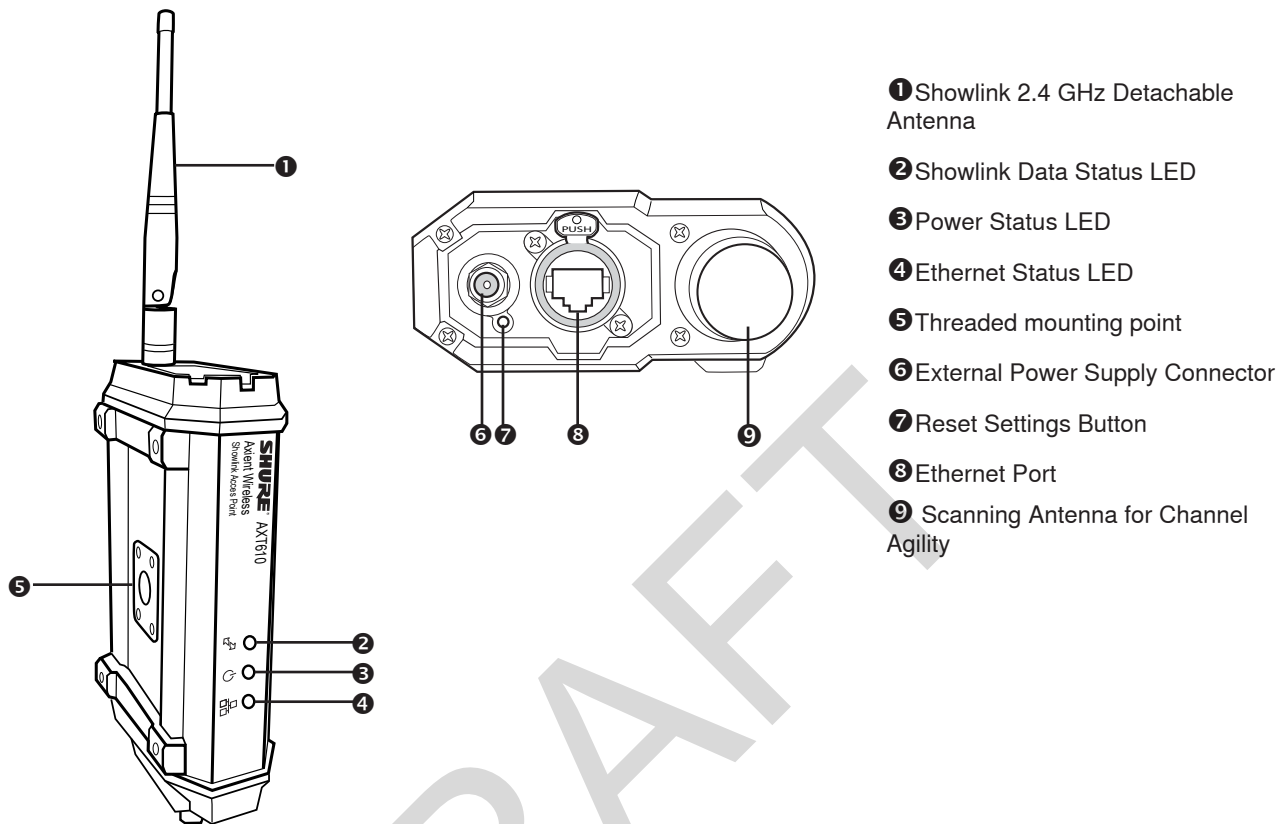


## AXT610 Showlink Wireless Access Point

The AXT610 ShowLink wireless access point delivers real-time wireless control of the Axient transmitters. The access point uses the 2.4 GHz spectrum to relay parameter changes made at the receiver or in Wireless Workbench 6 to the transmitter. All parameter changes occur instantly without interrupting the performer.

A single access point can support up to 16 transmitters. Multiple access points can be used to extend the control range or increase transmitter capacity.



## Features

- Real-time wireless control of transmitters - make parameter changes without interrupting performers
- Simple interface - LEDs instantly show the health of the Showlink connection, Ethernet data, and the power supply
- High transmitter capacity - control 16 transmitters with a single access point
- Build an expandable network - increase capacity and coverage by adding more access points to the network
- Convenient power options - uses power over Ethernet (PoE) supplied by other Axient components for fewer cables
- Expanded coverage range - coverage range is equal to the broadcasting range of the transmitters
- Automatic network addressing - DHCP IP addressing automatically configures the network address
- Reliable performance - the access point uses channel agility to scan and monitor the quality of the 2.4 GHz communication channel. If channel quality deteriorates, the access point automatically switches to a clear frequency
- Remote monitoring - remotely monitor access point status and change settings using Wireless Workbench (WWB) software

## Included Accessories

- WA371 wireless microphone clip for mounting on a mic stand
- Euro thread adapter for WA371
- C825 shielded 25-foot Ethernet cable for ShowLink access point, RJ45 to EtherCon connector



## ShowLink Basics

### ShowLink Channels and 2.4 GHz Spectrum

ShowLink channels that enable remote control of Axient transmitters operate in the 2.40 to 2.484 GHz portion of the RF spectrum in accordance with the IEEE 802.15.4 protocol. Within the 2.4 GHz spectrum, 16 channels are available for ShowLink communication.

Available spectrum, low interference, and global availability make the 2.4 GHz spectrum an ideal choice for hosting ShowLink channels. Devices that share the 2.4 GHz spectrum, including Wi-Fi, are manufactured to efficiently share the spectrum and cause minimal interference.

To ensure reliable communication, the access point contains an internal scanning radio that analyzes the 2.4 GHz spectrum hundreds of times per second. If interference is detected, the access point uses channel agility to automatically switch to a clear channel within the spectrum. All transmitters associated with the access point will continue to communicate uninterrupted on the new ShowLink channel.

### Transmitter Capacity

A single access point supports up to 16 transmitters. Any transmitter within range of an active access point with available capacity will be automatically controlled by that access point. When multiple access points are used to increase transmitter capacity or increase coverage range, the network will automatically divide transmitter control between each access point. All changes in control between access points occur seamlessly and automatically, without requiring user intervention.

### Coverage Area

The coverage area of the access point matches the transmitter's RF range. Use the ShowLink Test feature in the receiver menu to map the boundaries of the coverage area. Multiple access points can be used to increase the coverage area or expand coverage to multiple rooms.

### 2.4 GHz Command Channel Agility

If the access point experiences interference from Wi-Fi or other devices sharing the spectrum, channel agility automatically switches to a clear channel.



## Power

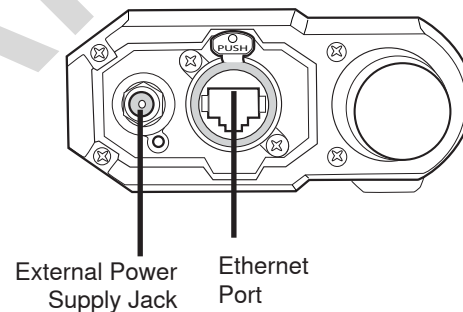
### Power Over Ethernet

The Shure Ethernet switch and Axient rack components offer Power over Ethernet (PoE) enabled network ports. When the access point is connected to a PoE enabled network port using a CAT 5E shielded Ethernet cable, power will automatically be supplied as long as the host component is powered on.

### External Power Supply (Optional)

If power over Ethernet (PoE) is not available, an external power source supplying 15VDC  $\pm$ 10% (250mA) can power the access point.

1. Connect the power source to the external power supply jack.
2. Tighten the locking ring to secure the plug.
3. Plug the power supply AC line cord into an AC power source.
4. Connect a CAT 5E shielded Ethernet cable to the access point.



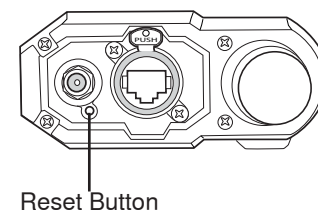
## Networking

Networking the access point using a Shure Ethernet switch or a DHCP enabled router automatically assigns an IP address, simplifying network setup. The network connection allows the access point to share data with networked Axient components and enables wireless control of the transmitters.

### Reset Option

Pressing the reset button located on the bottom of the housing restores the access point to the following settings:

- IP Address Mode = DHCP
- Channel Agility = Enabled
- Device ID = AXT610
- All associated transmitters will be cleared
- Channel Mask = All frequency exclusions will be cleared



## Positioning the Access Point

- Provide a clear line of site between the access point and transmitters: mount the access point on a microphone stand or wall to elevate above crowd level
- Position the antenna vertically for optimal performance. The swivel joint on the antenna allows a wide range of positioning to maintain a vertical alignment

There are three mounting options:



Microphone Stand Mount



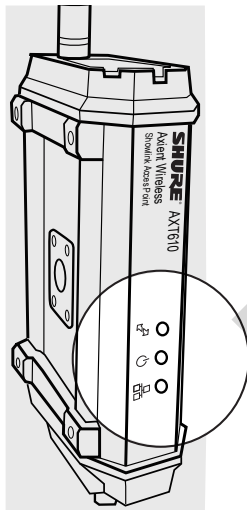
Horizontal Mount

Wall Mount

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## Status LEDs

LEDs on the side of the housing visually indicate the status the access point and the flow data traffic when the access point is supporting transmitters.



### Showlink Data LED (blue)

- ON Steady: OK, no data transmission.
- Flashing: data being transmitted - rate of flashing indicates level of activity.



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### Power LED (green or amber)

- Steady green: power ON, source = PoE
- Steady amber: power ON, source = external power supply
- OFF = no power
- Red Flashing = response to remote ID flash command



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### Ethernet LED (green)

- ON Steady: Ethernet connected, no traffic
- ON Flashing: Ethernet connected, flashing corresponds to volume of data traffic.



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## Control and Configure the Access Point with Wireless Workbench Software

Using WWB 6 software adds the following configuration and networking options for the access point:

- Channel Agility: Enabled or Disabled
- IP Address Mode: DHCP or Manual
- IP Address: Edit in Manual Address Mode
- Edit Device ID
- Set channel exclusion mask: Choose Wi-Fi channels to exclude from use
- View connected transmitters
- View and set a subnet mask
- View and set a gateway
- Reset

## Specifications

Antenna Type	Omnidirectional
Access Point Capacity	16 transmitters
Modulation Type	OQPSK
Channel Width	5 MHz
Mounting Type	WA371 Mic Clip
Operating Temperature Range	-18°C (0°F) to 63°C (145°F)
Storage Temperature Range	-29°C (-20°F) to 74°C (165°F)
Dimensions	186 mm x 101 mm x 46 mm (7.34in.3.960in.1.825in.
Weight	476.3 g (16.8 oz.) (without antenna )
Housing	Extruded Aluminum
Power Requirements	<b>Power over Ethernet (PoE) Class 1:</b> 36 to 58 VDC/VAC <b>External Power Supply(PoE Unavailable):</b> 15VDC ±10% (250mA)

### Showlink

Network Type	IEEE 802.15.4
Frequency Range	2.40 to 2.484 GHz
RF Output Power	10 dBm ERP
RF Sensitivity	-108 dBm , typical
Working Range	<b>Under typical conditions:</b> 100 m (330 ft) <b>Line of Sight, outdoors for a single system:</b> 500 m (1600 ft) Note: Actual range depends on RF signal absorption, reflection and interference.

### Antenna Connection

Connector	SMA
Impedance	50 Ω

### Scanning Radio

Scanner RF Sensitivity	-106 dBm , typical
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### Networking

Network Interface	Ethernet 10/100
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## Certification

AXT610: Certified under FCC Part 15 (FCC ID: DD4AXT610). Certified by IC in Canada under RSS-210 (IC: 616A-AXT610).

Transmitters must be installed to provide a minimum separation distance of 20 cm from all persons.

The CE Declaration of Conformity can be obtained from: [www.shure.com/europe/compliance](http://www.shure.com/europe/compliance)

## Information to User

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:

- 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

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Operation of this device is subject to the following two conditions:

(1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Note: EMC conformance testing is based on the use of supplied and recommended cable types. The use of other cable types may degrade EMC performance.

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