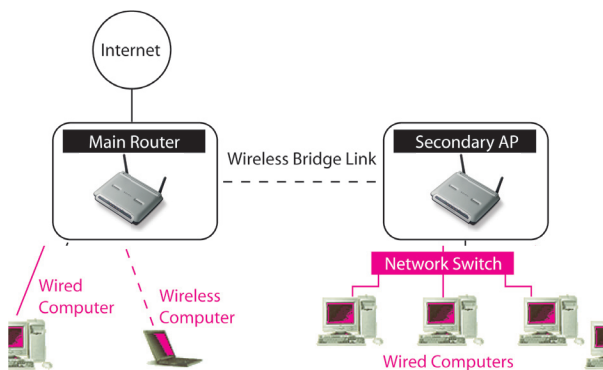


Using the Web-Based Advanced User Interface

Adding Another Network Segment Wirelessly

Bridging an Access Point to your Wireless Router allows you to add another network segment in another area in the home or office without running wires. Connecting a network switch or hub to the Access Point's RJ45 jack will allow a number of computers connected to the switch access to the rest of the network.



Using the Web-Based Advanced User Interface

Setting Up a Bridge Between your Wireless Router and a Secondary Access Point

Bridging your Belkin Router to a secondary Access Point requires that you access the Router's Advanced Setup Utility and enter the MAC address of the Access Point in the appropriate area. There are also a few other requirements. **PLEASE BE SURE TO FOLLOW THE STEPS BELOW, CAREFULLY.**

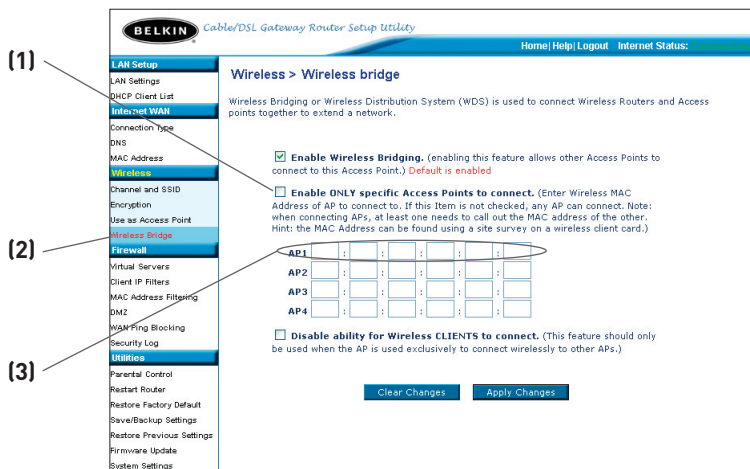
1. Set your Access Point to the same channel as the Router. By default, the Router and Access Point channels are set to channel 11 at the factory. If you have never changed the channel, you don't need to do anything (for more information on changing channels, see page 47 of this manual).
2. Find the Access Point's MAC address on the bottom of the Access Point. There are two MAC addresses on the bottom label. You will need the MAC address named "WLAN MAC Address". The MAC address starts with 0030BD and is followed by six other numbers or letters (i.e. 0030BD-XXXXXX). Write the MAC address below. Go to the next step.



3. Place your secondary Access Point within range of your Wireless Router and near the area where you want to extend the range or add the network segment. Typically, indoor range should be between 100 and 200 feet.
4. Connect power to your Access Point. Make sure the Access Point is on and proceed to the next step.

Using the Web-Based Advanced User Interface

5. From a computer already connected to your Router, access the Advanced Setup Utility by opening your browser. In the address bar, type in “192.168.2.1”. Do not type in “www” or “http://” before the number. **Note:** If you have changed your Router’s IP address, use that IP address.
6. You will see the Router’s user interface in the browser window. Click “Wireless Bridge” (2) on the left-hand side of the screen. You will see the following screen.



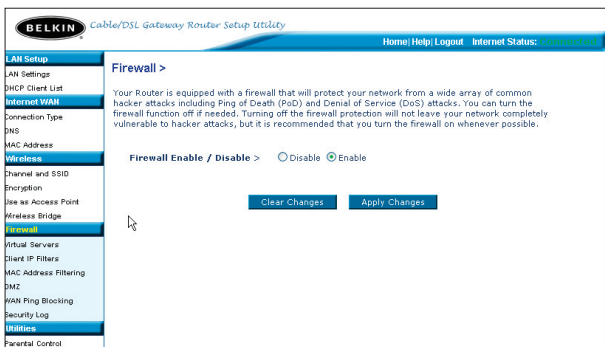
7. Check the box that says “Enable ONLY specific Access Points to connect” (1).
8. In the field named AP1 (3), type in the MAC address of your secondary Access Point. When you have typed in the address, click “Apply Changes”.
9. Bridging is now set up.

Configuring the Firewall

Your Router is equipped with a firewall that will protect your network from a wide array of common hacker attacks including:

- IP Spoofing
- SYN flood
- Land Attack
- UDP flooding
- Ping of Death (PoD)
- Tear Drop Attack
- Denial of Service (DoS)
- ICMP defect
- IP with zero length
- RIP defect
- Smurf Attack
- Fragment flooding
- TCP Null Scan

The firewall also masks common ports that are frequently used to attack networks. These ports appear to be “Stealth”, meaning that for all intents and purposes, they do not exist to a would-be hacker. You can turn the firewall function off if needed, however, it is recommended that you leave the firewall enabled. Disabling the firewall protection will not leave your network completely vulnerable to hacker attacks, but it is recommended that you leave the firewall enabled.



Using the Web-Based Advanced User Interface

Configuring Internal Forwarding Settings

The Virtual Servers function will allow you to route external (Internet) calls for services such as a web server (port 80), FTP server (Port 21), or other applications through your Router to your internal network. Since your internal computers are protected by a firewall, computers outside your network (over the Internet) cannot get to them because they cannot be “seen.” A list of common applications has been provided in case you need to configure the Virtual Server function for a specific application. If your application is not listed, you will need to contact the application vendor to find out which port settings you need.

The screenshot shows the 'Firewall > Virtual servers' configuration page in the Belkin Cable/DSL Gateway Router Setup Utility. The page includes a sidebar with navigation links (LAN Setup, LAN Settings, DHCP Client List, Internet Setup, Connection Type, DNS, MAC Address, Wireless, Channel and SSID, Encryption, Use via Access Point, Wireless Bridge, Firewall, Virtual Servers, Client IP Filter, MAC Address Filtering, DMZ, WAN Ping Blocking, Security Log, Advanced) and a main content area. The main content area has a title 'Firewall > Virtual servers' and a description: 'This function will allow you to route external (Internet) calls for services such as a web server (port 80, FTP server (port 21), or other applications through your Router to your internal network. More Info'. Below the description are buttons for 'Clear Changes', 'Apply Changes', and 'Add'. There is a dropdown menu for 'Add' with 'Active Worlds' selected. Below this is a table with columns: Enable, Description, Inbound port, Type, Private IP address, and Private port. The table contains four rows of data, all with 'TCP' as the Type and '192.168.2' as the Private IP address.

	Enable	Description	Inbound port	Type	Private IP address	Private port
1.	☐			TCP	192.168.2	
2.	☐			TCP	192.168.2	
3.	☐			TCP	192.168.2	
4.	☐			TCP	192.168.2	

Choosing an Application

Select your application from the drop-down list. Click “Add”. The settings will be transferred to the next available space in the screen. Click “Apply Changes” to save the setting for that application. To remove an application, select the number of the row that you want to remove then click “Clear”.

Manually Entering Settings into the Virtual Server

To manually enter settings, enter the IP address in the space provided for the internal (server) machine, the port(s) required to pass, select the port type (TCP or UDP), and click “Apply Changes”. Each inbound port entry has two fields with 5 characters maximum per field that allows a start and end port range, e.g. [xxxxx]-[xxxxx]. For each entry, you can enter a single port value by filling in the two fields with the same value (e.g. [7500]-[7500] or a wide range of ports (e.g. [7500]-[9000]). If you need multiple single port value or mixture of ranges and a single value, you must use multiple entries up to the maximum of 20 entries (e.g. 1. [7500]-[7500], 2. [8023]-[8023], 3. [9000]-[9000]). You can only pass one port per internal IP address. Opening ports in your firewall can pose a security risk. You can enable and disable settings very quickly. It is recommended that you disable the settings when you are not using a specific application.

Using the Web-Based Advanced User Interface

Setting Client IP Filters

The Router can be configured to restrict access to the Internet, e-mail, or other network services at specific days and times. Restriction can be set for a single computer, a range of computers, or multiple computers.

IP	Port	Type	Block Time	Day	Time	Enable
192.168.2		☐ TCP ☐ UDP ☐ BOTH	☐ Always ☐ Block	SUN	12:00 A.M.	☐
192.168.2		☐ TCP ☐ UDP ☐ BOTH	☐ Always ☐ Block	SUN	12:00 A.M.	☐
192.168.2		☐ TCP ☐ UDP ☐ BOTH	☐ Always ☐ Block	SUN	12:00 A.M.	☐
192.168.2		☐ TCP ☐ UDP ☐ BOTH	☐ Always ☐ Block	SUN	12:00 A.M.	☐
192.168.2		☐ TCP ☐ UDP ☐ BOTH	☐ Always ☐ Block	SUN	12:00 A.M.	☐

Clear Changes Apply Changes

To restrict Internet access to a single computer for example, enter the IP address of the computer you wish to restrict access to in the IP fields (1). Next, enter “80” in both the port fields (2). Select “Both” (3). Select “Block” (4). You can also select “Always” to block access all of the time. Select the day to start on top (5), the time to start on top (6), the day to end on the bottom (7), and the time to stop (8) on the bottom. Select “Enable” (9). Click “Apply Changes”. The computer at the IP address you specified will now be blocked from Internet access at the times you specified. **Note:** Be sure you have selected the correct time zone under “Utilities> System Settings> Time Zone”.

IP	Port	Type	Block Time	Day	Time	Enable
192.168.2 22 ~ 22	80 ~ 80	☐ TCP ☐ UDP ☒ BOTH	☐ Always ☒ Block	SUN	12:00 A.M.	☒

(1) (2) (3) (4) (5) (6) (7) (8) (9)

Using the Web-Based Advanced User Interface

Setting MAC Address Filtering

The MAC address filter is a powerful security feature that allows you to specify which computers are allowed on the network. Any computer attempting to access the network that is not specified in the filter list will be denied access. When you enable this feature, you must enter the MAC address of each client (computer) on your network to allow network access to each. The “Block” feature lets you turn on and off access to the network easily for any computer without having to add and remove the computer’s MAC address from the list.

BELKIN Cable/DSL Gateway Router Setup Utility

Home | Help | Logout | Internet Status: **Connected**

LAN Setup

- LAN Settings
- DHCP Client List
- Internet WAN**
- Connection Type
- DNS
- MAC Address

Wireless

- Channel and SSID
- Encryption
- Use as Access Point
- Wireless Bridge

Firewall

- Virtual Servers
- Client IP Filters
- MAC Address Filtering**
- DMZ
- WAN Ping Blocking
- Security Log

Utilities

- Parental Control
- Restart Router
- Restore Factory Default
- Save/Backup Settings
- Restore Previous Settings
- Firmware Update
- System Settings

Firewall > MAC Address Filtering

This feature lets you set up a list of allowed clients. When you enable this feature, you must enter the MAC address of each client on your network to allow network access to each. [More Info](#)

Enable MAC Address Filtering > ☐

MAC Address Filtering List >

Block	Host	MAC Address	
☐			<< Add

Clear Changes Apply Changes

(1) points to the 'Enable MAC Address Filtering' checkbox.
(2) points to the 'MAC Address' input field.
(3) points to the '<< Add' button.

To enable this feature, select “Enable MAC Address Filtering” [1]. Next, enter the MAC address of each computer on your network by clicking in the space provided [2] and entering the MAC address of the computer you want to add to the list. Click “Add” [3], then “Apply Changes” to save the settings. To delete a MAC address from the list, simply click “Delete” next to the MAC address you wish to delete. Click “Apply Changes” to save the settings.

Note: You will not be able to delete the MAC address of the computer you are using to access the Router’s administrative functions (the computer you are using now).

Enabling the Demilitarized Zone (DMZ)

The DMZ feature allows you to specify one computer on your network to be placed outside of the firewall. This may be necessary if the firewall is causing problems with an application such as a game or video conferencing application. Use this feature on a temporary basis. The computer in the DMZ is NOT protected from hacker attacks.

The screenshot shows the Belkin Cable/DSL Gateway Router Setup Utility web interface. The left sidebar contains a menu with options: LAN Setup, Internet WAN, Wireless, Firewall, and DMZ. The main content area is titled "Firewall > DMZ". It includes a description of the DMZ feature and a table for configuring the IP Address of Virtual DMZ Host. The table has three columns: Static IP, Private IP, and Enable. The first row shows a Static IP of 67.113.196.172, a Private IP of 192.168.2. (with an empty box for the last octet), and an Enable checkbox that is currently unchecked. Below the table are buttons for "Clear Changes" and "Apply Changes".

Firewall > DMZ

DMZ

The DMZ feature allows you to specify one computer on your network to be placed outside of the NAT firewall. This may be necessary if the NAT feature is causing problems with an application such as a game or video conferencing application. Use this feature on a temporary basis. *The computer in the DMZ is not protected from hacker attacks.* To put a computer in the DMZ, enter the last digits of its IP address in the field below and select "Enable". Click "Submit" for the change to take effect. [More Info](#)

IP Address of Virtual DMZ Host >

	Static IP	Private IP	Enable
1.	67.113.196.172	192.168.2.	☐

To put a computer in the DMZ, enter the last digits of its IP address in the IP field and select "Enable". Click "Apply Changes" for the change to take effect. If you are using multiple static WAN IP addresses, it is possible to select which WAN IP address the DMZ host will be directed to. Type in the WAN IP address you wish the DMZ host to direct to, enter the last two digits of the IP address of the DMZ host computer, select "Enable" and click "Apply Changes".

Using the Web-Based Advanced User Interface

Blocking an ICMP Ping

Computer hackers use what is known as “pinging” to find potential victims on the Internet. By pinging a specific IP address and receiving a response from the IP address, a hacker can determine that something of interest might be there. The Router can be set up so it will not respond to an ICMP ping from the outside. This heightens the level of security of your Router.



To turn off the ping response, select “Block ICMP Ping” [1] and click “Apply Changes”. The Router will not respond to an ICMP ping.

Using the Web-Based Advanced User Interface

Utilities Tab

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

BELKIN Cable/DSL Gateway Router Setup Utility

Home | Help | Logout Internet Status: Connected

LAN Setup

- LAN Settings
- DHCP Client List

Internet WAN

- Connection Type
- DNS
- MAC Address

Wireless

- Channel and SSID
- Encryption
- Use as Access Point
- Wireless Bridge

Firewall

- Virtual Servers
- Client IP Filters
- MAC Address Filtering
- DMZ
- WAN Ping Blocking
- Security Log

Utilities

- Parental Control
- Restart Router
- Restore Factory Default
- Save/Backup Settings
- Restore Previous Settings
- Firmware Update
- System Settings

Utilities > Restart Router

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

- Parental Control**
Belkin's Parental Control protects you and your kids from objectionable content on the web. Belkin's Parental Control is the filter you set up. Now you can surf the net with your kids even when you are not there.
- Reset Router**
Sometimes it may be necessary to Reset or Reboot the Router if it begins working improperly. Resetting or Rebooting the Router will not delete any of your configuration settings.
- Restore Default Settings**
Using this option will restore all of the settings in the Router to the factory (default) settings. It is recommended that you backup your settings before you restore all of the defaults.
- Save Current Configuration**
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 backup your current configuration before performing a firmware update.
- Restore Previous Configuration**
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. Firmware updates contain feature improvements and fixes to problems that may have existed.
- System Settings**
The System Settings page is where you can enter a new administrator password , set the time zone, enable remote management and turn on and off the NAT function of the Router.

Parental Control

See separate Parental Control User Manual from Belkin.