL, DAMAGE TO OR REPROGRAMMING OR REPRODUCING ANY PROGRAM OR DATA STORED IN, OR USED WITH, BELKIN PRODUCTS.

Some states do not allow the exclusion or limitation of incidental or consequential damages or exclusions of implied warranties, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

## **BELKIN**®

# Wireless G Travel Router

## **BELKIN**®

www.belkin.com

#### **Belkin Tech Support**

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310-898-1100 ext. 2263 Europe: 00 800 223 55 460 Australia: 1800 235 546 New Zealand: 0800 235 546 Singapore: 800 616 1790

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