

Configuring Routers and Their Settings

When installing a router on your home network the routers settings are usually defaulted to automatically protect your home, and simplify setup.

This is done because the knowledge that is required to successfully setup a network can confuse a trained network technician.

This portion of the troubleshooter is supplied as a courtesy and we are only giving you enough information to get you connected, to your MSS II. If you require more information regarding your router and its configuration please contact your router manufacturer's web site.

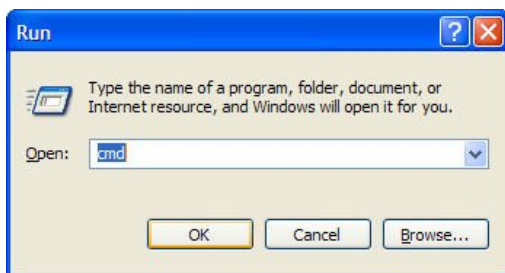
Some of the more popular home and small business routers are made by Linksys, Dlink, and Netgear. They typically come with 4 network connections and 1 uplink connection allowing you to connect to your home network to your ISP's router.

Your router should come with a software CD that includes a network configuration wizard. "Use it", it's the easiest way to get connected to the internet allowing you to search for more troubleshooting information if needed.

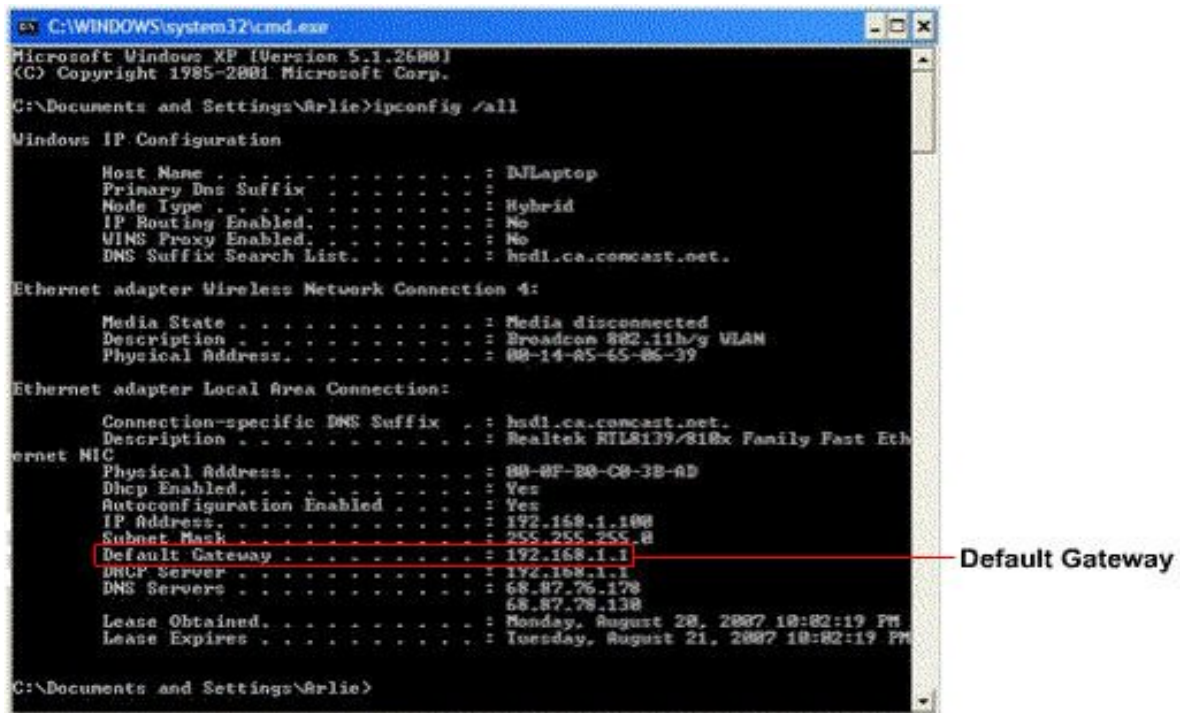
By default routers are configured as DHCP servers and the hardware firewall is enabled, so it's ok to turn off windows firewall, and your virus software's firewall as long as your PC or laptop is connected to your networks router.

When you take your laptop, turn on the Windows firewall, or your virus software's firewall.

To find your routers web based configuration pages go to Start> Run > and type CMD in the Open: field and press enter.

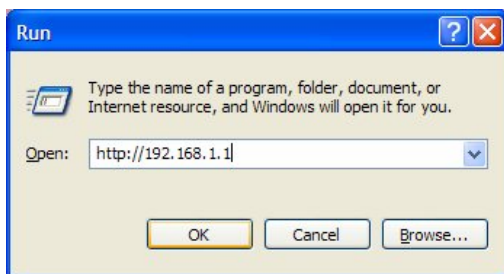


When the command prompt window opens, type **ipconfig /all** and press enter.

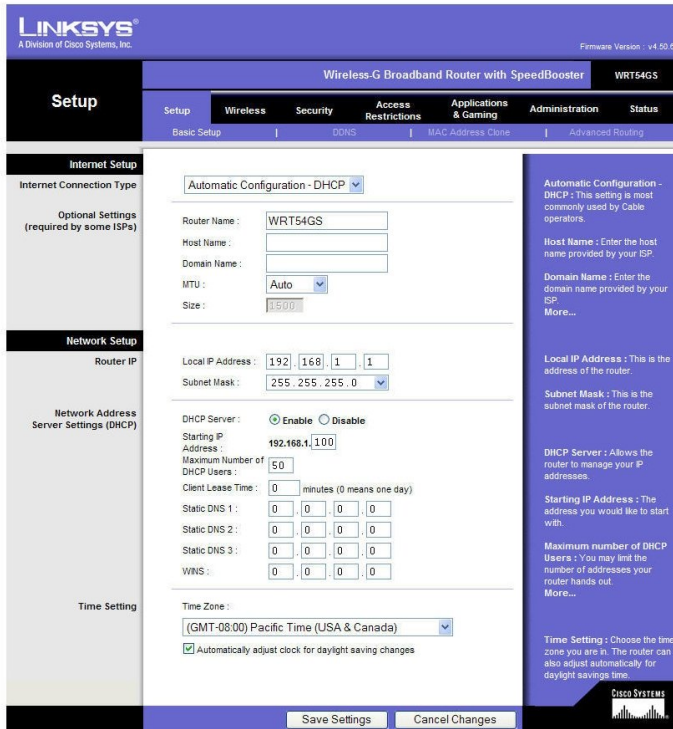


After the IP information is displayed look for the line **Default Gateway**..... and write down the IP address (routers are typically in the 192.168.1.1 address range.) to the right of the dotted line.

Then go to Start> Run > and enter the default gateways IP address in the open field as an internet address and press OK.



Your routers main administration page should display after you login with your username and password. For example below we will illustrate using a Linksys WRT54GS router.



Your router's main administration page should be set to **Automatic Configuration - DHCP**.

MTU should be left set to **Auto**, which allows the router to decide the best data transfers speeds.

The **Router Name** is generally a factory default of the model number.

The **Local IP Address** and **Subnet Mask** should display your routers IP information.

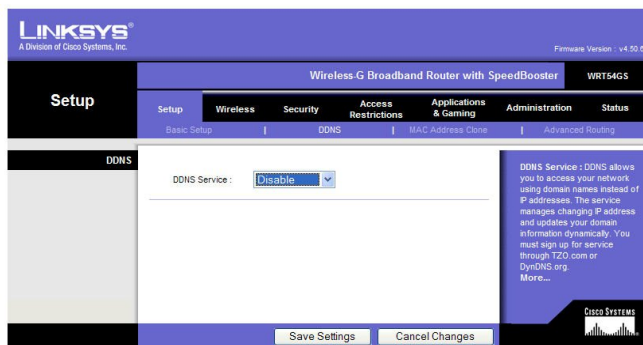
The **DCHP** server setting should be enabled.

Your **Starting IP Address** represents the first available address your router will allow devices on your network to connect.

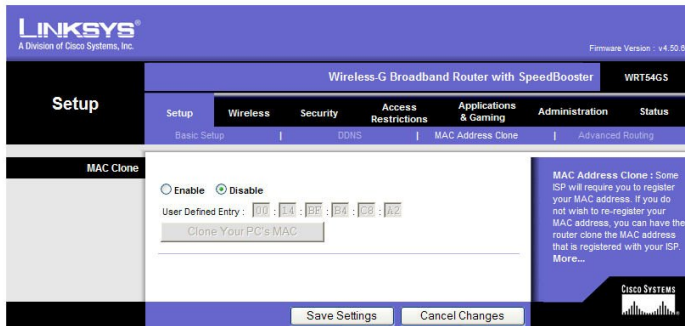
Maximum Number of DHCP Users should be left at the default setting of 50. Allowing more than 50 users to connect to a 4 port home router can cause your network to slow to a crawl if everybody tries accessing the network or internet at the same time.

Client Lease Time is usually defaulted to **0**.

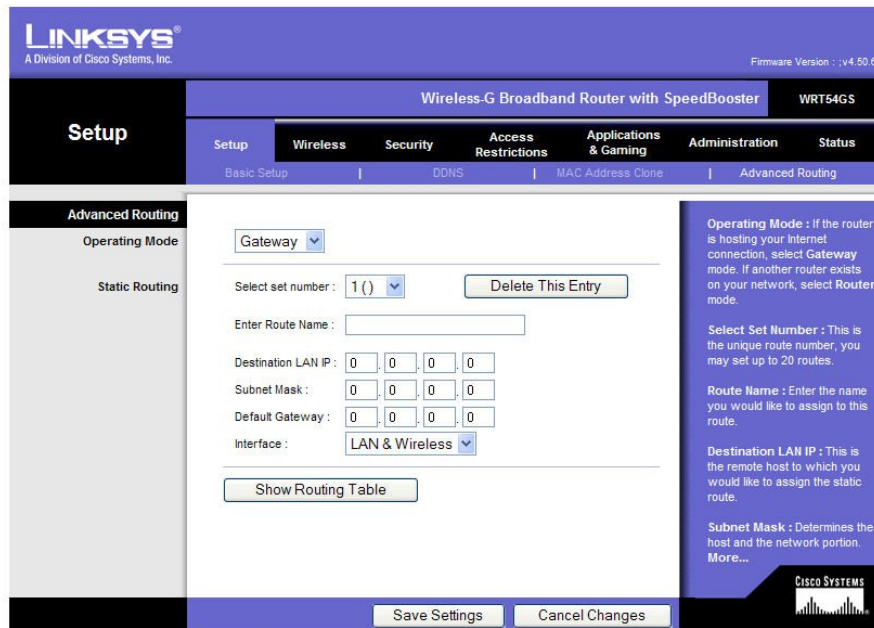
The **Static DNS 1,2,3 and Wins** fields are usually defaulted to **0**.



The next tab over is the **DDNS** page. The **DDNS Service** is disabled by default. Leave this page at its default unless you need the **DDNS** service.

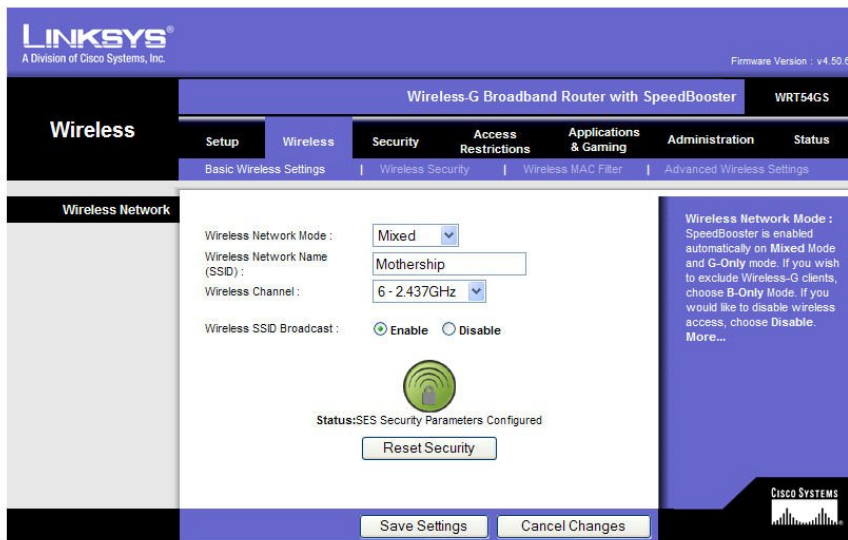


The **Mac Address Clone** page is disabled by default. Leave this page as is unless your Internet Service Provider requests you enable its features.



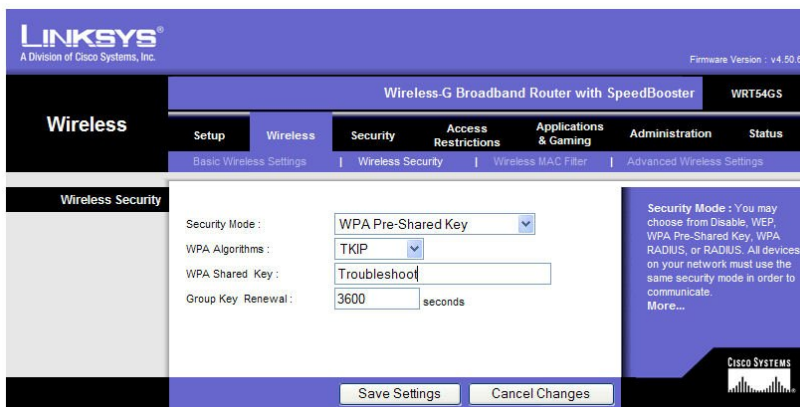
If you have one router on your home network it is hosting your internet connection and the **Operating Mode** should be set to **Gateway**. **Static Routing Select set number** is defaulted to **1**, all other fields **Enter Route Name**, **Destination LAN IP**, **Subnet Mask**, and **Default Gateway** are either blank or defaulted to **0** and the **Interface** is set to **LAN and Wireless**. You shouldn't have to change any of the settings on this page.

The next tab over on your routers administration page is for wireless configuration.



In most cases the only thing you would change on this page is The Wireless Network Name and Enabling or Disabling the Wireless SSID Broadcast. If you plan on using the wireless network option enable the Wireless SSID broadcast. Enabling the broadcast allows you to search available wireless networks and connect your laptop from anywhere within your home, or the signal range.

Clicking on the wireless security tab displays your wireless frequency encryption settings.



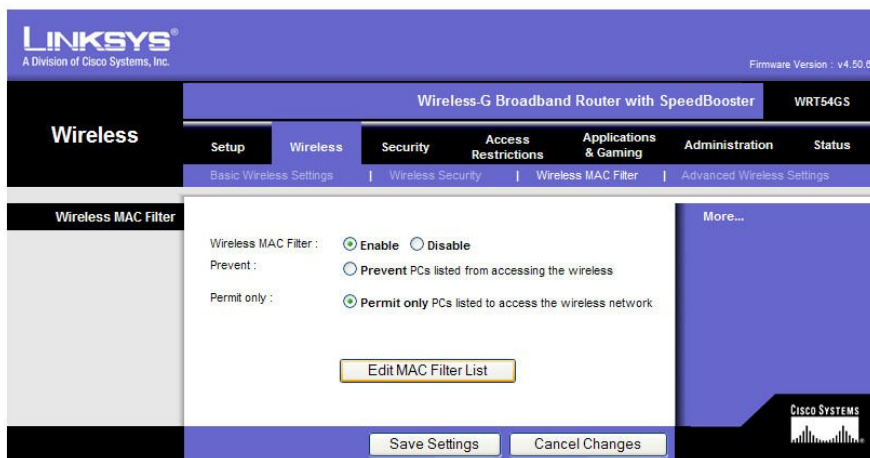
Routers typically support four different types of security for your wireless network. The settings on this page allow different levels of encryption, and you will have to decide what works best for you, we are only going to explain how it works.

In the field next to **WPA Shared Key**: set a password for your wireless connection that you can remember, otherwise the default is supplied by the router and it's usually a number that you will never remember.

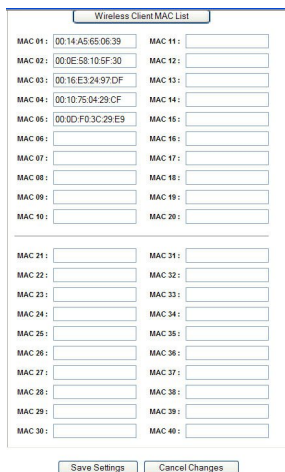
The **Security Mode:** on this network is set for **WPA Pre-Shared Key** (WPA= Wi-Fi Protected Access.) and the **WPA Algorithms:** is set for **TKIP**. The easiest way to explain this type of security is “encryption on the fly.” These settings encrypt your data while messages are flying through the air between your laptop and router, to keep hackers from looking at your stuff.

The **Group Key Renewal:** field is defaulted to 3600 seconds, leave it at it’s default.

The next form of wireless protection is the MAC Filter. This is the one you want to pay close attention to. The MAC Filter allows only those computers that you specify access to your wireless network, and you get to make the list.

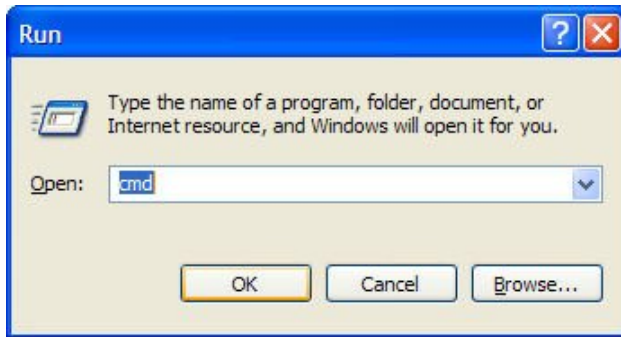


First you need to enable the **Wireless MAC Filter:** by clicking on the **Enable Wireless Mac** filter button then, select the **Permit Only PC’s listed:** setting. Click on the **Edit MAC Filter List** and the exceptions box should appear.

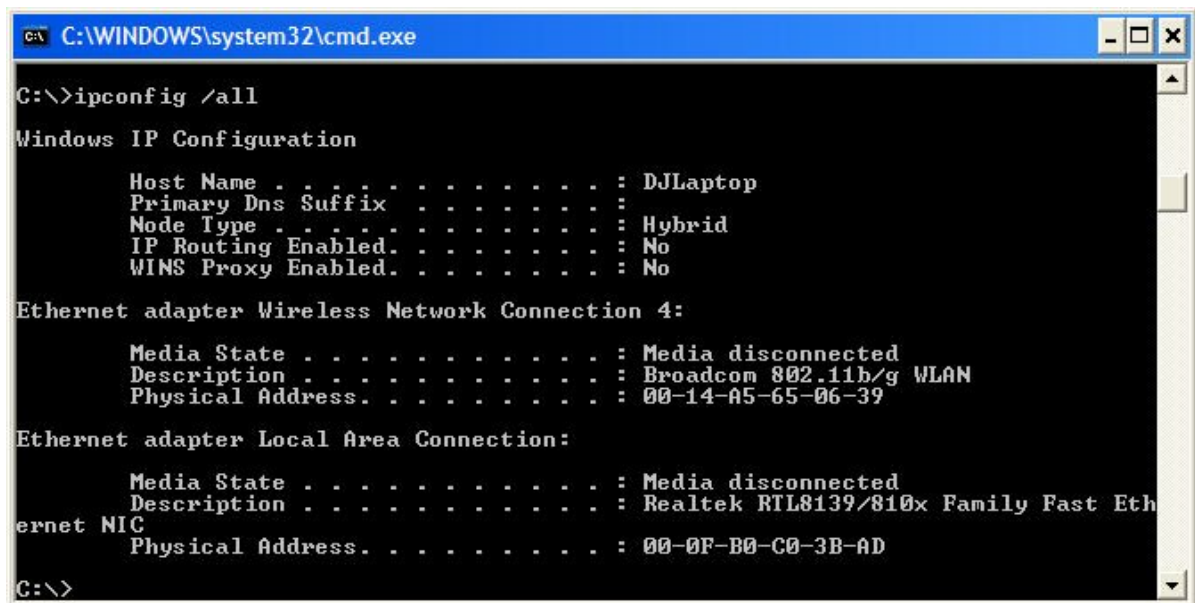


After the box appears you need to add the MAC address of any computers on your home network that are capable of connecting wirelessly.

To display the MAC address of the laptop you want to add open a command prompt window by clicking **Start** and selecting run. Type **cmd** in the open field and click **OK**.



When the command prompt window opens, type the command **ipconfig /all** and press enter.



Look for the line that says **Ethernet adapter Wireless Network Connection** and write down the number after the **Physical Address**. That's the number you add to the MAC Filter List.

You will have to perform the same operation on the rest of the computers on your home network

Wireless Client MAC List	
MAC 01: 00:14:A5:65:06:39	MAC 11: <input type="text"/>
MAC 02: 00:0E:58:10:5F:30	MAC 12: <input type="text"/>
MAC 03: 00:16:E3:24:97:DF	MAC 13: <input type="text"/>
MAC 04: 00:10:75:04:29:CF	MAC 14: <input type="text"/>
MAC 05: 00:0D:F0:3C:29:E9	MAC 15: <input type="text"/>
MAC 06: <input type="text"/>	MAC 16: <input type="text"/>
MAC 07: <input type="text"/>	MAC 17: <input type="text"/>
MAC 08: <input type="text"/>	MAC 18: <input type="text"/>
MAC 09: <input type="text"/>	MAC 19: <input type="text"/>
MAC 10: <input type="text"/>	MAC 20: <input type="text"/>
MAC 21: <input type="text"/>	MAC 31: <input type="text"/>
MAC 22: <input type="text"/>	MAC 32: <input type="text"/>
MAC 23: <input type="text"/>	MAC 33: <input type="text"/>
MAC 24: <input type="text"/>	MAC 34: <input type="text"/>
MAC 25: <input type="text"/>	MAC 35: <input type="text"/>
MAC 26: <input type="text"/>	MAC 36: <input type="text"/>
MAC 27: <input type="text"/>	MAC 37: <input type="text"/>
MAC 28: <input type="text"/>	MAC 38: <input type="text"/>
MAC 29: <input type="text"/>	MAC 39: <input type="text"/>
MAC 30: <input type="text"/>	MAC 40: <input type="text"/>

After you have added all the computers on your home network to the list, click on save settings.

When the filter list closes click on the **Save Settings** button of the Wireless Mac Filter page to update your router.

LINKSYS®
A Division of Cisco Systems, Inc. Firmware Version : v4.50.6

Wireless-G Broadband Router with SpeedBooster WRT54GS

Wireless

Setup | Wireless | Security | Access Restrictions | Applications & Gaming | Administration | Status

Basic Wireless Settings | Wireless Security | Wireless MAC Filter | Advanced Wireless Settings

Wireless MAC Filter

Wireless MAC Filter: Enable Disable

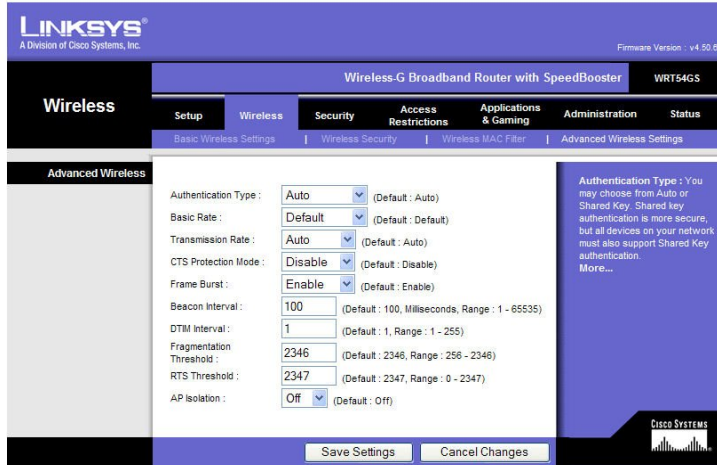
Prevent: Prevent PCs listed from accessing the wireless

Permit only: Permit only PCs listed to access the wireless network

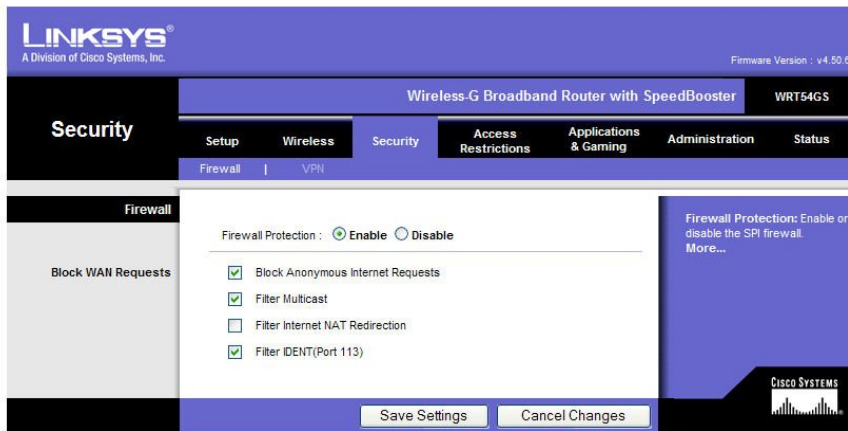
CISCO SYSTEMS

Having your wireless network setup in this configuration denies everybody a connection to your wireless network except those computers on the MAC Filter list. So remember if you get a new computer, or you have a friend that is trying to connect wirelessly you will either have to disable the MAC Filter, or add the new MAC addresses to the MAC Filter List.

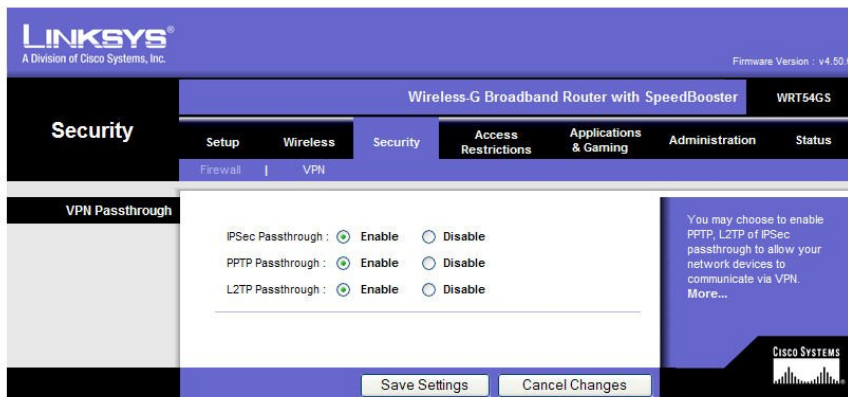
Most home networks **Advanced Wireless Settings** should be left at their default values below is an example of the defaults. If you are having problems and you are uncertain of the settings you can always perform a hardware reset on your router to reset it back to its factory defaults.



Click on the security tab to make sure routers hardware **Firewall** is enabled
The picture below shows default values.



If you have a laptop computer that you use at home to connect with your place of work through a VPN (Virtual Private Network) you need to enable VPN pass through privileges.



The administration page is the last page we will discuss, and in most cases the only thing you have to set on this page is the password of your router.

The screenshot shows the Linksys administration interface for a WRT54GS router. The page is titled "Administration" and includes a navigation menu with options like Setup, Wireless, Security, Access Restrictions, Applications & Gaming, Administration, and Status. The main content area is divided into sections for Router Password, Local Router Access, Web Access, Remote Router Access, and UPnP. The Router Password section has two password input fields. The Web Access section has checkboxes for HTTP, HTTPS, and Wireless Access Web. The Remote Router Access section has radio buttons for Enable and Disable, and a Management Port input field. The UPnP section has radio buttons for Enable and Disable. A "Save Settings" button and a "Cancel Changes" button are at the bottom. A sidebar on the right contains help text for Local Router Access, Web Access, Remote Router Access, and UPnP.

Router Password

Local Router Access

Router Password :

Re-enter to confirm :

Web Access

Access Server : HTTP HTTPS

Wireless Access Web : Enable Disable

Remote Router Access

Remote Management : Enable Disable

Management Port :

Use https :

UPnP

UPnP : Enable Disable

Local Router Access : You can change the Router's password from here. Enter a new Router password and then type it again in the Re-enter to confirm field to confirm.

Web Access : Allows you to configure access options to the router's web utility. More...

Remote Router Access : Allows you to access your router remotely. Choose the port you would like to use. You must change the password to the router if it is still using its default password.

UPnP : Used by certain programs to automatically open ports for communication. More...

Save Settings Cancel Changes

There are number of other settings available on the router, and we won't cover all of them in this troubleshooter. We are only covering what you need to know to connect to your MSS II and the internet. If you need more help with your router settings contact the manufacturer of your router.