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# TalkBroadband®

**Linksys Gateway SPA2100-SU Manual**

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## Looking for Basic Setup Instructions?

If you are looking for the standard setup instructions in the Quick Start Guide, please go to:  
<http://www.talkbroadband.ca/en/qsg>.

## Most Recent Version of this Manual

The most recent version of this manual can be found at:  
<http://www.talkbroadband.ca/en/manual>.

# Advanced Setup Instructions

## Wiring Your Home with TalkBroadband

Some of our customers who have no local telephone service have asked how they can use TalkBroadband with every phone in the house. Although Primus can neither provide technical assistance for this configuration nor guarantee that it will work, in most cases it is possible.

PLEASE NOTE that the Linksys Gateway is unable support more than three telephones connected to the same line.

We have prepared detailed instructions that are available at:  
<http://www.talkbroadband.ca/en/homewiring>.

## Assigning a Static IP to the Linksys Gateway SPA2100-SU

Some business customers operate LANs that use static addressing. These instructions will help you assign a static IP address to the Linksys Gateway.

In general, home networks DO NOT use static addressing. Unless you are sure that yours does, we suggest you use the instructions in the Quick Start Guide (<http://www.talkbroadband.ca/en/qsg>).

In order to use the Linksys Gateway on a static IP network, you will have to reconfigure it. To do this, you will need a computer that you can temporarily disconnect from your LAN and connect directly to the Linksys Gateway.

Before you start, you will need the following information:

- IP address you plan to assign to the Linksys Gateway
  - Subnet Mask
  - Gateway
  - DNS server(s)
1. Unplug the power cable and all Ethernet cables from the Linksys Gateway and shut down your computer.
  2. Plug an Ethernet cable from the **yellow ETHERNET port** on the Linksys Gateway to your computer's Ethernet port.
  3. Start your computer and set your PC to Obtain an IP address automatically (see the **Computer Network Configuration** section below for instructions for your operating system). Restart your computer if prompted to do so.
  4. Open a Web browser, type "192.168.1.1" in the Address bar and press **Enter**.
  5. When prompted, enter "user" for the **Username** and "primus" for the **Password**. Press **Enter**.
  6. Click on the **WAN** tab and change **Connection Type** to "Static IP".
  7. In the **Static IP** section, enter the static IP you have chosen for the Linksys Gateway and the Netmask (Subnet Mask) and Gateway for your network.
  8. Under **Optional Settings**, enter the IP address of your Primary and/or Secondary DNS servers.
  9. Click on **Submit All Changes**.
  10. Disconnect all cables from the Linksys Gateway.
  11. Plug an Ethernet cable from the **blue INTERNET port** on the Linksys Gateway to an Ethernet port on your LAN router or Ethernet switch.
  12. Plug in the power cable.
  13. Plug in your telephone to the **green PHONE 1 port**.
  14. Once the green **Phone 1** light turns on, you are ready to start making calls! (Note that this could take up to 2 minutes).

## MAC Address Issues

Some broadband Internet providers (notably, DSL providers in western Canada and cable ISPs) marry your connection to the unique hardware address, or MAC Address, of your computer's Ethernet card. When we connect the Linksys Gateway SPA2100-SU between your ISP's modem and your computer, the ISP is no longer able to "see" that MAC Address and your connection will no longer work. Follow these steps to inform your ISP of your new MAC address.

1. Look for the label on the bottom of the Linksys Gateway SPA2100-SU.
2. On the label, locate the line labelled MAC and record the 12 characters of the MAC address.
3. Contact your ISP's Technical Support to inform them that your MAC address has changed. Tell them the new address that you just recorded. Ask the Technical Support agent how long it will take before your new MAC address is enabled on their network.
4. Once the ISP has enabled the new MAC address, you should be able to start Talking Broadband!

## Determining the IP Address of the Linksys Gateway

If you need to know the IP address assigned to the Linksys Gateway, follow these instructions. Your Linksys Gateway will need to be connected to your network and have a telephone connected to the Phone 1 port.

1. Pick up the handset of the telephone connected to the **green PHONE 1 port** of the Linksys Gateway.
2. Dial \*\*\*\* (four stars) and wait for the voice prompting for an "option". You may need to wait until you hear a busy signal before moving on to the next step.
3. Dial 110# to hear the **blue INTERNET port** IP address or dial 120# to hear the **yellow ETHERNET port** IP address.

# Computer Network Configuration

This section describes how to set up your computer to use DHCP to automatically accept an IP address from your Linksys Gateway. You may need to use these instructions if:

- You have placed the Linksys Gateway directly between your broadband modem and your computer and can no longer browse the Web, OR
- Your LAN uses static IP addresses and you need to set up your computer to re-configure the Linksys Gateway to use a static IP address.

Please choose the instructions for your operating system.

## Windows XP

1. Click **Start** and then **Control Panel**.
2. Click **Network Connections** (if this is not visible, click **Network and Internet Connections** first).
3. Right click **Local Area Connection** and click **Properties**.
4. Double click **Internet Protocol (TCP/IP)**.
5. Select **Obtain an IP Address Automatically** and **Obtain DNS Server Address Automatically**.
6. Click **Ok**. Click **Ok** again to exit.

## Windows 2000

1. Click **Start**, then **Settings**, and then **Control Panel**.
2. Double click **Network & Dial-up Connections**.
3. Right click **Local Area Connection**.
4. Double click **Internet Protocol (TCP/IP)**.
5. Select **Obtain an IP Address Automatically**.
6. Click **Ok**. Click **Ok** again to exit.
7. Restart your computer.

## Windows 95, 98, ME

**Info:** Have your Windows CD handy.

1. Click **Start**, then **Settings**, and then **Control Panel**.
2. Double click **Network**.
3. In the **Configuration** list, click on the TCP/IP entry that is associated with your Ethernet adapter, and then click on **Properties**.
4. Select **Obtain an IP Address Automatically**.
5. Click **Ok**. Click **Ok** again to exit.

**Info:** At this point, you may be prompted to insert your Windows CD.

6. Restart your computer.

## Mac OS X

1. Click the Apple menu and click **System Preferences**.
2. Click **Network** and select TCP/IP.
3. Select **Configure Using DHCP**.
4. Save and Exit.
5. Restart your computer.

## Mac OS 9 and below

1. Click the Apple menu and click **Control Panels**.
2. Select **Ethernet**.
3. Select **Using DHCP Server**.
4. Save and Exit.
5. Restart your computer.

## FAQs

General TalkBroadband FAQs can be found at:

<http://www.primustel.ca/en/residential/talkbroadband/faq.html>

Technical TalkBroadband FAQs can be found at:

<http://support.primus.ca/en/talkbroadband/faq.php>

Q. I had to unplug one of my computers to connect the Linksys Gateway to my router. Can I plug that computer into the PC port on the Linksys unit?

A. Yes, however you will not be able to share files or printers with the other computers on your network. You may need to purchase a network hub or switch to connect between your router and your computers.

Q. I have an Ethernet hub on my network. Can I plug the Linksys Gateway into it?

A. This is not a recommended configuration, as it could have a negative impact on network performance. We recommend that the Linksys Gateway be plugged directly into one of your router's LAN ports or into an Ethernet switch.

Q. I use a USB connection between my modem and my computer. Will TalkBroadband work?

A. If your modem and computer also have Ethernet LAN ports, TalkBroadband will work. You will need to use Ethernet instead of USB for your network connections and follow the instructions labelled "A" in the Quick Start Guide. Note that since only one Ethernet cable is included in the TalkBroadband box, it is likely that you will need to purchase a second one (available at most consumer electronics and computer stores).

Q. Will I have to download firmware updates for the Linksys Gateway?

A. No. Primus will perform any necessary firmware upgrades automatically.

Q. Will TalkBroadband work with my satellite broadband connection at my cottage or on my RV?

A. It might, but at significantly reduced quality. The physical distance between your satellite dish and the satellite will introduce nearly a second of delay that is similar to an overseas call. Your voice may also be choppy or jittery to the person you are calling.

## Troubleshooting

1. I followed the setup instructions but nothing works. I can't bring up a Web page and I can't make a phone call on the TalkBroadband service. Help!

Carefully double check cabling by following the appropriate instructions for your network. Cabling error is a very common problem. If this does not help, remove the Linksys Gateway from your network and return cabling to the original setup. At this point, if you still cannot surf the web, contact your ISP. If you can surf the web after returning to your original setup, contact Primus TalkBroadband Technical Support.

2. I cannot connect to the Linksys Gateway SPA2100-SU on IP address 192.168.1.1.

First, you should double check that the Ethernet cable between your computer and the Linksys Gateway is connected to the **yellow ETHERNET port** on the gateway. Another possibility is that your computer might not be configured to automatically accept an IP address from a DHCP server (such as the Linksys Gateway). Follow the **Computer Network Configuration** instructions in this manual and try again.

3. I do not hear a dial tone.

Check that your telephone is plugged into the Phone 1 port on the device.

Make sure that you are able to bring up a web page.

Disconnect and reconnect your modem, then your router (if you have one) and then your Linksys Gateway. Finally, restart your computer. Are you able to bring up a web page on your computer? If not, contact your ISP for network outage information.

4. I get a fast busy signal when I dial.

Ensure that you are dialling the correct sequence (Country Code + Area Code + Telephone Number, i.e. 1+555+555-5555).

# Glossary

## Broadband

A generic term that describes a connection to the Internet that has speeds that are many times faster than those of traditional dial-up modem services. Broadband connections generally fall into two major categories: DSL and Cable. TalkBroadband requires a broadband connection.

## DHCP

See Dynamic Host Configuration Protocol.

## Digital Subscriber Line

A broadband Internet service that is provided over the phone company's existing telephone wiring to your house.

## Dynamic Host Configuration Protocol

A protocol for assigning IP addresses dynamically from a reserved pool of addresses to devices connected to a network. DHCP can also assign all other network configuration settings such as the network gateway, netmask and DNS servers. DHCP server functionality is built into most routers.

## DSL

See Digital Subscriber Line.

## Ethernet

A wiring system used to connect computers in a Local Area Network (LAN). Ethernet cables have connectors that look like large telephone modular connectors.

## Hub

A network hub or switch adds Ethernet ports to allow you additional computers into to your home network when you have run out of Ethernet ports on your home router.

## Internet Protocol Address

The numeric address of a computer connected to the Internet.

## Internet Service Provider

A company that provides you with a connection to the Internet. Broadband ISPs for home users generally fall into two major categories: DSL and Cable.

## IP Address

See Internet Protocol Address

## ISP

See Internet Service Provider.

## LAN

See Local Area Network.

## Local Area Network

A network technology that is used to connect computers and other network devices that are separated by a short distance, such as inside the same office or building. A LAN can be connected to the Internet.

## MAC Address

Also known as the hardware or Ethernet address, this is a unique identifier that is specific to the Ethernet port in a computer or other network. MAC addresses have the form XX-XX-XX-XX-XX-XX, where X can be a digit or a letter from A to F.

### Point to Point Protocol over Ethernet

A network protocol for encapsulating PPP frames in Ethernet frames. It is used mainly with cable modem and DSL services. It offers standard PPP features such as authentication, encryption, and compression.

### Port

A port is an opening on a device that is used for connecting a cable to the device and is generally located on the back of the device. An Ethernet port looks like a large phone jack.

### Power Adapter

One end of the power adapter plugs into an electrical wall outlet and the other end into the back of the Linksys Gateway, router, or other home networking equipment. When this manual and the Quick Start Guide refer to unplugging a power adapter, you may unplug either at the wall outlet or at the back of the device.

### PPPoE

See Point to Point Protocol over Ethernet.

### Router

A computer networking device that forwards data packets toward their destinations through a process known as routing. Routers are frequently used to connect a home network to a broadband modem and to the Internet.

### Static IP Address

An IP Address that has been manually and permanently assigned to a computer on the Internet.

### Switch

See Hub.

### TCP/IP

The **T**ransmission **C**ontrol **P**rotocol/**I**nternet **P**rotocol is a set of protocols used by computers and networking devices to transmit information over the Internet.

### Telephone

This manual and the Quick Start Guide refer to plugging a telephone into the Linksys Gateway's telephone jack. By Telephone, we mean any standard analog (corded or cordless) telephone that would work with a traditional home telephone service.

## Contact Information to Keep Handy

### TalkBroadband Product Information

<http://www.talkbroadband.ca>

### Technical Support

<http://support.primus.ca/en/talkbroadband>

Residential Support: 1 800 370-0015

Business Support: 1 888 222-8577