

## Detailed Settings Example for a Linksys WRT54GS Router

November 6, 2006 by Ron Mettler

Use your browser to access the router by typing the URL address of the router. Refer to the manual for the correct address. The user interface software screen will appear in the browser window. For D-Link routers, use 192.168.0.1, and for Linksys routers use 192.168.1.1. You will then be asked to type in a user name and password. The first time that you access the router, you normally will type in admin for user name and leave the password blank.



Connect to 192.168.1.1

WRT54G

User name:

Password:

Remember my password

OK Cancel

Once you have configured the router and established a sign on password, the following screen will appear, requiring you to type a password to access the router settings.



Connect to 192.168.1.1

WRT54G

User name:

Password:

Remember my password

OK Cancel

The basic setup screen presents the first options. The default settings normally would all be acceptable. Be sure that the DHCP is enabled as indicated (default setting). Click on “Save Settings”.

**LINKSYS**  
A Division of Cisco Systems, Inc. Firmware Version: v1.00.9

**Wireless-G Broadband Router** WRT54G

**Setup**

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

Basic Setup | DDNS | MAC Address Clone | Advanced Routing

**Internet Setup**

**Internet Connection Type**

Automatic Configuration - DHCP

Optional Settings (required by some ISPs)

Router Name: WRT54G

Host Name:

Domain Name:

MTU: Auto

Size: 1500

**Network Setup**

**Router IP**

Local IP Address: 192 . 168 . 1 . 1

Subnet Mask: 255 . 255 . 255 . 0

**Network Address Server Settings (DHCP)**

DHCP Server:  Enable  Disable

Starting IP Address: 192.168.1.100

Maximum Number of DHCP Users: 10

Client Lease Time: 0 minutes (0 means one day)

Static DNS 1: 0 . 0 . 0 . 0

Static DNS 2: 0 . 0 . 0 . 0

Static DNS 3: 0 . 0 . 0 . 0

WINS: 0 . 0 . 0 . 0

**Time Setting**

Time Zone: (GMT-07:00) Mountain Time (USA & Canada)

Automatically adjust clock for daylight saving changes

**Automatic Configuration - DHCP:** This setting is most commonly used by Cable operators.

**Host Name:** Enter the host name provided by your ISP.

**Domain Name:** Enter the domain name provided by your ISP.

**More...**

**Local IP Address:** This is the address of the router.

**Subnet Mask:** This is the subnet mask of the router.

**DHCP Server:** Allows the router to manage your IP addresses.

**Starting IP Address:** The address you would like to start with.

**Maximum number of DHCP Users:** You may limit the number of addresses your router hands out.

**More...**

**Time Setting:** Choose the time zone you are in. The router can also adjust automatically for daylight savings time.

Select the “Administration” tab and the “Management” option. This screen is where the password is input that allows access to the router in the future. The next time you access the user interface you will need to type in admin for the user name and the password that you have chosen in this screen. Requiring a password to access your router discourages those trying to hack into the router and change the settings. Leave the other settings at the default values. Click on “Save Settings”.

**LINKSYS**  
A Division of Cisco Systems, Inc. Firmware Version: v1.00.9

**Administration** | **Wireless-G Broadband Router** | **WRT54G**

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

Management | Log | Diagnostics | Factory Defaults | Firmware Upgrade | Config Management

**Router Password**

**Local Router Access**

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...](#)

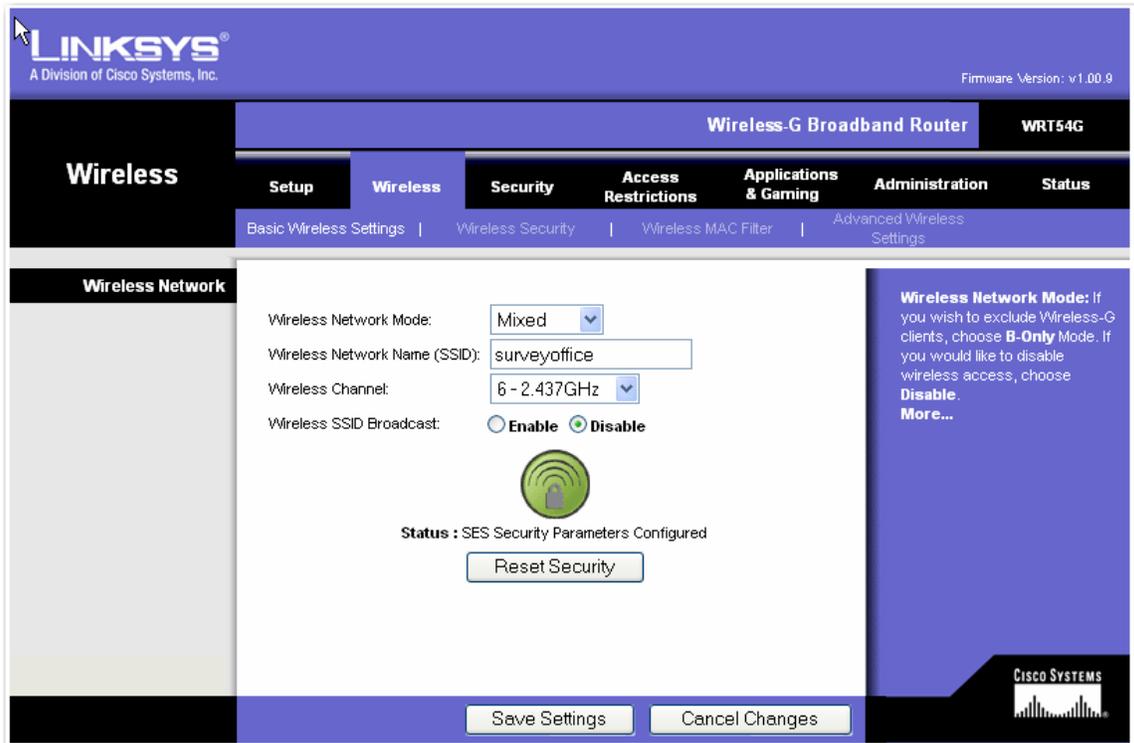
**Remote Router Access:** Allows you to access your router remotely. Choose the port you would like to use. You must change the password to the router if it is still using its default password.

**UPnP:** Used by certain programs to automatically open ports for communication. [More...](#)

**Save Settings** **Cancel Changes**

**CISCO SYSTEMS**

Select the “Wireless Tab” and the “Basic Wireless Settings” option. This screen is where the wireless network name would be filled in. It is suggested that a name other than “home” or “smith” be used. Pick a name that does not tie to you or your home. The Wireless Network Mode is where the 802.11G only or a mixed setting that also allows 801.11B devices to connect to the router. You may leave the Wireless Channel at the default unless you receive or cause interference with other networks. DISABLE wireless SSID Broadcast so your neighbors cannot see the name of your network. The SSID name and disabling the broadcast of the name are essential security measures. Click on “Save Settings”.



Select the “Wireless Tab” and the “Wireless Security” option.

The recommended Security Mode is WPA Personal with WPA Algorithms TKIP. Type a passphrase in the WPA Shared Key field. Use a mixed alpha/number phrase. Use a passphrase that cannot be guessed by the best of NSA employees. Leave the Group Key Renewal at the default unless you can figure out what it means and then pick a better number.

Click on “Save Settings”.

The screenshot shows the Linksys WRT54G configuration interface. At the top, the Linksys logo and "A Division of Cisco Systems, Inc." are on the left, and "Firmware Version: v1.00.9" is on the right. Below this is a navigation bar for the "Wireless-G Broadband Router" with tabs for "Setup", "Wireless", "Security", "Access Restrictions", "Applications & Gaming", "Administration", and "Status". The "Wireless" tab is selected, and within it, the "Wireless Security" sub-tab is active. The main content area is titled "Wireless Security" and contains the following fields:

- Security Mode: WPA Personal (dropdown menu)
- WPA Algorithms: TKIP (dropdown menu)
- WPA Shared Key: secretpassword (text input field)
- Group Key Renewal: 3600 (text input field) seconds

On the right side of the configuration area, there is a "Security Mode" help text: "Security Mode: You may choose from Disable, WPA Personal, WPA Enterprise, WPA2 Personal, WPA2 Enterprise, RADIUS, WEP. All devices on your network must use the same security mode in order to communicate. More..."

At the bottom of the page, there are two buttons: "Save Settings" and "Cancel Changes". The Cisco Systems logo is in the bottom right corner.

Select the “Wireless Tab” and the “Wireless MAC Filter” option. MAC (media access control) address is a unique address for wired or wireless card. This screen provides a rock solid security measure that should be used. After setting the Wireless Client MAC List and checking “Enable” and “Permit Only”, only the individual computers that have one of the MAC addresses can access the wireless network. You must first determine what the MAC address is for each wireless network card in each computer that will connect to the network. The next couple of pages describe one procedure that can be followed if the information cannot be found in the documentation for the wireless cards. You can follow the procedure without closing down the browser with this screen active. When you have completed the MAC Address Filter List input, click on “Save Settings”.

The screenshot displays the Linksys WRT54G configuration interface. The top navigation bar includes 'Wireless', 'Setup', 'Wireless', 'Security', 'Access Restrictions', 'Applications & Gaming', 'Administration', and 'Status'. The 'Wireless' section is active, and the 'Wireless MAC Filter' option is selected. The settings for the Wireless MAC Filter are as follows:

- Wireless MAC Filter:  Enable  Disable
- Prevent:  Prevent PCs listed from accessing the wireless
- Permit only:  Permit only PCs listed to access the wireless network

An 'Edit MAC Filter List' button is located below the settings. At the bottom of the configuration page are 'Save Settings' and 'Cancel Changes' buttons.

The browser window in the foreground shows the 'MAC Address Filter List' page. It includes the following information:

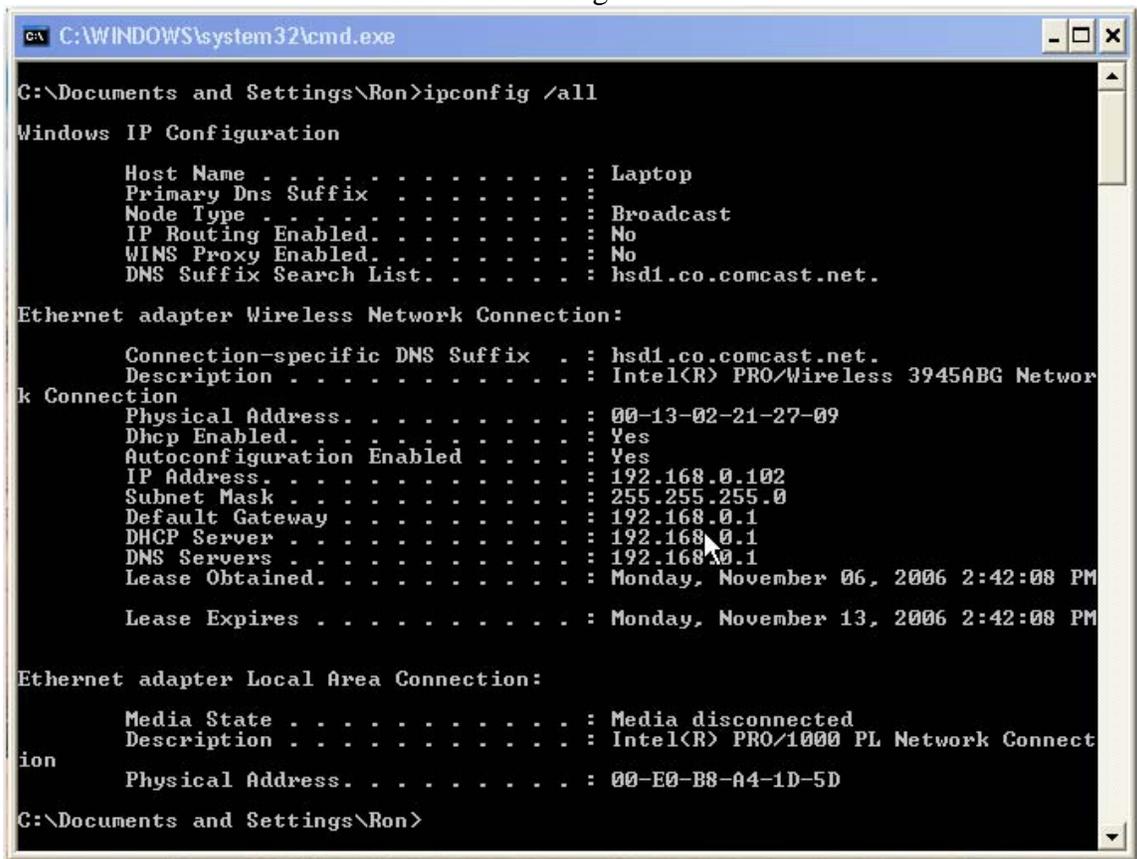
- URL: http://192.168.1.1 - MAC Address Filter List - Microsoft Internet E...
- Section: **MAC Address Filter List**
- Instruction: Enter MAC Address in this format: xx:xx:xx:xx:xx:xx
- Section: **Wireless Client MAC List**

MAC 01:	<input type="text" value="00:13:02:21:27:09"/>	MAC 11:	<input type="text"/>
MAC 02:	<input type="text" value="00:18:39:1A:AF:2B"/>	MAC 12:	<input type="text"/>
MAC 03:	<input type="text" value="00:16:B6:9D:43:24"/>	MAC 13:	<input type="text"/>
MAC 04:	<input type="text" value="00:14:BF:6B:D4:36"/>	MAC 14:	<input type="text"/>
MAC 05:	<input type="text"/>	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"/>

Each wired and each wireless adapter has a unique Mac address referred to as its physical address. In windows, click on Start, Run, and type in cmd in the run field and press the enter key. This will start a DOS window similar to the following:



Then at the cursor type the following:  
ipconfig /all and then press the enter key on the keyboard.  
The next screen will be similar to the following:



Write down the physical address of the wireless card; in this case it is 00-13-02-21-27-09. There is not another wireless card in the world with this MAC address. Use the MAC addresses of each wireless card for each computer and fill in the fields in the MAC address filter list above. Note that the field requires that you use “:” for a divider not “-“.

With the Wireless Tab still selected, click the Advanced Wireless Settings. Leave all settings at the default selections unless you know better. Click on “Save Settings”. You are finished with the router setup and you may close down your browser or go to a different URL address such as [www.nsa.gov](http://www.nsa.gov). There you may apply for a job as a computer guru.

The screenshot shows the Linksys WRT54G Advanced Wireless Settings page. The interface includes a top navigation bar with the Linksys logo and firmware version (v1.00.9). Below this is a main menu with tabs for Setup, Wireless, Security, Access Restrictions, Applications & Gaming, Administration, and Status. The 'Wireless' tab is active, and the 'Advanced Wireless Settings' sub-tab is selected. The settings are listed as follows:

Setting	Value	Default
Authentication Type	Auto	Auto
Basic Rate	Default	Default
Transmission Rate	Auto	Auto
CTS Protection Mode	Disable	Disable
Frame Burst	Disable	Disable
Beacon Interval	100	100 Milliseconds
DTIM Interval	1	1
Fragmentation Threshold	2346	2346
RTS Threshold	2347	2347
AP Isolation	Off	Off
Secure Easy Setup	Enable	Enable

On the right side, there is a help box for 'Authentication Type' explaining the difference between Auto and Shared Key. At the bottom, there are 'Save Settings' and 'Cancel Changes' buttons.

There are a number of informational screens that you may wish to explore. The informational screens contain information regarding the active network

**LINKSYS**  
A Division of Cisco Systems, Inc. Firmware Version: v1.00.9

**Wireless-G Broadband Router** **WRT54G**

**Status**

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

Router | Local Network | Wireless

**Router Information**

Firmware Version: **v1.00.9, May. 12, 2006**

Current Time: **Mon, Nov 06 2006 11:36:19**

MAC Address: **00:18:39:D6:D3:57**

Router Name: **WRT54G**

Host Name:

Domain Name: **hsd1.co.comcast.net.**

**Internet**

**Configuration Type**

Login Type: **Automatic Configuration - DHCP**

IP Address: **67.172.137.47**

Subnet Mask: **255.255.255.0**

Default Gateway: **67.172.137.1**

DNS 1: **68.87.85.98**

DNS 2: **68.87.69.146**

DNS 3:

MTU: **1500**

**CISCO SYSTEMS**

**Firmware Version.** This is the Router's current firmware.

**Current Time.** This shows the time, as you set on the Setup Tab.

**MAC Address.** This is the Router's MAC Address, as seen by your ISP.

**Router Name.** This is the specific name for the Router, which you set on the Setup Tab.

**More...**

**Configuration Type.** This shows the information required by your ISP for connection to the Internet. This information was entered on the Setup Tab. You can **Connect** or **Disconnect** your connection here by clicking on that button.

**More...**

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**Wireless-G Broadband Router** **WRT54G**

**Status**

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

Router | Local Network | Wireless

**Wireless**

MAC Address: **00:18:39:D6:D3:58**

Mode: **Mixed 11/54Mbps**

SSID: **surveyoffice**

DHCP Server: **Enable**

Channel: **6**

Encryption Function: **Enable**

**CISCO SYSTEMS**

**MAC Address.** This is the Router's MAC Address, as seen on your local, wireless network.

**Mode.** As selected from the Wireless tab, this will display the wireless mode (Mixed, G-Only, or Disabled) used by the network.

**More...**