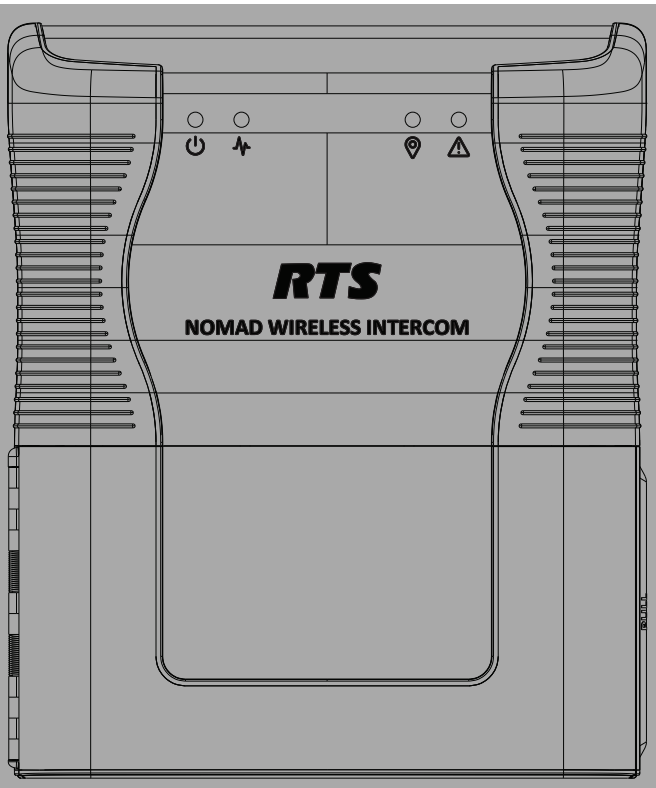
RTS NOMAD AP-1000

AP-1000 US Access point US/Can, AP-1000 EU Access point EU,
AP-1000 MX Access point Mx/Ar/Co, AP-1000 JP Access point JP,
AP-1000 MA Access point Mal



en Mounting Guide

1 Important Information

1.1 Copyright and Disclaimer

1.2 Notices

		
The lightning flash and arrowhead within the triangle is a warning sign alerting you of dangerous voltage inside the product.	Caution: To reduce the risk of electric shock, do not remove the cover. No user-serviceable parts inside. Refer servicing to qualified service personnel.	The exclamation point within the triangle is a warning sign alerting you of important instructions accompanying the product.
See marking on bottom/back of product.		

Warning!
Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

Warning!
The main power plug must remain readily operable.

Caution!
To reduce the risk of electric shock, grounding of the center pin of this plug must be maintained.

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

Warning!
To prevent injury, this apparatus must be securely attached to the floor/wall/rack in accordance with the installation instructions.

⎓	This product is DC only.

CE UKCA	CE Compliant and UKCA Certified

Warning!
This is a CLASS A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

1.3 FCC Information & Industry Canada

These devices are accepted under United States Federal Communications Commission Part 15. This device complies with Part 15 of the FCC. Operation is subject to the following two conditions:

- This device may not cause interference
- This device must accept any interference, including interference that may cause undesired operation of the device

Notice!
Changes or modifications made by the user could void the user's authority to operate the equipment.

The beltpack is intended to be worn on the belt of the user or connected via lanyards hanging down over the chest. Placing the beltpack in any other location on the body may reduce performance and void the user's authority by the FCC to operate the equipment.

FC	**Business Equipment for commercial or professional use** This equipment has been tested and found to comply with the limits for a Class A device, pursuant to Part 15 Subpart B of the FCC, Canadian ICES-003 and CE requirements. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency and energy. If not installed and used in accordance with the instruction manual, this may cause harmful interference to radio communications. Operation of this equipment in residential areas is likely to cause harmful interference, in which case the user will be required to correct the interference at their own expense. Intentional or unintentional changes or modifications

	not expressly approved by the party responsible for compliance shall not be made. Any such changes or modifications may void the user's authority to operate the equipment. If necessary, the user should consult the dealer or an experienced radio/television technician for corrective action.

Mandatory Safety Instructions to Access Point Installers and Users

1. The antenna minimum safe distance, for an access point, as set by the FCC is 20 cm. Antenna gain: 1 dBi. The antenna are within the upper housing of the access point.
2. The FCC (Federal Communications Commission) has adopted a safety standard for human exposure to RF (Radio Frequency) energy, which is below the OSHA (Occupational Safety and Health Administration) limits.
3. To comply with current FCC RF Exposure limits, the access point must be installed at or exceeding the minimum safe distance show here, and in accordance with the requirements of the antenna manufacturer or supplier.
4. Antenna substitution: Do NOT substitute any antenna for the ones installed within the access point by the manufacturer or radio dealer. Substituting an antenna may expose a person or persons to harmful radio frequency radiation. Contact the radio dealer or the manufacturer for further instructions.

Warning!
Maintain a separation distance from the access point to person(s) of at least 20 cm.

5. As the qualified end user of this radio device, control the exposure conditions of bystanders to ensure that the minimum separation distance (above) is maintained between the access point and nearby persons to satisfy RF exposure compliance.

These devices are certified to Industry Canada RSS-213 and ICES-003.
This device complies with Industry Canada license exempt RSS standard(s). Operation is subject to the following two conditions:

- This device may not cause interference, and
- This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- l'appareil ne doit pas produire de brouillage, et
- l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Industry Canada Compliance Statement. This Class A digital apparatus complies with Canadian ICES-003.
Avis de conformité à la réglementation d'Industrie Canada. Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

1.4 Europe

Please dispose of the access point and beltpacks at the end of its operational life by taking it to the closest collection point or recycling center.

This equipment is intended for use in professional audio intercom applications.
Equipment intended for sale in (ISO 3166-1, 2 letter country code): AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MT, NL, NO, PL, PT, RO, SE, SI, SK.
A license may be required to operate this equipment in certain regions. Consult the national authority for possible requirements.
The full EC Declaration of Conformity for the TR-1000 and AP-1000 may be found at the following website: www.rtsintercoms.com.
The full UK Declaration of Conformity for the TR-1000 and AP-1000 may be found at the following website: www.rtsintercoms.com.

2 Introduction

This mounting installation manual provides step-by-step guidance for safely and securely installing the AP-1000 wireless access point in a variety of environments. Whether you're mounting the unit on a wall, ceiling, or within structural rafters, this manual ensures proper handling, positioning, and safety precautions to support optimal performance and reliability.

The AP-1000 is designed for flexible deployment, including temporary and permanent installations, and supports both inline power and Power over Ethernet (PoE) options.

To maintain glitch-free operation and ensure user safety, this manual also covers best practices for securing the device with safety cables and utilizing redundant PoE connections across multiple networks.

Notice!

Please read through all instructions before beginning installation to ensure a smooth and successful setup.

3 Mounting considerations

An RTS Nomad Wireless Intercom System consists of two types of devices: a wireless beltpack (TR-1000) and an access point (AP-1000).
The Nomad system can be configured for anything from small systems, one access point and a few beltpacks, to a large system, hundreds of access points and hundreds of beltpacks. The Nomad system provides quality, configurable wireless audio across the coverage area and is easily expandable.
The typical indoor coverage area varies widely depending on the installation area. The typical range of an access point is between 150 - 330 meters.

System Considerations

- The number of access points required for the coverage area.
- Sufficient access point coverage overlap to allow seamless roaming for beltpacks.
- The number of access points to provide sufficient capacity for all beltpacks planned to be in the area. It is especially important to consider how many beltpacks are booted in the same area and then moved to other areas. The initial beltpack staging area should be able to provide access to all devices.
- Area Considerations:
  - Metal Barriers - Signal reflects off metal, which can provide good signal fill for areas. However, the signal will not pass through metal.
  - Cement - Signal usually passes through with little problem. Dependent on the cement thickness and the presence of any metal rebar.
  - Wood and Drywall - No issues.
  - Overall Size - May need more access points to cover a large area even if only a few beltpacks are used.
  - Spectrum Bandwidth - Other DECT systems in the area (i.e., wireless phone systems that use some of the DECT spectrum allow less beltpacks in the area).
- The intercom system supports enough OMNEO channels for the number of beltpacks needed.
- The Ethernet infrastructure supports access points with sufficient bandwidth for additional traffic and uses managed OSI Layer 3-capable switches.

Region/Country	DECT Frequency Band	Notes
Europe	1880-1900 MHz	License-exempt and technology-exclusive. Used in all European countries.
United States	1920-1930 MHz (DECT 6.0)	Known as Unlicensed Personal Communications Service (UPCS). Not compatible with European DECT.
Canada	1920-1930 MHz	Same as U.S. DECT 6.0 allocation.
Latin America (excluding Brazil)	1910-1930 MHz	Used in countries like Argentina, Bolivia, Chile, Colombia, Mexico, etc., as per CITEL regulations.
Brazil	1910-1920 MHz	Different from other Latin American countries; uses a narrower band.

Region/Country	DECT Frequency Band	Notes
Japan	1894-1905 MHz (J-DECT)	Branded as J-DECT, coexists with PHS systems in the same band.
South Korea	1880-1900 MHz	Similar to European allocation, but with specific regulatory adaptations.
Australia	1880-1900 MHz	Historically required site licenses until July 2000; now license-exempt.
South Africa	1880-1900 MHz	Used for DECT Wireless Local Loop (WLL) deployments.
Asia (most countries)	1880-1900 MHz	Widely adopted in Asia, similar to European allocation.
Egypt	1880-1900 MHz	Used for DECT WLL systems in telecom expansion projects.

3.1 Mounting Surfaces

Mounting Surface	Materials Used	Size	Quantity
Drywall			
	Drywall screws	#8 or M4 minimum	4
	Aluminum drywall anchors, as needed	50 lbs (23 kg) weight capacity minimum	4
	Flat washers	1/4" or M6 maximum	4
Concrete			
	Concrete screws	1/4" or M6 maximum	4
	Concrete anchors, as needed		4
	Flat washers	1/4" or M6	4
Wood			
	Wood screws	1/4" or M6 maximum	4
	Flat washers	1/4" or M6	4
Metal			
	Sheet metal screws or self-tapping screws or self-drilling screws or machine screws	1/4" or M6 maximum	4
	Flat washers	1/4" or M6	4
	Machine nut, as needed	1/4" or M6	4

4 Wall or ceiling mount

You can mount the AP-1000 to either a wall or a ceiling, depending on your specific environment, intended usage, and the optimal coverage area you wish to achieve. By selecting the appropriate mounting location, you can enhance the performance of the access point and ensure that it effectively meets your wireless connectivity needs. Consider factors such as the layout of the space, potential obstructions, and the areas where you require the strongest signal when deciding on the best mounting position. For more information, see *Mounting considerations*, *page 8*.

Notice!
We recommend that this device not be mounted in a high traffic area where it could be accidently dismantled. Always observe local codes and requirements.

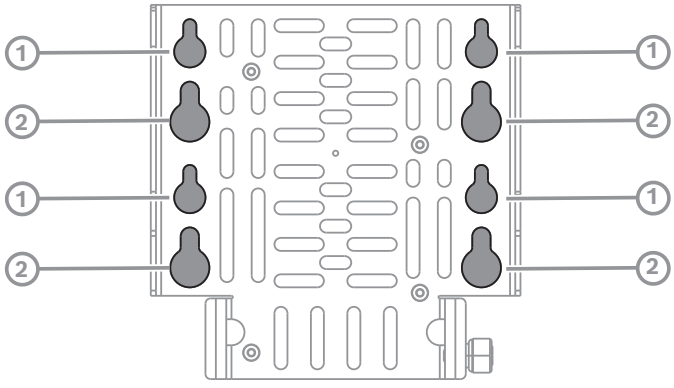
Before mounting the bracket:

- It may be necessary to predrill the holes or use screw anchors, depending on the type of mounting surface.
- Use the information in *Mounting Surfaces*, *page 9* to determine the number of screws and type of screws needed for the chosen surface.
- The screw spacing is not consistent with standard residential stud spacing. You may need to use appropriate wall anchors if mounting the AP-1000 on a gypsum wall.

Caution!
Proper wall or ceiling mounting
To reduce the risk of injury to yourself or damage to the device:
- Follow all instructions provided.
- Ensure the wall structure/materials will support the weight of the device.
- Use the recommended hardware for your device based on the wall structure/materials.
- Additional reinforcement may be required depending on the wall structure/materials the device will be installed and local codes and standards.

Install the mounting bracket:

1. Determine the size of screw you are using and which keyhole you need to use.



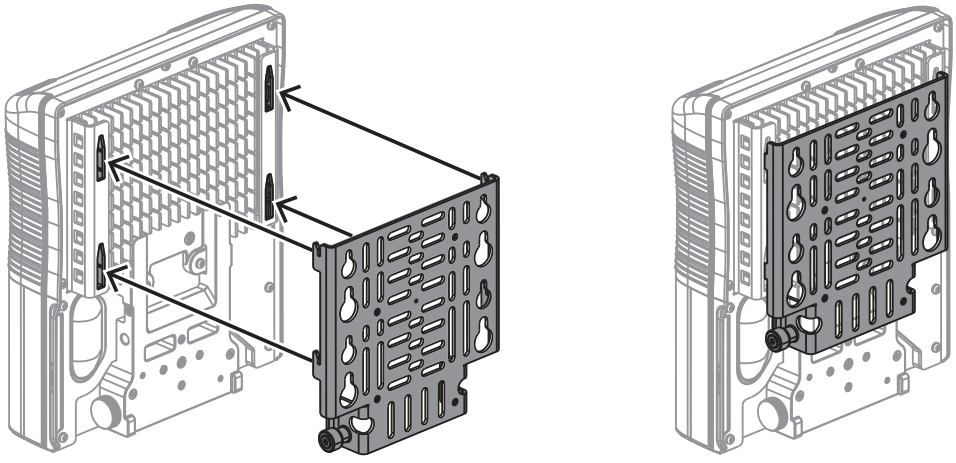
2. Using the mounting bracket as a template, mark the four screw hole locations on the wall or ceiling with a pencil.

Notice!
Depending on the screw size used, mark either the small or large keyhole pattern.

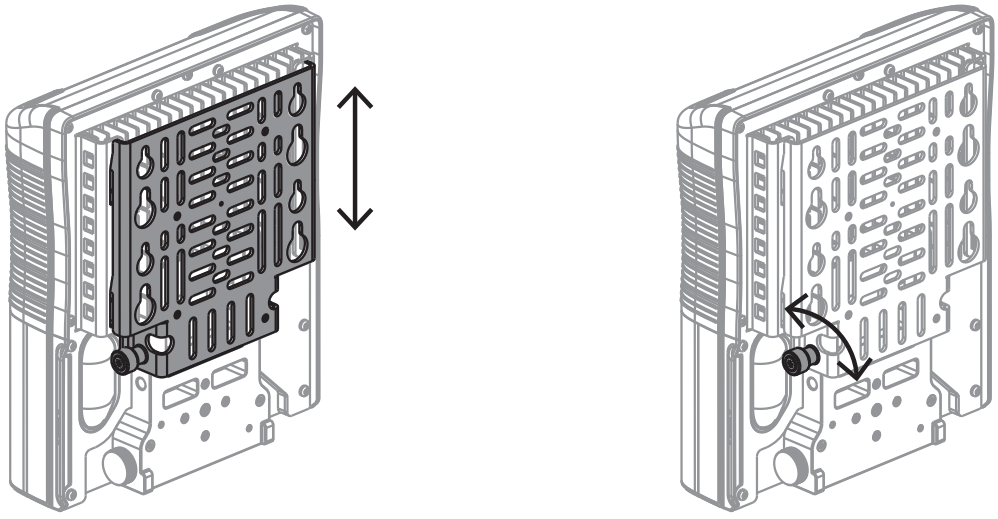
3. Install screws, flat washers, and anchors (if using) in marked locations.
   – Be sure to leave enough room between screw head and the mounting surface to slide the mounting bracket into place.
4. Align the bracket's keyhole openings with the screw heads.
5. Press and slide the bracket so that you position the heads of the screws within the narrow portion of the keyhole.
6. Tighten the screws against the bracket to keep it firmly in place.

Attach the AP-1000 to the mounting bracket:

1. Locate the bracket guides on the rear panel of the AP-1000.
2. Align the bracket hooks with the guides.



3. Pass the hooks through the guides to attach the bracket to the AP-1000.
4. Slide the AP-1000 to engage the hooks fully in the guides.



5. Using a #2 Phillips screwdriver, tighten the thumbscrew to secure the AP-1000 to the bracket.

5 Mounting clamp

Mounting clamps are versatile tools that allow you to mount the AP to various surfaces, including poles, tables, and rafters. You can use them to create custom rigging setups, enabling you to attach the AP at different angles and positions. The clamp design allows them to clamp onto a variety of shapes and sizes, making them useful for securing equipment to non-standard surfaces. Furthermore, clamps can stabilize gear in situations where traditional mounting options are unavailable.

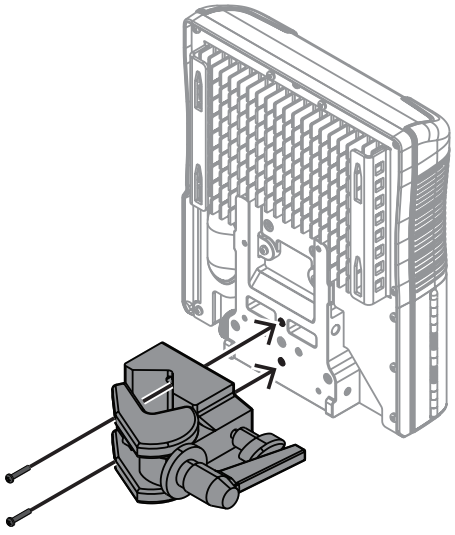
Notice!

You can use the optional accessory mounting kit (P/N - AP-1800 MT BRKT) or any variety super clamps with the correct mounting hole position to mount the AP-1000.

You can attach the clamp to the AP in two ways: either vertically or horizontally.

Attach the clamp in the vertical position

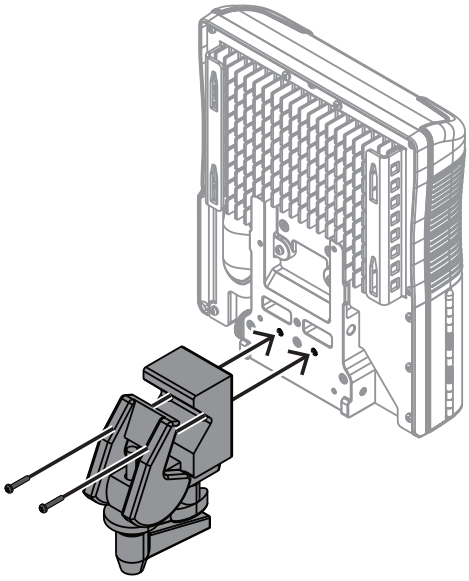
1. Align the mounting clamp in the vertical position on the back of the AP-1000.



2. Using the supplied screws from the mounting kit, attach the mounting clamp to the AP-1000.
3. Fit the mounting clamp around the mounting surface.
4. Once in position, use the adjustment paddle to tighten the clamp to the mounting surface.

Attach the clamp in the horizontal position

1. Align the mounting clamp in the horizontal position on the back of the AP-1000.



2. Using the supplied screws from the mounting kit, attach the mounting clamp to the AP-1000.
3. Fit the mounting clamp around the mounting surface.
4. Once in position, use the adjustment paddle to tighten the clamp to the mounting surface.

6 Microphone stand thread connections

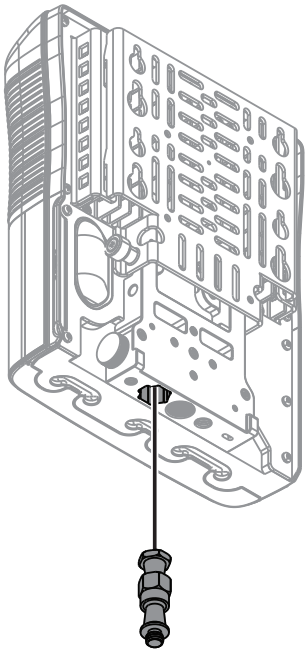
Choose the appropriate mount based on your setup:

- **5/8" Hex Spigot-Type Mount**
  Attach to a tripod or stand for stable, versatile support indoors or outdoors.
- **5/8-27 Thread Mic Stand**
  Use for temporary or mobile setups. Adjust height for optimal signal coverage.
- **3/8-16 Thread European Mic Stand**
  Ideal for compact, portable deployments in tight or temporary spaces.
- **1/4-20 Thread North American Camera Mount**
  Mount vertically (bottom) or horizontally (back). Widely compatible and easy to use.

6.1 5/8" (16mm) hex spigot-type mount

Use the 5/8” hex spigot-type mount

1. Loosen the thumbscrew locking mechanism to clear the opening.
2. Place the 5/8" connector in the opening. It should fit snugly in the hexagonal opening.

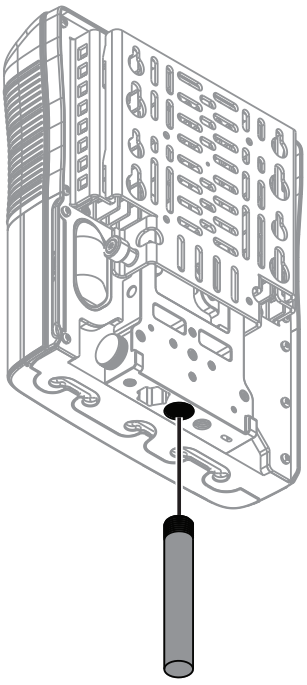


3. Tighten the thumbscrew locking mechanism. Make sure it is tight enough to prevent any movement, but avoid overtightening, as this could damage the spigot or mount.

6.2 5/8-27 thread mount

Use the 5/8-27 thread mount

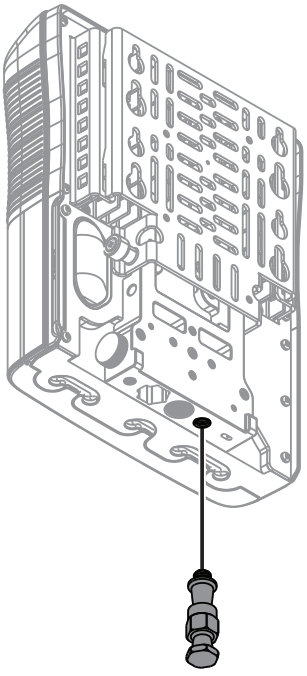
1. Screw the mic stand connector into the 5/8-27 thread mount receptor.



6.3 3/8-16 thread mount (European mic stand mount)

Use the 3/8-16 thread mount

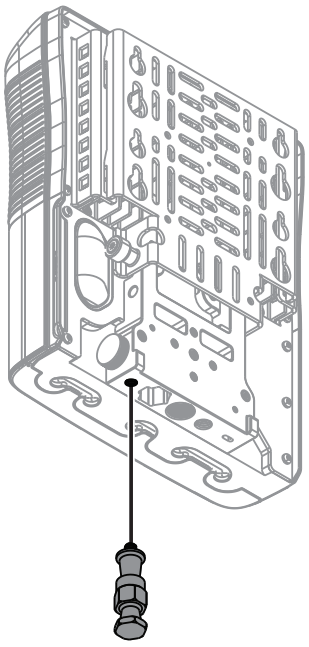
- Screw the 3/8-16 European stand connector into the 3/8-16 mounting slot.



6.4 1/4-20 thread mount (North American camera mount)

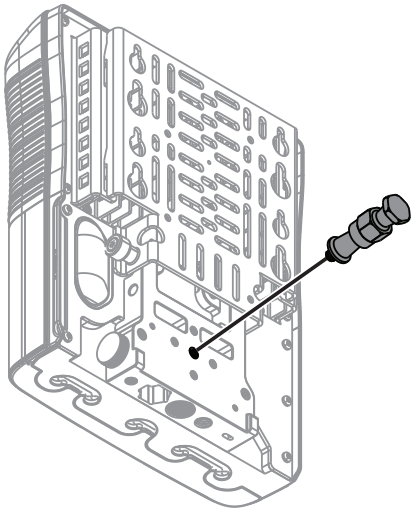
Attach to the bottom

- Screw the 1/4-20 thread connector into bottom connector receptacle.



Attach to the back

- Screw the 1/4-20 thread connector into back connector receptacle.



7 Safety options

7.1 Fall-arrest cable installation

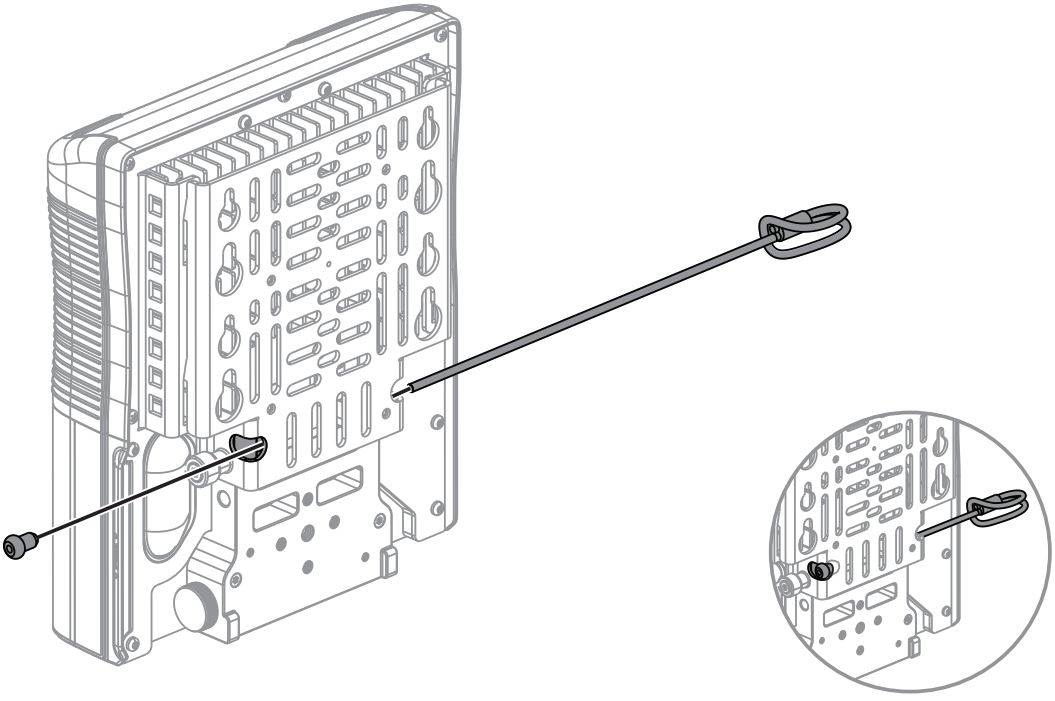
When you mount an AP-1000 on a ceiling or in the rafters, make sure to secure it properly to prevent it from falling and causing injury or damage. To add an extra layer of safety, attach a safety cable using one of two methods:

– Connect the cable with the mounting bracket installed
– Connect the cable directly to the AP-1000

Both options help ensure the unit remains safely in place, even if the primary mounting hardware fails.

Attach the safety cable with the mounting bracket installed

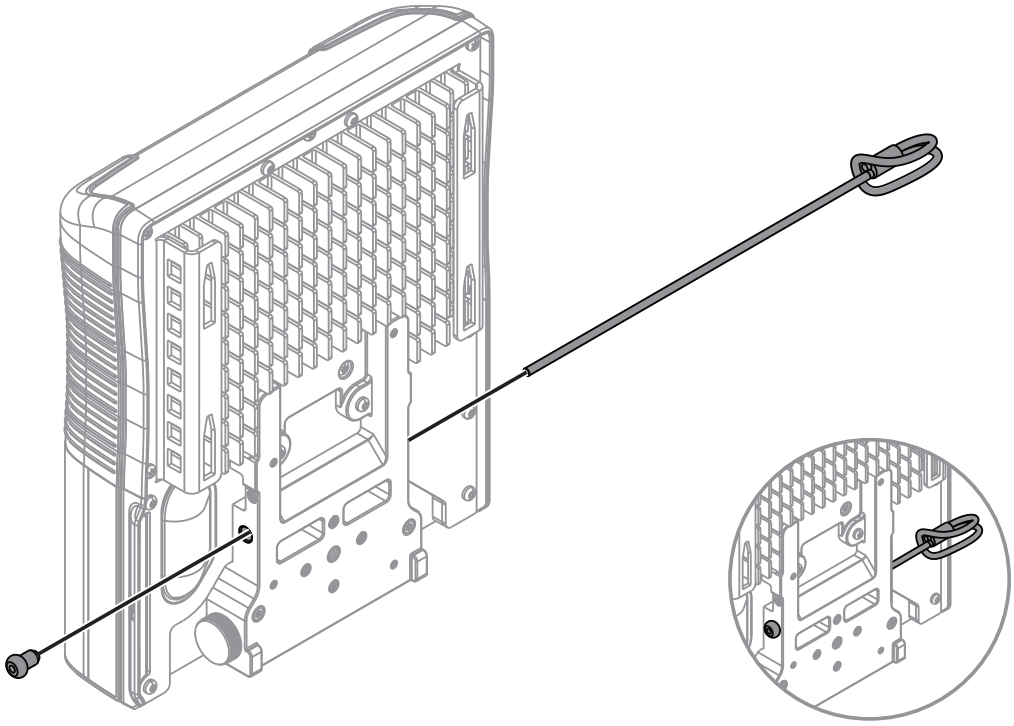
1. Thread the one end of the fall-arrest cable through the mounting bracket, as shown.



2. Crimp a ball shank on the end of the cable.
3. Attach the other end of the fall-arrest cable to a sturdy structure near the AP mounting point.

Attach the safety cable directly to the AP-1000

1. Thread the one end of the fall-arrest cable through the fall arrest cable hole on the back of the unit, as shown.



2. Crimp a ball shank on the end of the cable.
3. Attach the other end of the fall-arrest cable to a sturdy structure near the AP mounting point.

7.2 Kensington lock installation

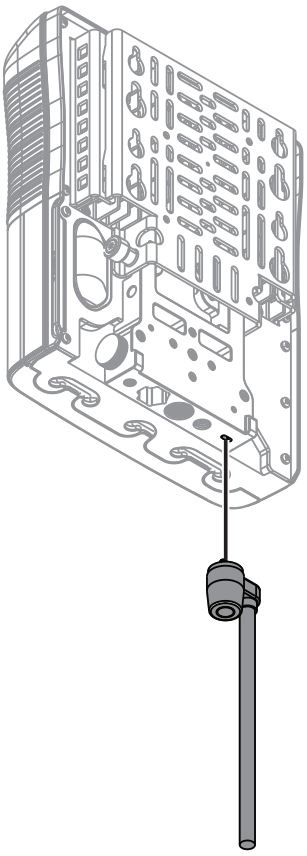
Notice!
The security slot is compatible with the Kensington Security Slot™ and the Kensington Nano Security Slot™.

Prepare the lock

– If using a combination lock, set it to the current combination.
– If using a keyed lock, ensure you have the key ready.

Install the lock

1. Loop the steel cable to the anchor point.
2. Ensure the anchor point cannot be easily lifted or moved.
   – Keep the cable length reasonable to avoid tangling.
3. Insert the T-bar of the Kensington lock into the security lock on the bottom of the unit.
   – For combination locks: scramble the numbers.
   – For keyed locks: turn the key to lock and remove it.



4. Gently pull on the device to verify the lock is engaged.
5. Check that the cable is properly secured to the anchor point.

Important Notes:

- Never force the lock - it should insert and rotate smoothly.
- Store keys/combinations in a safe place.
- Check the lock security periodically.

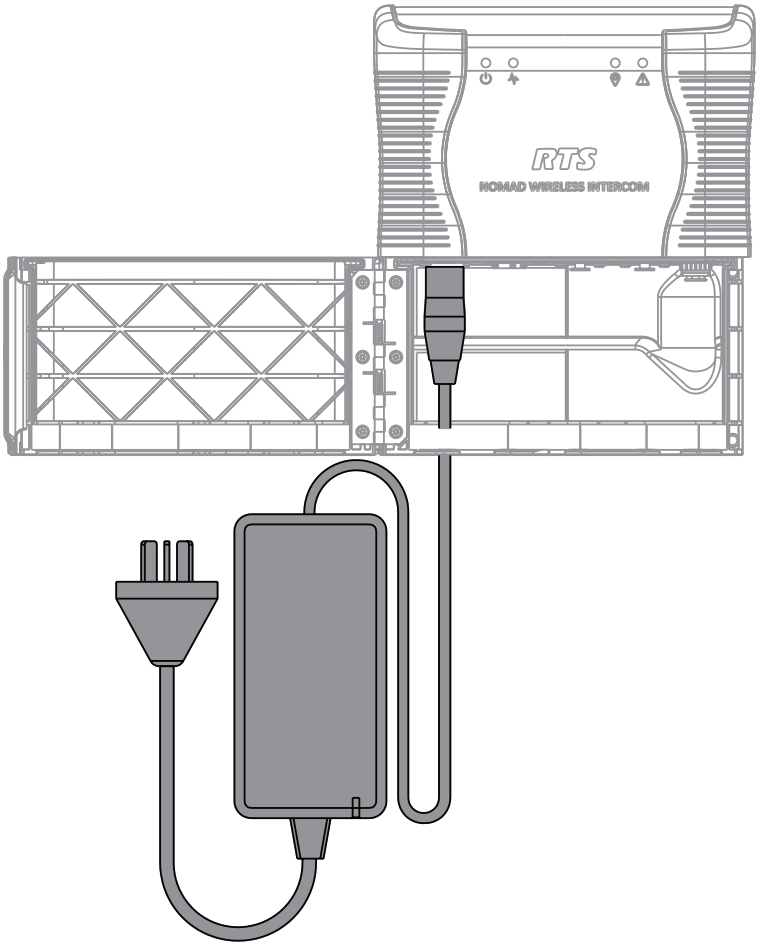
8 Power options

8.1 Use an inline power supply

The AP-1000 includes an inline power supply, making it especially useful for temporary installations where traditional PoE infrastructure may not be available.

Connect the inline power supply

1. Connect the power connector securely to the power inlet on the AP-1000.



2. Plug the power supply power cord into a standard mains power outlet or power strip.

8.2 Use an Anton Bauer battery

You can use an optional Anton Bauer battery to power the AP-1000 when a nearby power supply is unavailable. To use the battery, first install a battery plate that allows the battery to lock securely into place.

Attach the V-Mount battery plate

Notice!
You must use the Vocus V-Mount Battery Plate with 4-Pin XLR Output (P/N 0370-0170)

1. Align the holes on the battery plate to the holes on the back of the unit.

– If you are using the battery with the mounting bracket, then align the holes on the battery plate with the holes on the mounting bracket.

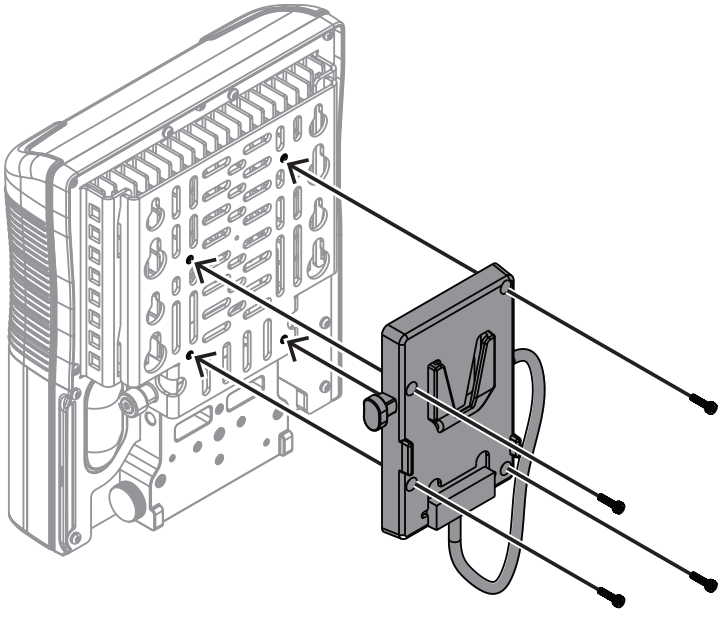


Figure 8.1: Battery plate with mounting bracket

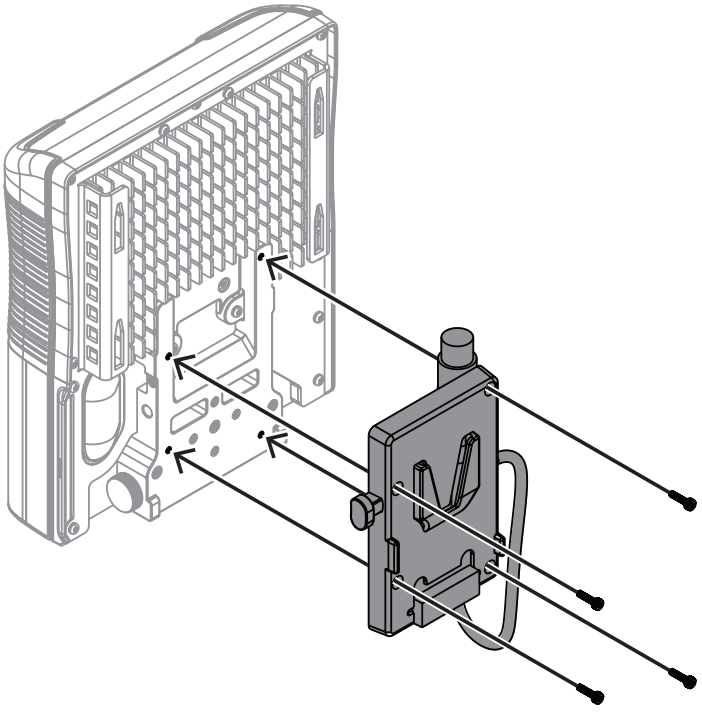


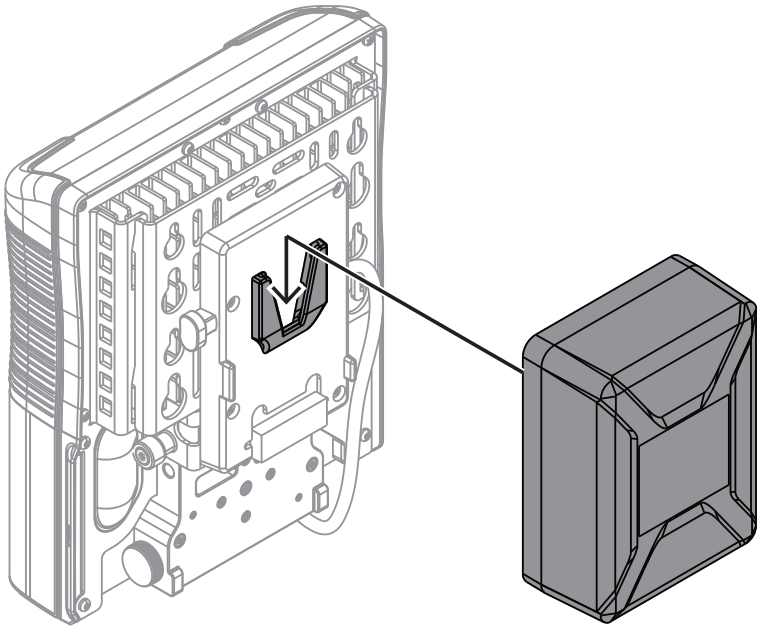
Figure 8.2: Battery plate without mounting bracket

2. Secure the plate to the unit with the supplied screws.

Attach the Anton Bauer battery

Notice!
You can use the Anton/Bauer Titon 90 V-Mount Lithium-Ion Battery (P/N 8675-0132) or any other capacity V-Mount 14 VDC Lithium-Ion Battery.

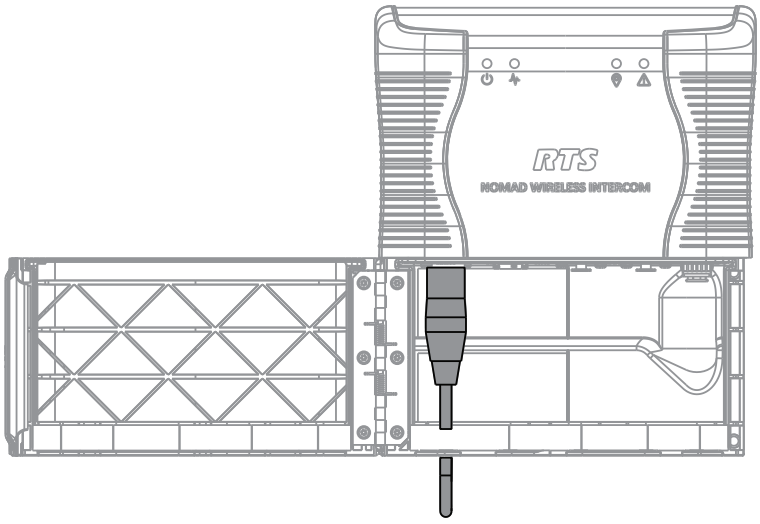
1. Position the Anton Bauer battery so that the V-Mount connector aligns with the battery plate.
2. Slide the battery onto the V-Mount battery plate, ensuring that the connectors engage properly.



3. Push the battery down until you hear a distinct click, which confirms that the battery is securely in place.

Connect the battery to the AP-1000

1. Open the cable door on the unit.
2. Locate the proper power connector.



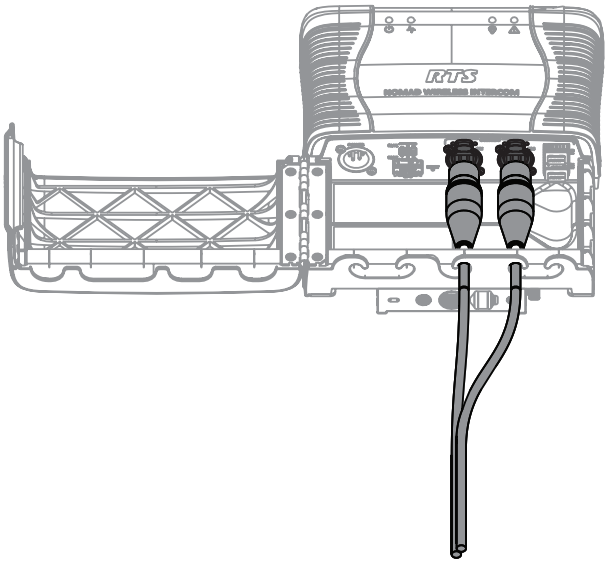
3. Connect the 4-pin XLR connector to the unit.
   – Take care to push the cable into the cord seal and to thread it through the cable hook ensuring that it does not move around.
4. Close the cable door.

8.3 Use PoE+/PoE++

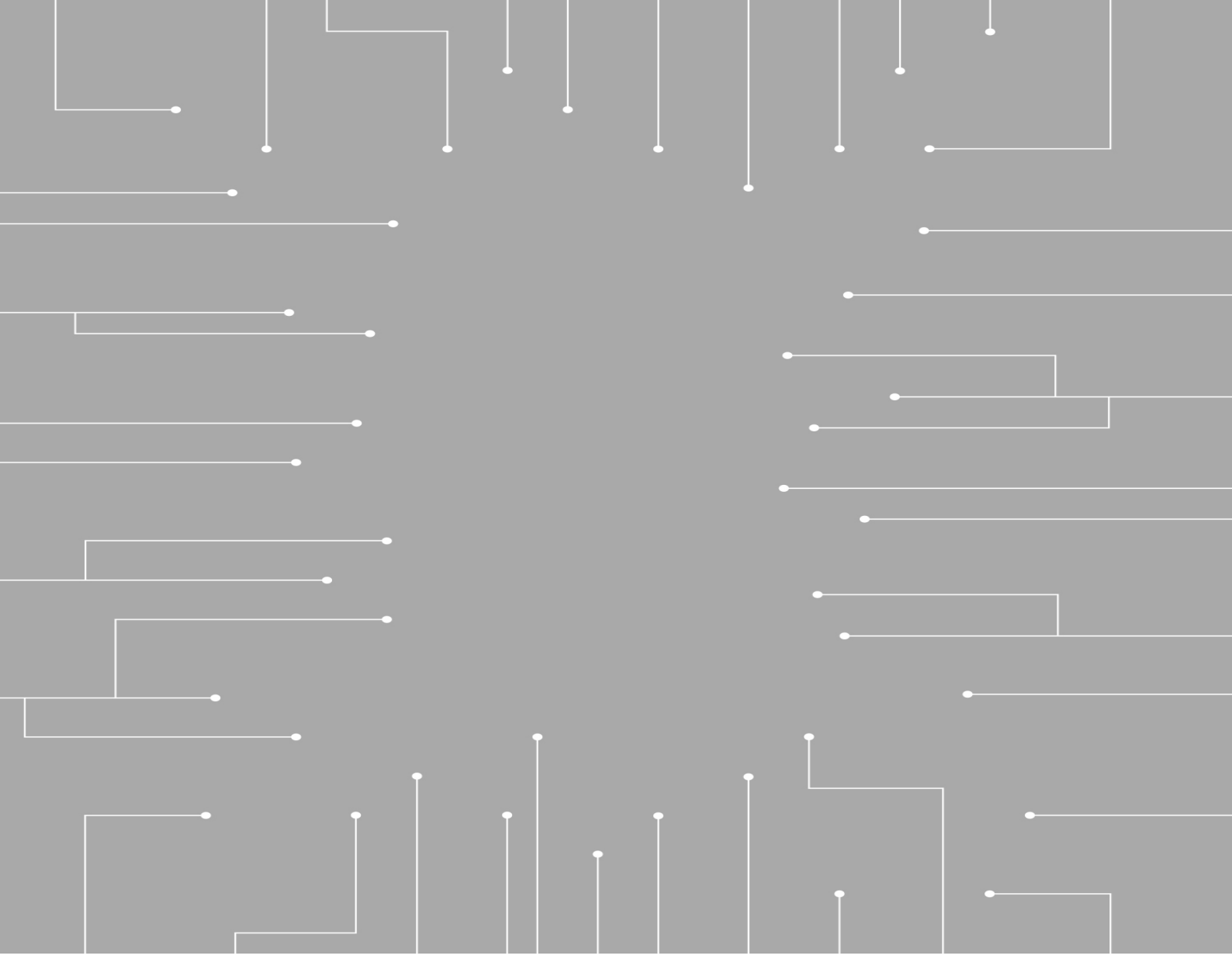
Power over Ethernet (PoE+ and PoE++) provides a reliable and efficient method for powering the AP-1000, eliminating the need for separate electrical wiring and simplifying installation. This approach reduces infrastructure costs while enabling centralized power management and backup through network switches.
The AP-1000 also supports redundant PoE connections across multiple networks, ensuring glitch-free operation even in the event of a power or network failure. By drawing power from more than one PoE-enabled switch, the device maintains continuous uptime, which is critical for high-availability wireless environments such as enterprise campuses, industrial sites, and temporary deployments.

Notice!
Keep in mind that PoE can transmit power and data over Ethernet cables for a maximum distance of 100 meters, or approximately 330 feet. Always plan cable runs accordingly to ensure reliable performance and avoid power loss or connectivity issues.

1. Connect one end of an Ethernet cable to a PoE+/PoE++ enabled switch.



2. Connect the other end of the Ethernet cable to the PoE+/PoE++ connector on the AP-1000.



Bosch Security Systems, LLC
130 Perinton Parkway
Fairport, NY 14450
USA
www.rtsintercoms.com

EU importer:
Bosch Sicherheitssysteme GmbH
Robert-Bosch-Platz 1
70839 Gerlingen
Germany

202508282151