



# VAP3400/3402

802.11ac Wireless Video Access Point

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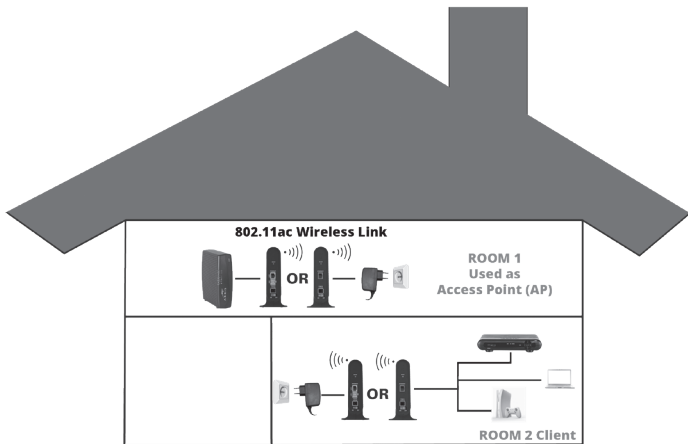


# 1

## INSTALLATION AND OVERVIEW

The VAP3400/3402 enables you to transmit multiple standard- and high-definition video streams throughout your home wirelessly. You can enjoy a full range of video services and applications without having to run wires, lay cables, or drill holes. The VAP3400/3402 uses one-button, Wi-Fi Protected Setup (WPS) technology to ensure easy, reliable installation.

The VAP3400/3402 operates via two (or more) integrated units. You'll dedicate one unit as the **Access Point** and the other unit (or units) as its **Client**. When you connect a VAP to your home gateway, it auto-configures as an Access Point. The Access Point streams content to the Client, which you'll connect to a set-top in a different location in your home. (The Client auto-configures as well when you connect it to the set-top.) The following graphic illustrates this setup:









## ABOUT THIS MANUAL

This manual provides you with instructions on how to install your VAP3400/3402 video bridge. ARRIS designed the VAP3400/3402 to install and integrate easily with your set-top box and home network. If you encounter any difficulties during the installation process, refer to the Troubleshooting section at the end of this manual.

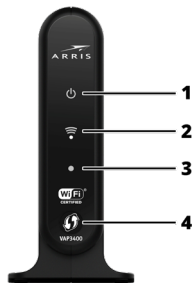
## BOX CONTENTS

Your box should contain the following:

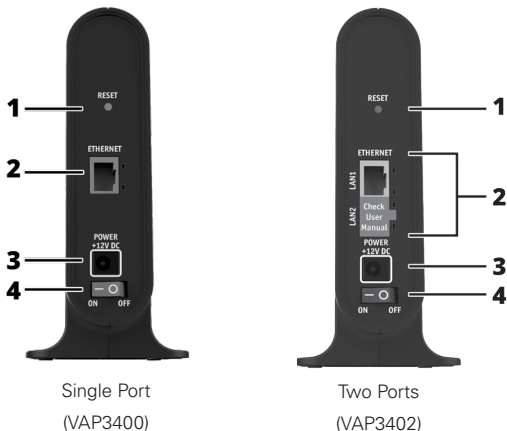
Single Unit Bundle (for additional Clients)		Dual Unit Bundle (for initial installation)	
One VAP3400/3402 connection kit		Two VAP3400/3402 connection kits	
One Ethernet Cable		Two Ethernet Cables	
One Power Adapter		Two Power Adapters	

## FRONT PANEL

1	Power LED	<p>Green = The VAP is on.          Cyan = The VAP is on standby.          Off = The VAP is off or disconnected from its power source.</p>
2	Wireless Link Quality LED	<p>Solid Green = Wireless quality is good.          Flashing Green = No Client associated with Access Point (AP).          Solid Blue or Cyan = Wireless quality is poor.          Off = No wireless connection, in Client mode or unit is off.</p>
3	Dual Function LED Operational Mode and WPS Status	<p><b>WPS Status</b> (During WPS pairing only):</p> <p>Solid Green = Indicates that the WPS pairing was successful (will extinguish in 30 seconds, after successful WPS pairing) on both the AP and Client.</p> <p>Solid Cyan = There is an error. Refer to “Troubleshooting” for more details.</p> <p>Off = WPS between AP and Client was successful, or 2 minute time out has occurred.</p> <p><b>Operational Mode:</b></p> <p>Flashing Green: Device is in an AP configuration process or cannot complete the process.</p> <p>Solid Green: Device is configured as an AP.</p> <p>Flashing Blue: Device is in a Client configuration process or cannot complete the process.</p> <p>Solid Blue: Device is configured as a Client.</p> <p>Off: Device is not ready or in an unknown state.</p>
4	WPS Button	Establishes wireless connection to your home network.



## REAR PANELS



1	Reset Button	Resets the VAP to its default settings.
2	Ethernet Port	Connects to an Ethernet-equipped Gateway, computer, hub, or switch using an RJ-45 cable connection.
3	Power Jack	Provides power to the VAP.
4	Power Switch	Turns the VAP on or off.



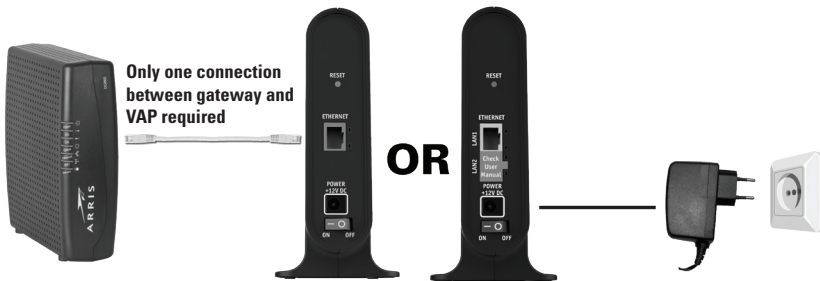
## INSTALLING YOUR VAP3400/3402 (DUAL UNITS)

Follow the instructions below to install your Access Point and Client.

### Step 1: Install the Access Point

1. Connect one VAP unit to your home gateway using the provided Ethernet cable. Before you connect the VAP, ensure the gateway is powered on.
2. After connecting the Ethernet cable check that the two Ethernet port LEDs are (1) solid green and (2) blinking yellow

*Note: While you are required to connect your VAP to a gateway to ensure the Access Point properly streams video to the Client, the VAP's extra Ethernet port (VAP3402 only) provides you with the option of connecting other devices to the unit as well, such as computers and gaming consoles. Do not connect both Ethernet ports to your gateway.*



3. Connect the power adapter to the VAP, plug the adapter into a wall outlet and set the Power switch to the ON position. You'll see the Power LED on the unit's front panel light green, indicating the unit is powered.

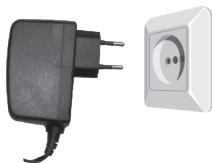
## Step 2: Install the Client

1. Connect the second VAP unit to your set-top box with the provided Ethernet cable. Before you connect the VAP, ensure your set-top box is powered on.

*Note: While you are required to connect your VAP to a set-top box to ensure the Access Point properly streams video to the Client, the VAP's extra Ethernet port (VAP3402 only) provides you with the option of connecting other devices to the unit as well, such as computers and gaming consoles.*




2. Connect the power adapter to the VAP; plug the adapter into a wall outlet and set the Power switch to the ON position. You'll see the power LED on the unit's front panel light green, indicating the unit is powered.



3. Wait 90 seconds after powering the VAP, and then press and hold the WPS button on the front of the Client for 2 seconds. After doing so, you will have 2 minutes to return to the Access Point and press and hold its WPS button. Pressing the buttons on both units enables them to establish a wireless connection.

*Note: After you press the WPS button, the WPS Status LED flashes green. If your connection is successful, the LED will stop flashing, light solid green for approximately 30 seconds, and then extinguish. This is a normal part of the process and does not mean you have lost your connection to the Access Point. If the LED continues flashing or lights cyan, it indicates the unit has experienced an error. If this occurs, refer to the Troubleshooting section.*



4. The Client's Wireless Link LED lights: . You have now established a secure wireless connection between the Access Point and the Client. Check to ensure the Wireless Link LED lights, indicating the VAP is functioning as a Client. You now can begin streaming video content to your set-top box or boxes.

## INSTALLING ADDITIONAL VAP CLIENTS

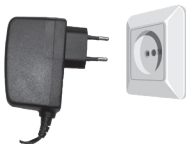
Once you've installed your Access Point to your home gateway and established a wireless connection with your Client, you can install additional VAP Clients throughout your home. Follow the instructions below for each single Client unit you wish to install.

1. Connect the VAP to your set-top box with the provided Ethernet cable. Before you connect the VAP, ensure your set-top box is powered on.

*Note: While you are required to connect your VAP to a set-top box to ensure it properly transfers video throughout your home, the VAP's extra Ethernet port (VAP 3402 only) provides you with the option of connecting other devices to the unit as well, such as computers and gaming consoles.*




2. Connect the power adapter to the VAP, plug the adapter into a wall outlet and set the Power switch to the ON position. You'll see the power LED on the unit's front panel light green, indicating the unit is powered.



3. Wait 90 seconds after powering the VAP, and then press and hold the WPS button on the Client for 2 seconds. After doing so, you will have 2 minutes to return to the Access Point and press and hold its WPS button. Pressing the buttons on both units enables them to establish a wireless connection.

*Note: After you press the WPS button, the WPS Status LED flashes green. If your connection is successful, the LED will stop flashing, light solid green for approximately 30 seconds, and then extinguish. This is a normal part of the process and does not mean you have lost your connection to the Access Point. If the LED connection continues flashing or lights cyan, it indicates the unit has experienced an error. If this occurs, refer to the Troubleshooting section.*



4. After the VAP establishes a wireless connection with your set-top box, the Wireless Link LED lights: . Check to ensure the Wireless Link LED lights, indicating the VAP is functioning as a Client. Your VAP is now ready to stream content to the device equipped with the VAP adapter.

If you cannot find a solution to your problem in this manual, or to otherwise get assistance with your VAP3400/3402, contact your service provider.

## SOLUTIONS

If the solutions listed here do not solve your problem, try pressing the Reset button on the rear panel of the Access Point and/or Client. Pressing and immediately releasing the Reset button resets the VAP to its current settings. Pressing and holding the Reset button for more than 5 seconds will perform a factory default reset, which you should do only if directed to do so by a technical service representative.

Problem	Possible Solution
Power LED is off	<p>Check that the VAP is properly plugged into the electrical outlet.</p> <p>Confirm that the rear panel power switch is “On”</p> <p>Check that the electrical outlet is working.</p> <p>Press and immediately release the Reset button.</p>
Cannot send or receive data	<p>Check that the Ethernet cable is properly connected to both the VAP and your home gateway/device.</p> <p>Ensure you have not experienced an interruption in your cable or Internet service.</p> <p>Ensure your home gateway is connected and functioning.</p>
WPS Status LED is cyan	<p>Press the rear panel Reset button on the Client and the Access Point</p> <p>Perform the Installation process again for the Access Point and the Client</p>
Rapidly blinking WPS LED	<p>If the LED remains in this state for longer than 2 minutes, go to the unit’s front panel and push the WPS button. The LED may continue flashing in a different pattern, rapidly blinking for 1 second and then resting briefly before blinking again. If this occurs, wait 1 to 2 minutes and then press the WPS button again.</p>

<b>Problem</b>	<b>Possible Solution</b>
Video is not displayed on TV or video is “blocky” (Wi-Fi Status LED is cyan or blue)	Relocate the Access Point or client units until the Client Wi-Fi Status LED is green or cyan (green preferred). Press and quickly release the Reset buttons on the rear of the Access Point and Client.
Cannot configure a VAP unit as an Access Point	If you cannot establish one of your units as an Access Point, it may indicate that your gateway is not connected to your service provider’s network. If you experience this problem, contact your service provider for assistance.

**WARNING:** TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. THE UNIT MUST NOT BE EXPOSED TO DRIPPING OR SPLASHING. DO NOT PLACE OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, ON THE UNIT.

**CAUTION:** TO ENSURE REGULATORY COMPLIANCE, USE ONLY THE PROVIDED POWER AND INTERFACE CABLES.

**CAUTION:** DO NOT OPEN THE UNIT. DO NOT PERFORM ANY SERVICING OTHER THAN THAT CONTAINED IN THE INSTALLATION AND TROUBLESHOOTING INSTRUCTIONS. REFER ALL SERVICING TO QUALIFIED SERVICE PERSONNEL.

This device must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product.

Postpone router installation until there is no risk of thunderstorm or lightning activity in the area.

Do not overload outlets or extension cords, as this can result in a risk of fire or electric shock. Overloaded AC outlets, extension cords, frayed power cords, damaged or cracked wire insulation, and broken plugs are dangerous. They may result in a shock or fire hazard.

Route power supply cords so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords where they are attached to plugs and convenience receptacles, and examine the point where they exit from the product.

Place this equipment in a location that is close enough to an electrical outlet to accommodate the length of the power cord.

Place this equipment on a stable surface.

When using this device, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury to persons, including the following:

- Read all of the instructions {listed here and/or in the user manual} before you operate this equipment. Give particular attention to all safety precautions. Retain the instructions for future reference.
- Comply with all warning and caution statements in the instructions. Observe all warning and caution symbols that are affixed to this equipment.
- Comply with all instructions that accompany this equipment.
- Avoid using this product during an electrical storm. There may be a risk of electric shock from lightning. For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet, and disconnect the cable system. This will prevent damage to the product due to lightning and power surges.



- Operate this product only from the type of power source indicated on the product's marking label. If you are not sure of the type of power supplied to your home, consult your dealer or local power company.
- 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 safe operating condition.

It is recommended that the customer install an AC surge protector in the AC outlet to which this device is connected. This is to avoid damaging the equipment by local lightning strikes and other electrical surges.

Different types of cord sets may be used for connections to the main supply circuit. Use only a main line cord that complies with all applicable product safety requirements of the country of use.

Installation of this product must be in accordance with national wiring codes.

Place unit to allow for easy access when disconnecting the power cord/adaptor of the device from the AC wall outlet.

Wipe the unit with a clean, dry cloth. Never use cleaning fluid or similar chemicals. Do not spray cleaners directly on the unit or use forced air to remove dust.

This product was qualified under test conditions that included the use of the supplied cables between system components. To be in compliance with regulations, the user must use these cables and install them properly. Connect the unit to a grounding type AC wall outlet using the power adapter supplied with the unit.

Do not cover the device, or block the airflow to the device with any other objects. Keep the device away from excessive heat and humidity and keep the device free from vibration and dust.

Installation must at all times conform to local regulations.

## WIRELESS LAN INFORMATION

The VAP3400/3402 products are wireless network products that use orthogonal frequency-division multiplexing (OFDM) radio technology. These products are designed to be inter-operable 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.

## Max RF Output Power Table

Frequency Band	Maximum Transmit Power
5.15-5.25GHz	22.52 dBm
5.25-5.35GHz	22.43 dBm
5.47-5.725GHz:	29.62 dBm
5150 ~ 5350 MHz is limited to indoor use only in these countries: BE, BG, CK, DK, DE, EE, IE, EL, ES, FR, HR, IT, CY, LV, LT, LU, HU, MT, NL, AT, PL, PT, RO, SI, SK, FI, SE, and UK.	

**WIRELESS LAN AND YOUR HEALTH**

The VAP3400/3402, like other radio devices, emit radio frequency electromagnetic energy, but operate within the guidelines found in radio frequency safety standards and recommendations.

This product is dependent on wireless for primary operation. To disable wireless either turn the power switch to off or disconnect the product from power.

**REGULATORY INFORMATION: INTERNATIONAL DECLARATION OF CONFORMITY**

Hereby, ARRIS declares that the radio equipment type Access Point is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address:

<http://arris.com/consumers/eudoc>

## RESTRICTIONS ON USE OF WIRELESS DEVICES

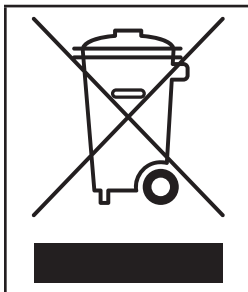
In some situations or environments, the use of wireless devices may be restricted by the proprietor of the building or responsible representatives of the organization. For example, using wireless equipment in any environment where the risk of interference to other devices or services is perceived or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

The manufacturer and its authorized resellers or distributors are not liable for any damage or violation of government regulations that may arise from failing to comply with these guidelines.

## CARING FOR THE ENVIRONMENT BY RECYCLING



When you see this symbol on an ARRIS product, do not dispose of the product with residential or commercial waste.

Recycling your ARRIS Equipment

Please do not dispose of this product with your residential or commercial waste. Some countries or regions, such as the European Union, have set up systems to collect and recycle electrical and electronic waste items. Contact your local authorities for information about practices established for your region.





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