Slingbox Pro User Guide

Your guide to setting up and using Slingbox Pro

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1: Introduction

Welcome

You're being followed…by your television!

Your new Slingbox makes your television accessible from anywhere. It sends your living room television to wherever you choose to watch. We call it "place-shifting." You can call it *your* TV...anywhere.

And, if you choose to set up remote viewing, following your favorite baseball team from your office cubicle has never been easier—not that we'd encourage that. However, we're working on a "boss" button.

Setup is easy...ignoring your TV is difficult

Slingbox Pro doesn't replace your entertainment system…it embraces it. Simply connect your television source (antenna, cable, satellite, digital video recorder) or other video source to the Slingbox, and then connect Slingbox Pro to your home network (router/available Ethernet jack). Install the SlingPlayer software on your computer, Smartphone, or Pocket PC and watch your programs from anywhere. Think of it as the TV remote with ultimate reach.

It's not magic, but it's close

Slingbox Pro sends your video over your home network to your router, which then gives you access from wherever you are: in the kitchen or anywhere in the world with a high-speed Internet connection. And, if you have a digital video recorder (DVR), you can watch your recorded programs and use the familiar features, such as pause, instant replay, and fast forward…even schedule recordings. If your DVR can do it, your Slingbox can view it.

All you need to do to watch your Slingbox from afar is to use a computer loaded with SlingPlayer application. Start it up and connect to your Slingbox at home. You'll be watching your TV in no time.

Stream of Consciousness

It all comes together once you start up SlingPlayer application. Slingbox Pro compresses your television source (or other audio/video content) making it available digitally through your in-home router. Watch it in another room or even in the backyard.

It gets more impressive when you venture outside of your home-network range. The quality of over-the-Internet streaming is dependant on what's between your home television source and your computer a few miles, or a few thousand miles, away.

However, that's not a big challenge for SlingStream™, the on-board streaming technology. SlingStream continually monitors the end-to-end Internet bandwidth, making on the spot adjustments to provide a constant video stream. It automatically adjusts the video stream to work within the bandwidth that is available at any given time.

Where will you watch your TV?

Think of all the places you can now watch your TV:

- In an aircraft (with broadband) after they've announced you can switch on your laptop.
- In the kitchen while preparing a meal or cleaning up the mess.
- In the living room while the kids are watching ***Finding Nemo***…for the 37th time. You're "baby sitting" with the game playing on your laptop.
- Barbecuing in the backyard. Wipe the teriyaki sauce off your fingers before using the on-screen remote.
- Surfing the Web or maybe even writing an e-mail.
- In an opera while the prima donna takes a break.
- On a business trip and you're not interested in the local news.
- Travelling in a train and the Giants game is more interesting than the scenery outside.
- Or, just relaxing in your favorite chair...or throne.

Where you watch your TV is up to you!

Using this Guide

The guide includes step-by-step instructions for using your Slingbox so you get the most out of your new television experience. If you haven't already, refer to the *Quick Setup Guide* for an overview of the connection process.

Additional guides, instructions, troubleshooting help, tips and tricks, and the most up-to-date information about this guide are always available at **www.slingmedia.com**. Make sure to check the website if your answers aren't found here.

We would love to hear from you. Please send feedback to documentation@slingmedia.com.

Conventions

The guide uses the following conventions:

Table 1: Conventions

When you see...	What it means...
Select Help > About SlingPlayer	Select About SlingPlayer from the Help menu
Click **Change**.	Click the Change button on SlingPlayer. All UI elements such as radio buttons, lists, and buttons are in **bold**.

Package Contents

Make sure you have received the following items with your Slingbox. See "Included Cables" on page 10.

- Slingbox Pro
- 2 Audio/Video cables
- Ethernet cable
- Coaxial cable
- Quick Setup Guide
- CD-ROM containing SlingPlayer for Windows 2000 (SP4) and XP computers
- S-Video cable
- IR Control cable

System Requirements

- Windows XP Home/Pro/MCE/2000 (SP4)
- Pentium IV 1GHz
- 256MB RAM
- 100MB Free Hard Disk Space
- Graphics Card (24-bit color)
- Sound Card (16-bit)
- CD-ROM Drive
- Ethernet Network Connectivity (wired, 802.11 a/b/g, or Powerline)

Network Requirements

- A router or a combined cable modem/router.

  Search for "recommended routers" in http://www.slingmedia.com/support/ for a list of all recommend routers.
- DHCP must be enabled on your router so Slingbox Pro is recognized during the software installation.
- A high-speed Internet connection if you plan to view your Slingbox remotely.

Note

Many advanced features are only supported if you have the latest firmware and SlingPlayer software. Visit http://www.slingmedia.com/us/support/downloads for the latest software.

Tip

Slow Internet upstream rates can affect the streaming quality when using Slingbox Pro remotely. Check with your Internet Service Provider (ISP) if you would like to upgrade to a speedier service. It is recommend that you have a minimum upstream bandwidth of 256 Kbps. Higher upstream means better viewing quality.

Important Safety Instructions

Please read all of these instructions and retain for future reference. Follow all warnings and instructions.

Do not use Slingbox Pro near water.

Do not place the product near heat sources such as direct sunlight, radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

Do not block the ventilation holes on top of the Slingbox. Slingbox Pro requires adequate ventilation. Do not place Slingbox Pro in a cabinet or built-in installation unless sufficient ventilation is provided. **Do not place anything on top of the Slingbox, including another Slingbox**.

Operate this product from the type of power source indicated on the marking label.

Route power cables so they are not likely to be walked on, rolled over, or pinched by items placed upon or against them, or otherwise subject to abuse, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

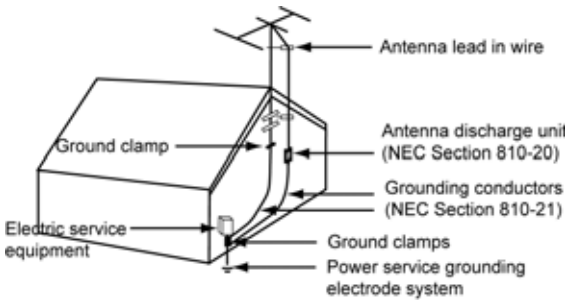
Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

Unplug Slingbox Pro before cleaning. Use only a cloth dampened with water to clean the Slingbox.

Do not place this product on an unstable cart, stand, tripod, bracket, or table.

Do not place heavy objects on top of the product.

Outdoor antenna grounding. If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/ NFPA 70 1984, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.



Lightning. For added protection of this product during a lightning storm, or when it is left unattended and unused for long periods, unplug it from the wall outlet.

Power lines. An outside antenna system should not be located near overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

Servicing. Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel. Refer to **www.slingmedia.com/support** for servicing information.

Damage requiring service. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power-supply cord or plug is damaged.
- If liquid has been spilled, or objects have fallen into the product.
- If the product has been exposed to rain or water.
- If the product does not operate normally by following the operating instructions. Adjust only those controls covered by the operating instructions. An improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
- If the product has been dropped or damaged in any way.
- When the product exhibits a distinct change in performance.

Replacement parts. When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or parts that have the same characteristics as the original part. Unauthorized substitution may result in fire, electric shock or other hazards.

Safety check. Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

WARNING

To reduce the risk of fire or electric shock, do not expose this product to rain or moisture.

Note to CATV Installer

This reminder is provided to call the CATV system installer's attention to section 820-40 of the NEC, which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

2: Connecting your Slingbox

About Connections

This section contains the following topics:

- Included Cables on page 10
- Rear Panel Connectors on page 11

Connecting Slingbox is easy, and takes just a few minutes. Refer to the *Quick Setup Guide* before reading this chapter. This chapter provides additional information and instructions.

Diagram showing basic connections

You connect your television source (antenna, cable, satellite, DVR) to Slingbox, and then connect Slingbox to your home network (either wired or wirelessly). From there, you can watch your living room TV programming from wherever you are by turning any laptop or Internet-connected computer into a window to your home. It's that simple. You can also connect other A/V devices to Slingbox, such as a DVD player, a VCR, or a CD player. See "Connecting Other Audio/Video Devices" on page 14.

Included Cables

You probably won't need to use all of the cables included with your Slingbox. The way in which you connect Slingbox depends on the type of entertainment and networking equipment you want to connect. Here's a little information on the cables included with Slingbox.

Table 1: Cables provided and their use

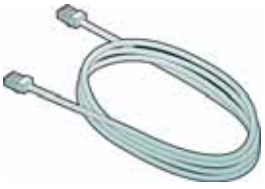
Cable or Cable Combination	Why do I need it?
S-Video cable with Audio cables	**This combination provides good audio and video quality**. If your cable/satellite box, DVR, or other external A/V device has an available S-Video output, you should take advantage of the superior video quality it delivers. Connect the supplied S-Video cable from the S-Video output on your external device to **S-Video In** on Slingbox. Leave the yellow (composite) video cable unattached. You must also connect the red and white audio cables to the audio outputs on your external device and to **A/V In** on Slingbox.
Coaxial cable	Use this cable to connect your antenna or analog cable TV source directly to Slingbox. **You may also use this cable if your A/V source device does not have S-Video or Audio/Video outputs**. Connect this supplied coaxial cable from the output on your A/V device to **Antenna/Cable In** on Slingbox. **Note**: You cannot use S-Video or A/V Out from Slingbox to your TV if you use the coaxial cable.
IR Control cable	If you have a cable box, satellite receiver, DVR, or other external device, Slingbox uses this cable to control these external devices, just as you do with your remote control. This cable sends remote control signals from Slingbox to your cable/satellite box or DVR. It allows you to view menus and guides from these and other connected devices, as well as use familiar features like play, pause, fast forward and rewind.
 Ethernet cable	The Ethernet cable connects Slingbox to your router. If the cable is not long enough to reach your router, you can purchase a longer cable or use optional network bridges. See "Optional Networking Connections" on page 33 for information about using wall plug or wireless bridges.

Table 1: Cables provided and their use

Cable or Cable Combination	Why do I need it?
Power adapter	The power adapter connects your Slingbox to an electrical outlet to supply power.

Rear Panel Connectors

- **Power**: Slingbox does not have an on/off switch. Plug it in to power it on. The green Power light on the front indicates that Slingbox is on.
- **IR** (infrared): Allows Slingbox to change channels on your cable box or satellite receiver, and use the menus of the device you connected, including a DVR. The emitter ends of the IR control cable are placed so they point at the IR sensor on your device.

- **Network**: The most reliable connection to your router is with the supplied Ethernet cable. You may use alternative connections, such as Powerline wall plug bridges or a wireless bridge. Wall plugs are more reliable than wireless connections.
- **S-Video Out**: Optionally connect your Audio/Video source **back to your television**. Also, connect the A/V cable to your TV to send the audio and leave the yellow (video) cable unplugged.
- **A/V Out**: Optionally connect your Audio/Video source **back to your television**.
- **Antenna/Cable In**: Connect the **incoming** antenna or analog cable TV source directly to Slingbox. You may also use this connection if your cable box, satellite receiver, or DVR does not have available S-Video and/or A/V outputs.
- **S-Video In**: From your A/V source. Also, connect the supplied A/V cable to your A/V source to send the audio and leave the yellow (video) cable unplugged.
- **A/V In**: From the Audio/Video **outputs** on your A/V source.
- **Reset**: Used only to restore your Slingbox to factory settings. This clears all of your Slingbox settings. “Restoring Slingbox Pro to Factory Settings” on page 35.

Connecting your Audio/Video Sources to Slingbox

This section contains the following topics:

- Connecting a Cable Box, Satellite Receiver, or a DVR on page 13
- Connecting an Antenna or Analog Cable on page 14
- Connecting Other Audio/Video Devices on page 14
- Connecting Multiple Audio/Video Sources to Slingbox on page 16

Additional information about the steps in the *Quick Setup Guide* is provided here. Refer to the *Quick Setup Guide* before reading this chapter.

If you are setting up your Slingbox with:

- A cable box, satellite receiver, or a DVR (such as a TiVo® or ReplayTV®), see "Connecting a Cable Box, Satellite Receiver, or a DVR" on page 13.
- Antenna or cable only (no cable box), see "Connecting an Antenna or Analog Cable" on page 14.
- Another Audio/Video device, see "Connecting Other Audio/Video Devices" on page 14.

Connecting a Cable Box, Satellite Receiver, or a DVR

If you have a cable box, satellite receiver, *or* a DVR, connect this device to Slingbox, as shown below.

1. **Connect your cable box, satellite receiver, *or* DVR to Slingbox**. Choose one of the connections below based on the available outputs on your cable box, satellite receiver or DVR. See "Included Cables" on page 10 for more information on the included cables. If you have a standalone DVR already connected to a cable box or satellite receiver, **connect the outputs from your DVR to Slingbox inputs.**

- **S-Video and Audio cables**: This combination provides the best video quality. If your cable box, satellite receiver, or DVR has an available S-Video output, you should take advantage of the superior quality it delivers. Connect the supplied S-Video cable from the S-Video output on your cable/satellite box or DVR to **S-Video In** on Slingbox. You must also connect the red and white audio cables.
- **Audio/Video cable**: This cable provides good video quality. Connect one end from the available outputs on your cable/satellite box or DVR to **A/V In** on Slingbox.

- **Coaxial cable**: Only use this cable if your cable/satellite box or DVR does not have S-Video or Audio/Video outputs. Connect the supplied coaxial cable from the output on your cable/satellite box or DVR to **Antenna/Cable In** on Slingbox.

2. You now need to connect the IR control cable. See "Connecting the IR Control Cable" on page 18.

Connecting an Antenna or Analog Cable

Use this setup if your TV source is antenna or analog cable only, **without a cable box**. Connect the incoming antenna or cable line to **Antenna/Cable In** on Slingbox. Once connected, continue to connect Slingbox to the network. See "Connecting Slingbox to your Home Network" on page 19.

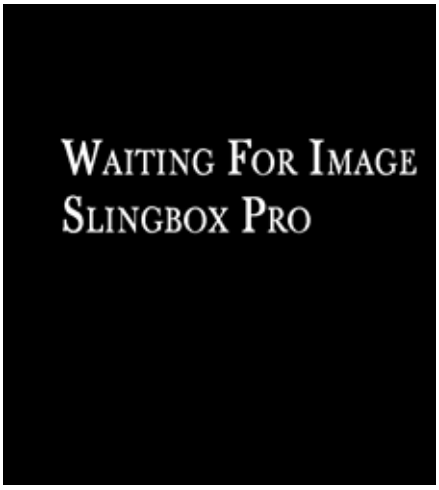
Adding a Splitter

If the incoming antenna or cable line from the wall in your home is connected directly to your TV, you will need to use a coaxial splitter (not included) to send your TV source to your TV and to your Slingbox. See below if you have a cable modem sharing the cable line.

Using a Cable Modem

If you have a cable modem, you may be able to receive your basic cable channels from the same coaxial cable that supplies your Internet connection. If so, use a splitter, with one cable connected to your cable modem and one connected to Slingbox, as shown. Be sure to connect Slingbox to your router. See "Connecting Slingbox to your Home Network" on page 19

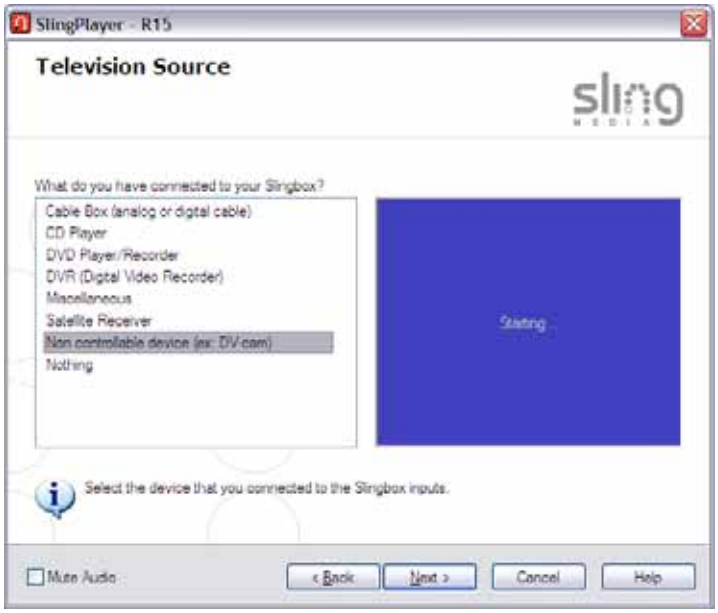
Connecting Other Audio/Video Devices



One additional advantage of Slingbox is the ability to stream more than just your television programming. Slingbox can control many DVD players, VCRs, and CD players. Yes, you can even listen to music from your CD player. You can additionally connect non controllable devices such as camcorders too.

1.Connect the suitable cable from your device's outputs to the inputs on Slingbox. You need to use one of the supplied Audio/Video cables if your device uses A/V outputs.

2. Make sure your device is ON when you want to view it using Slingbox. SlingRemote displays many DVD, VCR, and CD player buttons. If you don't see the button you want to use, select the **Remote** drop-down menu button at the top of SlingRemote. Slingbox can remotely power on/off your configured devices
3. If you change what you originally connected to your Slingbox—for example, adding a new device like a DVD player—you must apply this change within SlingPlayer as well. See "Audio/Video Settings" on page 31.



4. Continue to connect Slingbox to the network. See "Connecting Slingbox to your Home Network" on page 19.

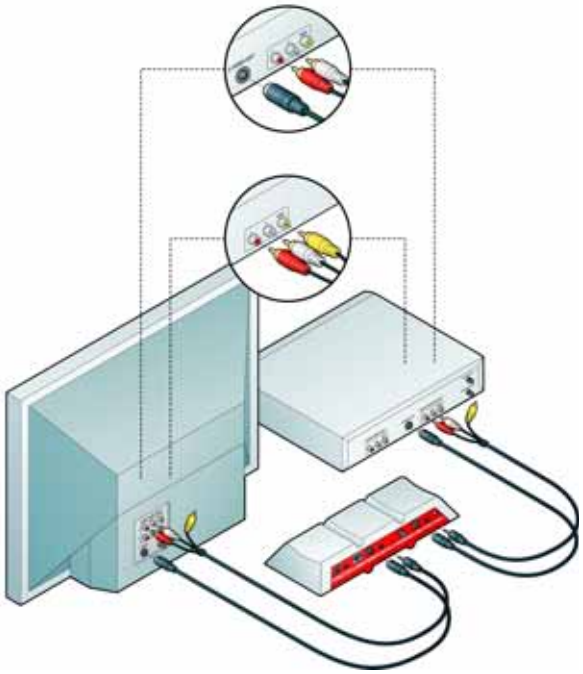
Important

Though you can connect many A/V devices to Slingbox, not all can be controlled. If your device category (for example, a camcorder) is not among the categories listed during setup, choose **Non-controllable device**.

Sharing an Audio/Video Source

Complete this step if you have to remove the cable or cables currently connecting your cable/satellite box or DVR to your TV to include Slingbox in your setup. You may need to do this if your device has only one set of outputs. This connection passes your television source through Slingbox and back to your television.

Connect the same cable type for the **output** back to your TV as you used for the **input** to Slingbox. For example, if you connected S-Video along with the red and white audio connectors to Slingbox, make the same connection to your TV.



Important

If you connected a coaxial cable from your device to Slingbox, it will not work. You need to use a coaxial splitter (not included). See "Using a Cable Modem" on page 14.

Connecting Multiple Audio/Video Sources to Slingbox

All three Slingbox A/V inputs are available for use: Antenna/Cable In, S-Video In, and A/V In. However, you can only set up one input during the initial installation of SlingPlayer. Once you have completed the Setup Wizard for the first time, you can connect additional A/V devices to the remaining Slingbox inputs.

If, for example, you connected your cable box or DVR to Antenna/Cable In on Slingbox, you can later connect a DVD player to A/V In and switch between these two inputs while using SlingPlayer.

Important

If you plan to connect an A/V source to both A/V In and S-Video In, you will only receive the audio signal from the source to which the A/V cable is connected. However, you can use one of these combinations and receive both audio and video:

- Antenna/Cable In and A/V In, or
- Antenna/Cable In and S-Video In (along with the red and white audio from the A/V cable).

Connecting Another A/V Device

1. Connect the additional TV source or other A/V device to the available Slingbox input.

Important

If you connect an external A/V device, you must also attach the extra emitter from the IR control cable to the front of the device so it can be controlled.

2. Start SlingPlayer.
3. Select Slingbox > Properties.

4. In the **Slingbox Configuration** tab, click **Change** within the **Audio/Video Setup** category.
5. Click **Next** to go to the Connection to Your Slingbox screen.
6. Select the input to which you connected the new source and then follow the on-screen instructions.

Switching Between A/V Inputs

While streaming from your Slingbox, select Video Input from Slingbox menu and then choose the input to which you want to switch. SlingPlayer switches to the input you selected and displays the appropriate remote control.

Connecting the IR Control Cable

The IR control cable allows Slingbox to act as a universal remote, controlling the device you connect to Slingbox. It works with your cable/satellite box, DVR, and many other devices.

Place your Slingbox close enough to your device so the IR control cable can be attached to the front of your device.

1. Connect the IR control cable to the **IR** connector on Slingbox. **Make sure to firmly insert the cable connector so the cable's plastic covering meets the back of Slingbox**. It clicks in when fully inserted. *Check this connection before continuing.*
2. Place the emitter ends of the cable on the top and bottom of the device so they point at its IR sensor. Make sure they extend out far enough to send a signal to your device. See "Finding the IR Sensor" on page 18.
3. Continue to connect Slingbox to the network. See "Connecting Slingbox to your Home Network" on page 19.

Finding the IR Sensor

The infrared sensor is on the front of the device, usually behind a dark, sometimes reddish plastic window. If you don't see the sensor, shine a flashlight through the window and look for a small bulb, similar to the one on the end of the emitters.

- Once you are sure you have placed an emitter correctly, remove the adhesive covering and affix the emitter so it extends out far enough to send a signal to your device.

Important

When you install SlingPlayer software, the Setup Wizard attempts to communicate with your device using the IR control cable. Make sure you place the emitters over the infrared sensor on your device before you install SlingPlayer. If the Setup Wizard is not controlling your device, you may need to adjust the position of the emitters. You may want to wait to affix the emitters until after you install SlingPlayer.

Connecting Slingbox to your Home Network

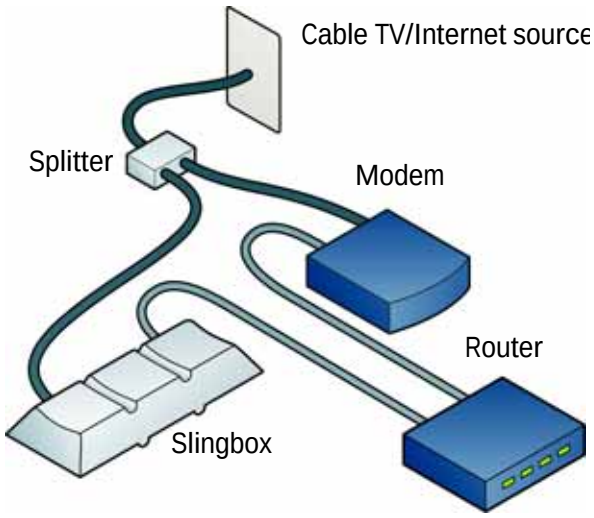
Slingbox works with any high-speed Internet connection or broadband home network. **You must have a router to use Slingbox**. Slingbox comes with an Ethernet cable. If it's not long enough to reach your router, you can use a longer cable, or one of the optional connections. See "Optional Networking Connections" on page 33.

What you need to get started:

- A high-speed Internet connection using a cable or DSL modem if you plan to view your Slingbox remotely.
- A router, so Slingbox and your computer can access the Internet separately.

See "Optional Networking Connections" on page 33 if your Slingbox is not within Ethernet cable reach of your router.

1. Connect the supplied Ethernet cable to the **Network** connector on Slingbox.
2. Connect the other end to an available port on your router or a nearby Ethernet jack.
3. You now need to power-up the Slingbox, see "Powering-up your Slingbox" on page 20.



Powering-up your Slingbox

Connect the supplied power adapter to Slingbox and to an electrical outlet. When plugged in, the **Power** light on the front of Slingbox comes on, and then the lights on the front of Slingbox will blink a few times as Slingbox starts up.

The **Network** light remains on if Slingbox successfully received an IP address (your router recognizes Slingbox as a new device on your network). If both the power and network lights are on, you are ready to install the software.

Before you install SlingPlayer,

•Ensure your computer is connected to the same router as Slingbox. See "Multiple Routers In Your Home" on page 27 for more information.

•Ensure your cable box, satellite receiver, or DVR is ON and set to live television (not recording a program), and no menu is on your TV screen.

- Check to see if the Power and Network lights are switched on.

You now can install SlingPlayer. See Chapter 3: "Installing SlingPlayer".

3: Updating Slingbox Pro

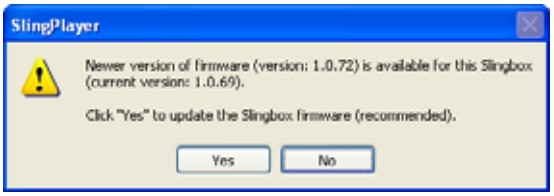
New versions of Slingbox firmware are periodically released. These versions could include enhancements and/or bug-fixes. We constantly strive to improve your viewing experience.

Updating Slingbox Pro

From time to time, there are new firmware updates available for your Slingbox. You will be automatically prompted. You can also check for updates manually.

Updating Slingbox Firmware Automatically

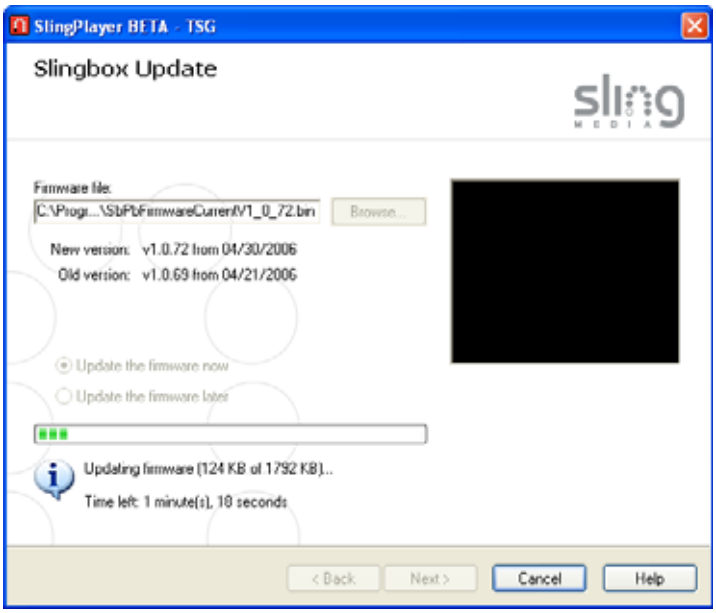
To update Slingbox firmware automatically:



1. When SlingPlayer informs you that a new version of firmware is available for your Slingbox, click **Yes**.

   The Slingbox Setup Wizard starts.
2. Click **Next**.
3. Click **Browse** to select an alternate location for the Firmware file.
4. Select **Update the firmware now**. Click **Next**.

   The Wizard downloads the updates from the Sling Media site. You can track the progress on this screen. The Wizard then restarts your Slingbox
5. Click **Next**. Click **Finish**.

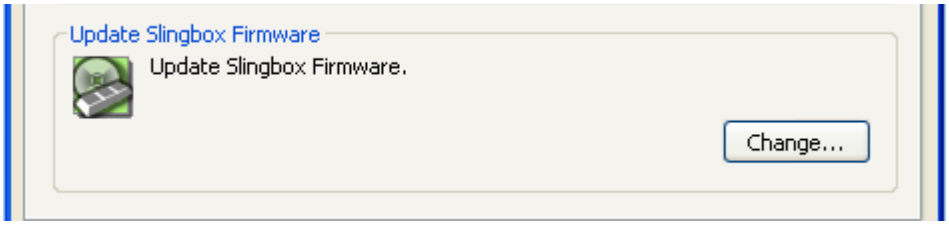


Note

It is recommended to accept default values.

Updating Slingbox Firmware Manually

If you could not update your Slingbox when prompted, you can check for the updates manually.



To update Slingbox firmware manually:

1. Select Slingbox > Properties.

   The Slingbox properties window appears.
2. In the Slingbox Configuration tab, click **Change** in the Update Slingbox Firmware section.

   The Slingbox Setup Wizard starts.
3. Follow the on-screen instructions. Refer "Updating Slingbox Firmware Automatically" on page 21 for more information.

4: Setup and Installation Assistance

This appendix provides additional setup and software installation information not covered in Chapters 1 and 2.

Network Connections

Follow the instructions in this appendix if the typical setup is not possible in your home, or if you want to use optional connections that may make setup simple for you. Also, if you have more than one router in your home, you may need to adjust your network setup to use Slingbox.

SlingPlayer Software Installation

The Setup Wizard and SlingPlayer application automatically discover Slingbox on your home network. **Certain personal firewall security software may block this process or categorize Slingbox as an "intruding device."** If this occurs, you need to change your security software settings to allow Slingbox as a device on your network. See page 25 for information about adjusting your firewall software settings.

This appendix also provides information about resetting your Slingbox to its factory settings.

Troubleshooting Remote Viewing Setup

To view your Slingbox remotely (outside of your home network) you need to open a port on your router. During the Setup Wizard, if you selected "Fully-Automatic UPnP" mode, the software attempts to open a port on your router automatically. If you were unable to use Automatic mode or you selected Manual mode, you must open a port on your home router prior to activating remote viewing. Read below for troubleshooting tips.

The final step of the Setup Wizard is a test that verifies remote viewing is properly configured. If this test fails, you can:

- **Try again using the current router settings**. This is the best first step to solve the problem. Occasionally the Setup Wizard does not receive confirmation from Slingbox Finder in sufficient time to complete the test (possibly due to Internet traffic, local network congestion, or certain router makes/models). Before making any changes, you should Try Again once.
- **Change your router settings**. While configuring your router for port forwarding, it is possible a typo or other minor mistake was made. Click Change Network/Router Settings to double-check Slingbox settings and confirm your router is properly configured for port forwarding. See "Optional Networking Connections" on page 33..
- **Disable remote viewing**. If you want to enjoy your Slingbox within the home and configure remote viewing later, simply click Disable Remote Viewing. You can then use your Slingbox with any locally connected PCs, and change the network settings to enable remote viewing later.
- **Continue Anyway**. Sometimes it's not convenient or easy to set up your router for Slingbox remote viewing and you know the problem isn't with Slingbox but your network. Fortunately, this step does NOT have to be completed at this moment and you can continue with the rest of the Slingbox setup. Later you can come back to the remote viewing activation when you have resolved your network issues. This is different from the option above where you have to disable remote viewing on Slingbox to continue.

Note

Remote viewing may fail even if Automatic UPnP was successful during the Setup Wizard. If the Network light on the front of Slingbox is blinking, Slingbox does not have a valid IP address from your router. Remote and local viewing will not work in this case. Refer to the solutions below to fix the problem.

Resolving Remote Viewing Failure

There are a number of possible reasons why remote viewing fails. The first thing to do is to identify why remote viewing does not work for you.

Internet or Finder Service Problem

If either your Internet connection or the Slingbox Finder service is down, you will not be able to watch your Slingbox remotely. You can verify this is the problem if the following error message displays:

"Unable to connect to the Slingbox Finder. Please check your Internet connection and firewall settings."

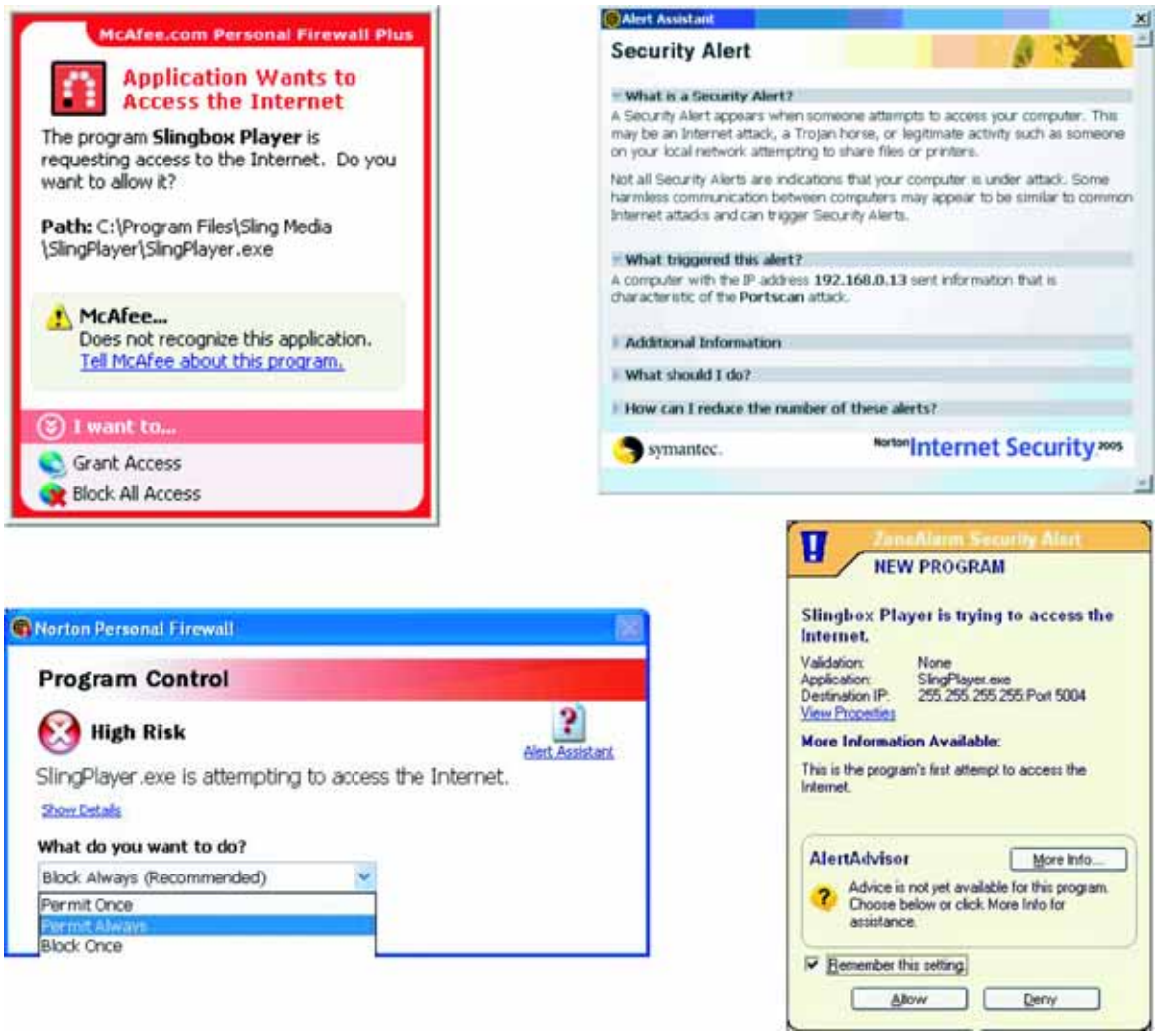
Solution: Check your Internet connection. Once your Internet connection is active, your Slingbox should be working once communication is reestablished with the Slingbox Finder service. Click **Try Again** when your Internet connection is restored to activate remote viewing.

Firewall Security Software Blocking SlingPlayer Use

Internet security and firewall software, such as Norton Internet Security or ZoneAlarm, keep your home network safe from viruses or damaging attacks. Slingbox and your PC communicate using a technology called "discovery," which means you do not have to figure out how to connect to your Slingbox when using SlingPlayer.

As a side effect, some security software may designate Slingbox as a "hostile" device on your network. Additionally, by default, most routers do not block devices from accessing the Internet. This is typically a user setting. You will not be able to watch your Slingbox remotely if your router blocks it.

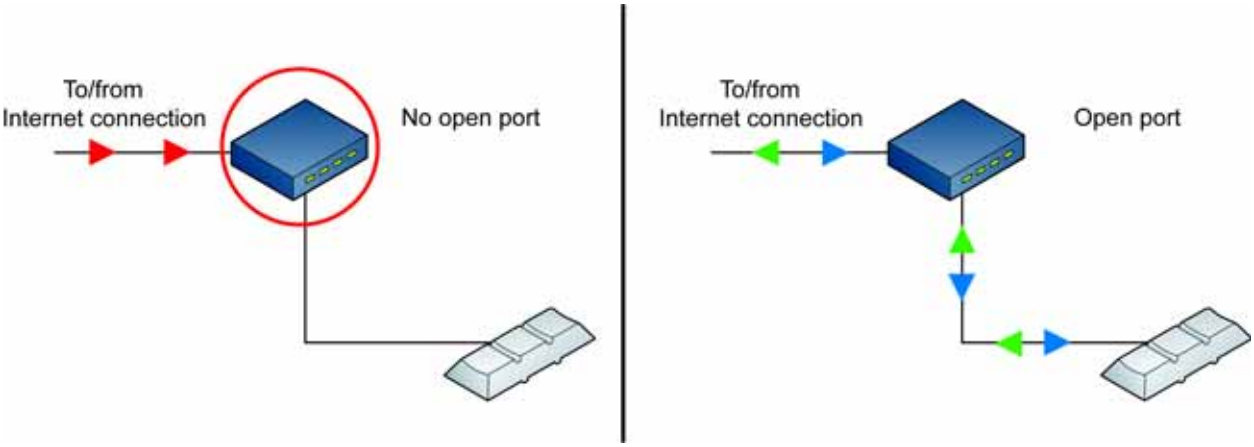
If you are running these software programs, your security software may display an alert message while installing SlingPlayer or using SlingPlayer. This message informs you if a program is attempting to access the Internet, and asks you to either allow or deny access. You may see an alert appear while running SlingPlayer or Slingbox Setup Wizard related to personal security or firewall software, which may look like one of the warnings on the following page.



Solution: If you see such a warning, you need to *grant* or *permit* access for your Slingbox to work properly. If you accidentally block SlingPlayer, consult your firewall documentation or support Web site to grant access to SlingPlayer.

No Open Port On Your Router

A port must be open on your router to watch your Slingbox remotely. By opening a port on your router, your router allows access to your Slingbox when you attempt to watch your Slingbox from a remote computer. If the port is not open, your router does not allow outside access, as shown below.



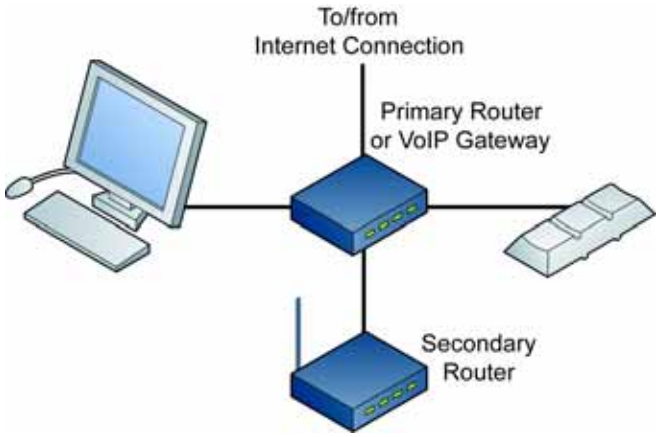
Solution: If the Setup Wizard did not automatically open a port on your router, go to **www.slingmedia.com/portforward.html** to try the Setup Wizard port-forwarding tool. If this does not provide sufficient help, refer to your router documentation or the support Web site for your router manufacturer.

Multiple Routers In Your Home

With the growth of wireless networks and combination network devices, some home networks have become overly complex with the use of multiple routers when just one can do the trick. If you have multiple routers in your home, the ports must be open along the path. It is possible you have multiple routers in the home, even if you don't think you own more than one. How is this possible?

- Some **DSL/Cable modems** have built-in router functionality. For example, DSL modems made by 2Wire, and select models by Westell and SpeedStream have built-in router functionality.
- If you have a **Voice-over-IP (VoIP) server** in your home, it may also act as a router. In this case, the VoIP server is actually your primary router.

In a multiple router home where Slingbox is connected to a secondary router, as shown below, you need to open a port on both routers to watch your Slingbox remotely. It is strongly recommended that you connect your Slingbox to the primary router in your home, as shown.

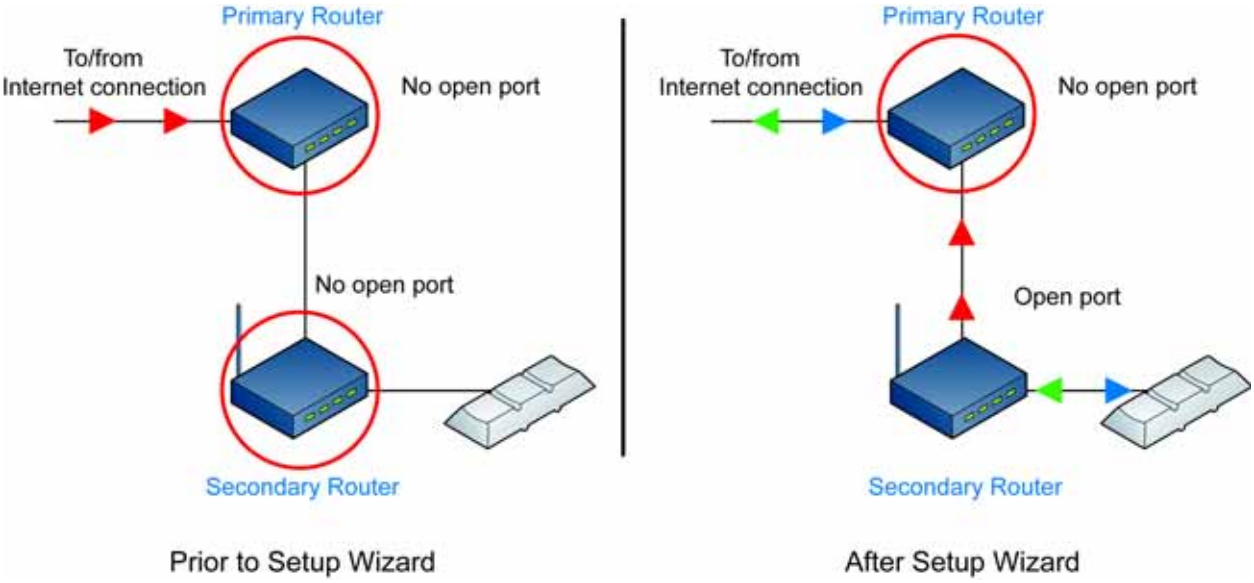


The easiest and most reliable configuration for viewing remotely.

Solution: Follow these instructions if you connected Slingbox to your secondary router.

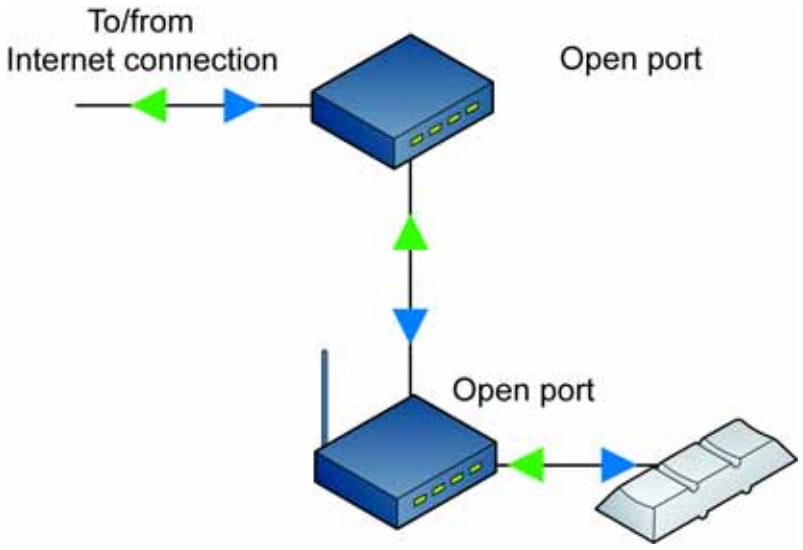
1. Complete the standard port forwarding setup for your Slingbox and your secondary router (the secondary router is the one connected to your Slingbox; the primary router is the one between your secondary router and the Internet, as shown below).

Your Current Status:



If you properly completed the network steps during the Setup Wizard, port-forwarding is now set up on your secondary router, as shown above.

Your Desired Status



Open a port on your *primary* router.

Follow the remaining steps below.

2. **Important**: In addition to configuring port forwarding (in the following steps), it is strongly recommended that you either:
   a. Set a static, or permanent, IP address for your secondary router.

   OR

   b. Limit the DHCP server range on the primary router so only one IP address is assigned (recommended for advanced users).

If you do not perform one of these two steps, your secondary router's IP address may change, for example, in the event of a power failure. If this occurs, you will have to reconfigure your *primary router* again for remote viewing of your Slingbox.

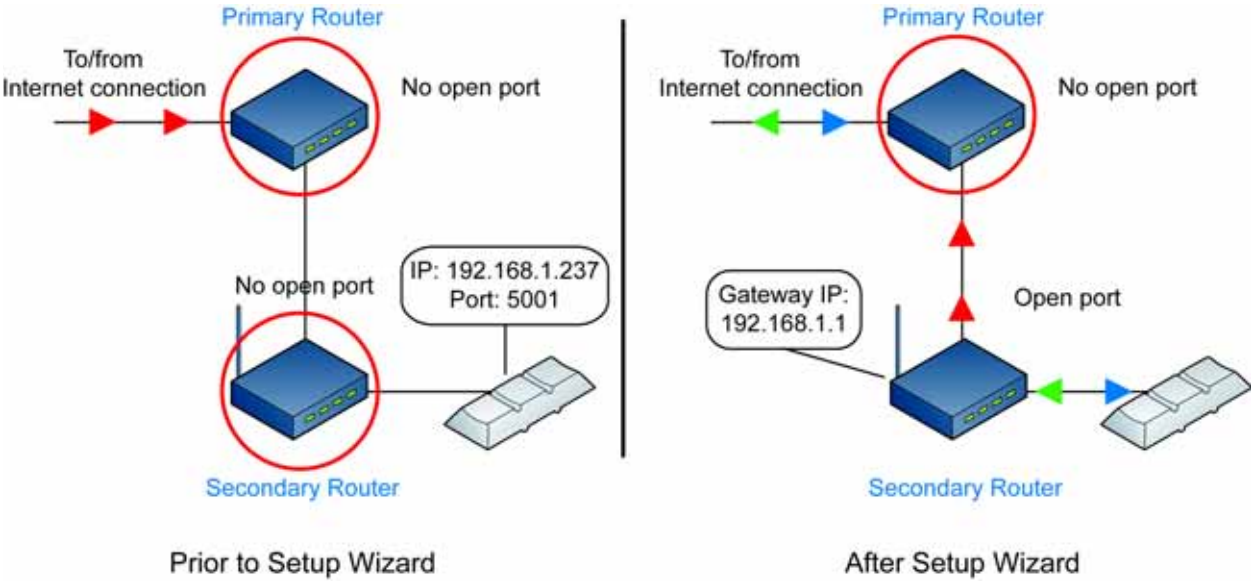
3. Locate the **public IP address** and the **gateway** for your secondary router. To do this, follow these steps:
   a. Open a Web browser and type your secondary router's IP address (preceded by http://) in the address bar of the browser.
   For example, http://192.168.100.1
   b. Enter your secondary router's Username and Password in the login window.
   c. Browse the secondary router's setup screens. You are looking for either "Internet Status" or "WAN Status" or any page that displays:

- Public IP address
- Gateway address

   d. The public IP address and gateway address will look similar to your router's IP address.

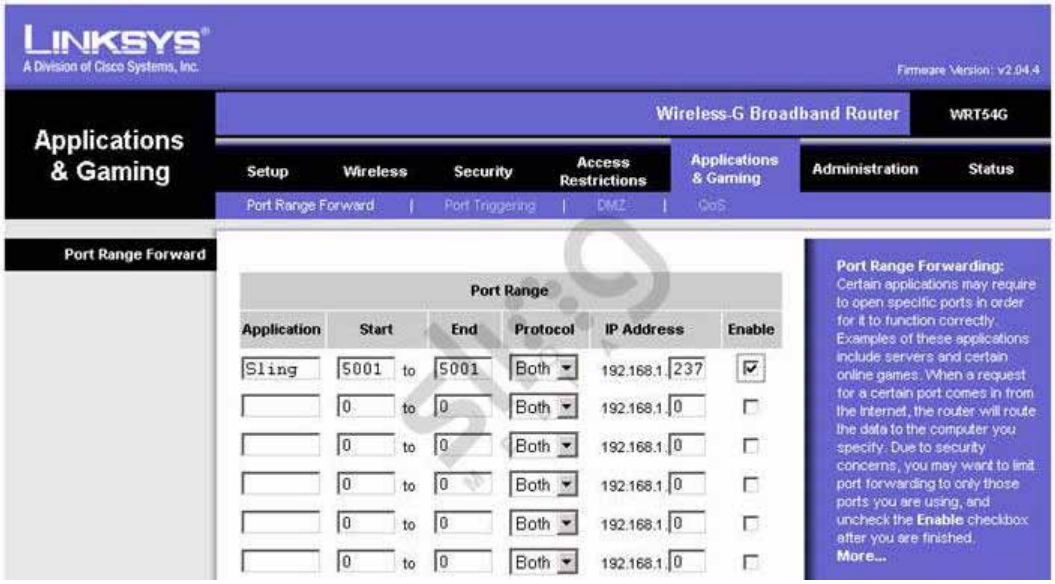
- For example, if your secondary router's IP address is 192.168.100.1, its public IP address might look like 192.168.1.2 and its gateway might be 192.168.1.1.
- The first two segments of the numbers will probably be the same, and the second two segments will probably be different.
- **Important**: *Your secondary router's gateway is your primary router's IP address.*

4. Now, open a Web browser window, and enter your secondary router's gateway number into the address field. For example, http://192.168.1.1. You will see another router setup screen.
5. If the Setup Wizard successfully set up your secondary router, it assigned a port number (the default is 5001). You may have also assigned ports on your own. Open the **same ports** you opened on your secondary router, with **one change**...
6. Instead of opening these ports to the IP address for your Slingbox, open these ports to your secondary router's public IP address.

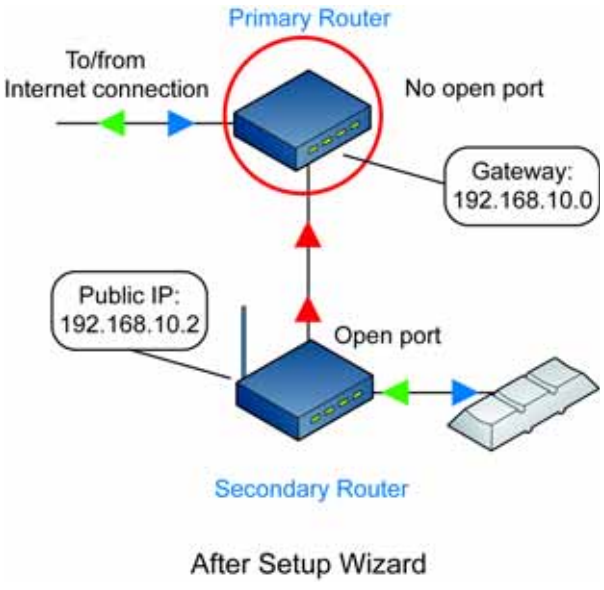


Example:

- Your Slingbox has IP address 192.168.1.237, and port 5001
- Your secondary router is located at 192.168.1.1
- Your secondary router has a Public IP address of 192.168.10.2, and a gateway of 192.168.10.0

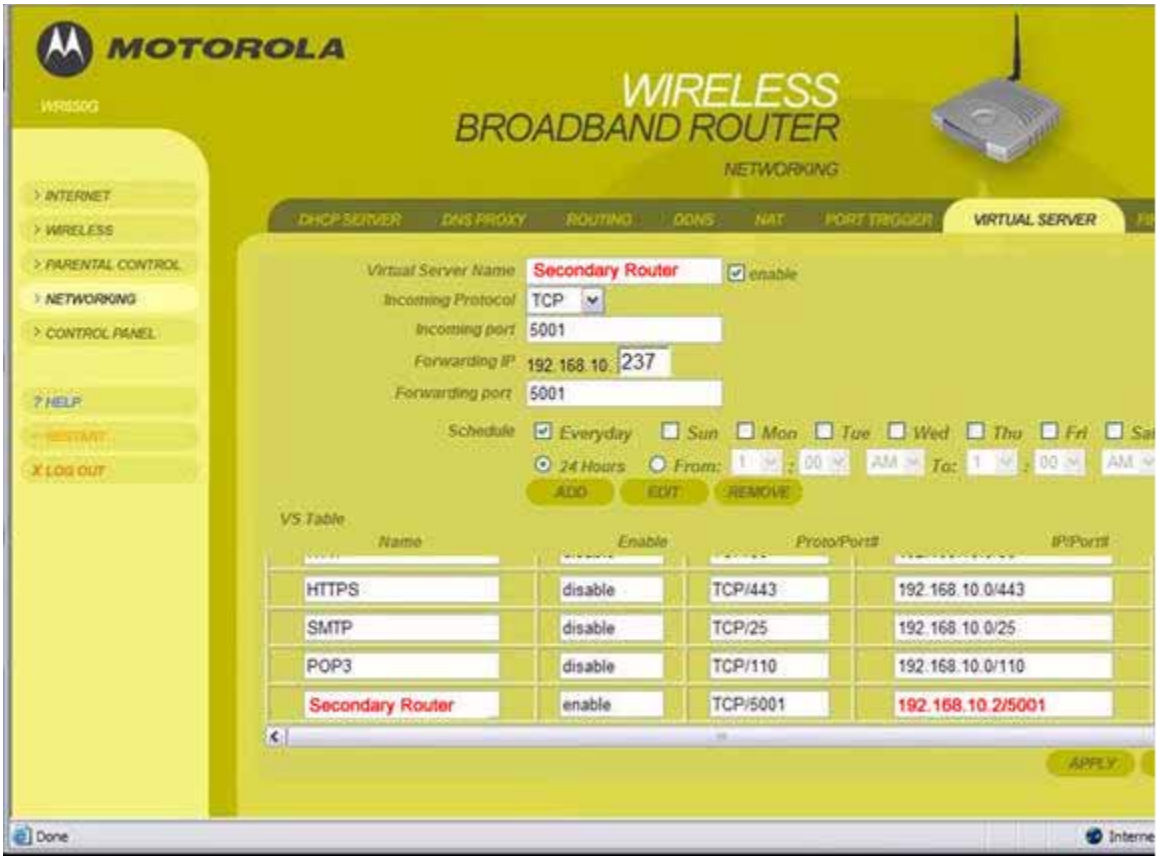


Correctly configured secondary router.

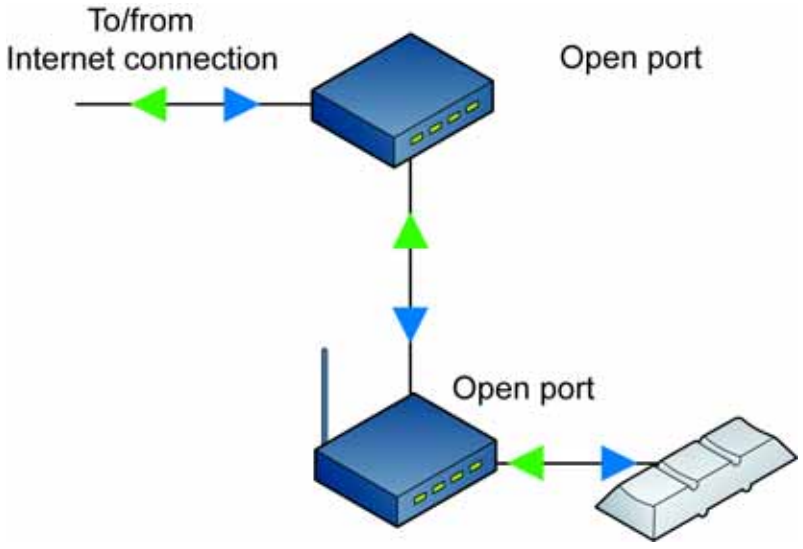


After Setup Wizard

Setup after opening the secondary router's port.



Your primary router must ALSO have a port forwarding entry, which should look like this.



Setup after opening both router's ports.

Optional Networking Connections

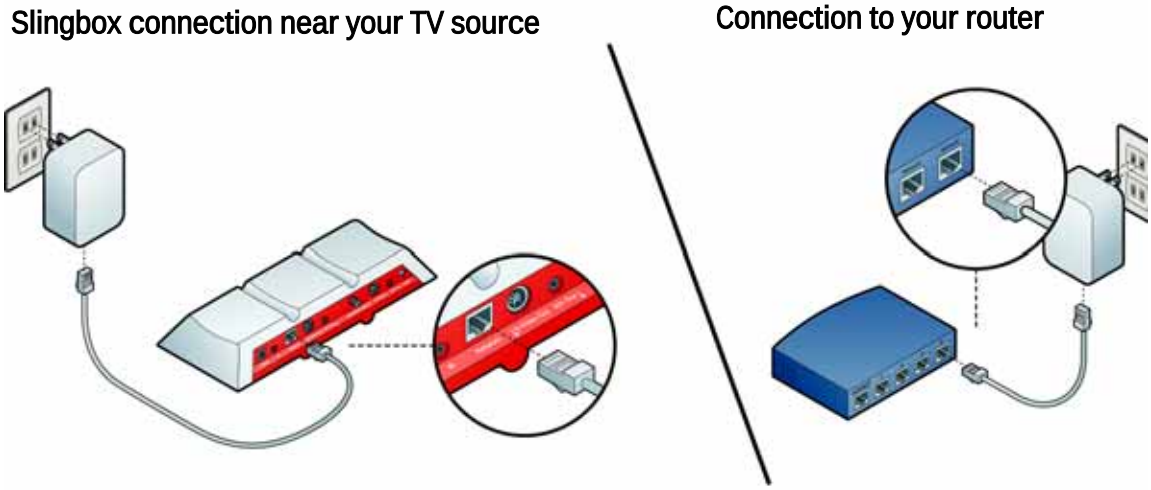
If your router is not within cable reach of Slingbox, you can:

- Purchase a longer Ethernet cable.
- Use wall plug bridges such as the Sling Media SlingLink, which use your existing in-home electrical outlets to connect devices to your network. These wall plug devices—also known as HomePlug or Powerline bridges—are easy to set up and use with Slingbox, requiring no new wires. **Wall plug bridges provide better performance than wireless networking especially when using a HomePlug optimized for Slingbox like the SlingLink.**
  See http://www.slingmedia.com/slinglink for more information about this product.
- Use a wireless bridge to connect your Slingbox to a wireless network. See "Connecting Slingbox to a Wireless Network" on page 34..

Tip

Go to www.slingmedia.com/support for a list of recommended routers, wall plug bridges, and wireless bridges. Make sure to follow the installation instructions that come with the equipment you purchase.

Using Wall Plug Bridges



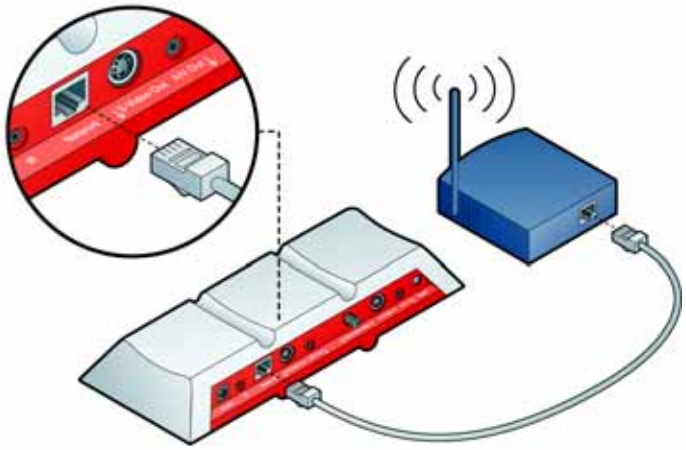
If you don't have an Ethernet jack near your TV, an easy option is to use a pair of wall plug bridges, which use your existing in-home electrical outlets to connect Slingbox to your network. Sling Media sells a wall plug especially made for connections to Slingbox, see http://www.slingmedia.com/slinglink for more information. You'll need two bridges: connect one to your Slingbox and the other to your router, as shown.

Important

For optimal performance, it is strongly recommended that you connect the bridges directly to a wall outlet. Do not connect them to a power strip or extension cord.

Connecting Slingbox to a Wireless Network

Slingbox cannot wirelessly connect to your home network by itself. However, you can connect Slingbox to an existing wireless network using an Ethernet-to-wireless bridge (or a wireless game adapter) and use your wireless laptop around the house. **You must have a wireless home network for this setup**.



1. Set up your bridge to work with your existing wireless home network before you connect Slingbox to your bridge. (It is recommended that you test the bridge where you plan to use Slingbox. Wireless networks vary in signal strength from location to location.)
2. Connect an Ethernet cable to the **Network** connector on Slingbox and to an Ethernet jack on your wireless bridge.

Make sure to follow the installation instructions that come with the equipment that you purchase.

Important

If your router requires MAC address authentication, you may need to add Slingbox's MAC address to your router administration screens. The MAC address is printed on the bottom of Slingbox.

Restoring Slingbox Pro to Factory Settings

Certain situations may require you to restore your Slingbox to factory settings. For example:

- If you replace the router to which you originally connected your Slingbox. In this case, Slingbox was set up to work with your original router and now needs a new IP address from your new router.
- If you forgot your password.
- If you move your Slingbox to another home or network.

With your Slingbox powered on, press and hold the **Reset** button on the back of Slingbox for five seconds. The lights on the front of Slingbox quickly flash from left to right and then flash slowly. Slingbox is reset after 30 seconds. Once reset, the Power light stays solid.

Note

If your Slingbox is connected to your router, the Network light will also go on when it receives an IP address.

If you restore factory settings, all of your Slingbox settings will be cleared and it will need to be reconfigured.

5: FCC and Specifications

FCC Statement

Changes or modifications not expressly approved by Sling Media, Inc., could void the user's authority to operate this equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Note: Slingbox is not a cable-ready device. Full access to all cable channels and features may not be possible.

Product Specifications

Slingbox Specifications

Table 1: Slingbox Specifications

Product Name	Slingbox
Model #	V-Modem007
Dimensions	10.25"(w) x 1.25"(h) x 7"(d)
Weight	1.5 lbs
Power Requirements	6V/2.8A
Inputs	Composite video (RCA) Composite audio (RCA - L/R) S-video S-video audio (RCA - L/R) RF/Coaxial HD video (RGB) HD audio (L/R)
Device Control	IR emitter
Network	RJ-45 Ethernet
Display	5 front panel LEDs: Upstream, Downstream, Network, Internet, Power
TV Tuner	NTSC/PAL/SECAM (built-in)

Modem Specifications

Table 2: Modem Specifications

	Downstream	Upstream
Frequency Range	**DOCSIS:** 112-858Mhz	**DOCSIS:** 5~42Mhz
Modulation	64/256QAM	QPSK, 8/16/32/64/128 QAM
Data Rate[1]	**DOCSIS:** 64QAM: 30Mbps 256QAM: 42.8Mbps	QPSK 0.32 ~ 10.24Mbps 8QAM 0.48 ~ 15.36Mbps 16QAM 0.64 ~ 20.48Mbps 32QAM 0.80 ~ 25.60Mbps 64QAM 0.96 ~ 30.72Mbps 128QAM/TCM 30.72Mbps
Bandwidth	DOCSIS: 6MHz	**TDMA:** 200, 400, 800, 1600, 3200 and 6400 kHz **S-CDMA:** 1600, 3200 and 6400 kHz

[1] Actual speeds vary, and often less than the maximum possible. Upload and download speeds are affected by several factors including, but not limited, to: network traffic and services offered by your cable operatior or braodband service provider, computer equipment, type of server, number of connections to server, and availability of Internet router(s).

FEC	RS (128,122) GF128 with Trellis coding	Reed Solomon
Signal Level	**Receive Power Level:** **DOCSIS:** -15 ~ +15dBmV	**Transmit Power Level:** **TDMA:** +8 ~ +54dBmV(32QAM, 64QAM) +8 ~ +55dBmV(8QAM, 16QAM) +8 ~ +58dBmV(QPSK) **S-CDMA:** +8 ~ +53dBmV(all modulation)
Signal-to-Noise Ratio (SNR)	BER <10^-8 **DOCSIS:** 64QAM: >23.5dB 256QAM: >30dB	
Security	DOCSIS Baseline Privacy Plus: 1024-bit RSA and 128-bit Tripple-DES for BPKM protocol 56-bit DEC for data encryption X.509 v3 certificates	
DOCSIS	Compliant to DOCSIS 2.0 and Euro-DOCSIS 2.0	
Protocol	TCP/IP, UDP, ARP, ICMP, DHCP, SNMP, TFTP, TOD, BOOTP, SYSLOG	
Configuration	Ease of configuration and privacy control provided by resident or downloaded code from Cable Modem Termination System (CMTS)	
Bridging	Support for unicast, broadcast, and multicast IP packets Variable-length packet cable Media Access Control (MAC) transport layer Mix of contention and reservation-based upstream transmission	
Quality of Service	Quality of service of MAC layer	
Management Operations SNMPv1/v2/v3)	RFC1157: A Simple Network Management Protocol RFC1901: Introduction to Community-based SNMPv2 RFC3416: Version 2 of the Protocol Operation for the SNMP RFC3417: Transport Mapping for the SNMP RFC2578: Structure of Management Information Version 2 RFC2570: Introduction to Version 3 of the internet-standard Network Management RFC3411: An Architecture for Describing SNMP management Frameworks RFC3412: Message Processing and Dispatching for the SNMP RFC3413: SNMP Applications RFC3414: User-based Security Model (USM) for SNMPv3 RFC3415: View-based Access Control Model (VACM) for SNMP RFC2576: Coexistence between Version 1, Version 2, and Version 3 of the Internet-standard Network Management Framework	
MIBs Support	RFC1493: BRIDGE-MIB RFC3418: SNMPv2-MIB RFC2011: IP-MIB RFC2013: UDP-MIB RFC2233: IF-MIB RFC3411: SNMP-FRAMEWORK-MIB RFC3412: SNMP-MPD-MIB RFC3413: SNMP-TARGET-MIB SNMP-NOTIFICATION-MIB RFC3414: SNMP-USER-BASED-SM-MIB	

	RFC3415: SNMP-VIEW-BASED-ACM-MIB RFC2576: SNMP-COMMUNITY-MIB RFC2665: EtherLike-MIB RFC2669: DOCS-CABLE-DEVICE-MIB RFC2786: SNMP-USM-DH-OBJECTS-MIB RFC2851: INET-ADDRESS-MIB RFC2933: IGMP-STD-MIB RFC3083: DOCS-BPI-MIB DRAFT: DOCS-IF-MIB DRAFT: USB-MIB DRAFT: DOCS-BPI2-MIB DRAFT: DOCS-QOS-MIB Append L/Annex H: DOCS-IF-EXT-MIB Append L/Annex H: DOCS-CABLE-DEVICE-TRAP-MIB

Power Adapter Specifications

Table 3: Power Adapter Specifications Table

Make	Ktec
Model #	KSAFE0600350W1US
Input Voltage Range	100VAC to 240VAC
Input Frequency Range	50 Hz to 60 Hz
Input Current	0.6A Max
Output Voltage	+6V
Output Regulation	5.7~6.3V
Output Load Range	0 to 3.5A max

FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference and

(2) This device must accept any interference received, including interference that may cause undesired operation.

FCC RF Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.

This equipment must not be co-located or operating in conjunction with any other antenna or transmitter.