



# ARRIS Wireless TV Receiver Product Manual

VIP2500

For use with your AT&T U-verse TV Service



TO REDUCE RISK OF ELECTRIC SHOCK,  
DO NOT REMOVE COVER (OR BACK). NO  
USER-SERVICEABLE PARTS INSIDE.  
REFER SERVICING TO QUALIFIED SERVICE  
PERSONNEL.

Graphical symbols and supplemental warning markings are located on the back and bottom of the terminal.

### **WARNING**

TO REDUCE THE RISK OF FIRE OR SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.



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 appliance.

Product identification and supply rating are provided on the label found on the bottom of the unit.

### **IMPORTANT SAFETY INSTRUCTIONS**

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with a dry cloth.
- Do not block any ventilation openings. Install according to the manufacturer's instructions.
- Do not install near any heat sources, such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as the power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



Follow these important safety guidelines when positioning and connecting your wireless receiver:

- Do not block the slots and openings
- Do not place anything on top of the wireless receiver
- Do not position the wireless receiver in a confined space, such as an enclosed cabinet, that does not provide adequate ventilation.
- Do not position the wireless receiver near any external heat source that could raise the temperature around the unit. Do not place the wireless receiver on top of another heat producing electronic device.
- Allow for adequate ventilation around the wireless receiver to maintain normal operating temperature. Do not place it in a sealed enclosure without providing for adequate airflow.
- Do not plug the AC power adapter into a switched power outlet.
- Always transport the receiver in its original factory carton, or in an equally well-padded container.
- Whether installed or being transported, do not expose the receiver to temperature extremes. The temperature range for operation is from 0° to +40°C. The non-operating (transport or storage) temperature range is from -40° to +60°C.
- If the wireless receiver is used outdoors (patio, balcony, etc.), it should be protected from moisture, temperature extremes, and from prolonged exposure to direct sunlight, any of which could cause damage. Note also that adequate ventilation must be maintained, even if the wireless receiver is operated outdoors.

This manual includes the manufacturer's recommended safeguards and all the information needed to connect your receiver to both your in-home IP network and your entertainment system. The safety and installation information was developed and provided primarily by the receiver manufacturer, ARRIS Enterprises, Inc.

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## Introduction

Congratulations on receiving your U-verse VIP2500 Wireless Receiver.

The VIP2500 Series provides these extraordinary home entertainment features:

- With U-verse Wireless Receiver, you have the freedom to move your TV where you want – anywhere in your home
- Pause your recorded show in one room and pick it up in another with Total Home DVR
- High Definition TV (HDTV), which provides up to twice the color resolution and up to six times the sharpness of standard TV when connected to an HD-capable TV
- Do more than just watch TV; explore, entertain and interact with U-verse Apps
- Enjoy easy access to the hottest Hollywood hits in HD quality with U-verse Movies
- Rich picture quality, with 100% digital picture and sound

This installation manual introduces the basic features, outlines important safeguards, and provides options for integrating your wireless receiver into your entertainment system. Take a few moments to read through this manual. Its configuration diagrams and troubleshooting section will help you make the most of your home entertainment experience.

### Included in the carton:

- U-verse VIP2500 Wireless Receiver
- Power adapter

For more information about your AT&T U-verse TV service and its capabilities, refer to the other documentation from your service provider.

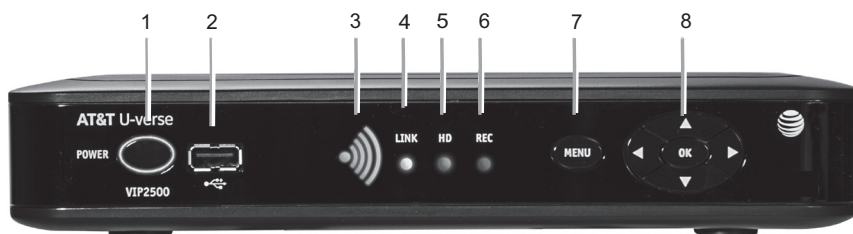
**Dimensions:** 9.25" (235 mm) Wide, 1.77" (45 mm) High, 6.26" (159 mm) Long

**Unit Weight:** 1.1 Lbs. (0.5 kg)

## Overview

### Front Panel

The illustration below and the table following it describe the front-panel features, controls and indicator lights.

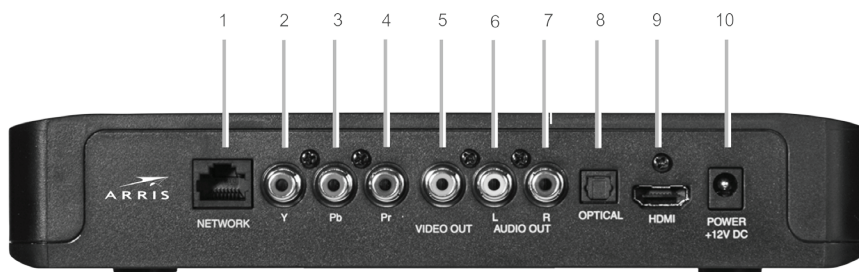


Key	Item	Function
1	POWER	Turns the U-verse Wireless Receiver on or off If held for ten (10) seconds or longer, restarts the wireless receiver Lights green when the wireless receiver is on
2	USB	USB 2.0 connector
3	SIGNAL STRENGTH	The five-bar display lights green to indicate signal strength from your wireless Access Point device. From one to five bars are lit, depending on the strength of the received signal. When signal strength is low bars may display as amber (weak) or red (unusable). See the Troubleshooting section on page 11 for details.
4	LINK	Lights green when a network connection is established
5	HD	Lights blue when receiver is set to video resolution of 720p or 1080i
6	RECORD	Lights red when a recording is in progress
7	MENU	Displays the AT&T U-verse menu on your TV screen
8	Up/Down arrow keys Left/Right arrow keys OK center key	Changes the channel (channel up/channel down)  Use to navigate through on-screen program guide and menu  Use to select programs or accept menu options

## Overview

### Rear Panel

The VIP2500 rear panel features are described in the following table.



Key	Item	Function
1	NETWORK	Ethernet 10/100Base-T RJ-45 port
2	Y	RCA component video outputs to an HDTV
3	Pb	
4	Pr	
5	VIDEO OUT	RCA standard-definition composite video output to a TV, VCR, or other device
6	L	Left and right RCA stereo audio (analog) outputs
7	R	
	AUDIO OUT	
8	OPTICAL	Toslink (S/PDIF) digital audio output
9	HDMI™	Connects to a High Definition TV or home theater receiver with an HDMI input (for a DVI input, use an HDMI-to-DVI adapter)
10	POWER +12 VDC	Connector for the DC power adapter. Use only the adapter specified for VIP2500.

## Wireless Connection

As shown in the illustration below, video for the VIP2500 is transmitted wirelessly over the air from a Wireless Access Point. The access point, in turn, is connected to your residential gateway device.



### Wireless Access Point

Your Wireless Access Point is capable of transmitting separate video streams to multiple Wireless TV Receivers as specified by your service provider. The Access point uses Wi-Fi Protected Setup (WPS) protocols to identify, authorize and manage traffic to and from the Wireless TV Receivers.

### Register the TV Receiver with the Access Point

Before your Wireless TV Receiver can become operational, it must be paired as an authorized device with the Access Point. Run the WPS procedure as follows:

1. Install the Access Point as described in the accompanying installation document.
2. Connect the cord from the DC Power Adapter to the POWER +12VDC connector on the rear of the Access Point, and plug the adapter into an AC wall socket, and then connect the VIP2500 to your TV set as described starting on page 5.
3. The POWER button on the front of the VIP2500 lights green to indicate power is applied. Ensure power is applied to your TV, as well.
4. Ensure that the Access Point is connected to your home gateway device, and that power is applied to it.
5. When the VIP2500 starts up, it will look for a signal from an Access Point. A prompt will appear on your TV screen asking if you wish to connect.
6. On the front panel of the VIP2500, press **OK**.
7. Press and hold the WPS button on the front of the Access Point for two seconds, then release to activate the WPS process. The Access Point's WPS LED will blink orange.
8. An icon appears on the screen, indicating that the connection is in process. When the connection has been established, the screen will display *Success*.
9. On the front panel of the VIP2500, two or more bars of the Signal Strength Indicator should light green. You have now established a secure wireless connection between the Access Point and the Wireless TV Receiver.



*Wireless Access point*

For further information on the Wireless Access Point, refer to the documentation provided.



## Connecting Your TV Receiver

This section describes alternative methods for connecting the VIP2500 to your home entertainment system.

Instructions and diagrams are included for connections to:

- High-Definition TV (HDTV)
- Home Theater Receiver–Audio
- Stereo TV



Before you move or change components on your entertainment system, always disconnect power from the wireless receiver.

### Connection Options


The VIP2500 offers the following video outputs:

<b>HDTV</b>	HDMI or Component video
<b>Standard</b>	Composite Video Out

To determine the available inputs on your TV, check the manual supplied with the TV or on the TV itself. Use the following guidelines to determine the best connections for your system. Use one of the following.

Connector		Description
High-Definition	<b>HDMI</b> 	<p>HDMI offers higher video quality than component video. If your HDTV has an HDMI input, use the HDMI connector.</p> <p>HDMI provides both digital video and digital audio (including Dolby® Digital 5.1 Surround Sound). No other connections are necessary.</p> <p>If your HDTV has a DVI input, you can use an HDMI-to-DVI converter cable to connect to the VIP2500 HDMI connector. Use a cable with an HDMI connector on one end and a DVI connector on the other end. We do not recommend using an HDMI-to-DVI or DVI-to-HDMI adapter. Because DVI does not carry audio, a separate audio connection is required for a DVI TV. If your TV has an optical S/PDIF audio connection, use the OPTICAL connection. Otherwise, use the baseband AUDIO L and R connections.</p>
	<b>Component Video</b> 	<p>The Y Pb Pr connectors provide component video, the most widely supported HDTV connection.</p> <p>Component video provides a High-Definition analog video signal. If your equipment supports an optical S/PDIF audio connection, use the OPTICAL connection. Otherwise, use the baseband AUDIO L and R connections.</p>

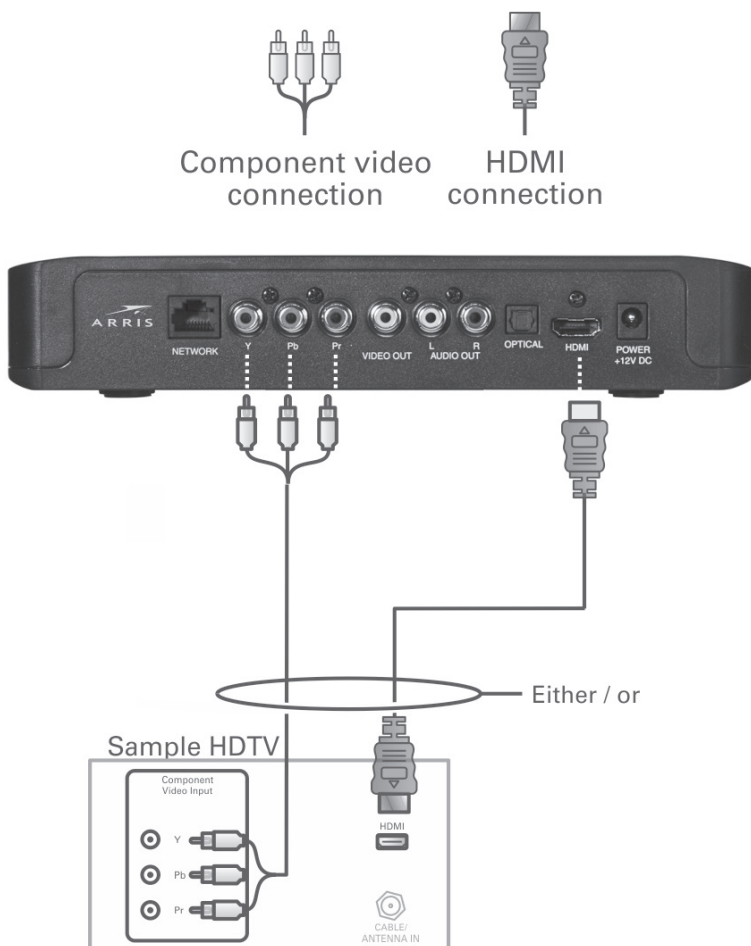
## Connecting Your TV Receiver

Connector		Description
Standard-Definition	<b>Composite Video</b> VIDEO OUT 	To connect a Standard Definition TV, use the composite VIDEO OUT connector.  Composite video provides a Standard-Definition analog video signal. If your equipment supports an optical S/PDIF audio connection, use the OPTICAL connection. Otherwise, use the baseband AUDIO L and R connections.

### Common Cabling Examples

The following cabling diagrams illustrate common sample audio/video (A/V) connections. When connecting other components to your TV Receiver, refer to the other component installation manuals for additional connection information.

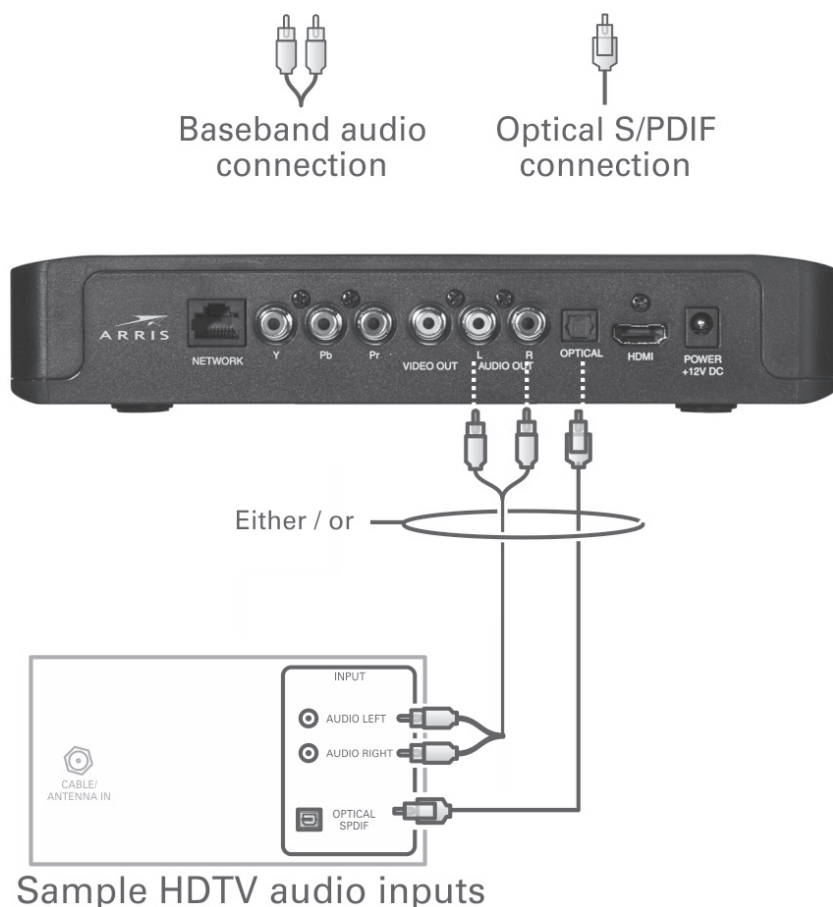
## Connecting to an HDTV – Video Only



- If your HDTV has an HDMI input, connect an HDMI cable to the HDMI connector as shown. HDMI connection carries both video and audio signals.
- If your HDTV has a DVI input, you can use an HDMI-to-DVI converter to connect to the VIP2500 HDMI connector.
- If your HDTV has component video, connect component video cables to the Y, Pb, and Pr connectors as shown.

DVI and component video carry video signals only. To connect the audio, refer to the following page. To connect to a home theater receiver, refer to "Connecting Audio to a Home Theater Receiver – Audio Only."

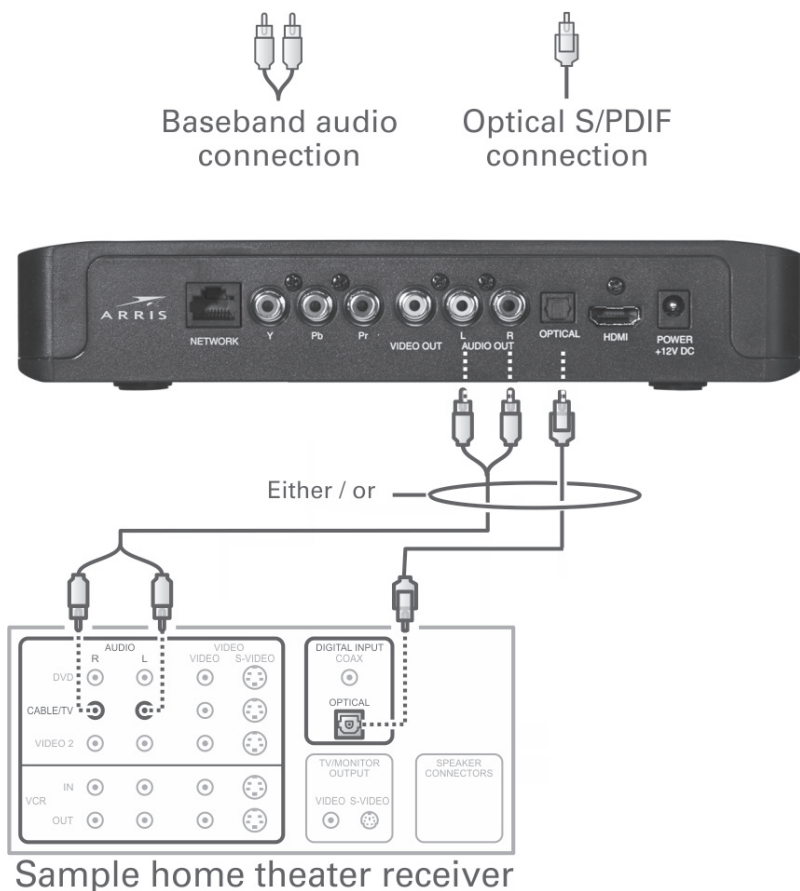
## Connecting to an HDTV – Audio Only



If your equipment supports it, use the OPTICAL S/PDIF output. Otherwise, use the AUDIO OUT L and R connectors. In most cases, S/PDIF offers better audio quality, including support for Dolby Digital 5.1 Surround Sound.

HDMI carries video and audio. If you connect your HDTV using HDMI, no additional audio connections to the TV are necessary.

## Connecting Audio to a Home Theater Receiver



If your home theater receiver supports it, use the OPTICAL S/PDIF output. Otherwise, use the AUDIO OUT L and R connectors. In most cases, S/PDIF offers better audio quality, including support for Dolby Digital 5.1 Surround Sound.

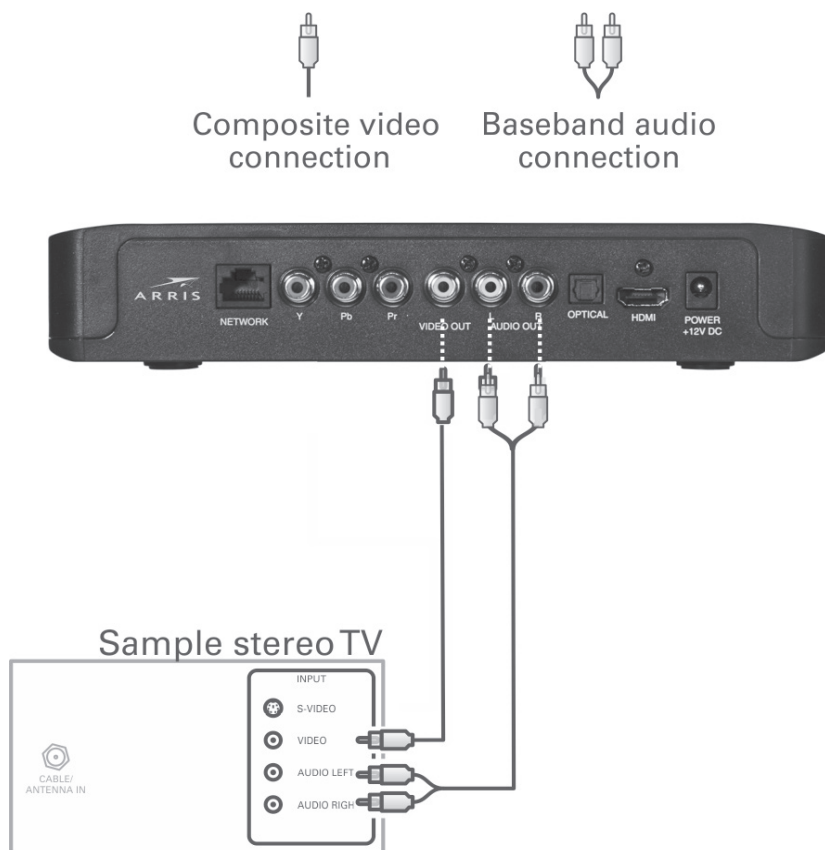
### Need Help:

Contact AT&T ConnectTech® service to learn about affordable flat-rate home theater installation services.

Call (800) 344-1734 to speak with an AT&T ConnectTech Representative.

(Not available in all areas; See offers and terms & conditions at [www.att.com/ConnectTech](http://www.att.com/ConnectTech))

## Connecting to a Stereo TV



This video connection method does not support HD video. For more information, see "Connecting an HDTV – Video Only."

## Troubleshooting

Before calling your service provider, review this troubleshooting guide. If the suggestions do not help you quickly solve a problem, contact your service provider.

Problem	Possible Solution
<b>The wireless receiver will not power on.</b>	<p>Verify that the power adapter is connected to the wireless receiver and an AC outlet. Unplug the wireless receiver from the outlet, plug it back in, and press the POWER button.</p> <p>If the wireless receiver is connected to a switched outlet on a wall or another unit, verify that the switch or unit is powered on. Unplug the wireless receiver from the AC outlet, plug it back in, and press the POWER button.</p> <p>Press the POWER button on the wireless receiver front panel instead of the remote control. The batteries in the remote control may be depleted.</p>
<b>The remote control does not work.</b>	<p>Verify that the TV is on.</p> <p>Verify that the remote control is on AT&amp;T mode.</p> <p>Remove the protective strip on the back of the remote control that is used to protect the batteries during shipment.</p> <p>Verify that there are no obstructions between the remote control and the wireless receiver. Aim the remote control directly at the wireless receiver front panel, not the TV or VCR.</p> <p>The angle between the remote control and the wireless receiver may be too large. Stand in front of the wireless receiver and not too far to either side.</p> <p>Press and release operation keys one at a time, firmly and deliberately.</p> <p>Try changing channels using the buttons on the wireless receiver front panel.</p> <p>Check the batteries in the remote control. Install new batteries if needed.</p>
<b>Video quality is poor or missing.</b>	<p>Verify the signal strength from the wireless Access Point. Signal strength is indicated by the number of illuminated bars on the front panel indicator:</p> <ul style="list-style-type: none"> <li>• Five bar segments lit green: Excellent signal strength</li> <li>• Four bar segments lit green: Very good signal strength</li> <li>• Three bar segments lit green: Signal strength is good (minimum acceptable strength at installation).</li> <li>• Two bar segments lit green: Signal strength is fair.</li> <li>• Two bar segments lit amber: Signal is weak. Video may be affected.</li> <li>• One or two bar segments lit red: Signal is very weak. Video is affected.</li> <li>• No bar segments lit: No wireless connectivity.</li> </ul> <p>If signal strength is inadequate, try reorienting or relocating the Wireless TV receiver closer to the Access Point for improved reception.</p>

## Troubleshooting

Problem	Possible Solution
<b>There is no audio when viewing TV channels.</b>	<p>Verify that the Mute button on the remote control has not been pressed. Press Mute on the remote control to restore sound.</p> <p>If the wireless receiver audio output is connected to the TV, verify that the Mute button on the TV has not been pressed.</p> <p>If the wireless receiver audio output is connected to a home theater receiver, verify that the home theater receiver is set to the appropriate input source and its Mute button has not been pressed.</p> <p>Verify that you have the correct cables for the audio ports.</p> <p>Verify that the audio cables are firmly connected between the wireless receiver and the audio playback device (TV, home theater receiver, etc.).</p>
<b>There is no audio from the center and/or surround speakers of a home theater receiver connected to the wireless receiver.</b>	<p>Not all Dolby Digital programs feature full 5.1 surround sound. In some cases, the programs may only contain left and right stereo audio.</p> <p>Verify that the Optical S/PDIF cable is firmly connected to the wireless receiver and the home theater receiver.</p> <p>Verify that the home theater receiver is set to a surround sound audio mode (Dolby Digital, Dolby Pro Logic® II, Dolby Pro Logic).</p> <p>Verify that the home theater receiver is properly configured to work with all connected speakers.</p>



# Regulatory Information

## Federal Communications Commission Radio and Television Interference Statement for a Class 'B' Device

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 the 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 the 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 of the following measures:

- Reorient or relocate the device and/or the antenna receiving the interference.
- Increase the separation between the equipment and the affected receiver
- Connect the equipment on a circuit different from the one the receiver is on
- Contact your service provider for help.

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

For operation within 5.15 ~5.25GHz /5.25 ~5.35GHz/5.47 ~5.725GHz frequency range, it is restricted to indoor environment. The band from 5600-5650MHz will be disabled by the software during the manufacturing and cannot be changed by the end user. This device meets all the other requirements specified in Part 15E, Section 15.407 of the FCC Rules.

## FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body.

This transmitter must not be collocated or operating in conjunction with any other antenna or transmitter.

Firmware setting is not accessible by the end user.

## Wireless LAN Information

The VIP2500 products are wireless network products that use Orthogonal frequency-division multiplexing (OFDM) radio technology. These products are designed to be interoperable with any other wireless OFDM type product that complies with:

- The IEEE 802.11 Standard on Wireless LANs (Revision A and Revision N), as defined and approved by the Institute of Electrical Electronics Engineers.
- The Wireless Fidelity (WiFi) certification as defined by the Wi-Fi Alliance.

## Wireless LAN and your Health

The VIP2500, like other radio devices, emit radio frequency electromagnetic energy, but operate within the guidelines found in radio frequency safety standards and recommendations.

## Restrictions on Use of Wireless Devices

In some situations or environments, the use of wireless devices may be restricted by the proprietor of the building or responsible representatives of the organization. For example, using wireless equipment in any environment where the risk of interference to other devices or services is perceived or identified as harmful.

If you are uncertain of the applicable policy for the use of wireless equipment in a specific organization or environment, you are encouraged to ask for authorization to use the device prior to turning on the equipment.

The manufacturer is not responsible for any radio or television interference caused by unauthorized modification of the devices included with this product, or the substitution or attachment of connecting cables and equipment other than specified by the manufacturer. Correction of interference caused by such unauthorized modification, substitution, or attachment is the responsibility of the user.

### **FCC Declaration of Conformity**

According to 47 CFR, Parts 2 and 15 for Class B Personal Computers and Peripherals; and/or CPU Boards and Power Supplies used with Class B Personal Computers, ARRIS Enterprises, Inc., 3871 Lakefield Drive, Suwanee, Georgia 30024, 1 678 473-2907, declares under sole responsibility that the product identifies with 47 CFR Part 2 and 15 of the FCC Rules as a Class B digital device. Each product marketed is identical to the representative unit tested and found to be compliant with the standards. Records maintained continue to reflect the equipment being produced can be expected to be within the variation accepted, due to quantity production and testing on a statistical basis as required by 47 CFR 2.909. Operation is subject to the following condition: This device must accept any interference received, including interference that may cause undesired operation. The above named party is responsible for ensuring that the equipment complies with the standards of 47 CFR, Paragraphs 15.101 to 15.109.

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**ARRIS Software Pedigree Operations**  
**2450 Walsh Avenue, Santa Clara, CA 95051, USA**

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## MEMTEST

*Description: General-purpose memory testing functions.*

Notes: Some of the constants in this file are specific to Arcom's Target188EB hardware. This software can be easily ported to systems with different data bus widths by redefining 'datum';.

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