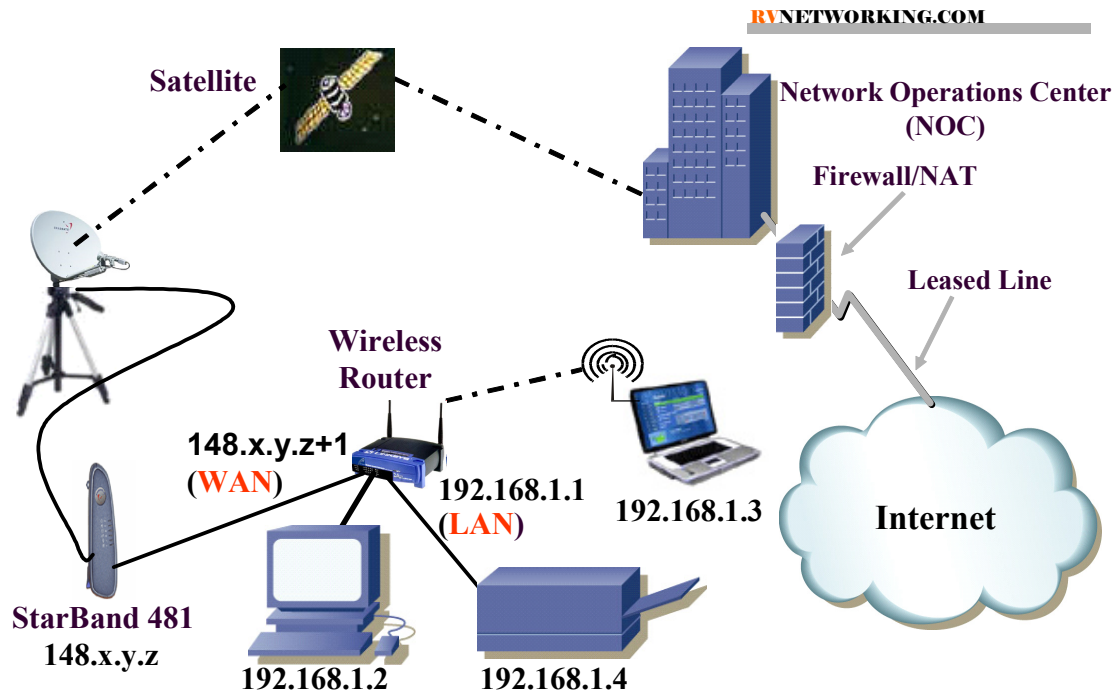




Networking with StarBand

Networking with a Self-hosted Satellite Modem



Networking Information

Your satellite connection can be shared among multiple computers. Shown above is a typical home/RV network. Networking with today's *self-hosted* modems like the DW6000 and DW7000 is pretty easy. In fact, with a wireless router such as the Linksys WRT54G, it is literally "*Plug and Play*".

However, you should not use it with the default configuration, because it is not secure. At the very least, you should change the following parameters:

- SSID - This is your wireless network name. It is what you will see when you **View Available Wireless Networks**, in Windows XP. By default, all wireless networks that use a Linksys router are called **linksys**.
- Channel - There are only three non-overlapping channels for the more common B/G wireless LANs (WLANs): 1, 6, and 11. By default, all Linksys and some other wireless routers or access points will use channel 6, which is prone to interference from both sides AND more likely to encounter interference from another wireless device also using the default. Use either channel 1 or 11, to reduce the chance of interference and allow it only from one side. And, be prepared to change the channel, if you run into interference.
- Administrator password - If you don't change this from **admin**, anyone who can see your WLAN can connect to your router and change its password or anything else.

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- Enable and configure WEP - Use only the more secure 128-bit WEP. If you plan to share your satellite connection with friends, enter the WEP key directly, as 26 hexadecimal digits, from 0 to 9, or A to F.

You should also save your router's configuration, so that if you ever have to reset your router to its default parameters, you can easily restore the configuration. The following subsections explain how to connect to your router and change these things.

How to Connect to Your Linksys Wireless Router

Your Linksys router is manageable, using a standard web browser interface. Make sure you do NOT have a proxy set in your browser and simply enter the local IP address (192.168.1.1 or 192.168.2.1) into the browser address bar and hit **<ENTER>**. When you are prompted for a login and password, hit the **<TAB>** key, to go to the password field, type the password (case sensitive), and then hit **<ENTER>**.

How to Change the Local IP address on the WRT54G:

With the StarBand Nova modem, it is best to change the local IP address from 192.168.1.1 to 192.168.2.1. This is because the Nova modem uses the address 192.168.1.1 and this can cause an address conflict, if you don't change it on the router. Here is how to change the local IP address on the WRT54G:

- Step 1** Connect to the device as explained above.
- Step 2** You will be on the **Setup** (top tab) -> **Basic Setup** (bottom tab) page.
- Step 3** In the **Network Setup** area, change the third text box of **Local IP Address** from "1" to "2", so that the final address displayed is 192.168.2.1.
- Step 4** Click **Save Settings** to save your change.

How to Change the SSID and Channel on the WRT54G:

It is sometimes necessary to move to a different frequency (channel) to avoid another source of interference. Here is how to change the channel on the WRT54G:

- Step 1** Connect to the device as explained above.
- Step 2** Click **Wireless** (top tab) -> **Basic Wireless Settings** (bottom tab).
- Step 3** To change the SSID, just select the current SSID text in the **Wireless Network Name** field (i.e., linksys) and type the name you want.
- Step 4** To change the channel, click on the popup menu labeled "**Wireless Channel**" and select the channel you want. Remember that the only three non-overlapping channels are 1, 6, and 11.
- Step 5** Click **Save Settings** to save your changes.

How to Change the Administrator Password on the WRT54G:

Here is how to change the password on the WRT54G:

- Step 1** Connect to the device as explained above.
- Step 2** Click **Administration** (top tab) -> **Management** (bottom tab).

Step 3 In the **Router Password - Local Router Access** section, enter the new password twice.

Step 4 Click **Save Settings** to save your change.

How to Enable and Configure WEP

Here is how to enable and configure WEP:

Step 1 Connect to the device as explained above.

Step 2 Click **Wireless** (top tab) -> **Wireless Security (bottom tab)**.

Step 3 Click on the popup menu labeled "**Security Mode**" and select **WEP**.

Step 4 Click on the popup menu labeled "**WEP Encryption**" and select **128 bits 26 hex digits**.

Step 5 In the **Key 1** text field, type 26 characters, from 0 to 9 and A to F. This will be your WEP key.

Setting the WEP key directly is recommended, because the only common denominator among Wi-Fi devices using WEP is the hexadecimal key. Many wireless clients allow you to enter a "*passphrase*" and generate the hex key from that. But, many do not. For example, anyone that uses Windows XP wireless for configuring cannot use a passphrase.

For this reason, I recommend setting the key on the wireless router directly in hexadecimal.

You can use the zero like the letter "O" and the letters A to F, and spell words or use numbers that are meaningful to you. For example, you could spell "badf00dbadcafe1234facef00d". Or, you could use two 10-digit phone numbers and one 6-digit date, for a total of 26 characters.

Step 6 Click **Save Settings** to save your changes.

How to Save the Configuration on the WRT54G

It is occasionally necessary to completely reset wireless devices to their original "*out-of-the-box*" state. As long as the latest configuration has been saved, it is fairly simple to restore after the reset. Here is how to save the configuration:

Step 1 Connect to the device as explained above.

Step 2 Click **Administration** (top tab) -> **Config Management** (bottom tab).

Step 3 Click **Backup** to save the current settings.

Step 4 Save the file like any other file on your Windows PC hard drive, giving it a meaningful name.

How to Reset the WRT54G and Restore the Configuration

To completely reset a WRT54G to its original "out-of-the-box" state, you need to depress the small recessed button on the back with a pen or other pointed object. Hold it in until one or more of the lights on the front blink. Then, remove power while continuing to hold the button in. After power has been removed, release the button, wait 15-20 seconds and power on the device back on.

How to Restore the Configuration on the WRT54G

- Step 1** Connect to the device as explained above, except the password will be **admin**, since it has been reset. It's address will always be 192.168.1.1.
- Step 2** Click **Administration** (top tab) -> **Config Management** (bottom tab).
- Step 3** Click **Browse** and then browse to the file on your Windows PC hard drive and click **Open**.
- Step 4** Click **Restore** to restore the previous settings.

How to View Network Status Information on the WRT54G

Here is how to check the status on the WRT54G:

- Step 1** Connect to the device as explained above.
- Step 2** Click **Status** (top tab) -> **Router, Local Network**, or **Wireless** (bottom tab).

More Information

There are screen shots of each of the pages on the WRT54G router, along with some additional Wi-Fi information on the RV2WaySat.com web site:

<http://www.rv2waysat.com/Rally2006/Handouts/Wi-Fi-Networking.pdf>

When you are prompted to log in, use **rv2waysat** as the username and **rv2ws** as the password.

Your Network Information

Write the information for your network here:

- Local IP Address:
- Network Name (SSID):
- Channel:
- Administrator Password:
- Encryption: Enable 128-bit WEP
- WEP Key:

