

RTS NOMAD Wireless Intercom System

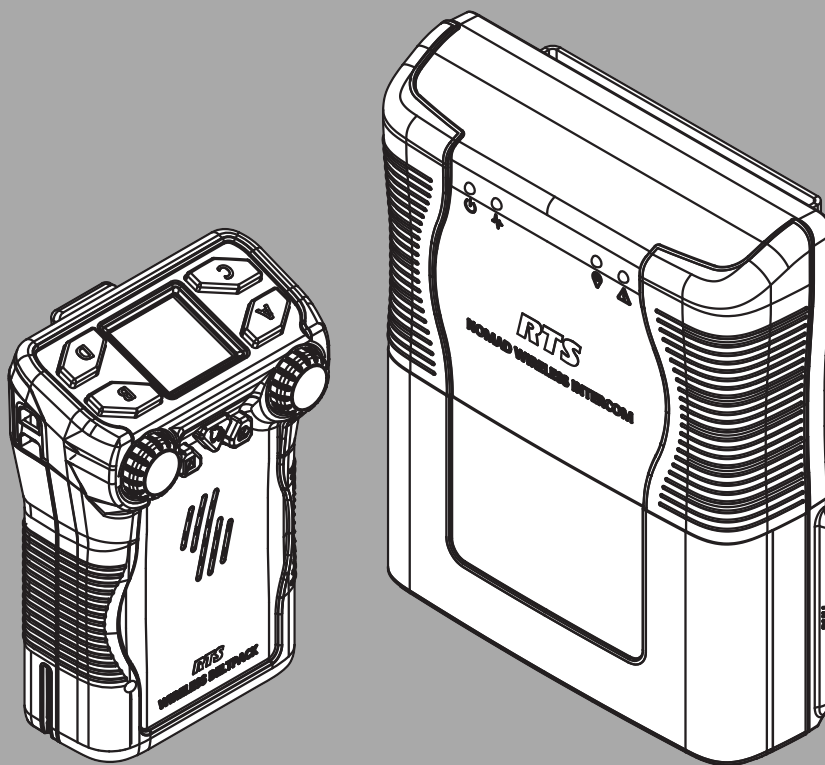


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1 Important Information



Notice!

For translated documentation, visit www.rtsintercoms.com

1.1 Copyright and Disclaimer

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All other trademarks are property of their respective owners.

The content and illustrations are subject to change without prior notice.

1.2 Notices

	<div style="background-color: black; color: white; text-align: center; padding: 2px;">CAUTION</div> <div style="border: 1px solid black; padding: 2px; text-align: center;">RISK OF ELECTRIC SHOCK DO NOT OPEN</div>	
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 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

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug the apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as 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.

- 15. Do not disassemble or subject batteries to impact.
- 16. Do not operate or charge a battery that has been damaged.
- 17. Never heat the Li-Ion batteries or throw them into a fire.
- 18. Charging the Li-Ion batteries in temperatures below freezing can cause permanent damage.
- 19. Store the batteries in a cool, dry ventilated area.
- 20. Dispose of Li-Ion batteries properly.
- 21. Before flying, consult the airline regulations concerning the Lithium batteries.
- 22. Use only the manufacturer’s supplied charger to charge the batteries.

1.4 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.

	<p>Business Equipment for commercial or professional use</p> <p>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.</p>
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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.

1.5

Europe

Please dispose of the access point and belt packs 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.

1.6 Other Certifications

1.6.1 Singapore

This product complies with IMDA standards.



1.7 Revision History

Revision	Revision Date	Change Description
01	04/2026	Initial Release

2 Introduction

The RTS Nomad Wireless Intercom System is an integrated digital wireless communications system consisting of belt packs (TR-1000) and access points (AP-1000) communicating over DECT (Digital Enhanced Cordless Telecommunications). OMNEO technology, a Dante-based platform for premium IP audio transmission, is used as the communication between access points and the switching matrix. The globally recognized DECT standard operates without licensing requirements in over 80 countries. You can create large continuous radio coverage areas by strategically placing access points throughout the coverage area. Belt pack users can roam freely within the coverage area without worry of losing communication. RTS Nomad uses standard IP infrastructure as a backbone. RTS recommends the exclusive use of managed switches through the IP network.

For more information, see OMNEO Network Requirements and Considerations and the OMNEO Resource Guide found at www.rtsintercoms.com.

You can easily address and configure the belt pack using the same configuration software as RTS wired keypanels.

2.1 AP-1000 Overview

2.1.1 Controls and Connections

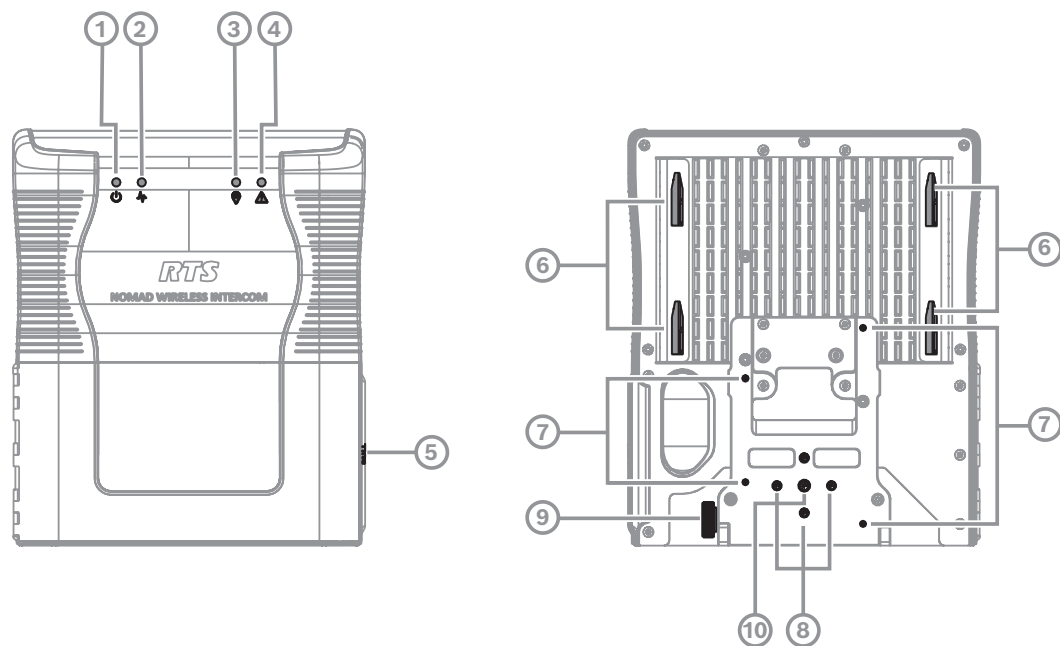


Figure 2.1: AP-1000 top and bottom reference view

1	Power LED
2	Status LED
3	Location LED
4	Fault/Status LED
5	Door latch
6	Wall mount bracket hook

7	V-mount battery bracket mounting holes
8	Vertical or horizontal Manfrotto super clamp mounting holes
9	Spigot adapter (hex) mount lock thumb screw
10	North American camera mount (1/4-20)

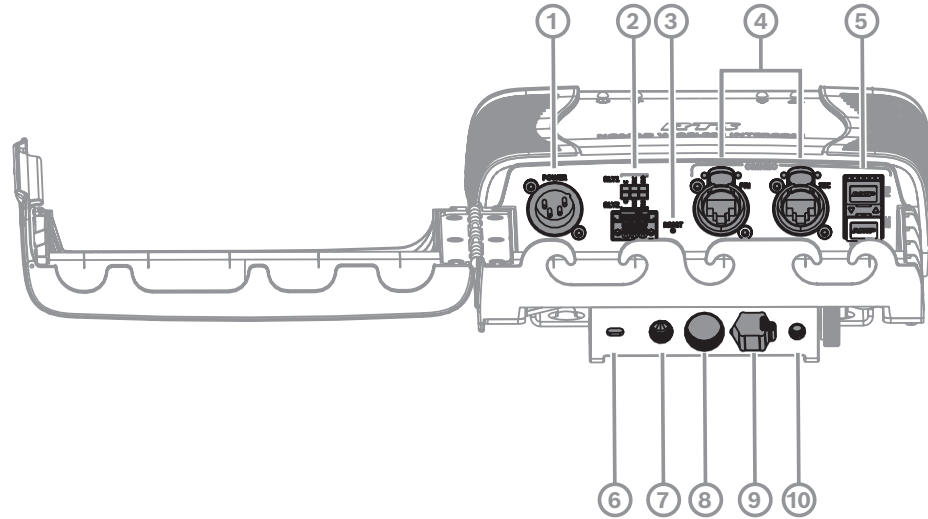


Figure 2.2: AP-1000 open reference view

1	4-pin XLR for power supply or battery
2	2 x GPO relay ports (support coming soon)
3	Paper clip reset hole
4	PRI & SEC OMNEO connections with PoE capability
5	PRI & SEC dual fiber OMNEO connections <ul style="list-style-type: none"> - Multi-mode SFP transceiver - FTLF8519P3BNL (OM-MM FIBER) - Single-mode SFP transceiver - FTLF1318P3BTL (OM-SM FIBER)
6	Slot that accepts both types of Kensington lock <ul style="list-style-type: none"> - Kensington Security Slot (T-Bar) - Nano Security Slot
7	European camera or mic stand mount
8	Microphone stand mount (5/8-27)
9	Spigot adapter (hex) mount
10	North American camera mount (1/4-20)

2.1.2

LED Indicators

Condition/Event	LED Behavior	Notes
Power source present	Solid green	Any valid power source triggers solid green

Condition/Event	LED Behavior	Notes
Device reset initiated	Blinks green (medium rate)	Occurs during standard
Factory Reset - first long press 10 seconds	Blinks amber (medium rate)	Started factory reset state
Factory Reset - second long press 10 seconds	Blinks red (medium rate)	Pending factory reset confirmation
Reset failure	Solid red	

Table 2.1: Power LED Indicators

Condition/Event	LED Behavior	Notes
Device fully booted	Solid green	
DECT module connected	Solid green	
Access point still in process of booting/connecting	Blinking green	Indicates partial or no connectivity
DECT OTA enabled	Solid amber	
Flash update in progress	Blinking amber	

Table 2.2: Status LED Indicators

AP Fault Condition	LED Behavior	Notes
Failed firmware update	Solid red	Only see when updating the firmware
Failures writing settings to flash	Blinking red	
OMNEO connection error	Solid amber	
DECT error	Blinking red	Check IPedit for error
Temperature out of range	Blinking red	
Ethernet not connected	Blinking amber	Fault code visible in IPedit (e.g., NETWORK-3)

Table 2.3: Fault LED Indicators

Condition	LED Behavior	Notes
Locate activated	Blinks green for 60 seconds	Used for device identification

Table 2.4: Locate LED Indicator

2.1.3

Antenna Information

The AP-1000 has two different antennas in it.

- For DECT it uses two sleeve dipoles for antenna diversity on either side of the upper portion of the unit.
- For Bluetooth Low Energy (BLE) it uses one 1/4-wave monopole in the upper center of the unit.

2.1.4

Power

The AP-1000 operates using three power sources:

- An in-line power supply (not included with the unit): Users can connect an external AC adapter to provide continuous power.
- An external battery (not included): This option allows for portable, battery-powered operation, ideal for mobile or field use.
- Power over Ethernet (PoE): The device can receive both power and data through a single Ethernet cable when connected to a compatible PoE-enabled network switch or injector.

2.1.4.1

Open and Close the Cable Door

To cable AP-1000 you must access the connectors which are housed within the unit. The door features a spring mechanism that holds it open. This design allows the door to remain securely open while you connect the cables to the unit, providing easy access and facilitating a smooth cabling process.

1. Grasp the **door latch** on the side of the unit and pull it outward. You feel the latch detach from the unit.
2. Lift the **door** upward to open the unit.

2.1.4.2

4-Pin XLR connector

Connect power to the AP-1000 through the XLR connector using one of two methods:

- **In-line power supply** - The access point can use an inline power supply that has a 12V, 0.75 Amp power supply (AP-1000-PS1)
- **External battery** - The access point can use any 14.2V external battery (such as the Titon 90 V-mount Battery) for power.

For pin-out information, see *Connector Pin-outs*, page 74.

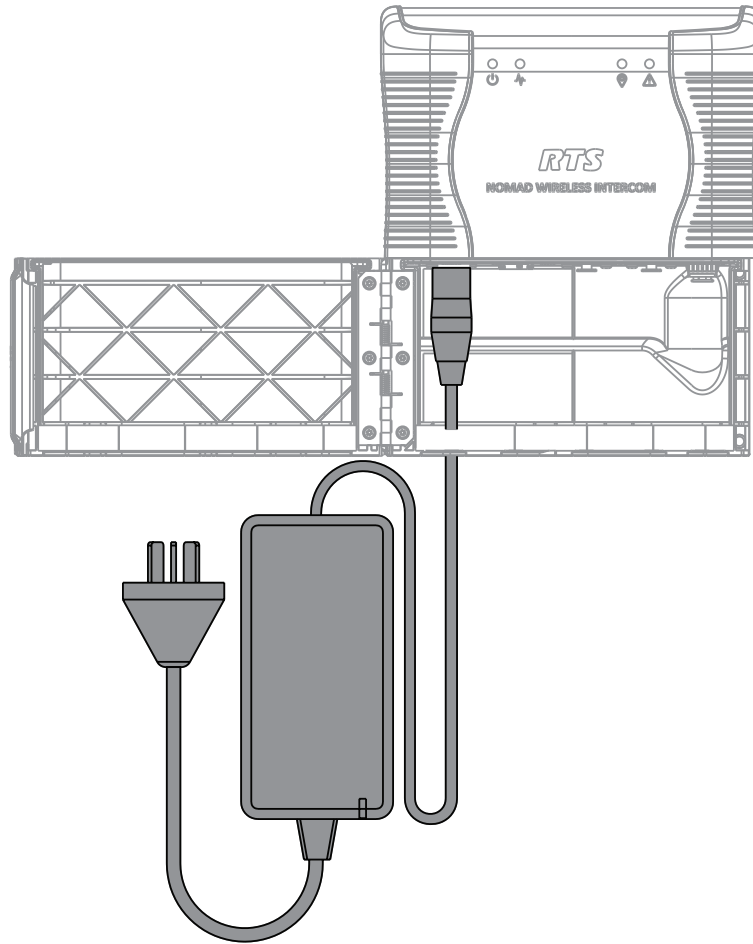
2.1.4.2.1

Using an Inline Power Supply

The AP-1000 uses 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. Attach 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.
3. Attach an **Ethernet cable** to the Primary or Secondary Ethernet port.

2.1.4.2.2

Using an External Battery

You can use an external 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 can use the Vocus V-Mount Battery Plate with 4-Pin XLR Output (Vocus P/N 0370-0170) or any V-Mount battery plate with a 4-pin XLR connector.

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.

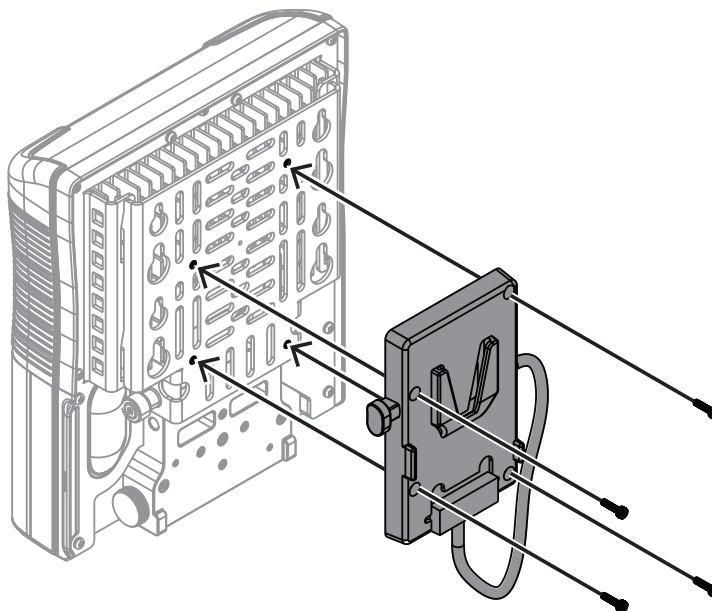


Figure 2.3: Battery plate with mounting bracket

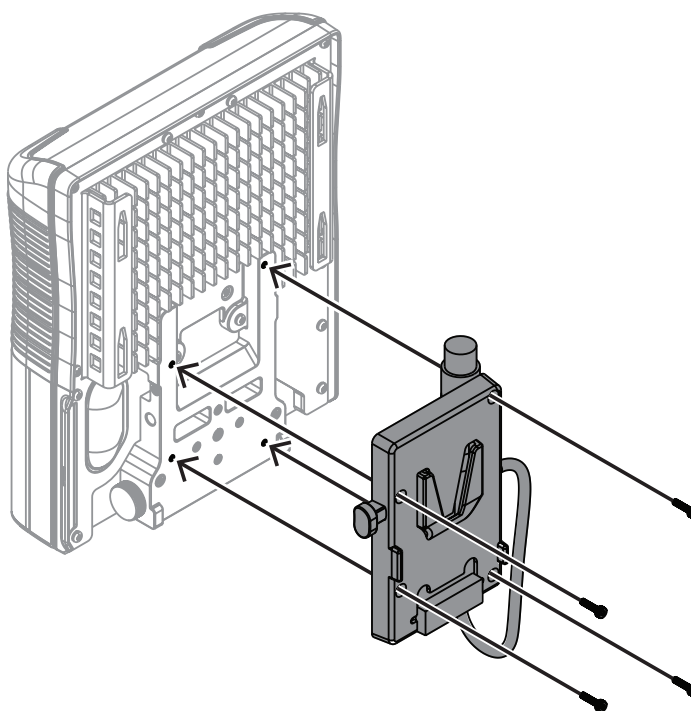


Figure 2.4: Battery plate without mounting bracket

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

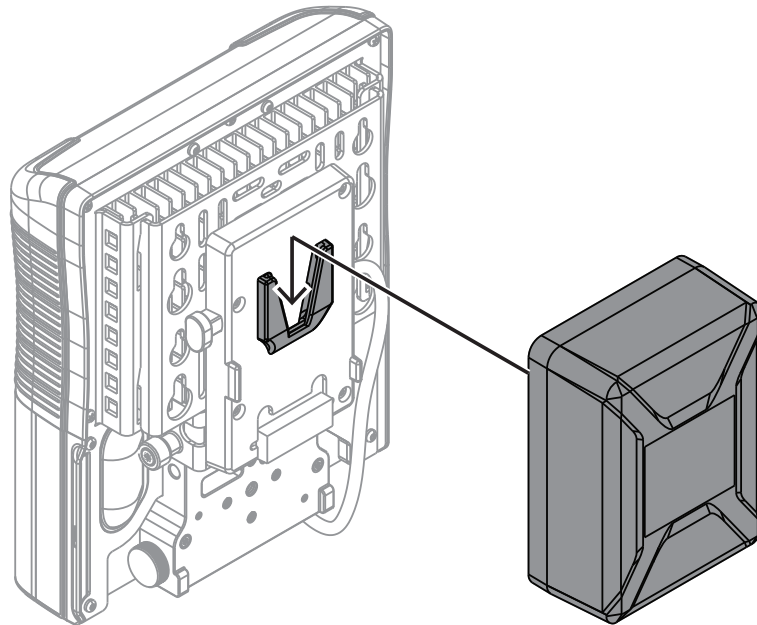
Attach an external battery



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.

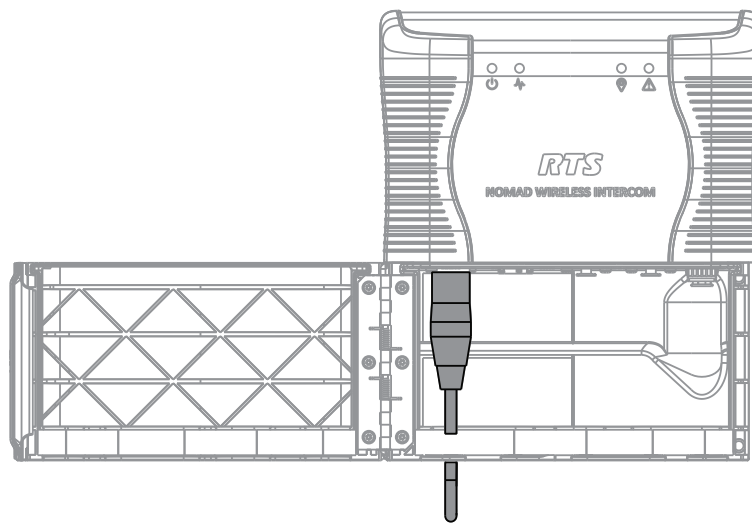
1. Position the **battery** so that the V-Mount connector aligns with the battery plate.
2. Slide the **battery** onto the V-Mount battery plate, ensuring that the connectors engage properly.



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. Attach 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**.

2.1.4.3 PoE/PoE+/ PoE++

You can power the AP-1000 with PoE from an Ethernet switch or injector via either of its two RJ-45 EtherCON connectors.

The AP-1000 accepts PoE (802.3af Class 3), PoE+ (802.3at), or PoE++ (802.3bt).

2.1.4.3.1 Connect PoE/PoE+/PoE++ Power

Power over Ethernet 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.

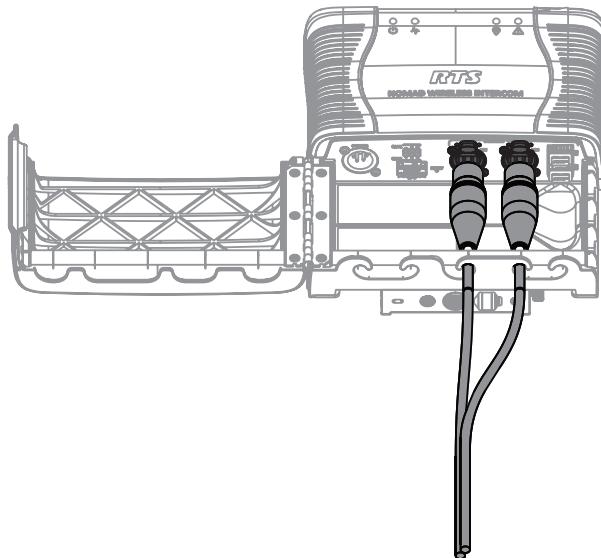


Notice!

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.

The AP-1000 requires a PoE (802.3af Class 3), PoE+ (802.3at), or PoE++ (802.3bt). Higher powered PoE+/PoE++ switches may also be used.

1. Attach **one end of an Ethernet cable** to a PoE-enabled switch.



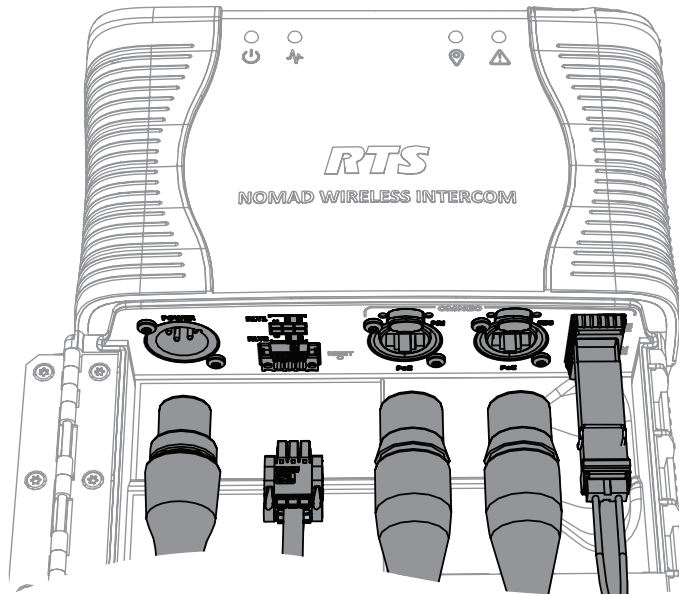
2. Attach the **other end of the Ethernet cable** to either the PRI or SEC Ethernet ports on the AP-1000.

2.1.5

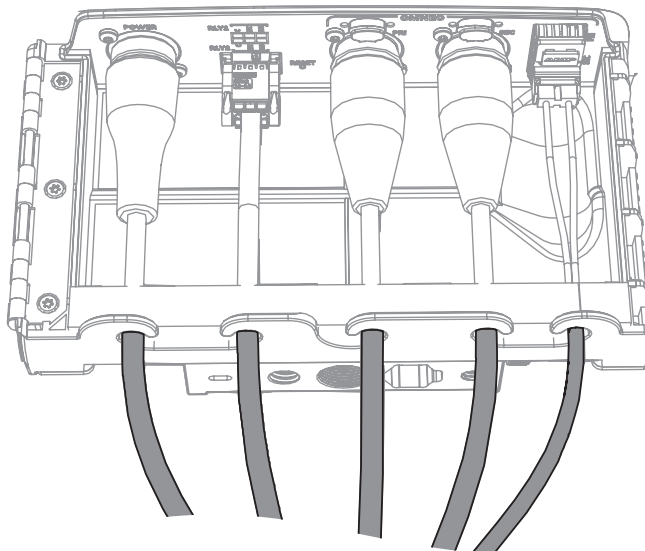
Route Cables

After you securely mount the access point, proceed to connect the necessary cables to set up the system for operation. Ensure that you follow the appropriate wiring guidelines to establish a reliable connection, allowing the access point to function effectively within your network.

1. Open the **door** of the AP-1000.
2. Attach the **cable** to the designated connector.



3. Carefully thread the **cable** through the cable hook, ensuring that you push the cable into the cord seal (sponge bed).



2.2 TR-1000 Overview

2.2.1 Controls and Connections

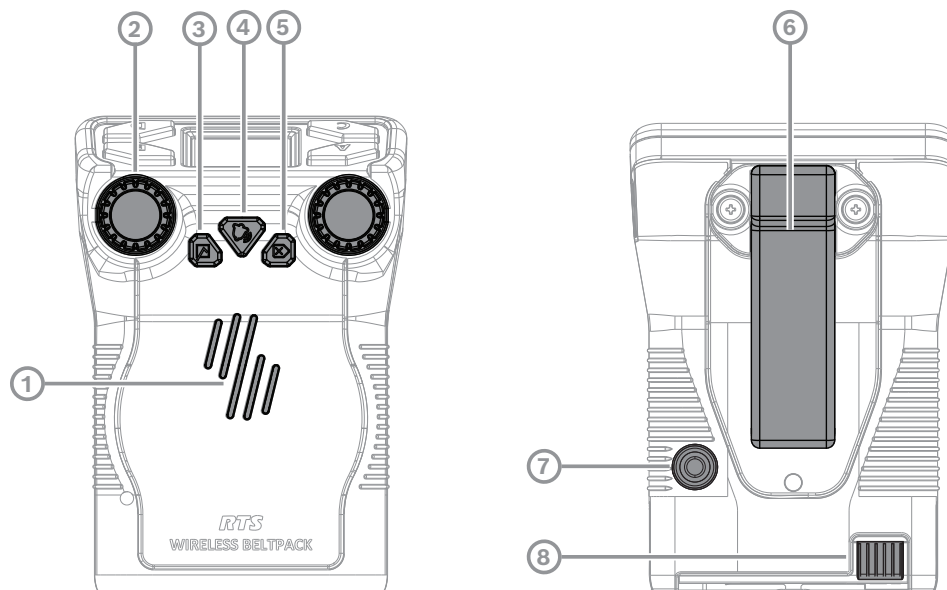


Figure 2.5: TR-1000 front and back views

	Description
1	Speaker
2	Volume knobs
3	SEL/MENU
4	CALL
5	CLR/BACK
6	Belt clip - field replaceable
7	Magic arm mount - ¼-20 threaded insert
8	Battery contacts for charging

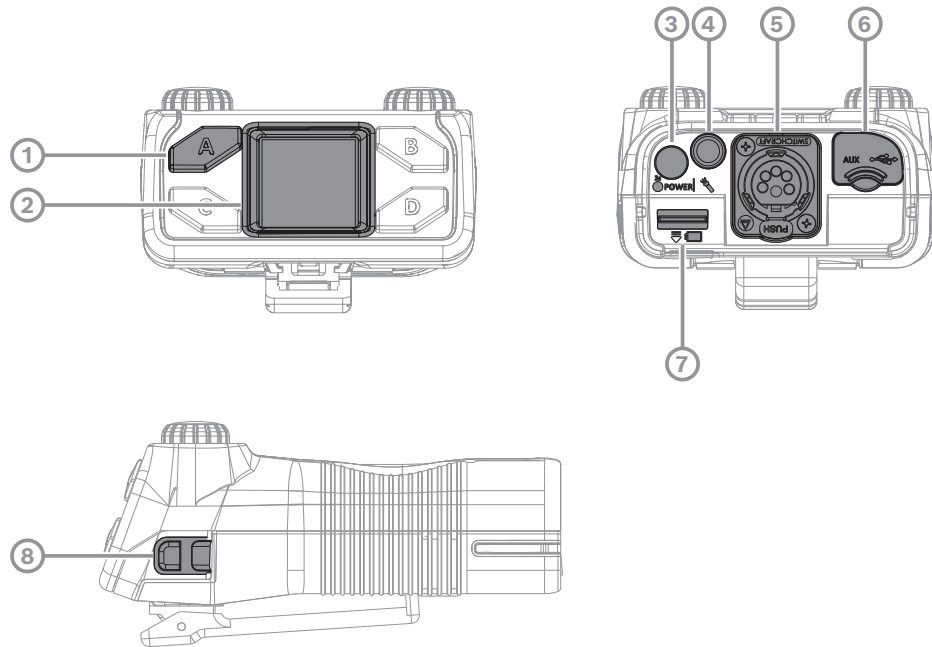


Figure 2.6: TR-1000 Top, bottom, and side views

	Description
1	Talk keys - backlight capable
2	Color display
3	Power/flashlight button
4	Flashlight - supports either white or red beam
5	XLR connector - field replaceable 4-pin male, 4-pin female and 5-pin female
6	Rubber plug for ingress protection (IP-65) over 3.5 mm Jack and USB-C
7	Battery release
8	Lanyard loops

2.2.2

Frequencies of Operation

- For Europe: 1880-1900 MHz
- For North America: 1920-1930 MHz

ETSI Defined RF Channels for DECT

DECT systems automatically select the best interference-free frequencies on which to operate. The user does not need to do any frequency coordination. The ETSI (European Telecommunications Standards Institute) Channel Plan shows the European and North American RF carrier pools the DECT systems use.

There are 10 frequencies in Europe and five frequencies in North America.

RF Carrier Number	Carrier Frequency, MHz	Where Used
0	1897.344*	Europe, Singapore, Australia
1	1895.616*	Europe, Singapore, Australia

RF Carrier Number	Carrier Frequency, MHz	Where Used
2	1893.888*	Europe, Singapore, Australia
3	1892.160*	Europe, Singapore, Australia
4	1890.432*	Europe, Singapore, Australia
5	1888.704*	Europe, Singapore, Australia
6	1886.976*	Europe, Singapore, Australia
7	1885.248*	Europe, Singapore, Australia
8	1883.520*	Europe, Singapore, Australia
9	1881.972*	Europe, Singapore, Australia
23	1921.536	US, Canada, Mexico
24	1923.264	US, Canada, Mexico
25	1924.992	US, Canada, Mexico
26	1926.720	US, Canada, Mexico
27	1928.448	US, Canada, Mexico

Table 2.5: ETSI defined RT Channels for DECT

* Most common carriers used in the world.

2.2.3

Power

Charging your TR-1000 is quick and flexible, giving you two reliable options to keep your device powered and ready for use. Whether you're in a studio or on the go, you can choose the method that best fits your workflow:

- Use the CB-1000 Charging Bay: This method is ideal for organized storage and quick battery swaps.
- Connect a USB-C cable directly: This option is perfect for mobile charging or when a dock isn't available.

2.2.3.1

Use the CB-1000 Charging Bay

2.2.3.1.1

Turn the CB-1000 on and off

Users can power the CB-1000 on or off at any time, regardless of whether beltpacks or batteries are installed, without worrying about causing damage to either component. This ensures safe, flexible operation in any setup.

Turn on the CB-1000

1. Plug the **CB-1000 power cord** into the wall outlet.
2. Press and hold the **power button** on the front of the device for two seconds.
All the bay LEDs flash red, and then flash green. The power button backlights green indicating the device is on.

Turn off the CB-1000

- ▶ Press and hold the **power button** on the front of the device for four seconds.
The green backlit power button turns off indicating the device is off.

2.2.3.1.2

Insert and remove beltacks and batteries

Inserting and removing beltacks and batteries from the CB-1000 charging bay requires care to ensure proper handling and to avoid damage to the device or mounting surface. The beltack units fit snugly into the charger, which helps maintain a secure connection but can make removal more difficult. To prevent accidentally dislodging the charger from its mounting, always use both hands when inserting and removing beltacks. This approach provides better control and reduces strain on the mounting hardware, ensuring safe and reliable operation.

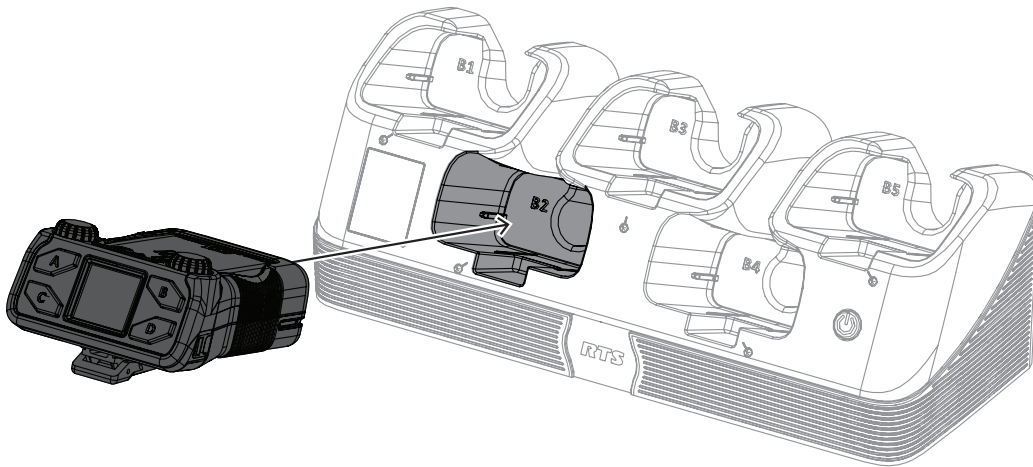


Notice!

You can charge batteries either while they are installed in the beltack or on their own by placing them directly into the CB-1000 charging bay.

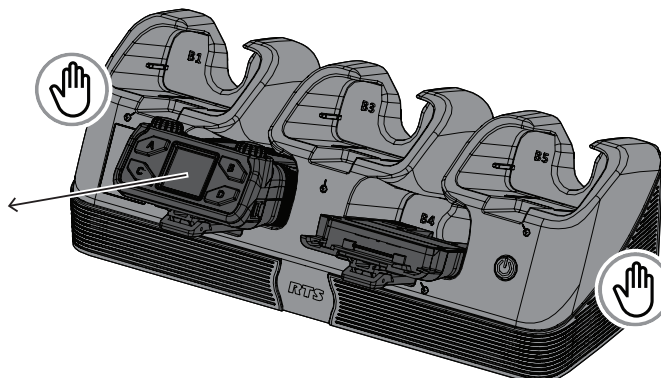
Insert the beltack or battery into the CB-1000

- ▶ Insert the **beltack** or **battery** into one of the five battery bays.



Remove the beltack or battery from the CB-1000

1. Place **one hand** on the charging bay.



2. Carefully pull the **battery** or **belt pack** from the charging bay.

2.2.3.2 Connect a USB-C Cable

You can charge the TR-1000 using a standard USB-C cable, offering a convenient and flexible power option. This method is especially useful for field use or travel, ensuring your TR-1000 stays powered without needing specialized equipment.

Charge the TR-1000 with a USB-C cable

1. Lift the **rubber plug** to access the 3.5 mm and USB-C ports.
2. Attach **one end of the USB-C cable** to the charging port on the TR-1000.
3. Plug the **other end of the cable** into a compatible USB power source, such as a wall adapter, power bank, or computer that supports 15 W (5V @ 3A).

The device begins charging immediately, and the battery icon shows a lightning bolt on the belt pack display.

2.2.4 Bluetooth

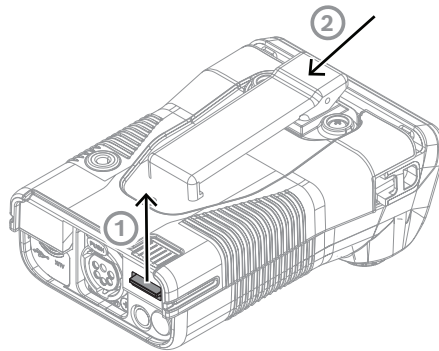
Bluetooth Low Energy (BLE) is a power-conserving variant of Bluetooth. The belt pack uses BLE so the unit can connect for DECT registration. The belt pack is compatible with BLE version 5.3 or above.

Bluetooth Low Energy (BLE) band	2400 MHz to 2483.5 MHz
---------------------------------	------------------------

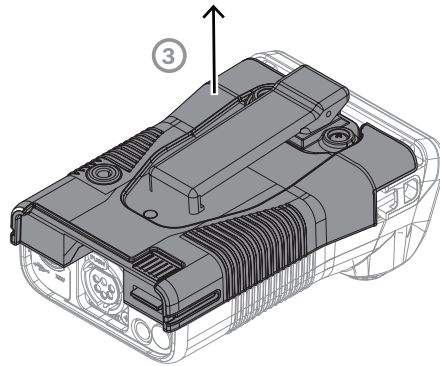
2.2.5 Battery Removal and Replacement

Remove the battery:

1. Lift the **battery release button** (1) up.
2. Simultaneously push the **belt clip** (2) toward the bottom of the device to disengage the battery.
 - Apply a small amount of extra force if needed to remove the battery.
 - Note that the battery will only slide a short distance before stopping.

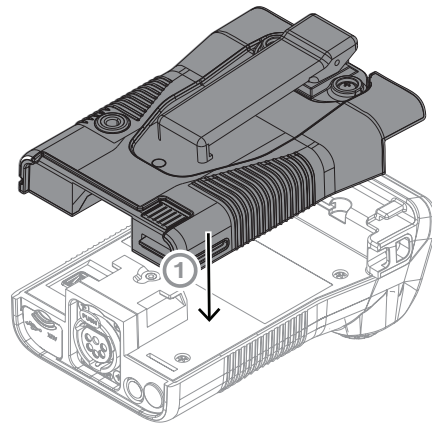


3. Remove the **battery** by lifting it up and away from the device.

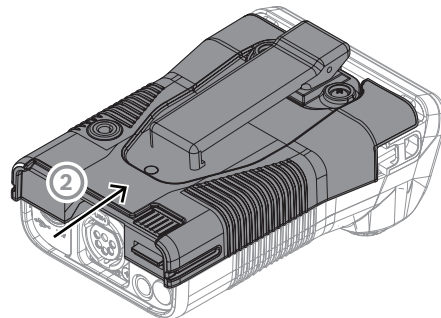


Replace the battery

1. Align the **battery** with the proper grooves on the device.



2. Slide the **battery** toward the top of the device until you hear it click into place.



2.2.6

Lanyard Installation

Using a lanyard with TR-1000 allows the unit to be worn around the neck, on the shoulder or across the body, rather than clipped to a belt. The lanyard is ideal for users wearing clothing that does not support traditional belt clips, such as dresses, coveralls, or lightweight outfits. This setup improves comfort and mobility while keeping communication equipment easily accessible.

For safety, ensure the lanyard is securely fastened, adjusted to prevent neck or shoulder strain, and positioned to avoid snagging on gear or obstructing movement during active use.

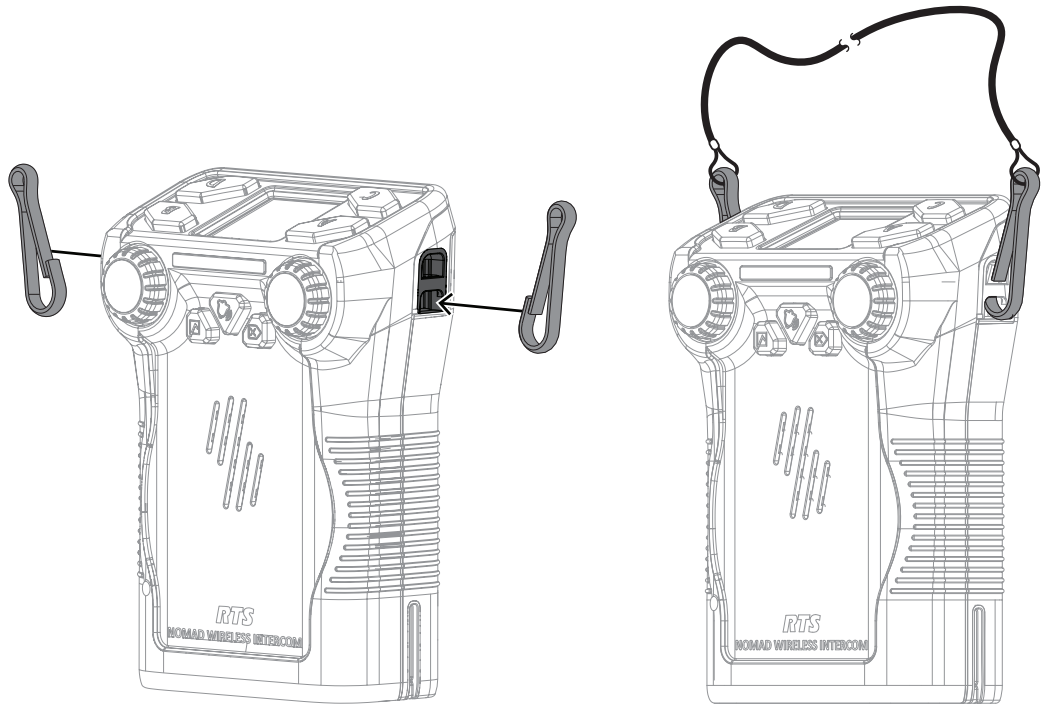


Notice!

You may need to remove the battery if it blocks the clip from being installed properly. The battery can interfere with placement, so taking it out allows you to position the clip securely.

Attach the lanyard

1. Find the **attachment points** on the beltpack.



2. Clip the **lanyard** to each attachment point.
3. Put the **lanyard** around your neck, shoulder or cross-body for comfort and easy access.
4. Adjust the **length** so the beltpack sits at a convenient height.

2.2.7

Belt Clip Installation and Removal

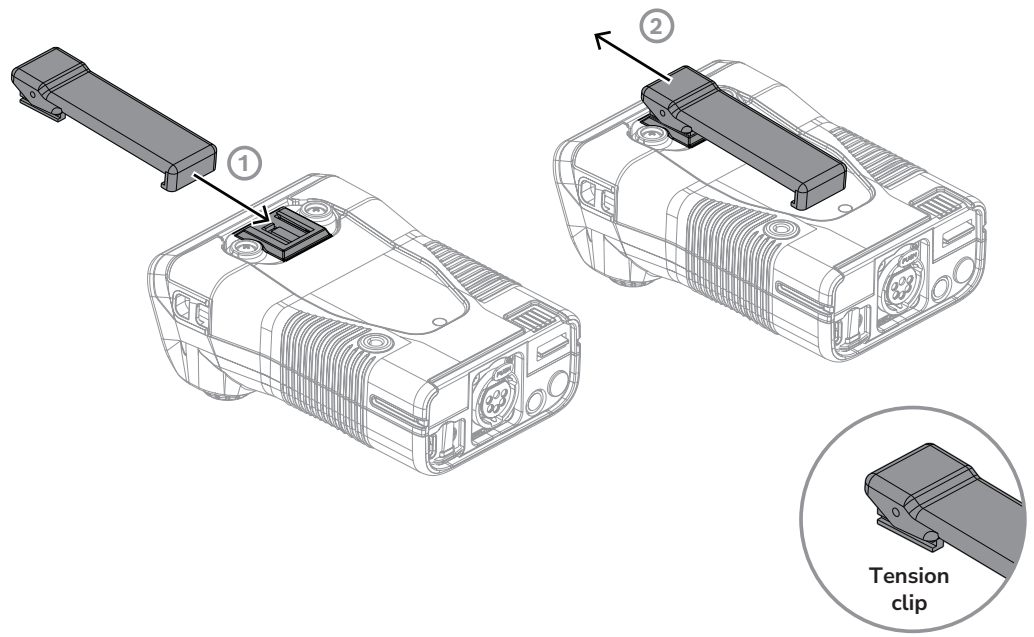
The belt clip allows users to wear the beltpack securely on a belt or garment, keeping the device stable, accessible, and hands-free during operation. Proper installation ensures the clip locks firmly into place, maintains correct orientation, and prevents unnecessary stress or damage to the beltpack.

- ▶ On the back panel of the beltpack, align and slide the **belt clip** into the belt clip track to install the belt clip (1).

A click is felt/heard when the belt clip is securely in place.

OR

On the back panel of the beltpack, while lifting up on the **tension clip**, carefully slide the **belt clip** out of the belt clip track (2).



2.3 CB-1000 Overview

2.3.1 Controls and Connections

For information on mounting, see the mounting guide that comes with the product or visit www.rtsintercoms.com.

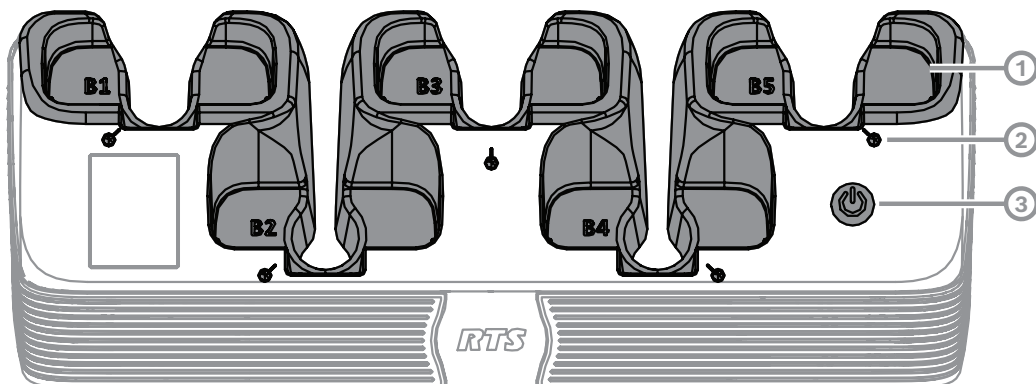


Figure 2.7: CB-1000 Front View

1	Charging bay (x5)
2	LED (x5) For more information on the LED states, see <i>Indicators and Behaviors</i> , page 33.
3	Power button

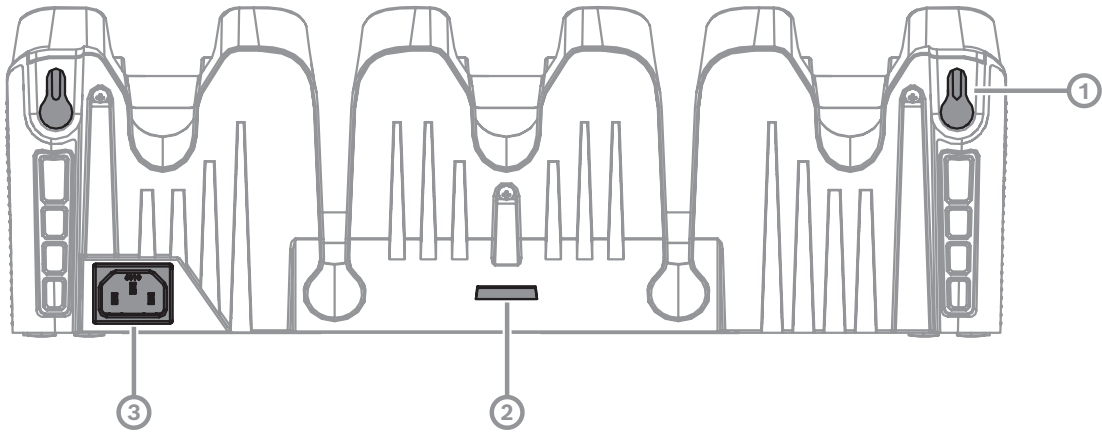


Figure 2.8: CB-1000 Back View Horizontal Mount

1	Horizontal Hanger (x2)
2	Locking plate
3	Power Connection

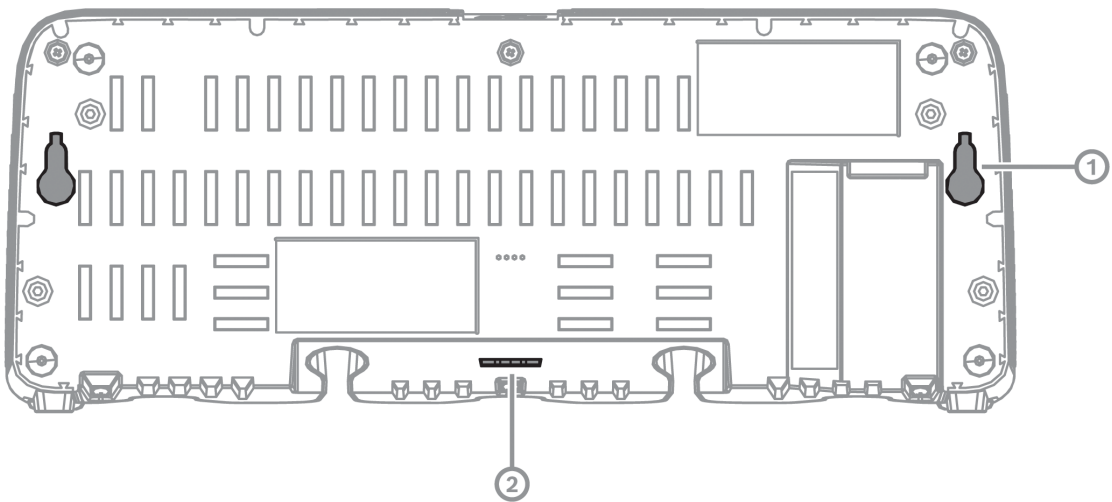


Figure 2.9: CB-1000 Back View Vertical Mount

1	Vertical Hanger
2	Locking plate

2.3.2

Indicators and Behaviors

This section explains the CB-1000 LED indicators and describes how the beltback and its battery behave during charging.

Power Indicators

Charger Turn On	Hold power button down for two seconds. All bay LEDs flash red, turn off quickly, then all flash green, finally the power button backlights green indicating the unit is on.
Charger Turn Off	Hold the power button down for four seconds. The green backlit power button turns off indicating the unit is off.
ECO mode	The charger automatically activates ECO mode 10 minutes after it completes charging in a full charger, or 10 minutes after it turns on while empty. When the power light flashes at half brightness with a 1-second on / 2-second off pattern, the charger has entered ECO (power-saving) mode. Press the power button for 1 second to exit this mode.

Bay Indicators

LED	Description
Solid green	Completely charged
Blinking green	> 75% charged, still charging
Blinking amber	< 75% charged, still charging
Blinking red	Battery over/under temperature
Solid red	Battery error
No indication	Nothing in bay or CB-1000 is turned off

Battery and Beltback Behavior

There are two ways to charge the TR-1000:

- CB-1000 5-bay Charger
- USB-C Cable

CB-1000 5-bay charger	USB-C Cable
Can charge the battery installed in the unit or separately in charging bay.	Charges only when the cable is connected to the beltback.
Beltback can be on or off.	Beltback can be off or on.
<ul style="list-style-type: none"> - When the beltback is powered on and inserted into the charging bay: <ul style="list-style-type: none"> - A lightning bolt icon appears over the battery symbol on the home screen to indicate active charging. 	When On: <ul style="list-style-type: none"> - A green charging icon appears in the lower-right corner of the beltback display screen When Off:

CB-1000 5-bay charger	USB-C Cable
<ul style="list-style-type: none"> - The lightning bolt disappears once the battery reaches 100% State of Charge (SoC), but the beltpack remains on. - In maintenance mode, the battery drains to 88% SoC, the charger resumes charging and the lightning bolt reappears. - This charge-discharge maintenance cycle continues as long as the beltpack remains in the charger while powered on. - All buttons remain functional, allowing users to access any screen or feature. - RF functionality remains fully operational during charging. 	<ul style="list-style-type: none"> - Displays the Charge State menu item. This screen cannot be exited or interacted with; it exists solely to show battery-charging progress and the estimated time remaining until the battery is fully charged. - Pressing the power button automatically turns the unit on and establishes the connection
<p>Best for:</p> <ul style="list-style-type: none"> - Dock charging 	<p>Best for:</p> <ul style="list-style-type: none"> - Portable charging - Field use - Direct connection

3 System Overview

Key Terms

- **RF (Radio Frequency):** allows equipment to send and receive information without a physical cable connection.
- **RSSI (Received Signal Strength Indication):** This measures the strength of the RF signal between the beltpack and the access point.
- **FER (Frame Error Rate):** This measures the quality of a signal connection by indicating the ratio of errored frames to the total number of transmitted frames (lower is better).
- **DECT:** This stands for Digital Enhanced Cordless Telecommunications, the wireless protocol used by NOMAD.
- **BPID:** This is a unique 10-digit hexadecimal identifier assigned to each TR-1000 beltpack.

3.1 System Description and Drawings

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 a small system: 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. Each AP-1000 can support a maximum of ten TR-1000 connections at any given time.
- 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.

Small systems

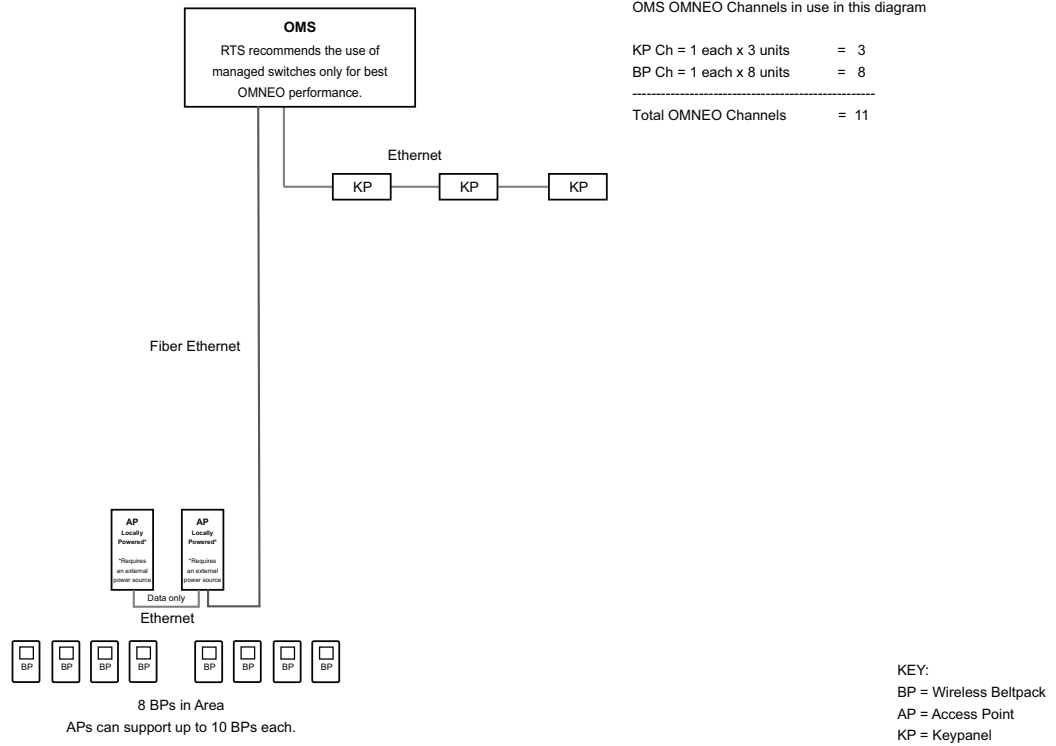


Figure 3.1: Small system - coverage for remote area

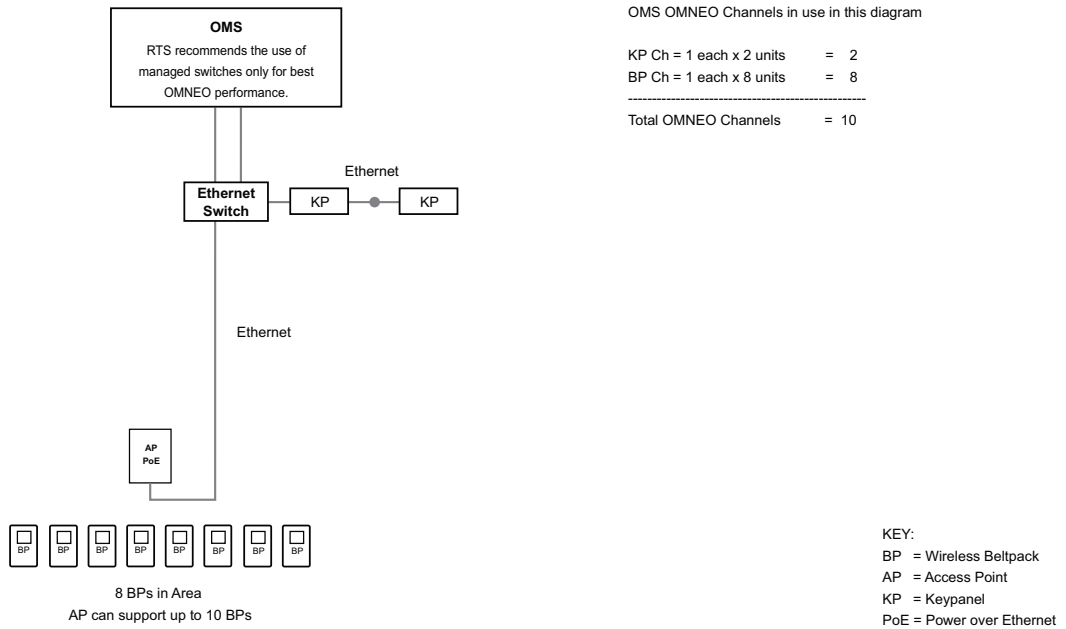


Figure 3.2: Small system - coverage over 1 area

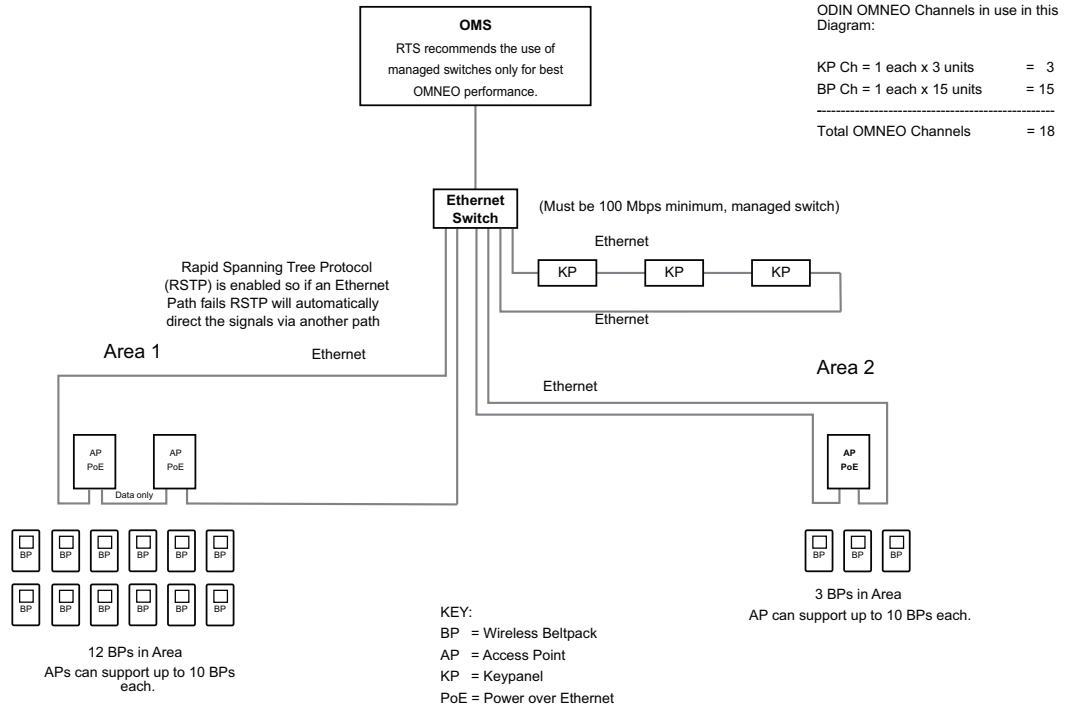


Figure 3.3: Small system - coverage over 2 areas

Medium System

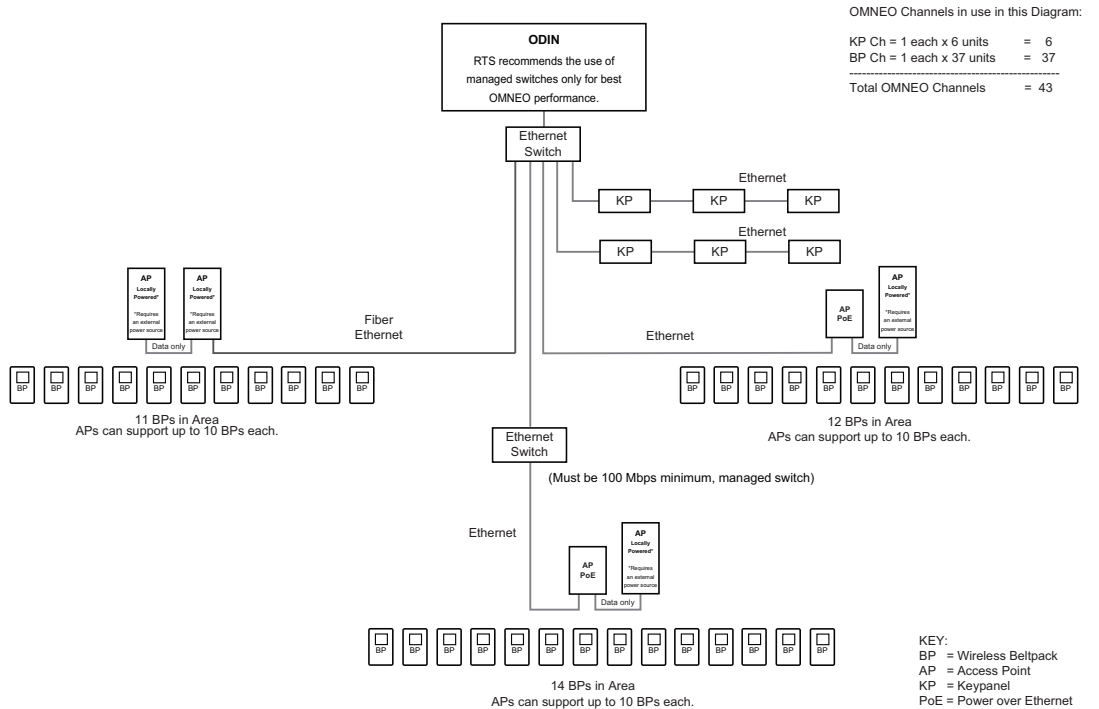


Figure 3.4: Medium system - coverage over one large area

Large System

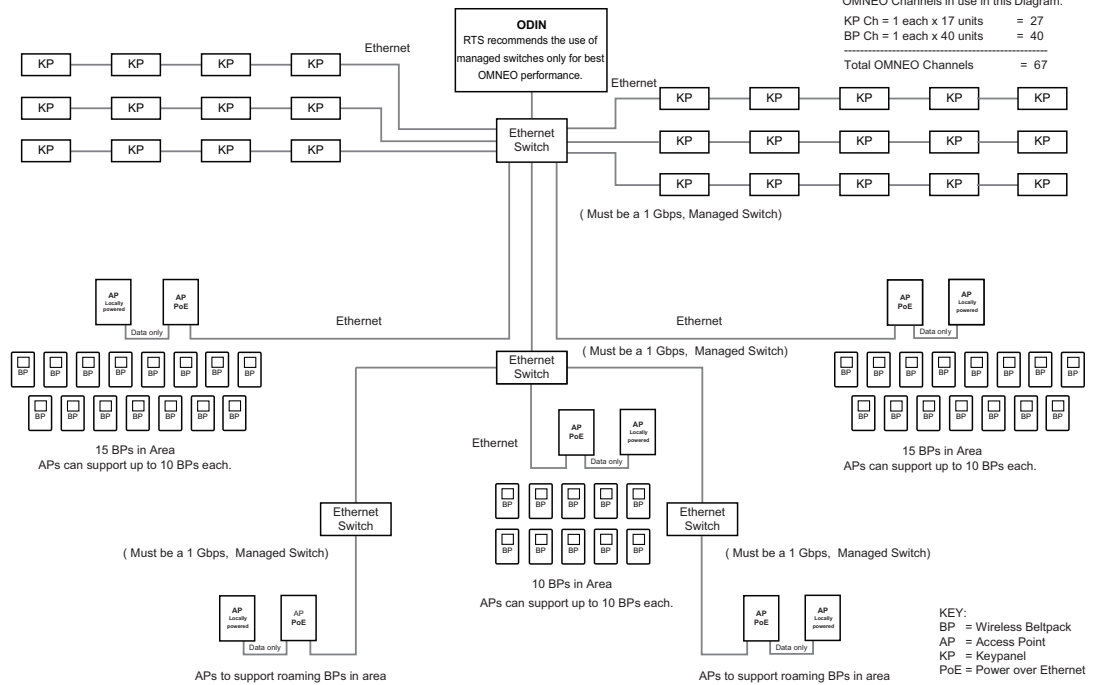


Figure 3.5: Large system - coverage over one large area

3.1.1

System Checklist

- Each beltpack has only one HOME access point.
- When subscribing a beltpack to the system, the beltpack must be within 40 feet (12 meters) of an access point that is in registration mode in that system.
- Each access point can support up to 10 RF connections at a given time. Once the 10 DECT slots are occupied, other roaming beltpacks have to connect to other APs.
- Always have Ethernet connected to an access point before powering up the access point.
- The Ethernet network follows standard Ethernet practices.
- Use only CAT5e or better Ethernet cables.
- Use only Layer 3 IP routing-capable, managed switches.
- 100 Mbit networks can only have up to seven hops. A link between the Matrix and an Ethernet switch counts as a hop, each link after daisy-chaining through an access point counts as a hop.
- 1 Gbit networks can only have up to 20 hops. A link between the Matrix and an Ethernet switch counts as a hop, each link after daisy chaining through an access point counts as a hop.
- The overlap RF coverage area between two adjacent access points should have an RSSI reading of -80 dBm or better from each access point for error free roaming.
- In a high density beltpack coverage area with more than six access points or more than 10 access points covering the area, all access points must be within each other's -70 dBm RF coverage contour (-70 dBm or better on the beltpack's RSSI site survey screen).

3.2

Access Points

The AP-1000 converts DECT signaling to the OMNEO protocol which uses Audinate's Dante digital high-quality audio transport over IP.

Connect AP-1000 units to ODIN or OMS directly over Ethernet, and to ADAM/ADAM-M using an OMI card. For more information, refer to the corresponding manuals, which you can find at www.rtsintercoms.com. The intercom maintains a bi-directional OMNEO channel for each belt-pack. The AP-1000 acts as the interface between the intercom and the belt-pack communicating through DECT.

There are two types of access points in a Nomad system:

- Home AP
- Visitor AP

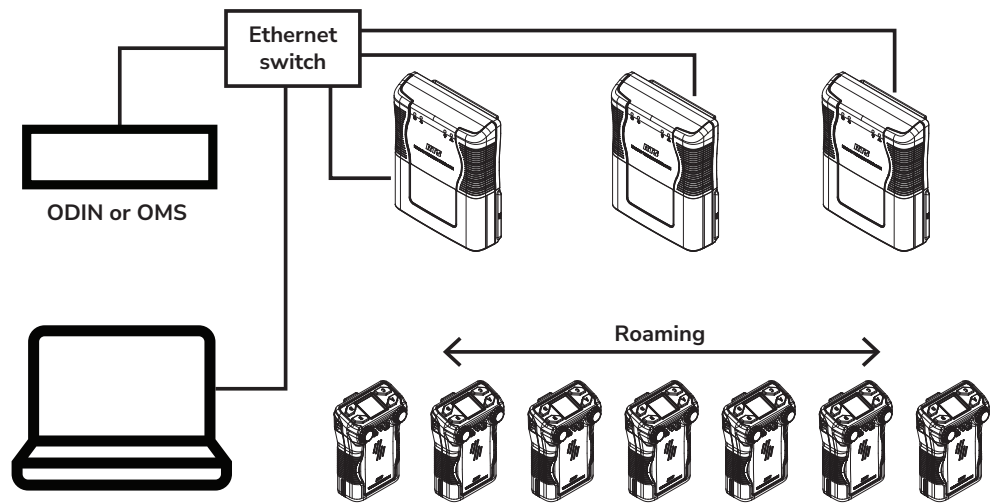


Figure 3.6: Components of a NOMAD system

Home AP

The Home AP is any AP-1000 that configures the belt-pack's BPID (Belt-pack ID) to one of its available OMNEO channels using IPedit.

Visitor AP

The Visitor AP is any AP-1000 that does not configure the BPID to one of the OMNEO channels in IPedit. The Visitor AP acts like a bridge that allows the visiting belt-pack to communicate within the system while outside of its Home AP radius.



Notice!

The Home and Visitor labels are in reference to the belt-pack. A belt-pack's Home access point could be a Visitor access point to a different belt-pack.



Notice!

When deploying multiple AP clusters, ensure that each cluster is configured with a unique AP System ID to prevent identifier conflicts and maintain proper cluster isolation.

3.3 Roaming

The Nomad system enables beltpacks to roam between the radio coverage areas of one AP-1000 and another AP-1000. The system of access points monitors and maintains roaming, making it transparent to the user. Handoff from one coverage area to another is nearly seamless. Roaming does not involve any processing on the matrix, allowing the OMNEO bit stream to be completely uninterrupted.

In order for seamless hand-off to occur, the AP-1000 RF coverage area must overlap. This enables the system to send the beltpack hand-off commands to both the current access point and the new access point in the coverage area.

The -80 dBm RSSI (Received Signal Strength Indicator) contour line shown in the figure below is a number related to the access point's RF signal strength as received at the beltpack. The beltpack's site survey screen measures this when testing an access point location. For more information, see *Site Survey*, page 43.



Notice!

When there is little or no coverage overlap, a beltpack can experience undesirable audio break-ups before the hand-off to a new access point occurs.

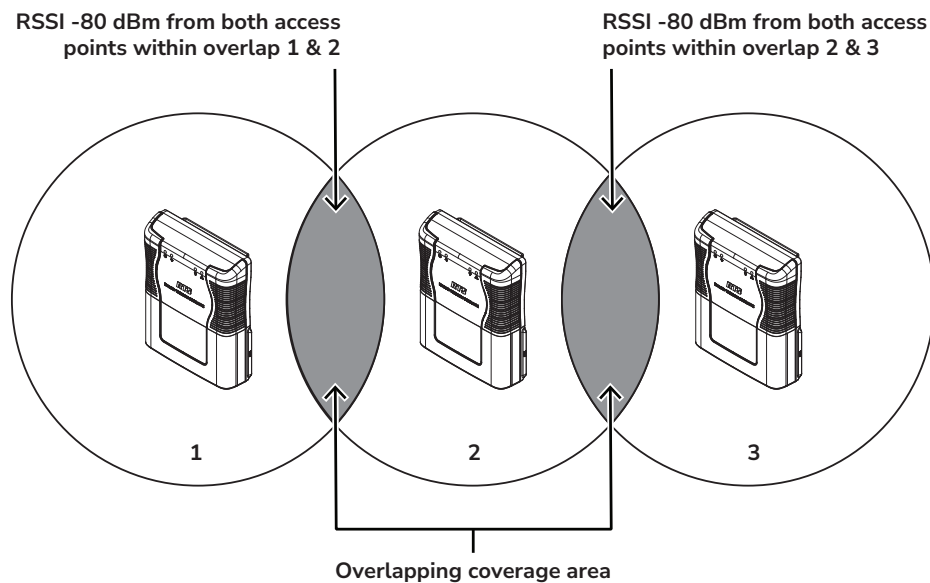


Figure 3.7: Simple roaming diagram

When access points boot, they scan the area and pick an RF carrier and time slot based upon the other beacons detected in the area. Each access point in a system must be set to a unique AP ID using the IPedit application.

In the United States, regulations limit systems to five carriers, providing a total of 50 time slots because each carrier supports ten. European systems, however, can operate with ten carriers, doubling the available capacity to 100 time slots. This carrier-to-slot structure defines the maximum number of simultaneous communications the system can support across all connected access points. In high-density beltpack areas that require more than five access points, limited RF overlap may prevent some access points from detecting frequencies already in use, causing roaming issues. In US systems, the sixth access point causes problems because it must reuse carrier frequencies and time slots. EU systems avoid this issue until eleven access points overlap in the same area.

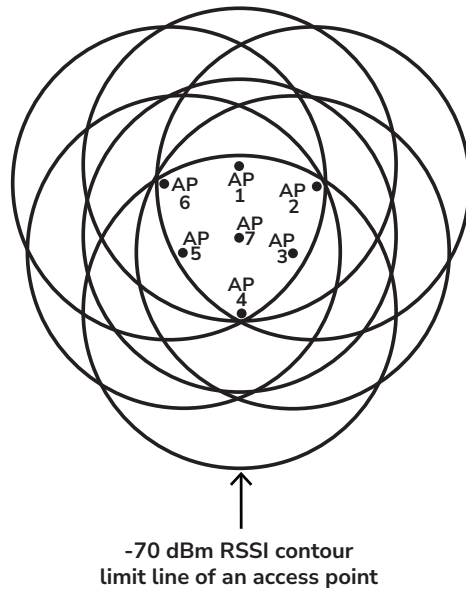
For example, in a six-access-point system, a roaming beltpack can lose communication when it enters the sixth zone if all time slots are already occupied by the other access points, and any time slot the sixth zone does use subtracts capacity from the other five zones, potentially leaving another user without communication. The same limitation applies in European systems: with eleven access points, a beltpack entering the eleventh zone cannot communicate if all time slots are already in use, and any time slot the eleventh zone does use reduces capacity in the other ten zones.

Avoid these scenarios by designing high-density areas with good access point overlap. We recommend that you use 80% of the system’s maximum capacity. This translates to using 40 timeslots in a 50 timeslot system for the US and 90 timeslots in a 100 timeslot system for Europe. The following graphic shows how all seven access points can detect and coordinate carriers and time slots with each other, even when there are more than six devices present. The -70 dBm RSSI contour line is measured by a beltpack using the site survey screen when testing an access point location. For more information, see *Perform a site survey*, page 44.



Notice!

If you use exceed the number of timeslots in your region, place all access points in a location where they can detect each other.



To achieve the maximum number of users in a single area, you must assess the number of contour lines that need to overlap to give coverage to all the users in that space.

Figure 3.8: High density roaming

Home Connections



Notice!

When configuring home connections, assign the configured access point channels to the ODIN, OMS, and OMI card in the Matrix. For more information, see *Configure the AP-1000 and Assign the TR-1000*, page 53.

Each access point channel is a bi-directional OMNEO channel for audio, command, and control with the matrix.

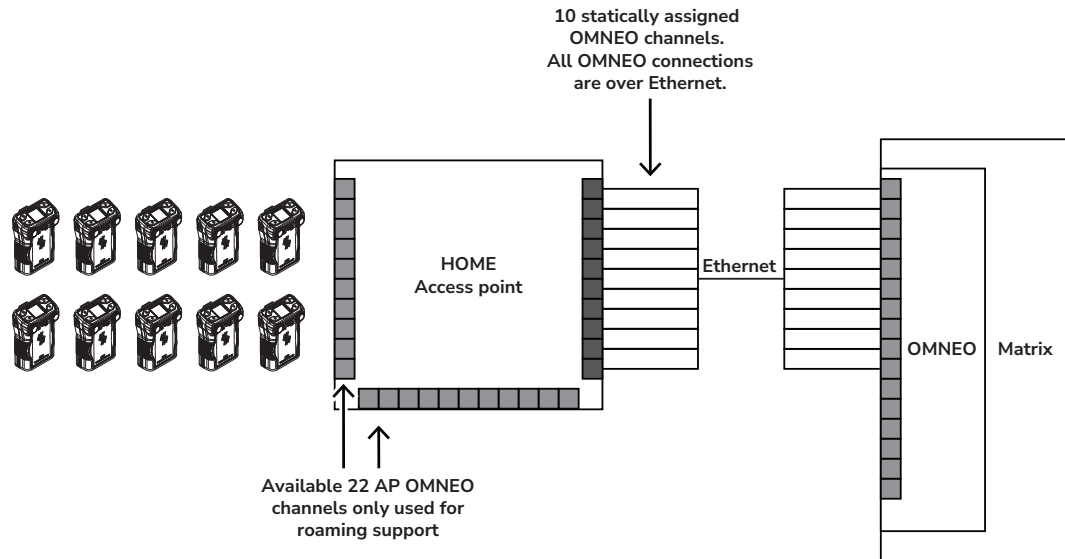


Figure 3.9: Home access point to matrix system drawing

Home to Visitor Roaming

When a beltpack roams from its Home AP to a Visitor AP, the system establishes a new OMNEO connection between both access points. However, before using the new connection’s OMNEO channel, the system must confirm that the new DECT RF connection is good. The system establishes the new DECT RF connection before breaking the old connection. This means that the existing DECT RF link to the Home AP remains active until the system confirms the new DECT RF link to the Visitor AP. Once confirmed, the system drops the existing DECT RF link and uses the new OMNEO channel from the Visitor AP.

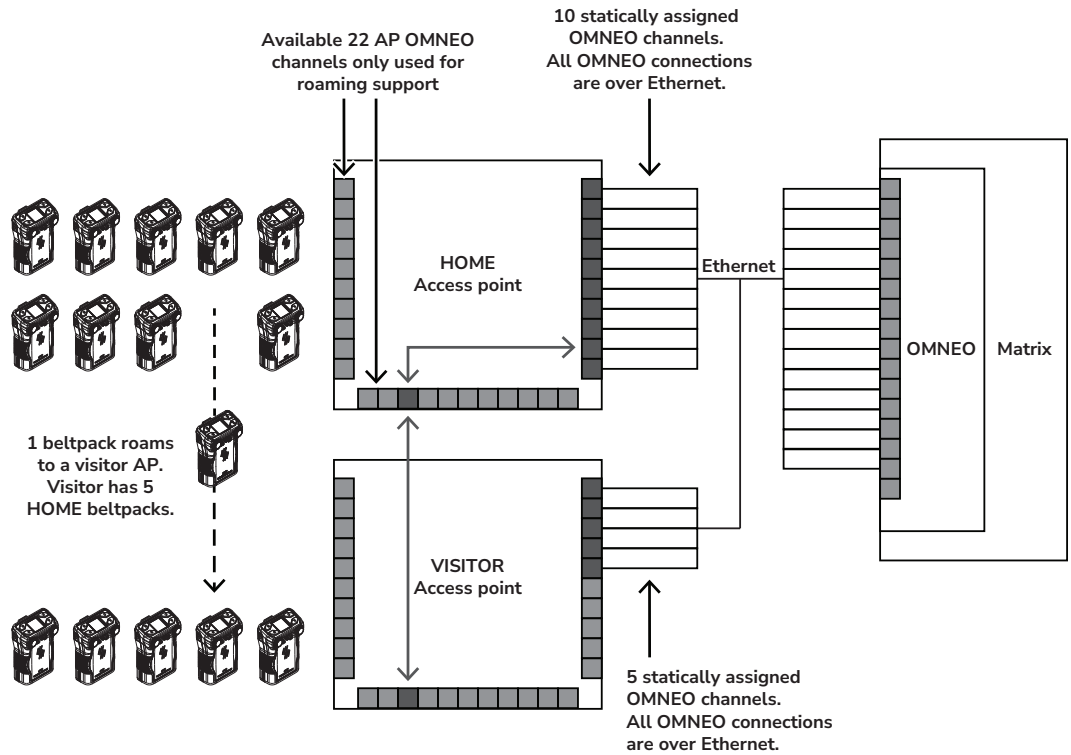


Figure 3.10: Home access point to visitor access point roaming system drawing

3.4 Site Survey

Conducting a site survey is essential for planning and designing the NOMAD wireless intercom system. You can use the Site Survey application, which comes standard on the TR-1000 belt-pack, to map the radio frequency (RF) coverage of AP-1000 access points. This ensures reliable communication, even in challenging environments with obstacles like metal walls or reinforced concrete.

Prerequisites

Hardware:

- AP-1000 access point with a power supply or Power over Ethernet (PoE).
- TR-1000 belt-pack with a charged battery.
- Computer with an Ethernet port.
- Standard Ethernet cable.

Software:

- IPedit application installed on the computer.

Optional:

- Site map or building blueprint for marking coverage areas.

3.4.1

Perform a site survey

A site survey identifies the optimal access point locations to deliver the desired RF coverage. During the survey, a beltback communicates with an access point placed at the test location. Using the TR-1000 in the site survey screen, the user views the RSSI (Received Signal Strength Indication) and FER (Frame Error Rate) to evaluate and confirm the RF coverage.

Pre-conditions

- A beltback that is successfully registered to an access point.
- A site map or blueprint of the building that you can mark up.
- You can supply power to the access point at the possible test locations by using power extension cables or battery power.

To **perform a site survey**, do the following:

1. Place the **AP-1000** in the location you want to test for coverage.
2. Power on the **AP-1000**.
The access point is ready when the Power, Matrix-connectivity and Status LED are solid green.
3. Power on the **TR-1000**.
The splash screen momentarily shows before the home screen appears.



Notice!

When the beltback finishes booting, the home screen of the beltback indicates a wireless connection. If the wireless connection does not display, verify the settings in Set up Site Survey.

4. Navigate to **Site Survey (Setup > Status > Advanced > Site Survey)**.
5. Mark the **AP-1000 location** on the building layout diagram.
6. Walk through the **areas of interest** with the TR-1000 while monitoring the site survey screen.



Notice!

Record the RSSI and FER number on the building layout diagram at several locations throughout the area of interest.



Notice!

When you collect enough data points, use the coverage limits to draw a line on the building layout. If surveying for roaming coverage, refer to the access point coverage in Roaming.

3.4.1.1

Conduct the Site Survey

Before you begin:

- Ensure the TR-1000 is registered to the AP-1000
- Have a site map or blueprint to mark coverage areas
- Power on the AP-1000 at test locations

Steps

1. Place the **AP-1000** at the test location.
2. Power on the **AP-1000**.
3. Power on the **TR-1000**.
4. Verify the **wireless connection** on the home screen (DECT/RSSI icons).
5. Press the **SEL/MENU button**.

6. Navigate to **Site Survey** (Setup > Status > Advanced > Site Survey).
7. Press the **SEL/MENU** button.
 - The site survey screen displays RSSI, FER, and other metrics.
8. Mark the **AP-1000's location** on the site map.
9. Walk through the **areas of interest** with the TR-1000 while monitoring the site survey screen.
10. Record **RSSI and FER values** at multiple points on the site map.

3.4.1.2

Interpret Site Survey Metrics

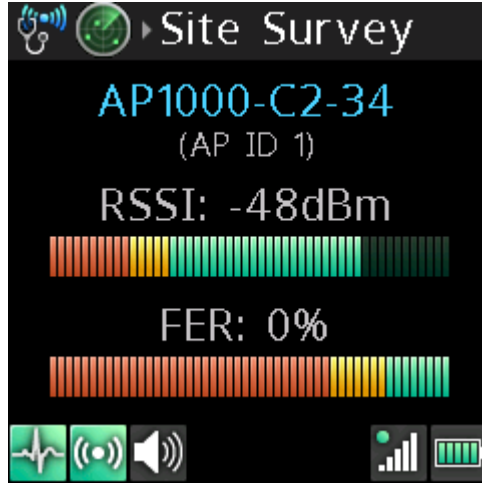


Figure 3.11: Site Survey Screen

Key RF metrics

Metric	Description
AP ID	Unique identifier for each AP-1000
RSSI	Signal strength (higher is better)
FER	Frame rate error (lower is better)

RSSI Levels

RSSI thresholds for good, marginal, and weak are typically found experimentally.

Range	Color	Description
-97 dBm to -115 dBm	Red	Weak: poor or no reception
-88 dBm to -96 dBm	Yellow	Marginal: some audio dropouts
>-20 dBm to -87 dBm	Green	Strong: Good RF coverage

FER Levels

Range	Color	Description
29% to 100%	Red	Frequent dropouts
15% to 28%	Yellow	Some dropouts
0% to 14%	Green	Reliable coverage

Mapping

- Draw coverage boundaries on a site map based on RSSI/FER data.
- For roaming systems, ensure overlapping coverage areas.

3.4.1.3

Tips for Optimal Coverage

- Adjust AP-1000 Placement:
 - Test multiple locations to improve RF coverage if RSSI is low or FER is high.
- Roaming Systems:
 - Ensure coverage areas overlap with RSSI > -80 dBm from each AP-1000 for seamless roaming.
- High-Density Areas:
 - When using multiple AP-1000s for many beltacks, position access points within -70 dBm of each other (RSSI \geq -70 dBm).

3.4.1.4

Troubleshoot Site Survey

Solutions to frequent problems encountered during site survey setup and execution.

Issue	Possible Cause	Solution
Beltack fails to register to AP-1000	Incorrect System ID or PIN entered	Verify the System ID (default: B2B) and PIN (default: 0000) in IPedit; re-enter on beltack. Ensure beltack is within 40 ft (12 m) of AP-1000.
No wireless connection on beltack	AP-1000 not powered or not synced	Check AP-1000 power, Matrix-connectivity, and Status LEDs are green. Verify Sync Master setting in IPedit and resend changes.
Computer cannot connect to AP-1000	Incorrect IP configuration	For static IP, ensure computer is set to 169.254.0.1 with subnet 255.255.0.0. For dynamic IP, confirm DHCP is enabled in AZedit
Poor RSSI/FER readings	Obstacles (e.g., metal walls) or interference	Reposition AP-1000 to a higher or more open location. Test alternative locations and note RSSI/FER on site map
AP-1000 not listed in IPedit	Network issue or AP-1000 not powered	Ensure AP-1000 is powered (solid green light) and connected via Ethernet. Restart IPedit or refresh device list
Beltack shows no DECT connection	Beltack not assigned to AP-1000 channel	In IPedit, enter the beltack's BPID (10-digit hexadecimal on beltack display) and send changes

Issue	Possible Cause	Solution
Site survey screen not accessible	Beltpack not registered or in wrong menu	Confirm registration (DECT and RSSI icons active on beltpack). Navigate to System Setup > Site Survey on beltpack menu

4 Installation

4.1 NOMAD Reference Clock Requirements

The NOMAD AP-1000 requires a reference clock with tighter timing accuracy than other RTS products. The system reference clock used with a NOMAD Wireless Intercom System must meet the following criteria:

Description	Min.	Nom.	Max.	Unit
Reference timing accuracy Across operating temperature of the AP-1000	-5	±3	+5	ppm



Notice!

ODIN's internal reference does not meet this accuracy requirement and cannot be used as the master system reference.

There are two main ways to provide an accurate reference clock to NOMAD access points:

1. Standalone Master Reference Clock (meets requirements above)
2. AP-1000 Internal Reference Clock

Clock Source	Protocol	Deployment Context	Requirements and Notes
Standalone	PTPv1	OMNEO, Dante, AES67	If NOMAD is being deployed into an ODIN/OMNEO system with PTPv1 clocking, either a standalone PTPv1 reference will need to be present in the system, or a reference WORDCLOCK will need to be driven into the ODIN's External Sync connection, enabling the ODIN to output a PTPv1 clock with the necessary accuracy.
Standalone	PTPv2	ST-2110	If NOMAD is being deployed into an ST 2110 system with PTPv2 clocking, NOMAD can receive its reference from a standalone PTPv2 clock master.
AP-1000	PTPv1 or PTPv2	Any	Each AP-1000 has an internal clock that meets the required accuracy for correct operation. If the system lacks a qualifying external reference, an AP-1000 can be designated as the clock master for the system.

4.2 Prepare the Hardware

Before you begin:

- Ensure all equipment is powered off before connecting cables.
- If the AP-1000 was previously configured with a static IP or connected to a matrix, reset the device to its factory defaults. For more information, see *Perform a Factory Reset on the AP-1000*, page 200.

Connect the AP-1000

Standalone Setup: Use an Ethernet cable to connect the AP-1000 directly to the computer's Ethernet port.

Matrix-Integrate Setup: Connect the AP-1000 to a network switch or matrix using an Ethernet cable.

Power the AP-1000

You can power the AP-1000 in two ways:

- Use Power over Ethernet (PoE). If you use PoE, ensure that the switch supports PoE.
- Use a power supply. Connect the AP-1000 to a power supply and then plug the power supply into the wall outlet.

**Notice!**

Verify the Power, Matrix-connectivity, and Status light are solid green, indicating the AP-1000 is ready to use.

4.3

Connecting the AP-1000 and the TR-1000

IPedit is a software tool used for managing and editing IP addresses and related network configurations. It typically allows users to modify IP address settings, manage DHCP assignments, and handle DNS (Domain Name System) configurations.

Minimum required equipment

- AP-1000
- TR-1000 (one or more devices)
- Matrix
- PoE switch (803.3af Class 3) or higher or a DC power supply
- 4x - Cat5e or better Ethernet cables
- PC, with IPedit

Before you begin:

- Ensure the AP-1000 is on and connected to the network.

4.3.1

Setup an Existing System with a Static IP Address

Use this method when connecting to a system with a static IP address. Assign a Link Local address to the computer to enable communication with the AP-1000.

Before you begin:

- This setup applies to Windows 10 and Windows 11. For all other operating systems, consult your network settings documentation.
- If the AP-1000 was previously configured with a static IP or connected to a matrix, reset the device to its factory defaults. For more information, see *Perform a Factory Reset on the AP-1000*, page 200.

Steps

1. Ensure the **AP-1000** is connected to the computer via Ethernet.
2. On the computer, go to **Settings > Network & Internet > Ethernet**.
(Alternatively, go to Control Panel > Network & Share Center > Change adapter settings.)

3. Right-click **Ethernet** and select **Properties**.
4. Select **Internet Protocol Version 4 (TCP/IPv4)**.
5. Click **Properties**.
6. Select **Use the following IP address**.
7. Enter the **IP address**.
8. Enter the **subnet mask**.
Leave the rest of the fields empty.
9. Click **OK** to close the IPv4 properties window.
10. Click **Close** to exit the Ethernet properties window.

Troubleshooting

- If the AP-1000 does not connect, verify the Ethernet cable and power status is working (solid green light).
- If connection fails, reset the AP-1000 and repeat the process.

4.3.2

Setup an Existing System with a Dynamic IP Address

Use this method when connecting to an existing matrix system with a DHCP server. The AP-1000 obtains an IP address through DHCP (Dynamic Host Configuration Protocol).

Before you begin:

- Ensure the matrix's DHCP is enabled in the AZedit software application.
- If the AP-1000 is already part of an operating system with a registered TR-1000, no further IP configuration is needed. Power off other AP-1000 devices to isolate the tested access point.

Steps

1. Use an Ethernet cable to connect the **AP-1000 to the matrix or network switch**.
If the switch is not PoE, connect the AP-1000 to a power supply.
2. Power on the **AP-1000**.
A solid green light appears.
3. Open the **IPedit software**.
4. Configure the **matrix** with the AP-1000.

Troubleshooting

- If the AP-1000 does not receive an IP address, confirm that DHCP is enabled in AZedit and check the network switch connections.

4.3.3

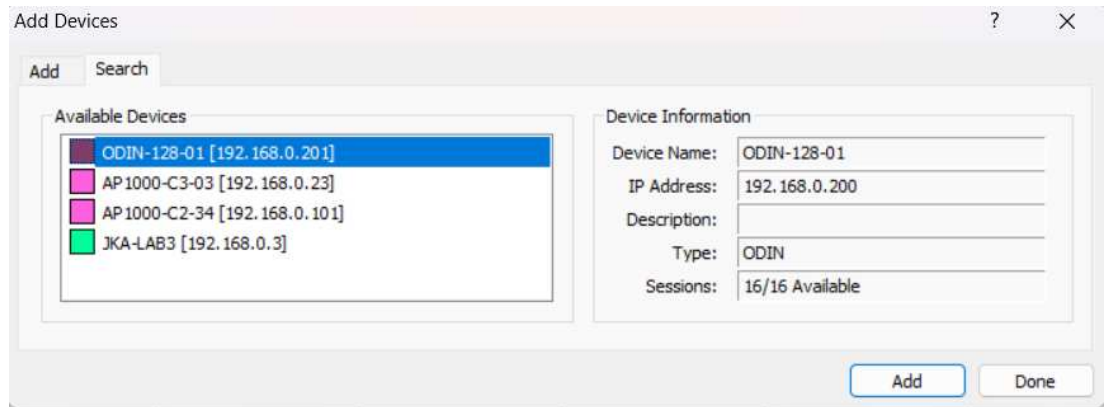
Add the Matrix to the Device Catalog in IPedit

Before you begin:

- Verify the ODIN, OMS, or ADAM M is powered on.
- Note the IP address of the intercom.

Steps

1. Open **IPedit**.
2. From the Device menu, select **Add**.
The Add Devices Window appears.
3. Select the **ODIN, OMS, or OMI card**.
The Add button becomes active.

**Notice!**

If the device is not shown in the Available Devices list, click the Add tab, enter the device IP Address manually, and then click the Find button.

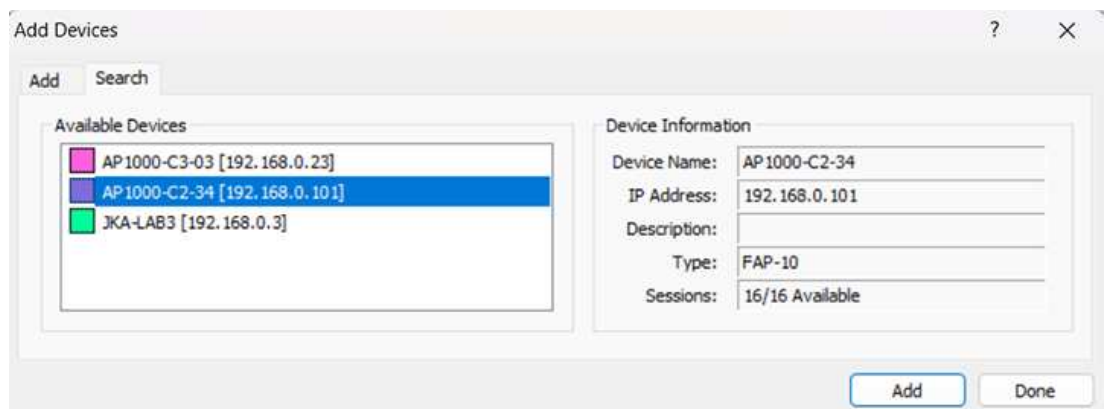
4. Click **Add**.
The device appears in the device catalog.
5. Click **Done**.
The Add Devices window closes.

4.3.4**Add the AP-1000 to IPedit****Before you begin:**

- Confirm the AP-1000 is powered on.

Steps

1. Open the **IPedit software application**.
2. From the Device menu, select **Add**.
The Add Devices screen opens.



3. In the Add Devices window, select the **AP-1000**.
4. Click **Add**.
The AP-1000 appears in the Device Catalog.
5. Click **Done** to close the window.

Troubleshooting

- If the AP-1000 does not appear, verify it is powered on and connected. Refresh the device list in IPedit.
- To enter the IP address manually, click the Add tab, enter the IP address, and then click the Find button.

4.3.5 Configure the Matrix using IPedit

Steps

1. In the Device Name field, enter the **device name**.



Notice!

Changing the device name causes the device to reboot. It is not necessary to change the device name. However, if changed, it is best to do this early in the setup so revisiting other devices that connect to this device and updating them later is not necessary.

2. In the Description field, enter a **description**, if desired.
Using the Channel Configuration and Status Pane

OMNEO	Channels 1-16	Channels 17-32	Channels 33-48	Channels 49-64	Channel
	Channel 49	Channel 50	Channel 51		
Channel Configuration					
Audio Transport	OMNEO	OMNEO	OMNEO		
Intercom Alpha	ODIN : N049	ODIN : N050	ODIN : N051		
Channel Description					
Destination Type	AP-1000	AP-1000	AP-1000		
Destination Device Name	Sys-1-IPS-09	Sys-1-IPS-09	Sys-1-IPS-10		
Destination IP Address	192.168.6.5	192.168.6.5	192.168.6.6		
Destination Description					
Destination Channel	Channel 9	Channel 10	Channel 1		
Destination Channel Description					
Channel Input Gain	0 dB	0 dB	0 dB		
Channel Output Gain	0 dB	0 dB	0 dB		

3. In the Channel Description field, enter a **channel description**, if applicable.
4. From the Destination Type drop down menu, select **AP-1000**.



Notice!

The Destination Type does not need to be selected if using the Browse window to select the device. It fills the Type and IP Address automatically. The type is AP-1000.

5. Enter the **device name** in the Destination Device Name field.
OR
Enter the **IP address** of the device in the Destination IP Address field.
OR
Click the **... button**.
The Discovered Devices Window appears.
 - Expand the **tree** to view the destination devices available.
 - From the expanded tree, select the **destination device**.
 - Click **OK**.
6. Select the **channel** from the Destination Channel drop-down menu that connects to the intercom.



Notice!

Verify the destination channel aligns with the proper channels of the AP-1000 and vice versa.

7. Send the **changes** to the intercom.

4.3.6 Configure the AP-1000 and Assign the TR-1000

In this step, you link the TR-1000 to a specific AP-1000 channel by using its BPID (Beltpack ID). This process involves identifying the unique Beltpack ID associated with the desired AP-1000 channel, which allows for precise communication and control between the TR-1000 and the AP-1000.

Before you begin:

- Note the AP-1000's System ID and PIN (default: 0000) in IPedit. You will use this to register the TR-1000 to the AP-1000 in the next section.

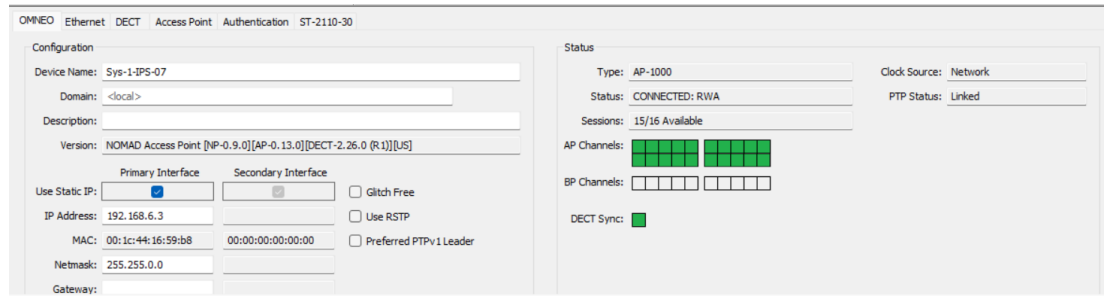


Notice!

The user must sign in to IPedit with network administrator rights to complete these instructions.

Steps

1. From the Device Catalog on the left, select the **AP-1000**.
The Device Information pane populates.



2. Enter a **unique description** for the access point.
3. Verify the **IP Address** is correct, if using a Static IP Address.
4. (Optional) Select the **Disable RSTP check box** to disable the RSTP protocol.
5. Select the **Preferred PTPv1 Leader check box** to make the AP-1000 the system clock master.



Caution!

The NOMAD system requires a clock master that is more accurate than ODIN's internal clock. The NOMAD AP-1000 contains a clock that meets the necessary accuracy requirements for proper operation and must be made the clock master in systems that do not use standalone Master Clocks. System administrators who make use of standalone Master Clocks should consult the NOMAD technical manual to ensure the clock requirements are being met for proper operation.



Notice!

There can only be one active Master Clock in a system at a time. For NOMAD systems with multiple access points, multiple AP-1000's can have the "Preferred PTPv1 Leader" check box selected. Even though only one AP-1000 can be the active master at a given time, this will allow for other AP-1000 units to assume the role of Master Clock, if the primary Master were to fail.

6. Click the **DECT tab** at the top of the window.
The DECT page opens.

OMNEO Ethernet DECT Access Point Authentication ST-2110-30

DECT Configuration

System ID: 024 AP ID: 6

System Name: SYSTEM 24 TX Power: Normal

PIN: 0000

7. Enter the **system ID** for the access point. This field accepts a 3-digit decimal number. The range for this field is 1 through 254.



Notice!

All access points in a system must have the same System ID.

8. Enter the **unique AP ID** for the access point. The range for this field is 1-120.



Notice!

Every AP must have a unique ID within the same NOMAD system and one of the APs must have an APID of 1

9. Set the **PIN** of the access point if you want to restrict TR-1000 registration. 0000 is the default setting and does not prompt for a PIN for registering a TR-1000.

OMNEO Ethernet DECT Access Point Authentication ST-2110-30

DECT Configuration

System ID: 024 AP ID: 6

System Name: SYSTEM 24 TX Power: Normal

PIN: 0000

OMNEO	Channels 1-10		
	Channel 1	Channel 2	Channel 3
Channel Configuration			
Audio Transport	OMNEO	OMNEO	OMNEO
Channel Description			
Destination Type	ODIN	ODIN	ODIN
Destination Device Name	Sys-1-Falcon-Verification	Sys-1-Falcon-Verification	Sys-1-Falcon-Verification
Destination IP Address	-	-	-
Destination Description			
Destination Channel	Channel 21	Channel 22	Channel 23
Destination Channel Description			
Receiver Latency	2 ms	2 ms	2 ms

10. Select the **channel** to configure (for example, Channel 1, etc).



Notice!

When setting up a multiple access point system, distribute the beltpacks equally among all access points.

11. Enter a **channel description**, if applicable.
12. Select the **intercom** to which the channel is connected.
13. Enter the **name of the intercom** in the Destination Device Name field.
OR
Enter the IP address of the **intercom** in the Destination IP Address field
OR
Click the **browse button**.
The Discovered Devices window appears.
 - Expand the **tree** to view the available destination devices.
 - Select the **destination device**.
 - Click **OK**.
 The Discovered Devices window closes.
14. Select the **destination channel** to which the channel is connected.



Notice!

Verify that the destination channel aligns with the channels of the matrix.

15. Power on the **beltpack**.
The BP ID displays on the front panel. This is a 10 digit, hexadecimal number in the format of: BP03:b5:32:40:00.
16. In the IPedit DECT BPID field, enter the **BP ID** to assign to that channel.

OMNEO	Channels 1-10		
	Channel 1	Channel 2	Channel 3
Destination Channel Description			
Receiver Latency	2 ms	2 ms	2 ms
Channel Status			
Connection State	Connected	Connected	Connected
Connection Duration	19:27:34	19:27:32	19:27:32
Connection Drops	1	-	-
Beltpack Configuration			
DECT BPID	BP03:b5:32:41:98	BP03:b5:32:41:88	BP03:b5:32:43:00
Beltpack Name			
Beltpack Status			
Connection State	Disconnected	Connected	Disconnected
Connection Duration	49 Days, 00:40:24	00:00:33	00:00:00
Connection Drops	2	-	-
Tx Power	-	Normal	-
Location	8 : Sys-1-IPS-09	4 : Sys-1-IPS-08	-
Battery	--%	100%	--%
Signal Information	RSSI:-- dBm, FER:--	RSSI:-25 dBm, FER:--	RSSI:-- dBm, FER:--

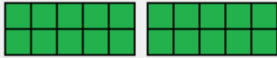
17. From the Changes menu, select **Send**.


Status

Type: Clock Source:

Status: PTP Status:

Sessions:

AP Channels: 

BP Channels: 

DECT Sync:

**Notice!**

The AP channels show green when the AP channels are properly assigned to matrix channels. The BP channels show green when the BP is properly assigned to an AP channel and the BP is connected via DECT.

18. From the File menu, click **Save**.

4.3.7**Put the AP-1000 into Registration Mode**

Use the IPedit Configuration software to put the AP-1000 into registration mode so you can register the TR-1000 to the access point:

Once you activate registration mode, the AP-1000 opens its pairing window for the duration of time you specify. During this time, you can initiate the registration process on your TR-1000 . The access point recognizes the beltpack's connection request, authenticates the device, and establishes a secure communication link.

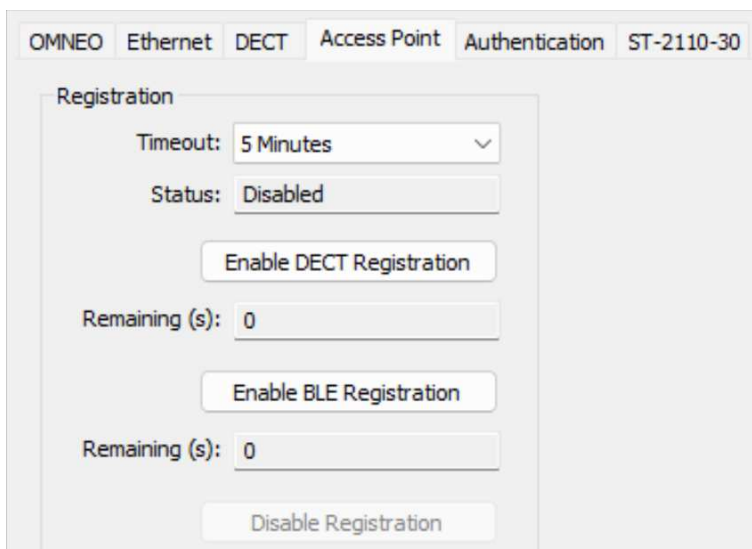
For more information on registering the TR-1000, see *Register the TR-1000 and Connect to the AP-1000*, page 58.

Before you begin:

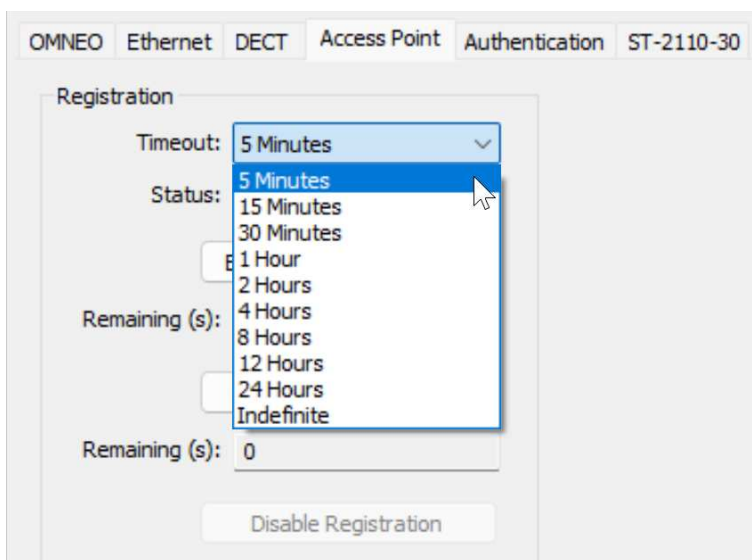
- Confirm the AP-1000 is on and connected to IPedit.

Steps**Use IPedit Configuration software**

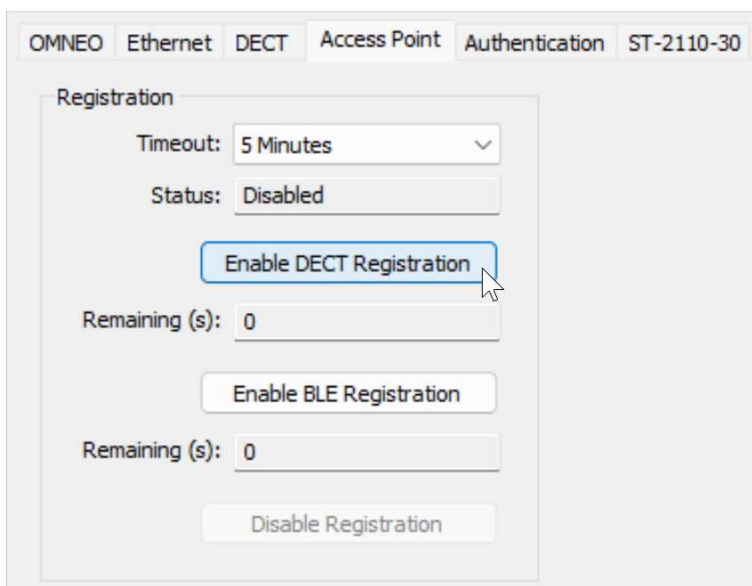
1. Open **IPedit**.
2. From the Device Catalog, select the **Access Point**.
3. Click the **Access Point tab**
The Access Point page opens



4. Select the **amount of time** you want the AP-1000 to stay in registration mode.



- 5. Send **changes** to the intercom.
- 6. Click the **Enable DECT Registration** button.



The Status field changes to DECT Enabled and the Remaining (s) field starts the countdown timer. This field shows the number of seconds the AP-1000 will stay in registration mode.

The screenshot shows the 'Registration' section of the web interface. At the top, there are tabs for 'OMNEO', 'Ethernet', 'DECT', 'Access Point', 'Authentication', and 'ST-2110-30'. The 'Registration' section contains the following elements:

- Timeout:** A dropdown menu set to '5 Minutes'.
- Status:** A text field displaying 'DECT Enabled'.
- Enable DECT Registration:** A button that is currently active.
- Remaining (s):** A text field displaying '297'.
- Enable BLE Registration:** A button.
- Remaining (s):** A text field displaying '0'.
- Disable Registration:** A button.

NOTE: When an AP-1000 has 10 devices connected to it, then it can no longer be used to register devices to the system. The Enable DECT Registration button is disabled and the message "No Free DECT Channels!" appears on the screen.

The screenshot shows the 'Registration' section of the web interface when the system is full. At the top, there are tabs for 'OMNEO', 'Ethernet', 'DECT', 'Access Point', and 'Authentication'. The 'Registration' section contains the following elements:

- Timeout:** A dropdown menu set to '10 Minutes'.
- Status:** A text field displaying 'Disabled'.
- No Free DECT Channels!:** A message displayed above the 'Enable DECT Registration' button.
- Enable DECT Registration:** A button that is disabled.
- Remaining (s):** A text field displaying '0'.
- Enable BLE Registration:** A button.
- Remaining (s):** A text field displaying '0'.
- Disable Registration:** A button.
- Number of Registered Beltpacks:** A text field displaying '10'.
- Show BPIDs:** A button.

4.3.8

Register the TR-1000 and Connect to the AP-1000

Registering the TR-1000 to the AP-1000 wirelessly links the devices using the System ID (and a PIN Code, if configured).

Before you begin:

- Ensure the TR-1000 is within 40 feet (12 meters) of the AP-1000.
- Ensure the AP-1000 is in Registration mode. For more information, see *Put the AP-1000 into Registration Mode*, page 56.

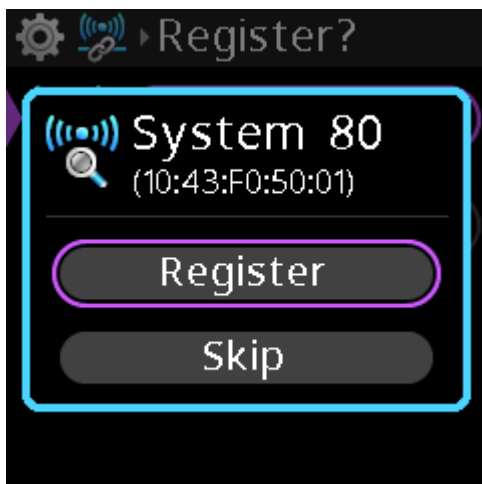
Steps

1. Power on the **TR-1000**.
The front display turns on.

2. Navigate to the **Register?** menu item (Setup > Registration > Register?).
3. When the AP-1000 System ID appears, press the **SEL button**.
A Register message appears.



4. Using either encoder knob, move **focus to the Register button**.



Notice!

Use the Skip button when multiple systems are available for registration. The system searches for the next available system.

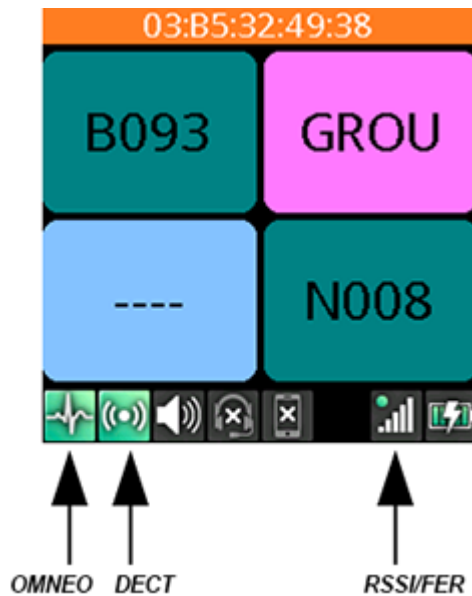
5. Press the **SEL button**
The TR-1000 registers with the AP-1000.



Notice!

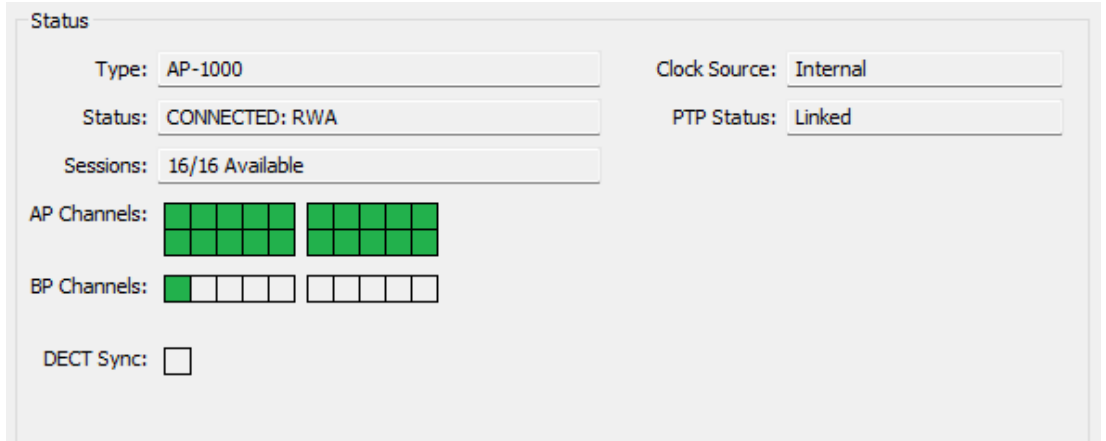
If the AP-1000 has a PIN code, you must enter the code before Registration begins. See Registration with PIN code below.

6. Verify the **registration** by looking at the TR-1000 home screen.
 - The active DECT connection and RSSI icons indicate a successful registration.



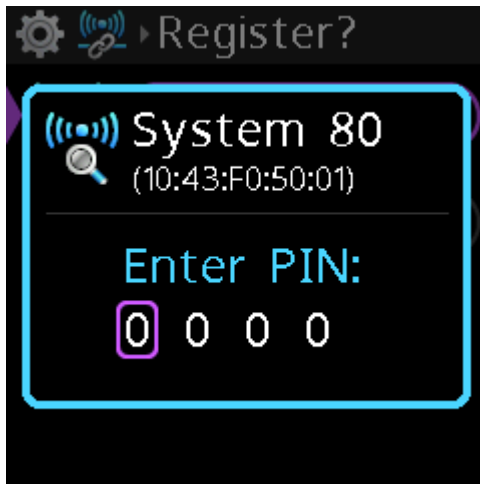
Red color	Link down
Green color	Link up/successful registration

7. Verify in IPedit that **beltpack Status fields are populated.**



Registration with PIN code

1. Complete **steps 1 through 10** above.
The Enter PIN screen appears.
2. Enter the **PIN**.
Once you finish entering the PIN, the TR-1000 finishes the registration process.



Troubleshooting

If the registration fails:

- Verify the System ID is correct in IPedit.
- If using a PIN code, verify the PIN is correct.
- Ensure the beltpack is close to the AP-1000 and retry.

4.4 Access Point Placement

Spacing

Access point spacing is important for keeping wireless coverage smooth and dependable. When access points are properly spaced, users get strong signals without unnecessary overlap or interference.

Minimum access point spacing:

Power	Distance
Normal	3 meters

Power	Distance
Medium	1.5 meters
Low	0.5 meters

4.4.1

RF Considerations

Keep the AP-1000 away from metal, as metal can detune them and distort the RF pattern. Keep the AP at least 2 wavelength from any parallel metal object (about 30 cm/12 inches), not including metal trusses or metal roofs. A metal roof, metal trusses, or the access point's metal case becomes a reflector, offering advanced coverage by reflecting the RF signal down to the intended area of coverage, which can improve coverage. When mounting to drywall, be aware of metal studs that can affect signal quality. The metal in walls can greatly attenuate or even block RF signals. In the case of a metal wall, it might be necessary to place another access point on the other side of the wall if you need continued coverage.

4.4.2

DECT Configuration Options

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 CITELE regulations.
Brazil	1910-1920 MHz	Different from other Latin American countries; uses a narrower band.
Japan	1894-1905 MHz (J-DECT)	Branded as J-DECT, coexists with PHS systems in the same band.
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.

4.4.3 Mounting Options

4.4.3.1 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 *System Overview*, page 35.



Notice!

We recommend that this device not be mounted in a high traffic area where it could be accidentally 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 73 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

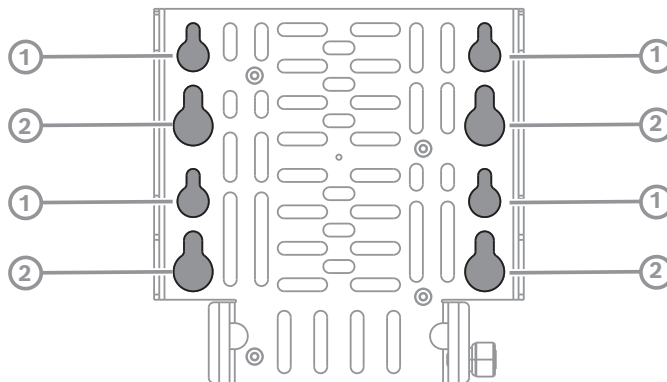
To reduce the risk of injury to yourself or damage to the device:

- 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 or materials the device mounts to, as well as applicable 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.

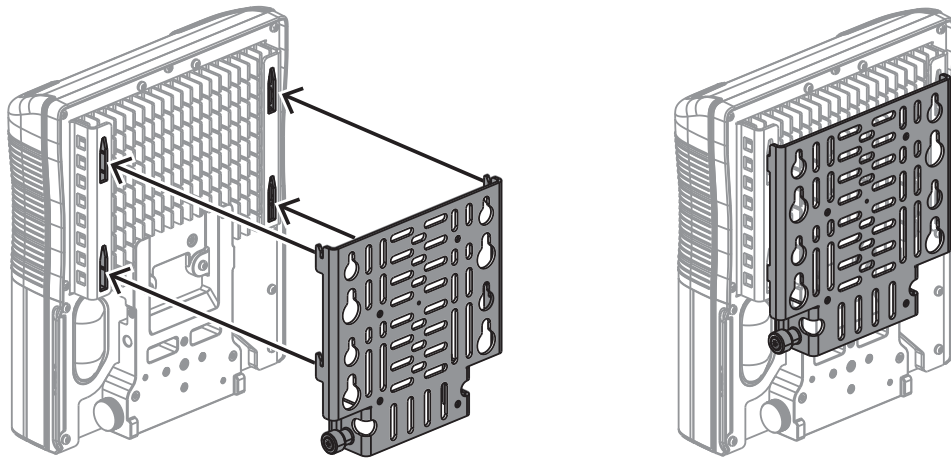
**Notice!**

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

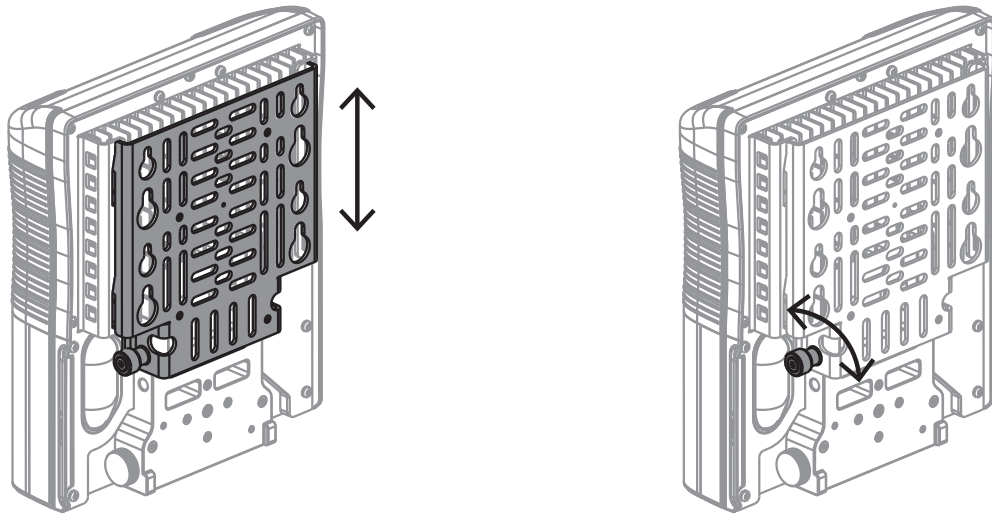
3. Install **screws, flat washers, and anchors** (if using) in marked locations.
 - Be sure to leave enough room between screw head and the mounting surface to slide the mounting bracket into place.
4. Align the **bracket's keyhole openings** with the screw heads.
5. Press and slide the **bracket** so 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.

4.4.3.2

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.



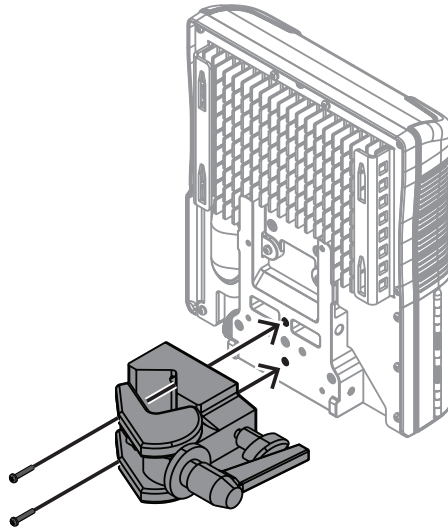
Notice!

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

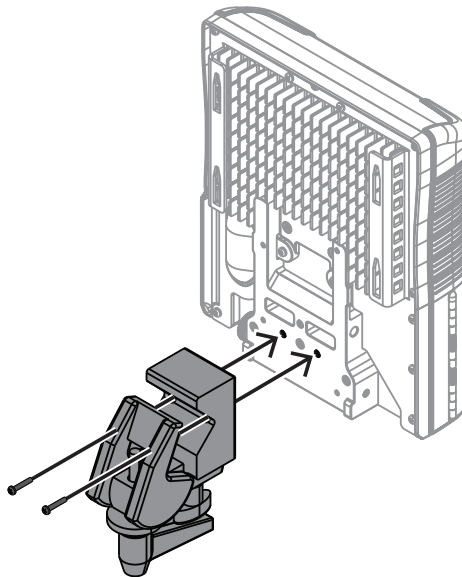
1. Align the **mounting clamp** in the vertical position on the back of the AP-1000.



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.

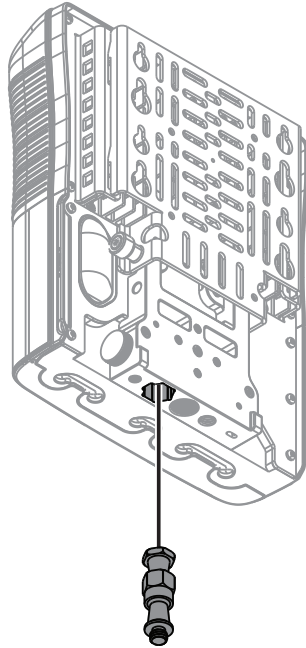
4.4.3.3

5/8" (16mm) Hex Spigot-type Mount

When using a hex spigot-type mount with a tripod or stand, it serves as a secure and versatile connection point AP-1000. This type of mount ensures stability and compatibility across a range of gear, making it ideal for indoor and outdoor environments, or any situation requiring reliable support and flexibility.

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.



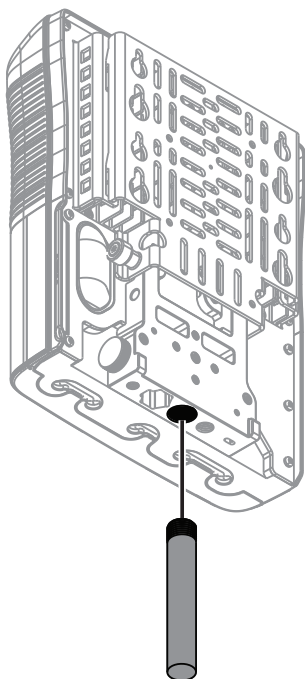
3. Tighten the **thumbscrew locking mechanism**. Make sure it is tight enough to prevent any movement, but avoid overtightening, as this could damage the spigot or mount.

4.4.3.4**5/8-27 Thread Mount**

Mounting an access point on a mic stand provides a flexible and stable solution for temporary or mobile network setups. This setup allows you to elevate the access point to an optimal height for signal distribution, while also taking advantage of the mic stand's portability and adjustable height. It is a practical method for deploying wireless coverage in events, testing environments, or temporary installations without needing permanent fixtures.

Use the 5/8-27 thread mount

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



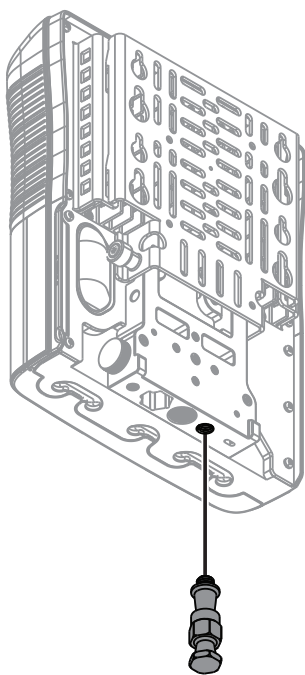
4.4.3.5

3/8-16 Thread Mount

Mounting an access point on a European camera mic stand offers a compact and adaptable solution for deploying wireless coverage in temporary or constrained environments. This method allows for quick repositioning and easy transport while maintaining reliable support for the access point.

Use the 3/8-16 thread mount

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



4.4.3.6

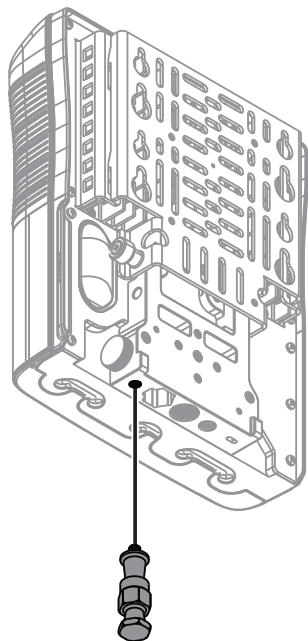
1/4-20 Thread Mount

Mounting an access point on a 1/4-20 thread mount North American camera mount offers a simple and effective way to deploy AP-1000 in a variety of environments. Mount the access point vertically on the stand using the bottom mount position or mount the access point horizontally on the stand using the back mounting position.

The 1/4-20 thread is widely used and readily available, making this approach both convenient and versatile.

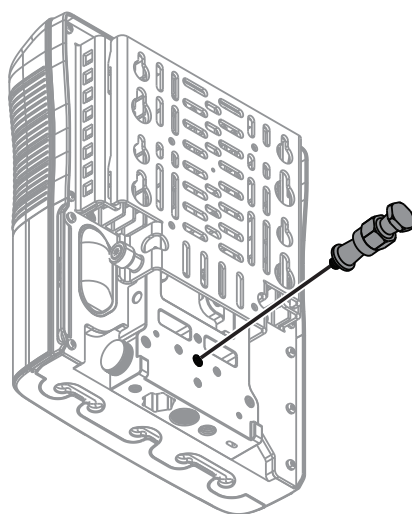
Attach to the bottom

- ▶ 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.



4.4.3.7

Fall-arrest Cable Installation

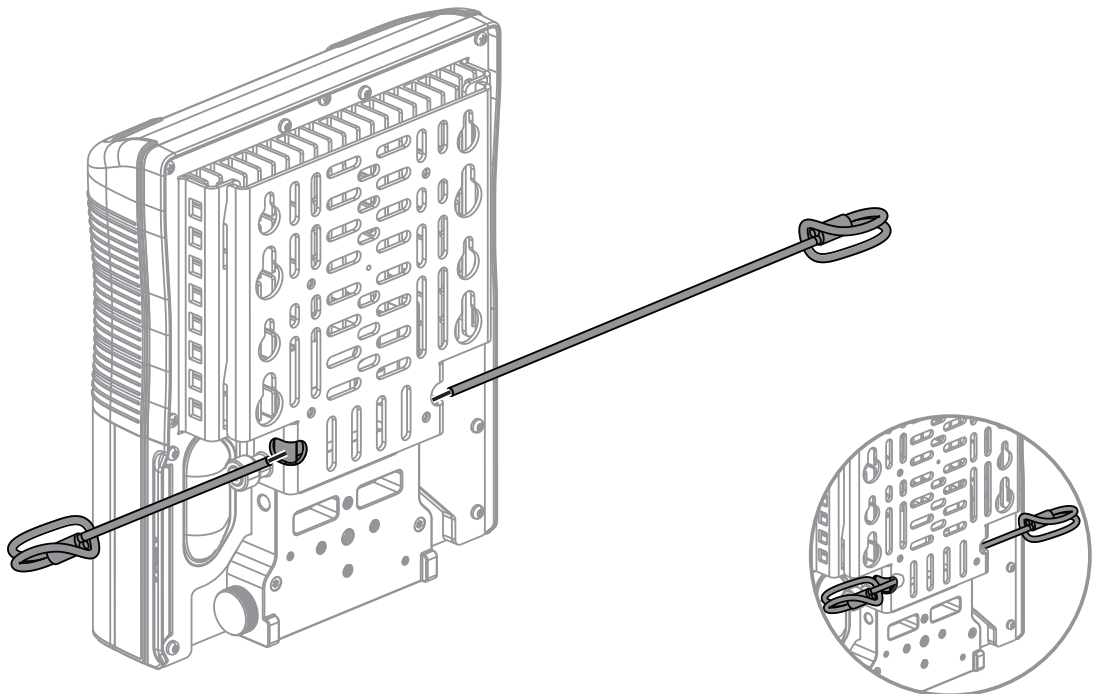
When you mount an AP-1000 on a ceiling or in the rafters, make sure to secure it properly to prevent it from falling and causing injury or damage. To add an extra layer of safety, attach a safety cable using one of two methods:

- 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. Attach **one end of the fall-arrest cable** to a sturdy structure near the AP mounting point.
2. Thread the **fall-arrest cable through the mounting bracket**, as shown.

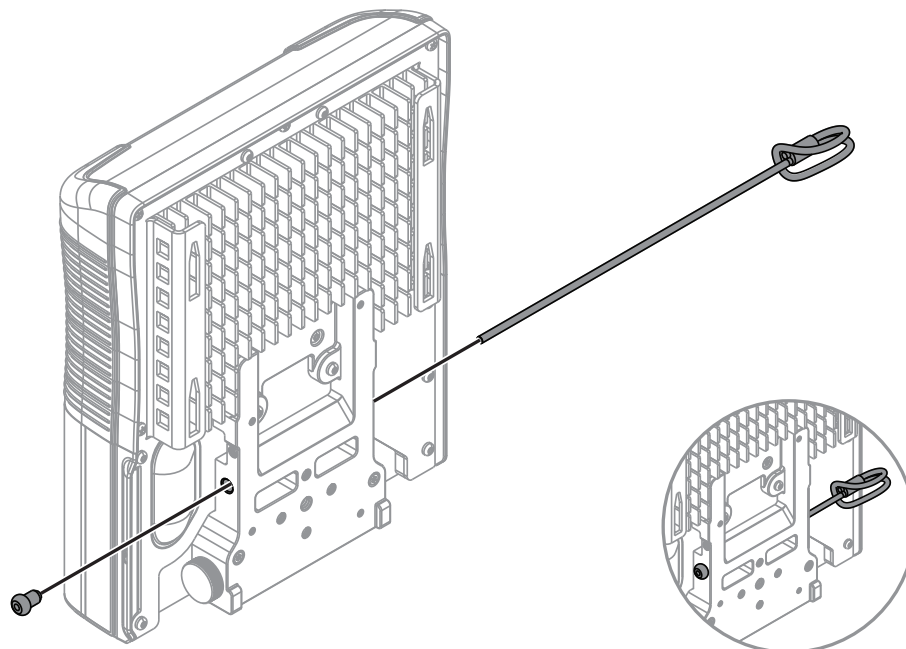


3. Attach **the other end of the fall-arrest cable to a sturdy structure** near the AP mounting point.

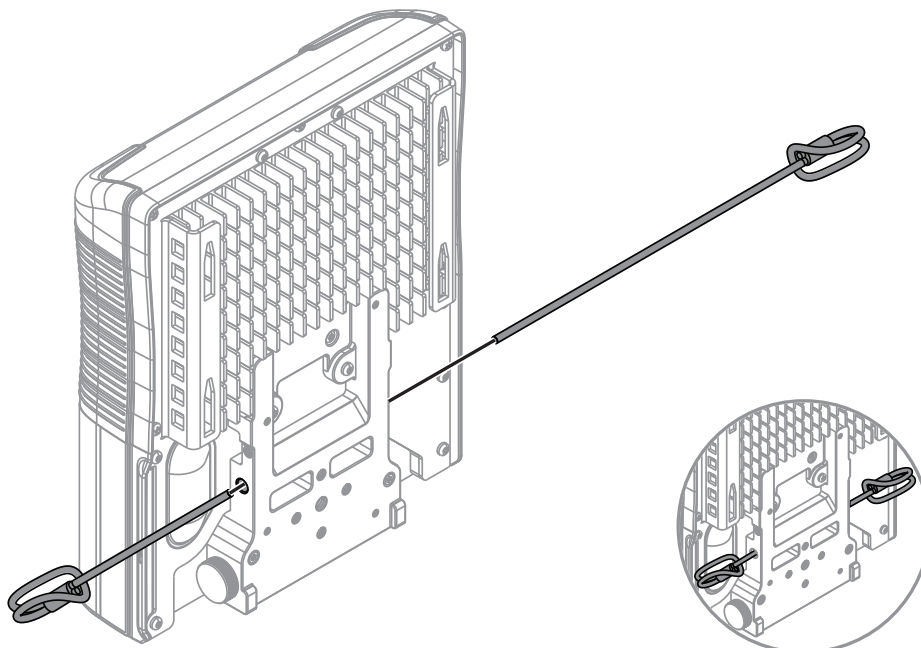
Attach the safety cable directly to the AP-1000

1. Attach **one end of the fall-arrest cable** to a sturdy structure near the AP mounting point.
2. Thread the **other end of the fall-arrest cable through the fall arrest cable hole** on the back of the unit, as shown.
3. Attach the other end of the cable:

- Crimp a ball shank on the other end of the cable.



- To a sturdy structure near the AP mounting point.



4.4.3.8

Kensington Lock Installation



Notice!

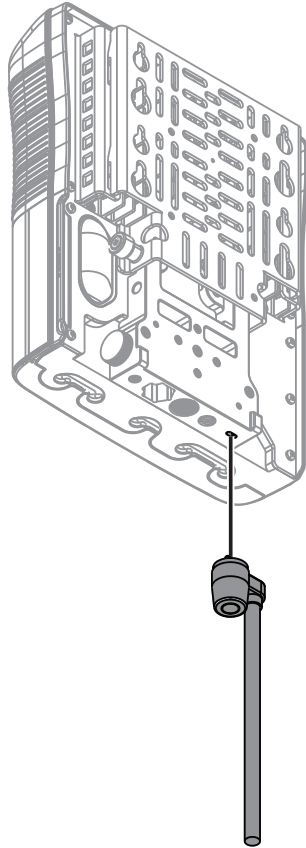
The security slot is compatible with the Kensington Security Slot™ and the Kensington Nano Security Slot™.

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.

4.4.4 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

5 Connector Pin-outs

TR-1000 Connectors

Connector	Pin	Assignment
	1	Mic (-)
	2	Mic (+)
	3	GND
	4	Headphone Left
	5	Headphone Right
	Shield	GND

Table 5.1: XLR-5F


Connector	Pin	Assignment
	1	Mic (-)
	2	Mic (+)
	3	GND
	4	Headphone Left
	Shield	GND

Table 5.2: XLR-4M


Connector	Pin	Assignment
	1	Mic (-)
	2	Mic (+)
	3	GND
	4	Headphone Left
	Shield	GND

Table 5.3: XLR-4F

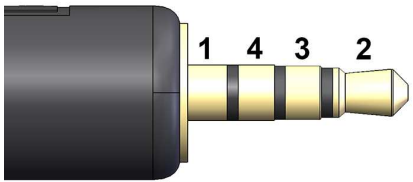
Connector	Pin	Assignment
	1	Mic
	2	Headphone Left
	3	Headphone Right
	4	GND

Table 5.4: 3.5 mm

AP-1000 Connectors

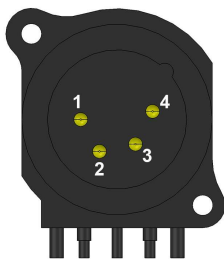
Connector	Pin	Assignment	Comments
	1	DC Return	
	2	NC	Chassis Ground
	3	NC	Floating internally
	4	+12VDC	Will accept input range of 11VDC ~ 18VDC

Table 5.5: 1-Power

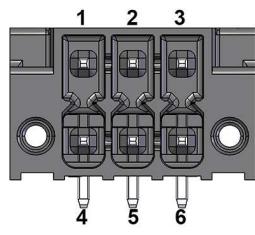
Connector	Pin	Assignment	Comments
	1	Relay0_COM	
	2	Relay0_NC	
	3	Relay0_NO	
	4	Relay1_COM	
	5	Relay1_NC	
	6	Relay1_NO	

Table 5.6: 2-Relay

6 TR-1000 Basic Operation

6.1 Navigation Basics

There are five basic navigation buttons to navigate through the TR-1000 menu system.
















A/C shaft encoder ¹	<ul style="list-style-type: none"> – Controls the master volume – Press the encoder knob to toggle the control to Key A or Key C listen volume. – Scrolls through the menu items when in a menu or sub-menu. – In most situations, pressing the A/C shaft encoder button behaves the same as pressing the CLR/BACK button. Some exceptions to this are when editing a device name and when deleting a character. – Edits a menu item value/state in an active menu. – Exits the current menu item or aborts editing of the highlighted menu item (applies to the shaft encoder as a push button).
B/D shaft encoder ¹	<ul style="list-style-type: none"> – Controls the master volume and by pressing the shaft encoder, toggles the control to Key B or Key D listen volume. – Press the shaft encoder to toggle the control to Key B and Key D listen volume. – Scrolls through the menu items when in a menu or sub-menu. – In most situations, pressing the B/D shaft encoder button behaves the same as pressing the SEL/MENU button. Some exceptions to this are when editing a device name and when inserting a character. – Enters a sub-menu, activates a menu item, or saves changes to an activated menu item (applies to the shaft encoder as a push button).
SEL/MENU button	<ul style="list-style-type: none"> – Enters the menu from the home screen. – Selects a sub-menu from the main menu. – Activates the selected menu item. – Saves changes in an activated menu item and deactivates the menu item. – Dismisses popup notifications. – Confirms choice in some popup dialogs.
CLR/BACK button	<ul style="list-style-type: none"> – Shows or hides the CWW window from the home screen. – Exits the menu (or moves back one level in the menu if in a sub-menu). – Discards changes in an activated menu item. – Dismisses popup notifications. – Declines/aborts choice in some popup dialogs. – Displays the connection state.
CALL button	<ul style="list-style-type: none"> – Generates outgoing CALL signals.
























1. In some activated menu items, the A/C and B/D shaft encoders behave differently. Specifically, when editing device/domain names or IP addresses, the A/C shaft encoder moves the cursor between letters or octets and the B/D shaft encoder change the value of the currently highlighted letter/octet. Similarly, in the Mixer menu, the A/C shaft encoder selects the input to modify for the currently active output, and the B/D shaft encoder enables/disables the mix from the selected input to the active output.






Enter and navigate the menu structure

1. Press the **SEL/MENU** button.
The main menu structure appears in the display.
2. Rotate either **encoder knob** to navigate through the menu.
3. Tap the right **encoder knob** to select a menu item.
OR
Press the **SEL/MENU** button to select a menu item.
4. Tap the left **encoder knob** to back out of a menu.
OR
Press the **CLR/BACK** button to back out of a menu.





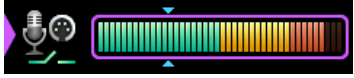

6.2 Display Status Icons

Icon	Icon Name	Description
	Locking	Locking is a momentary state before a normal full DECT connection is made (i.e., the connection is currently being set up)
	AP Connected RX and TX	Full connection - currently transmitting and receiving data
	AP Connected RX	Full connection - currently receiving data
	AP Connected TX	Full connection - currently transmitting data
	AP Connected	Full connection - currently no data being sent or received
	AP Disconnected	BP has valid registration to a system, but currently does not have a DECT connection (i.e., the AP is not on or is out of signal range)
	AP Unregistered	BP is not registered to a system (i.e., it is not possible to be connected, must be registered first)
	Battery Status 0 Bars charging	0-2 % battery, currently charging
	Battery Status 0 Bars	0-2 % battery
	Battery Status 1 Bars charging	3-19% battery, currently charging
	Battery Status 1 Bars	3-19% battery
	Battery Status 2 Bars charging	20-39% battery, currently charging
	Battery Status 2 Bars	20-39% battery
	Battery Status 3 Bars charging	40-59% battery, currently charging
	Battery Status 3 Bars	40-59% battery

Icon	Icon Name	Description
	Battery Status 4 Bars charging	60-79% battery, currently charging
	Battery Status 4 Bars	60-79% battery
	Battery Status 5 Bars charging	80-100% battery, currently charging
	Battery Status 5 Bars	80-100% battery
	Matrix AP Not Connected	
	Matrix AP Connected	
	Matrix AP Disconnected	
	No DECT connection to the AP	<p>The device displays RSSI as a set of bars. A higher number of bars indicates a stronger signal.</p> <p>The device displays FER as a colored dot.</p> <ul style="list-style-type: none"> – Green dot: Good connection – Yellow dot: Degraded connection – Red dot: Poor connection <p>If no bars and no colored dot appear, the device has neither signal nor connection.</p>
	RSSI Status Green 5 Bars	
	RSSI Status Red 5 Bars	
	RSSI Status Yellow 5 Bars	
	XLR Headset Status Connected	
	XLR Headset Status Disconnected	
	XLR Headset Status Hot	The headset mic is on
	3.5 mm Headset Status Connected	
	3.5 mm Headset Status Disconnected	
	3.5 mm Headset Status Hot	The headset mic is on
	Mic Status Normal	
	Mic Status Muted	
	Hot Mic Enabled	
	Speaker Status Connected	
	Speaker Status Disconnected	
	Speaker Status Hot	The speaker mic is on

Icon	Icon Name	Description
	Low Vibration Call Alert Active	
	High Vibration Call Alert Active	
	New CWW Entries are Present	
	Existing CWW Entries are Present	
	Priority Call Incoming	

6.3 UI Controls

UI Control	Type	Description
	Input field	The A/C shaft encoder and the B/D shaft encoder do different actions. For example, while editing an IP address or a text field (like the device name or domain), the A/C shaft encoder moves the “cursor” between octets or characters, and B/D shaft encoder adjusts the value/character at the cursor position.
	Binary choice	Use either shaft encoder to choose between two options.
	Tri-choice	Use either shaft encoder to switch between three options.
	Spinner	Use either shaft encoder to scroll through the list of options.
	Bar graph	Use either shaft encoder to increase or decrease the setting.
	Mixer type	The A/C shaft encoder and the B/D shaft encoder do different actions. For example, while configuring Mixer settings, the A/C shaft encoder would select the input source and the B/D shaft encoder changes the state of the mix. NOTE: You can select more than one option simultaneously.

6.4 Hot Keys

HOME screen:		
	Press and release the SEL/MENU button	Enter menu mode.

Press and release the CLR/BACK button	Displays the CWW. Press CLR/BACK to dismiss the CWW.
Press and hold the CALL button	Initiates an outgoing CALL signal for whichever Talk keys are currently on with assignments. The CALL signal lasts until you release the CALL button
Press and hold the CLR/BACK button	Acts as SHIFT. Press any TALK keys while holding the SHIFT key toggles the key to a LISTEN state. Release the CLR/Back button to exit SHIFT mode.
Press and hold the CLR/BACK button and then press and release the CALL button.	Displays the Connection status. The Connected popup displays if you have a connection to an intercom and shows the port number and alpha for the connection. The Disconnected popup displays if you do not have a connection to the intercom and it shows the device name and IP address. Press the CLR/BACK or SEL/MENU button to exit.
Press and hold the CLR/BACK button and then press and hold the SEL/MENU button until the lock icon appears (or disappears if starting from the lockout state)	Toggle control lockout on and off. To unlock, repeat the sequence.
Press and hold the CLR/BACK button and then press and release B/D encoder knob	Toggle between speaker and headset. NOTE: This feature requires the hot key to be enabled. See <i>Speaker Hot Key</i> , page 130.
Press and Hold the CLR/BACK button and rotate either encoder knob.	Adjusts the AUX IN volume.
Press and hold the CLR/BACK button and then press and release A/C encoder knob	Toggle between display off, display dim, and display dark modes. You can also use the <i>Display Mode</i> , page 112 menu item in the Display menu to make these changes.
Press and hold the CLR/BACK button and then press and release the SEL/MENU button	When at the home screen, jumps to the last viewed widget.
While Key Volume is active, press and hold one of the encoder knobs until the	The key assignment is muted. To unmute the key, repeat the sequence.

	<p>volume mutes (or unmutes if starting from the mute state). NOTE: Use the A/C encoder knob to mute TALK key A or TALK key C; use the B/D encoder knob to mute TALK key B or TALK key D.</p>	
	Pressing CLR/BACK, CALL, and SEL/MENU simultaneously	Prompts a factory reset.
Receiving an incoming call signal:	Pressing the TALK key cancels the CALL beep and vibration.	<p>If the TALK key is on, it stays on when you release the TALK button.</p> <p>If the TALK key is not on, it turns on and stays on if you let go within the latching period.</p>
MENU mode:		
	Press and release the CLR/BACK button with menu highlighted	Go back one level (exits the MENU if at the top level).
	Press and release the CLR/BACK button with widget highlighted	Aborts all changes made and moves the highlight back to the menu.
	Press and hold the CLR/BACK button	Exits the menu structure (aborts any widget change in process).
	Press and hold the SEL/MENU button	<p>Prompts to save to favorites</p> <p>NOTE: Doing this within the Favorites menu, prompts you to pin or remove the item from Favorites.</p>
	Press and release the MENU/SEL key (with a menu item highlighted)	Invokes the highlighted menu item (may go to a lower-level menu, or activate the widget associated with the highlighted menu item).
	Press and release the MENU/SEL key (with a widget highlighted)	Deactivates the widget (moves highlight back to menu item) and saves the current widget state (as current operating mode).
	Press the A/C encoder knob	<p>Go back one level (exits the MENU if at the top level).</p> <p>Behaves the same as the CLR/BACK button in most situations.</p>
	Press the B/D encoder knob	<p>Invokes the highlighted menu item (may go to a lower-level menu, or activate the widget associated with the highlighted menu item).</p> <p>Behaves the same as the SEL/MENU button in most situations.</p>

Rotating either encoder knob (with a menu item highlighted)	Moves the menu item highlight to the next or previous menu item.
Rotating either encoder knob (with a widget highlighted)	Adjusts/edits the data represented by the widget. For many widget types, A/C encoder knob and B/D encoder knob are treated the same. For example, adjusting a gain or brightness, or selecting a value in a spin control, or changing the state of a binary or tri-state widget, can all be done by rotating either encoder knob.
	For a few widget types, the A/C encoder knob and the B/D encoder knob do different actions. For example, while editing an IP address or a text field (like the device name or domain), the A/C encoder knob moves the “cursor” between octets or characters, and the B/D encoder knob adjusts the value/character at the cursor position. The same is true for the Mixer widget, where the A/C encoder knob would select the input source and the B/D encoder knob changes the state of the mix.
Pressing and releasing the CALL button while in the menu	Behaves the same as when you are on the Home screen (for example, send CALL signal or activate SHIFT mode, depending on whether the beltpack is in PL mode or KP mode).
Press and hold the CLR/BACK button, and then press and release the SEL/MENU button	Jump to last viewed widget.

6.5 Volume Adjustment

Managing volume is key to keeping audio clear and balanced in any conferencing setup. You start by setting the master volume, which controls the overall sound level. From there, you can dial in the individual key volumes and auxiliary levels to shape how each source behaves. You can also mute a conference assignment when needed, adjust the matrix level to fine-tune audio routing, and verify the speaker dim setting to ensure the system lowers output safely.

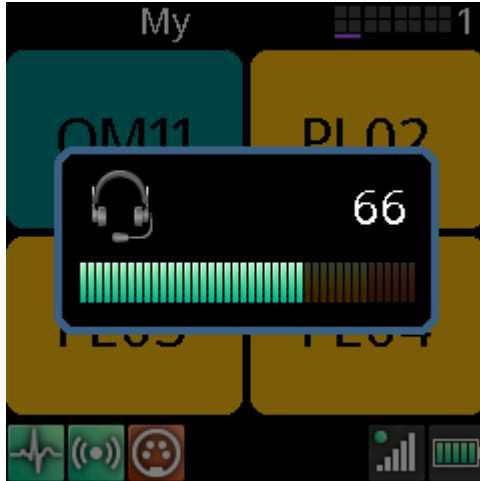
6.5.1 Master Volume Adjustment

Adjust the **Master Volume** to control the overall audio level sent to your selected output—either the headset or the beltpack speaker

Adjust the Master Volume

- ▶ Tap or rotate **either encoder knob**.

A volume bar appears on the display screen. The volume bar increases or decreases depending on the adjustment made. The belt pack exits volume adjustment mode after a few seconds of inactivity.



If the Master Volume is muted, the home screen displays a speaker mute symbol.

6.5.2 Intercom Assignment Volume Adjustment

Adjusting intercom assignment volumes helps ensure assignments respond at a comfortable and consistent level for the user.

Adjust the volume of individual intercom assignments

1. Tap either **encoder knob**.
The master volume activates.
2. Tap the **B/D encoder knob once for key B and twice for key D**.
The listen volume adjustment for the key activates and a volume bar appears on the key.



3. Rotate the **B/D encoder knob** to adjust the volume.
The volume bar increases or decreases depending on the adjustment made. The belt pack exits volume adjustment mode after five seconds of inactivity.



Notice!

To adjust the volume for key A and C, follow the same instructions for key B and D, except use the A/C encoder knob.

6.5.3 Auxiliary Volume Adjustment

The **Auxiliary Volume Control** manages the sound level for the auxiliary channel, which can function as either an input or an output depending on your device configuration. When set as an input, it adjusts the level of audio coming into the system from an external source. Conversely, when configured as an output, it controls the volume sent to external equipment or speakers.

1. Press and hold the **CLR/BACK** button.

The Auxiliary volume bar appears.



2. Rotate either **encoder knob** to adjust the auxiliary volume.

6.5.4 Mute a PL Key Assignment

In PL mode, listen is always on. You can mute PL assignments so only one PL assignment is heard. To **mute an individual PL key**, do the following:

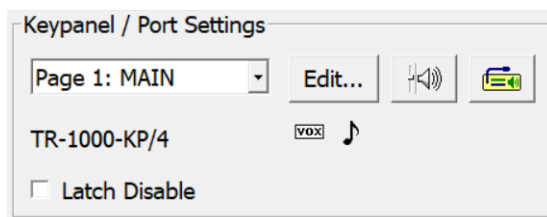
1. Tap either **encoder knob**.
The master volume activates.
2. Tap the **A/C encoder knob once for key A and twice for key C**.
The listen volume adjustment for the key activates and a volume bar appears on the key.
3. Tap and hold the **A/C encoder knob** until Muted appears on the individual PL key assignment.
4. Repeat **steps 1 through 3** to mute other key assignments.

NOTE: To unmute a key, repeat the same process for muting a key.

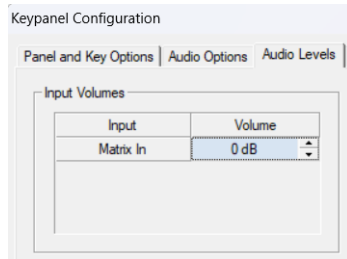
6.5.5 Adjust Matrix Level in AZedit

Adjust the Matrix In level

1. In AZedit, select the **device's port**.
2. Click the **Keypanel Configuration** icon.



3. Adjust the **Input Volume for Matrix In**.

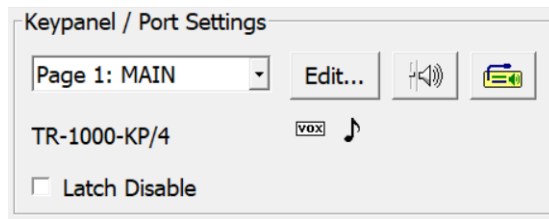


6.5.6 Verify Speaker Dim Setting in AZedit

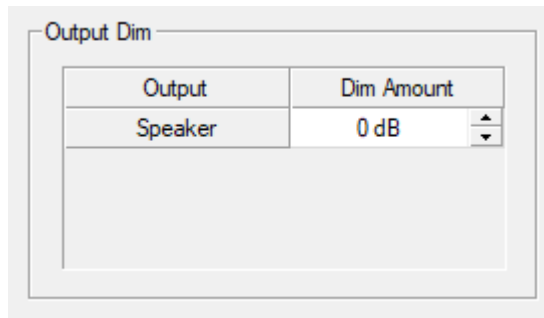
Use AZedit to verify the speaker DIM setting to ensure the system reduces audio levels by the correct amount when the DIM function is activated. It is important to check the speaker DIM setting so you know every speaker responds the same way. This helps avoid sudden jumps in volume and keeps the listening environment controlled.

Verify the speaker dim setting

1. In AZedit, select the **port** of the device.
2. Click the **Keypanel Configuration icon**.



3. Verify the Speaker Output Dim is **0 dB**.



6.6 Call Signaling

Use **Call Signaling** to alert party line users that there is incoming audio on the line. By default, call signaling uses the flashing call button to alert party line users. However, enabling call alerts allows a beep or a vibration to signal incoming audio on the line. For more information on call alerts, see Call Alerts.

For example, a producer starts talking to a camera operator on PL01 and the camera operator does not hear the producer because they are not wearing their headset. The producer can send a call signal alert to PL01 that generates a call beep or vibration (if enabled) that would let the camera operator know someone is talking and to put their headset on.



Notice!

Do not confuse call signaling with incoming calls. Party lines use call signaling to notify users that someone is trying to get their attention. Incoming calls are direct point-to-point calls from another panel to the belt pack.

To **send a call signal**, do the following:

1. Press and hold, or latch on the **talk keys** for which you want to send the signal.
2. Press the **CALL** button.
The red talk key indicators turn blue and the call signal icon shows in the center of the display.

**Notice!**

The call signal generates for as long as you hold the CALL button and the talk keys are still on.

**Notice!**

In KP mode, only the key tile tallies to alert the user of an incoming call.

3. Release the **CALL button** or turn off the **talk keys** to end the call signal.

6.7

Talk and Listen

The Talk and Listen functions on the TR-1000 act like any traditional keypad.

Talk

There are four configurable modes of talk operation: Latching, Momentary, Always On, and Always Off. For detailed descriptions about the modes of operation and how to configure Talk operation, see *Key Modes, page 101*.

1. Press and hold, or latch on, the **key** with the assignment to which you want to talk.
2. Release the **key**, or tap it to unlatch it, to stop talking.

Listen

Listen key operation is the same as talk key operation, except that listen keys are always latching and you need to press and hold the CALL/SHIFT button so that A - D key presses are treated as listen key presses, not talk key presses.

Access to listen key states using the CALL/SHIFT button is only available in KP mode.

In PL mode, the listen keys are Always On (for PL assignments) and Always Off (for any other type of assignment). For instruction on how to mute PL assignments on the belt pack, see *Mute a PL Key Assignment, page 84*.

1. Press and hold the **CALL button**.
2. Tap the **key** for which you want to change the listen key state.

6.8

Call Waiting Window

**Notice!**

Do not confuse call signaling with incoming calls. Party lines use call signaling to notify users that someone is trying to get their attention. Incoming calls are direct point-to-point calls from another panel to the belt pack.

Use the **CWW** (Call Waiting Window) to manage multiple incoming calls to the belt pack. The CWW displays three calls at a time with a scroll bar appearing if there are more calls (up to nine) in the list. A popup window appears on the HOME screen that alerts the user of an incoming CWW call. Press CLR/BACK to dismiss the notification or press SEL/MENU to show the full CWW.

Reply to a CWW call

1. On the home screen, press the **CLR/BACK button**.
The CWW window appears.

2. Press **REPLY** (Key D) to answer the call.
The REPLY key and the caller lights green.

Remove an entry from the CWW

1. While the CWW is open, press **CLEAR** (Key C).
The CLEAR button lights red and the call disappears from the list.

Show the CWW

- ▶ On the home screen, press the **CLR/BACK button**.
The CWW window appears.

Scroll and select a call in the CWW

- ▶ While the CWW is visible, with calls, rotate the **either encoder knob** to highlight an entry.

Hide the CWW

- ▶ While the CWW window is visible, press the **CLR/BACK button**.
The CWW window closes.

6.9 Change the Key Assignment Page

The TR-1000 supports four distinct key assignment pages. Each page contains four programmable keys, providing a total of 16 configurable key assignments. Users can navigate between assignment pages using the scroll function, ensuring continuous access to all programmed keys. This feature enables efficient organization of functions and rapid switching between assignments during operation.

Change the key assignment page

1. Press and hold **one encoder knob**.
2. Rotate the **other encoder knob**.
Turning the second knob scrolls through the available key assignment pages. In the upper-right corner of the screen, the highlighted indicator moves to the selected page. The visible key assignments update automatically to reflect the new page.

6.10 Change Setup Pages

Setup Pages provide access to more key assignments than the physical keys available on the TR-1000. By utilizing these pages, you can configure and organize additional functions without being limited by the device's hardware layout.

This feature is especially useful in shared environments. When multiple users operate the same device, each user can switch to their preferred Setup Page to display the key assignments they need for their workflow. This eliminates the need to reprogram keys manually and ensures quick, personalized access to essential functions.

Change setup pages

1. Press and hold one **encoder knob**.



2. Rotate the other **encoder knob** to scroll through the setup pages.



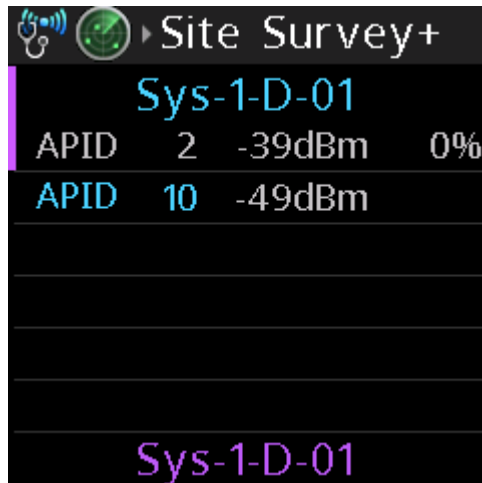
3. Press the **SEL/MENU** button.

6.11 Locating an AP-1000

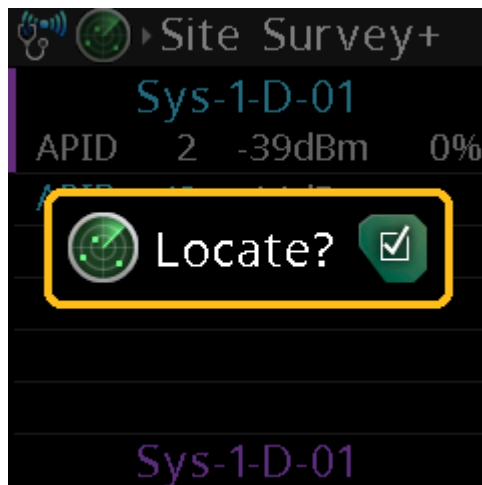
Sometimes you need to locate an AP-1000 during setup, troubleshooting, or system verification. You can locate an access point either by using a TR-1000 beltpack or through the IPedit software. From the beltpack, you can send a DECT signal to detect and identify any AP-1000 units within range, even if the beltpack is not registered to them, making it easy to survey coverage areas and confirm AP locations in the field. Alternatively, IPedit software allows you to identify and locate APs from the network side for configuration and verification. If the beltpack is out of range of an access point, it cannot detect or identify that AP.

Locate an AP-1000 from the TR-1000

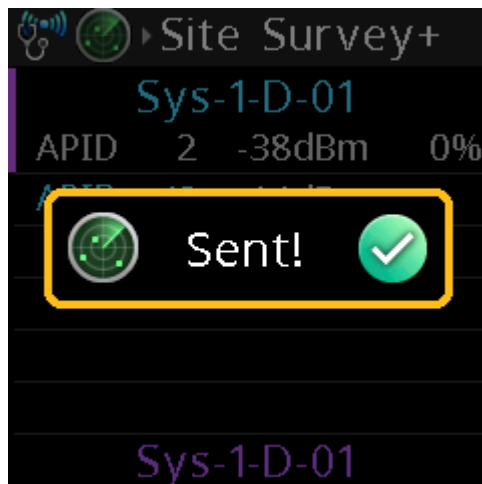
1. Navigate to the **Site Survey** menu item (Setup > Status > Advanced > Site Survey).
2. Press the **SEL/MENU** button.
The Site Survey screen appears.
3. Press the **SEL/MENU** button.
The Site Survey+ screen appears.



4. Using either encoder knob, navigate to the **AP-1000** you want to locate.
5. Tap the **B/D encoder knob**.
A Locate? Message appears.



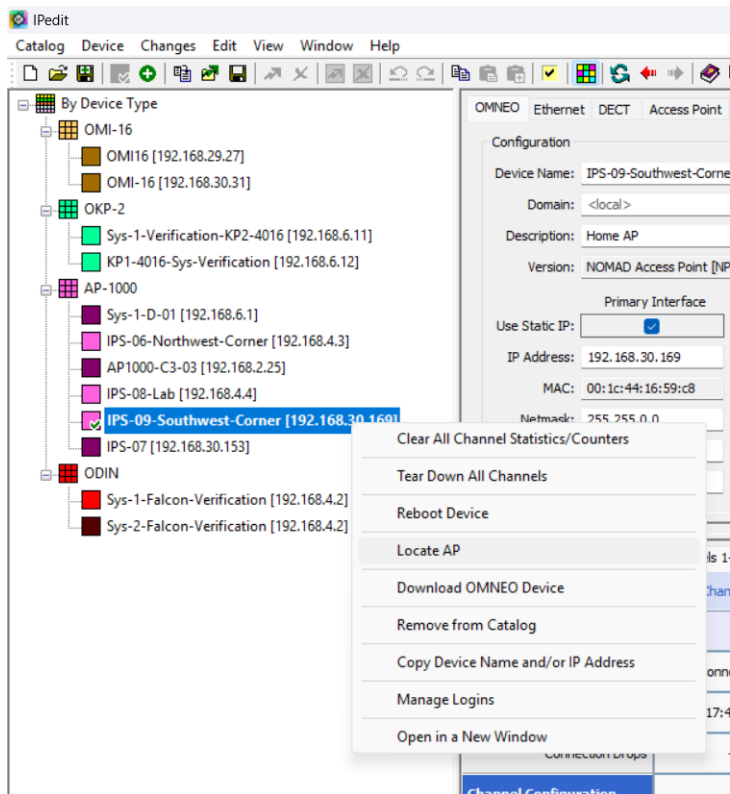
6. Press the **SEL/MENU button**.
A Sent confirmation message appears.



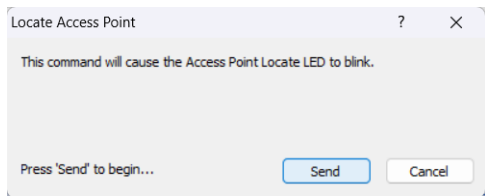
7. Locate the **AP-1000** by looking for a blinking white indicator light located on the front of the unit.

Locate an AP-1000 using IPedit

1. Right click the **AP-1000** you want to locate from the Device Catalog.
A popup menu appears.



- 2. Select **Locate AP**.
A Send confirmation dialog appears.



- 3. Click **OK**.
- 4. Locate the **AP-1000** by looking for a blinking white indicator light located on the front of the unit.

7 TR-1000 Menu Structure

The main menu organizes its interface into six distinct sections, each featuring its own sub-menu: Beltpack, Audio, Setup, Status, Presets, and Favorites.

Each section allows users to access specific functionalities:

- **Beltpack:** Manages individual beltpack settings and configurations.
- **Audio:** Controls audio routing, levels, and monitoring options.
- **Setup:** Provides system registration, configuration tools, and device settings.
- **Status:** Displays real-time system diagnostics and performance indicators.
- **Presets:** Enables users to save and recall predefined system configurations.
- **Favorites:** Offers quick access to frequently used settings or devices.

7.1 Icons


The TR-1000 uses a graphical icon menu system that lets users easily navigate to menu items. The icon table displays the icons in the same order as the menu structure, making it simple to locate functions.

				Menu Name	Description
				Beltpack menu	Enter the Beltpack menu
				Key assignment menu	Enter key assignment mode
				Key mode menu	Enter the key modes menu
				Key backlight menu	Enter the backlight menu
				Talk active	Set the backlight for active talk keys
				Nav active	Set the back light for active navigation keys.
				Flashlight menu	Enter the flashlight menu
				Flashlight on/off	Turn the flashlight on or off
				Color	Configure the flashlight color
				Brightness	Configure the flashlight brightness
				Timeout	Configure the timeout duration
				Alerts menu	Enter the Alerts menu

			Menu Name	Description
			Alert volume	Configure the alert volume
			Call events	Configure the type of alert for call events
			USB events	Configure the type of alert for USB events
			Bluetooth events	Coming Soon!
			DECT events	Configure the type of alert for DECT events
			Hardware events	Configure the type of alert for hardware events
			Display menu	Enter the Display menu
			Display mode	Configure the display mode
			Brightness	Configure the display mode brightness settings
			Screen saver	Configure the screen saver
			Dark mode timer	Configure the dark mode timer
			Language	Set the language for the beltpack
			Screen flip	Configure the screen orientation
			Show ID banner	Enable or disable the ID banner
			Banner color	Customize the banner color
			Audio menu	Enter the Audio menu
			Headset	Enter the Headset menu
			Hdst echo canceller	Configure the headset echo canceller





				Menu Name	Description
				Sidetone	Configure the sidetone volume
				Hdst max volume	Set the headset maximum volume
				Hdst min volume	Set the headset minimum volume
				Microphone menu	Enter the Microphone menu
				Mic select	Select the type of mic
		  		Mic gain	Set the mic gain
		 		Noise gate	Set the noise gate
				Hot mic	Enable the hot mic
				Mic AGC	Set the mic AGC
				Mic noise reduction	Set the mic noise reduction
				XLR mic type	Select the XLR mic type
				Speaker	Enter the Speaker menu
				Speaker Mode	Select the speaker mode
				Auto Transfer	Enable auto transfer
				Speaker Dim	Set the speaker dim level

				Menu Name	Description
				Speaker Hot Key	Enable the speaker hot key
				Mixer	Enter the Mixer menu
				My Sound	Enter the My Sound menu
				Headset Left	Mix audio for headset left channel
				Headset Right	Mix audio for headset right channel
				Speaker	Mix audio for the speaker
				To Intercom	Mix audio to the intercom
				To External Devices	Mix audio to external devices
				BT Levels	Coming Soon!
				3.5 mm Aux	Enter the Auxiliary menu
				Aux Mode	Select the Aux mode
				Input Gain	Set the input gain
				Output Gain	Set the output gain
				Aux Stereo Mix	Select the Aux stereo mix
				Setup	Enter the Setup menu
				Registration	Enter the Registration menu
				Active System	Select the active system
				Register?	Register the beltback to the AP

				Menu Name	Description
				DECT	Enter the DECT menu
				Beltpack Name	Name the beltpack
				TX Power	View the transmit power for the beltpack
				Service	Enter the Service menu
				Tone	Enable the Tone generator
				Conference Mode	Enable conference mode
				Demo Mode	Enter demo mode
				Firmware Update	Perform a firmware update
				User Reset	Perform a user reset
				Factory Reset	Perform a factory reset
				Test Mode	Enter test mode
				Advanced	Enter the advanced menu
				Export Logs	Export logs from the device
				Delete Logs	Delete logs on the device
				Save Log	Save the current log set
				Authentication	Enter the Authentication menu
				Require PIN	Enable require PIN
				Set User PIN	Configure the user PIN

				Menu Name	Description
				Set Admin PIN	Configure the admin PIN
				User Level	Configure the user level
				Status Menu	Enter the status menu
				Battery	Enter the battery status menu
				Charge State	View the charge state of the battery
				Time to Empty	View the amount of time left on the battery
				Temperature	View the current temperature of the battery
				Min/Max Temp	View the minimum and maximum temperature of the battery
				Connections	Enter the connections menu
				Intercom Status	View the status of the intercom
				Intercom Drops	View the number of drops from the intercom
				AP Status	View the status of the AP
				AP Drops	View the number of drops from the AP
				Versions	Enter the Versions menu
				Application	View the application version
				DECT	View the DECT version
				Bluetooth	View the Bluetooth version
				Hardware	View the hardware version

				Menu Name	Description
				Serial Number	View the serial number of the beltpack
				Main Board	View the main board version
				Display Board	View the display board version
				Antenna Board	View the antenna board version
				Advanced (DECT)	Enter the Advanced (DECT) menu
				Site Survey	Perform a site survey
				Diagnostics	View the beltpack diagnostics
				Region	View the region of the beltpack
				Encryption	View the encryption information
				DECT	Enter the DECT menu
				Beltpack ID	View the Beltpack ID
				Current AP	View the current AP
				Home AP	View the home AP
				RSSI/FER	View the RSSI and FER levels
				Temperature	View the temperature of the DECT module
				Min/Max Temp	View the minimum and maximum recorded temperatures on the DECT module
				Bluetooth	Enter the Bluetooth menu
				Intercom	Enter the Intercom menu

				Menu Name	Description
				Allow Mic Kill	Enable mic kill
				Send Mic Kill	Send a mic kill signal
				Presets	Enter the presets menu
				Favorites	Enter the favorites menu

7.2 Beltpack Menu

Use the Beltpack menu to configure and manage the following features:

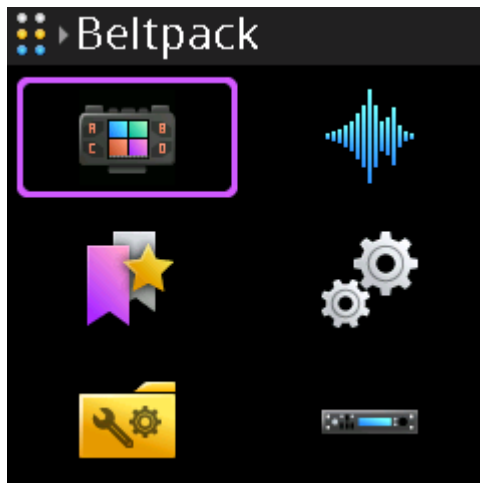


Figure 7.1: Beltpack Menu

Key Assignments:

Assign specific functions to each beltpack key to match your operational needs and preferences.

Key Modes:

Define how each key behaves when pressed, including toggling, momentary activation, or other interaction styles.

Key Backlight:

Customize the appearance of the keys by setting the backlight color and adjusting the text color for better visibility and usability.

Flashlight:

Enable the flashlight feature and personalize its settings by:

- Selecting the beam color
- Adjusting the beam brightness
- Setting a timeout duration to automatically turn off the flashlight after a specified period

Alerts:

Configure alert settings by:

- Setting the overall alert volume
- Enabling or disabling call event alerts
- Managing USB event alerts

- Configuring Bluetooth event alerts

Display:

Adjust display settings to enhance usability by:

- Selecting the display mode
- Adjusting brightness for each mode
- Setting the screensaver activation time
- Defining when dark mode activates

7.2.1**Key Assignment**

Use the **Key Assignments** menu item to configure talk key assignments.

7.2.1.1**Configure Keys in Keypanel Mode****Configure talk key assignments in keypad mode**

1. Navigate to the **Key Assignments menu item** (Beltpack > Key Assignments).
2. Press the **SEL/MENU button**.
The talk key LED turns red and the display shows the talk key as scrollable.

**Notice!**

You only need to press SEL/MENU if you use the encoder knobs to select the key. If you press A-D to select the key, it enters the edit mode directly.

3. Press one of the **A-D buttons** to select the key to modify.
OR
Rotate either **encoder knob** to navigate to the desired talk key.
4. Press the **SEL/MENU button**.
The talk key LED turns red and the display shows the talk key as scrollable and the adjacent LED for the adjacent (showing the function type) key turns white.
5. Rotate either **encoder knob** to scroll through the available assignments.
6. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

**Notice!**

To remove an assignment from a key, assign NULL to the key.

Change the assignment type of a key in keypad mode

1. While changing the assignment of a key, press and hold the **assignment type key**.
This moves the scroll highlight to the assignment type. The talk key LED for the assignment type turns red (from white) and the talk key LED for the current assignment (the key being modified) turns white (from red).
2. Rotate either **encoder knob** to scroll through a list of available assignment types.
The assignment type changes and a new scrollable list of assignments appears on the talk key button previously selected. If you have not accessed the scroll list for this assignment type before, the beltpack asks the intercom for it, and a wait prompt displays until beltpack receives the scroll list. If there are no scrollable items available for the selected function type, only the current assignment type and NULL are available.

7.2.1.2 Configure Talk Key Assignments in Conference Mode

Configure talk key assignments in PL mode

1. Navigate to the **Key Assignments menu item** (Beltpack > Key Assignments).
2. Press the **SEL/MENU button**.
3. Press one of the **A-D buttons** to select the key to modify.
OR
Rotate either **encoder knob** to navigate to the desired talk key.



Notice!

You only need to press SEL/MENU if you use the encoder knobs to select the key. If you press A-D to select the key, it enters the edit mode directly.

4. Press the **SEL/MENU button**.
The talk key LED turns red and the display shows the talk key as scrollable.
5. Rotate either **encoder knob** to scroll through the available assignments.
If the current assignment is a RY or UR, the scroll list only consists of the current assignment and the NULL assignment (the alpha for the NULL assignment is ----).



Notice!

To remove an assignment from a key, assign NULL to the key.

6. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.2.1.3 Change the Setup Page

Setup Pages provide access to more key assignments than the physical keys available on the TR-1000. By utilizing these pages, you can configure and organize additional functions without being limited by the device's hardware layout.

This feature is especially useful in shared environments. When multiple users operate the same device, each user can switch to their preferred Setup Page to display the key assignments they need for their workflow. This eliminates the need to reprogram keys manually and ensures quick, personalized access to essential functions.

Change setup pages

1. Press and hold one **encoder knob**.



2. Rotate the other **encoder knob** to scroll through the setup pages.



3. Press the **SEL/MENU** button.

7.2.2

Key Modes

Use the **Key Modes** menu to customize how the talk buttons behave during operation. This menu allows you to define specific actions for each talk button, such as momentary activation, latching, always on, or always off modes. By configuring these settings, you can tailor the device's response to match your workflow or communication preferences.

Available options

Latching - Tap the talk key on, and then tap the talk key off. However, if you press and hold, the talk key turns on, but then turns off when you let the key go.

Momentary - The talk key is active as long as it is pressed.

Always on - The talk key is always on.

Always off - The talk key is always off.

Configure the talk key modes

1. Navigate to the **Key Mode menu** (Setup > Key Modes).
2. Use either **encoder knob** to scroll through the list of talk keys until you reach the one you want to configure.
3. Press the **SEL/MENU** button.



4. Rotate either **encoder knob** to scroll through the available options.
5. Press the **SEL/MENU** button to confirm the change, or press the **CLR/BACK** button to abort the changes.

7.2.3

Key Backlight

Use the **Key Backlight** menu on the beltpack to set the button illumination to red, white, or turn it off entirely. This feature allows you to adapt the backlight to your environment—choose red to preserve night vision, white for maximum visibility, or disable it to conserve power or maintain stealth in dark settings.

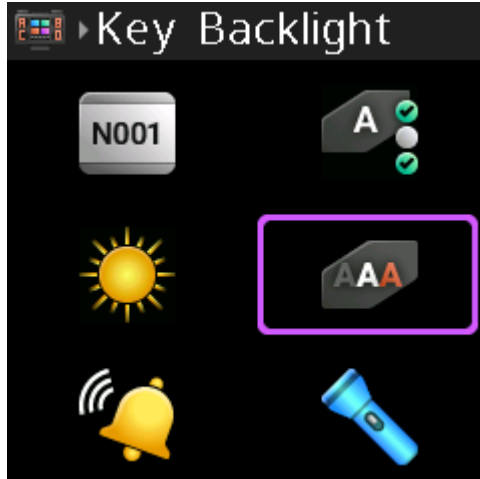


Figure 7.2: Key Backlight Menu

7.2.3.1

Talk Active

Use the **Talk Active** menu to control how the button lights behave when the talk key is activated.

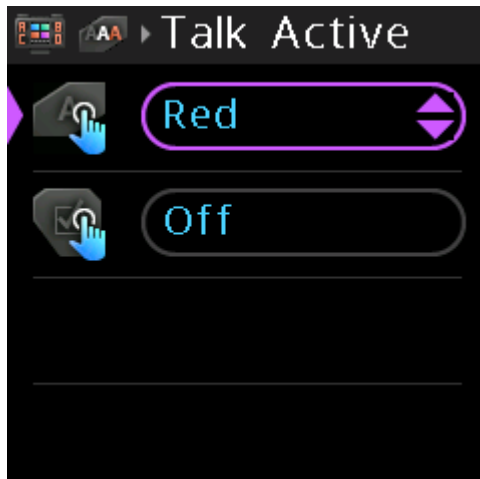
You can select from three options to match your operational needs:

- **Red:** The key lights up in red to indicate that the talk function is active.
- **White:** The key lights up in white, offering a more neutral visual cue.
- **Off:** The key remains unlit—ideal for low-light environments. By default, backlight is off to prolong battery life.

This feature gives you direct control over visual feedback during communication.

Configure the talk active color

1. Navigate to the **Talk Active menu item** (Beltpack | Key Backlight | Talk Active).
2. Press the **SEL/MENU button**.



3. Rotate either **encoder knob** to scroll through the available options.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.2.3.2

Nav Active

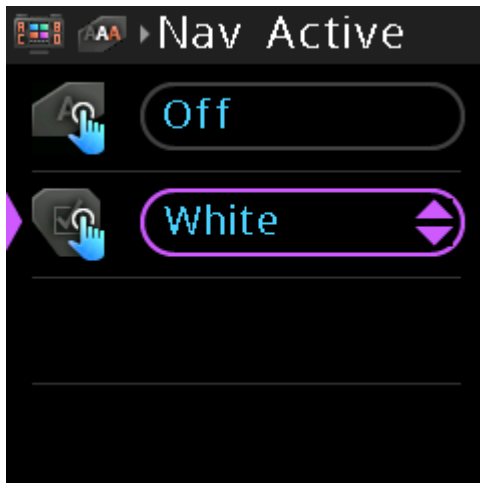
Use the **Nav Active** menu on the beltpack to control how the navigation button lights respond when pressed. The beltpack features three navigation buttons—CLR/BACK, CALL, and SEL—and this setting allows you to customize their illumination behavior. By adjusting the Nav Active setting, you can ensure the buttons light up in a way that enhances visibility and usability, especially in low-light environments or high-paced operations.

This feature lets you choose one of three options:

- **Red:** The key lights up in red when you press a navigation key.
- **White:** The key lights up in white when you press a navigation key.
- **Off:** The key remains unlit when you press a navigation key—ideal for low-light environments or to reduce distractions. By default, backlight is off to prolong battery life.

Configure the nav active color

1. Navigate to the **Nav Active menu item** (Beltpack | Key Backlight | Nav Active).
2. Press the **SEL/MENU button**.



3. Rotate either **encoder knob** to scroll through the available options.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.2.4

Flashlight

The **Flashlight** function on the TR-1000 provides a versatile lighting tool for users working in low-light environments. With the press of a button, users can activate a built-in light to illuminate their surroundings, locate equipment, or read labels. The flashlight offers both white and red light options—white for maximum visibility and red for preserving night vision in sensitive settings. Additionally, users can adjust the brightness level to suit their environment and configure a timeout duration, ensuring the light automatically turns off after a set period to conserve battery life. This feature enhances both convenience and operational efficiency in demanding conditions.



Figure 7.3: Flashlight Menu

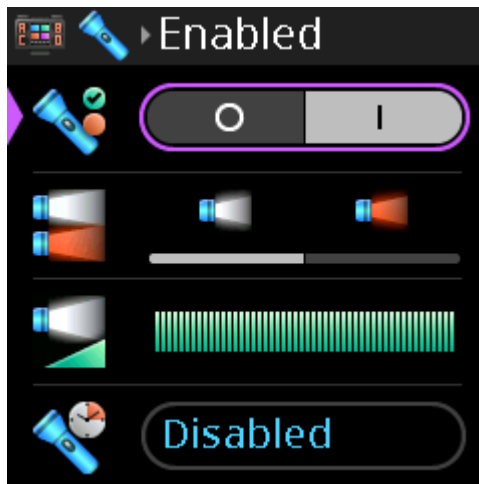
7.2.4.1

Flashlight On/Off

To use the flashlight, you must first enable the flashlight feature.

Enable the Flashlight

1. Navigate to the **Flashlight menu** (Beltpack > Flashlight).
2. Navigate to the **Enable menu item**.
3. Press the **SEL/MENU button**.



4. Rotate either **encoder knob** to toggle between enable and disable.
5. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.



Notice!

Repeat the steps to disable the flashlight feature.

Turn the Flashlight On and Off

1. On the bottom of the device, short press the **power button**.
The flashlight turns on.
2. Short press the **power button again** to turn the flashlight off.

7.2.4.2

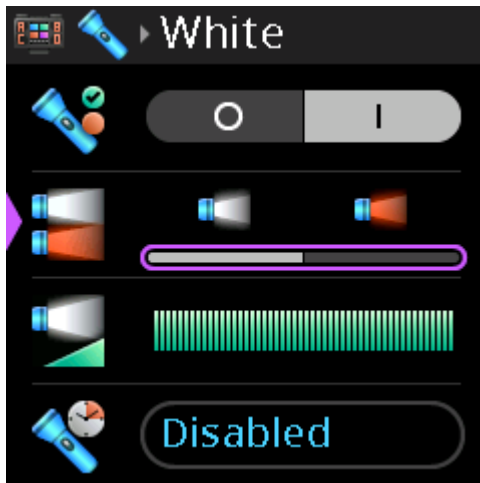
Color

You can select the beltpack's flashlight color using the beltpack controls, choosing between white or red light to match your environment or task—whether you need bright illumination for visibility or red light for preserving night vision and allow for discreet illumination

Change the color of the flashlight beam

1. Navigate to the **Color menu item** (Beltpack > Flashlight > Color).
2. Press the **SEL/MENU button**.

The Color menu activates and the flashlight turns on.



3. Rotate either **encoder knob** to toggle between white or red. Notice the flashlight color changes as you rotate the encoder knob.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.2.4.3

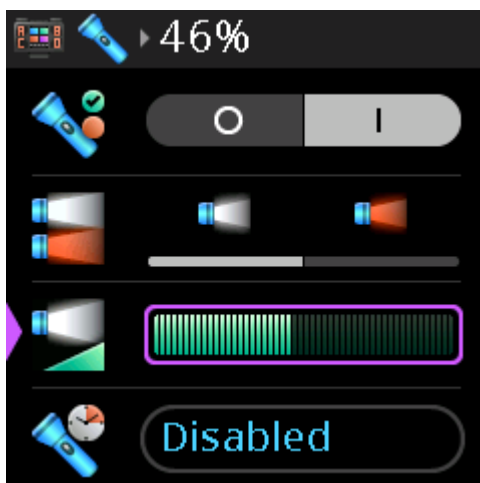
Brightness

You can easily adjust the beltpack's flashlight brightness directly from the beltpack, allowing you to adapt to your environment—whether you are navigating in low light, working in bright conditions, or transitioning between settings—without interrupting your activity.

Adjust the flashlight brightness

1. Navigate to the **Brightness menu item** (Beltpack > Flashlight > Brightness).
2. Press the **SEL/MENU button**.

The Brightness menu activates and the flashlight turns on.



3. Rotate either **encoder knob** to adjust the flashlight brightness.
Notice the brightness of the flashlight adjusts as you turn the encoder knob.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.2.4.4

Timeout

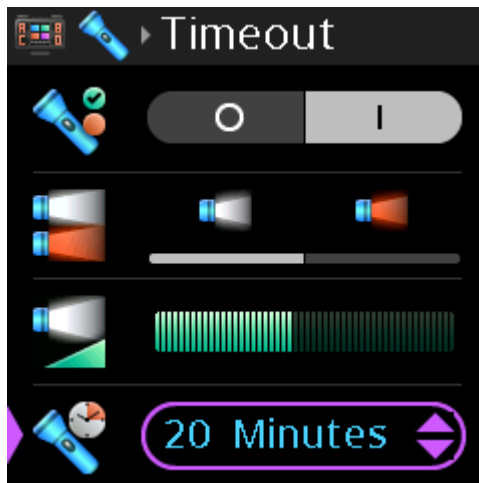
The beltpack flashlight includes a convenient **Timeout** feature designed to automatically turn off the light after a preset period of inactivity. This helps conserve battery life, prevents accidental power drain, and ensures the flashlight is only active when needed.

The default setting is 5 minutes.

You can choose from the following timeout intervals: 1, 2, 3, 4, 5, 10, 15, 20, 25, or 30 minutes—or disable the timeout feature entirely if continuous operation is preferred.

Set the timeout feature for the flashlight

1. Navigate to the **Timeout menu item** (Beltpack > Flashlight > Timeout).
2. Press the **SEL/MENU button**.



3. Rotate either **encoder knob** to scroll through the available options.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.2.5

Alerts

Use the **Alerts** menu to actively configure alert settings and ensure timely notifications during operation. Set the overall alert volume to suit your environment, and customize how the beltpack responds to specific events. Enable or disable call event alerts based on your communication needs, manage USB event alerts to stay informed of device connections, and configure Bluetooth event alerts to monitor wireless activity effectively. These customizable options allow you to tailor the beltpack's alert behavior to your specific workflow, helping you respond quickly and efficiently to important events.

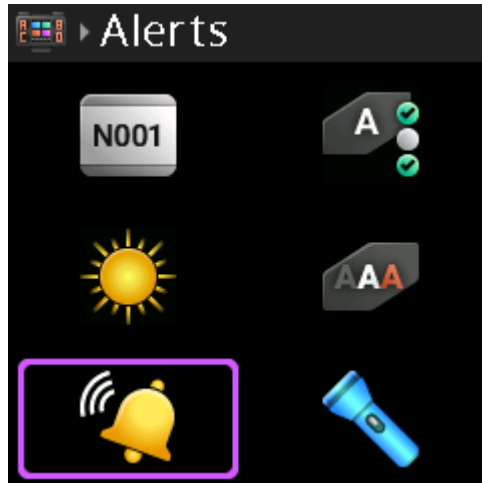


Figure 7.4: Alerts Menu

7.2.5.1

Alert Volume

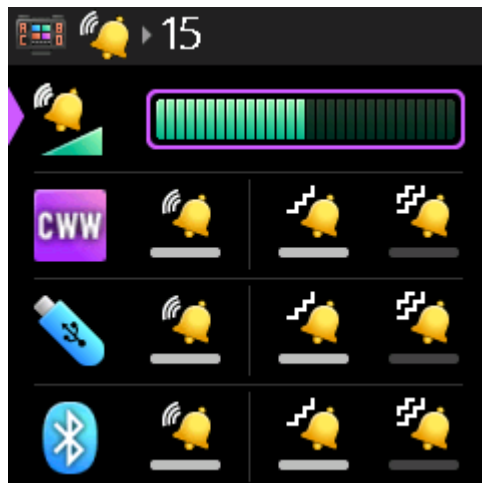
Use the **Alert Volume** menu to set the desired alert sound level for your beltpack.

By default, the volume is configured to -20, which provides a balanced level suitable for most environments.

You can customize the volume within a flexible range from -30 (quieter) to 0 (louder), depending on your specific needs or ambient noise conditions.

Adjust the alert volume

1. Navigate to the **Alert Volume** menu item (Beltpack > Alert > Alert Volume).
2. Press the **SEL/MENU** button.

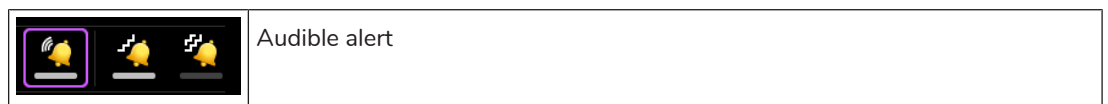


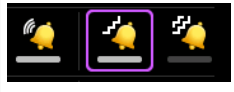
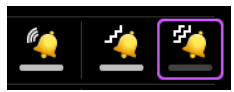
3. Use either **encoder knob** to adjust the alert volume.
4. Press the **SEL/MENU** button to confirm the change, or press the **CLR/BACK** button to abort the changes.

7.2.5.2

Call Events

Use the **Call Events** menu item to configure how the beltpack alerts you when a call is received. You can choose to activate an audible alert, a vibration alert, or both, depending on your preference and environment.



	Low vibration alert
	High vibration alert



Notice!

Set the audible alert volume in the Alert Volume menu item.

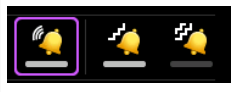
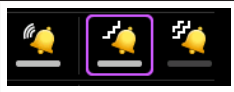
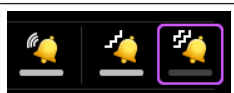
Configure the call events alert

1. Navigate to the **Call Events menu item** (Beltpack > Alert > Call Events).
2. Press the **SEL/MENU button**.
3. Rotate the **A/C encoder knob** to move through the settings.
4. Rotate the **B/D encoder knob** to toggle the setting on or off.
5. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.2.5.3

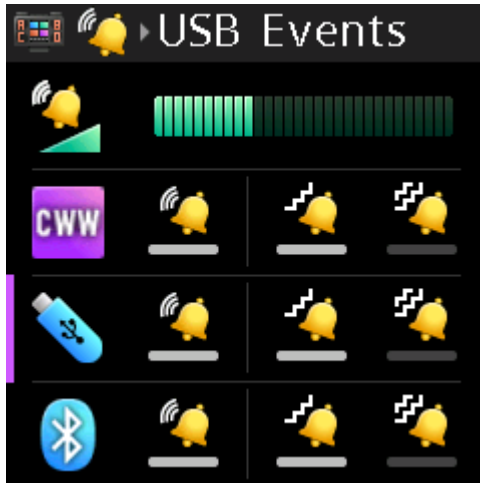
USB events

Use the **USB Events** menu item to configure how the beltpack alerts you when a USB device is inserted. You can set the alert to be audible, vibrational, or both, depending on your preference. The USB connection allows you to upload firmware updates or charge the beltpack, so these alerts help ensure you're aware of any USB activity.

	Audible alert
	Low vibration alert
	High vibration alert

Configure the USB events alert

1. Navigate to the **USB Events menu item** (Beltpack > Alert > USB Events).
2. Press the **SEL/MENU button**.



3. Rotate the **A/C encoder knob** to move through the settings.
4. Rotate the **B/D encoder knob** to toggle the setting on or off.
5. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.2.5.4

Bluetooth Events

The **Bluetooth Events** menu lets you quickly configure alerts for important wireless events. By adjusting these notifications directly within the menu, you maintain full control over how your device responds to nearby Bluetooth activity.

	Audible alert
	Low vibration alert
	High vibration alert

Configure the Bluetooth events

1. Navigate to the **Bluetooth Events menu item** (Beltpack > Alert > Bluetooth Events).
2. Press the **SEL/MENU button**.



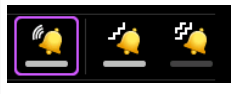
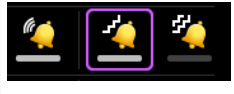
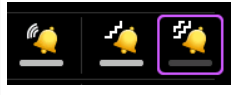
3. Rotate the **A/C encoder knob** to move through the settings.

4. Rotate the **B/D encoder knob** to toggle the setting on or off.
5. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.2.5.5

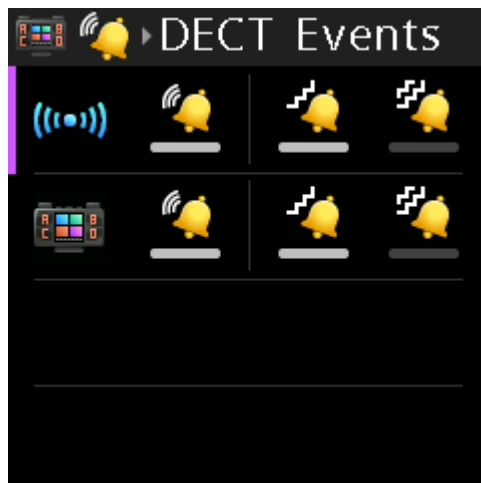
DECT Events

Users can enable a general DECT alert to monitor key connectivity events across the system. When this alert is turned on, the system notifies the user if a DECT device disconnects due to being out of range, fails to register, or successfully connects. It also triggers an alert if OMNEO disconnects from an Access Point. With the alert enabled, users receive immediate feedback on these events; when disabled, the system suppresses these notifications. The system reports DECT events in real time to help monitor connectivity.

	Audible alert
	Low vibration alert
	High vibration alert

Configure the DECT events alert

1. Navigate to the **DECT Events menu item** (Beltpack > Alert > DECT Events).
2. Press the **SEL/MENU button**.


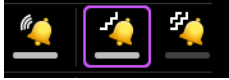



3. Rotate the **A/C encoder knob** to move through the settings.
4. Rotate the **B/D encoder knob** to toggle the setting on or off.
5. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.2.5.6

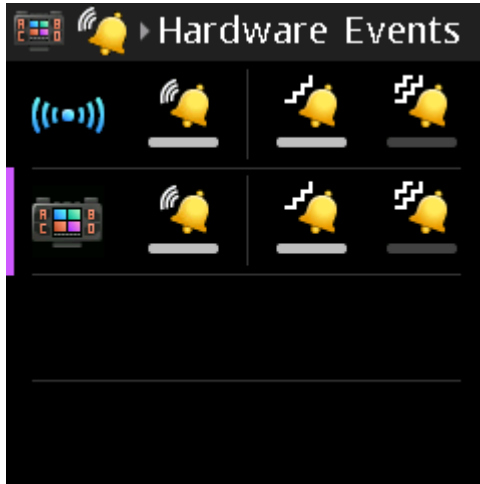
Hardware Events

Users can activate the **Hardware Alert** to receive notifications about key system status changes. When enabled, the alert notifies users when the battery charge reaches full capacity, when the device completes its boot sequence, and when a power-down is initiated. The 'Boot Complete' and 'Power Down Initiated' alerts are specifically designed to support Dark Mode operations. If the alert is turned off, the system suppresses these notifications.

	Audible alert
	Low vibration alert
	High vibration alert

Configure the hardware events alert

1. Navigate to the **Hardware Events** menu item (Beltpack > Alert > Hardware Events).
2. Press the **SEL/MENU** button.



3. Rotate the **A/C encoder knob** to move through the settings.
4. Rotate the **B/D encoder knob** to toggle the setting on or off.
5. Press the **SEL/MENU** button to confirm the change, or press the **CLR/BACK** button to abort the changes.

7.2.6

Display

Use the **Display** menu on the beltpack to actively configure a range of screen settings to match your preferences and operating environment. You can adjust the display mode, set the brightness level, enable or customize the screensaver, and configure the dark mode timer. Additionally, you can select your preferred language, flip the screen orientation, and personalize the interface by choosing whether to show the banner ID and selecting a banner color. These options give you full control over how information is presented on the beltpack display.



Figure 7.5: Display Menu

7.2.6.1

Display Mode

Use the **Display Mode** menu item on the beltpack to actively select a predefined brightness level for the screen. You can choose from three distinct modes, each designed to optimize visibility in different lighting conditions—whether you're operating in bright daylight, working indoors, or navigating in low-light environments. This setting allows you to quickly adapt the display to your surroundings for maximum readability and comfort.

The default brightness settings for each mode are:

Normal	72% brightness
Dim	26% brightness
Dark	0% brightness

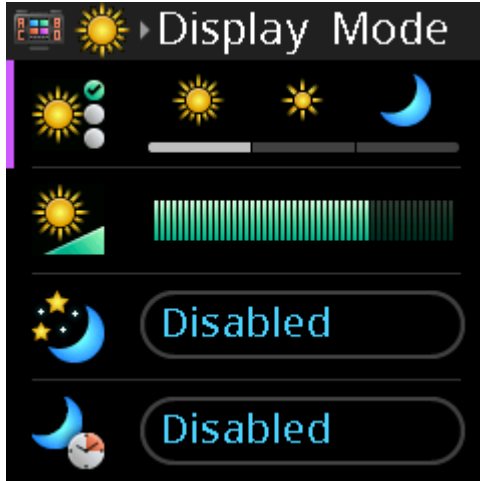


Notice!

Use the Brightness menu on the beltpack to modify the predefined display brightness levels set in this menu.

Select the display mode

1. Navigate to the **Display Mode menu item** (Beltpack > Display > Display Mode).
2. Press the **SEL/MENU button**.



3. Rotate either **encoder knob** to move through the options.



Notice!

As you switch between the different modes, the Brightness bar graph changes to show the brightness level for that mode. You can edit the brightness of the mode by selecting the mode and then modifying the brightness of the selected mode in the Brightness menu item.

4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

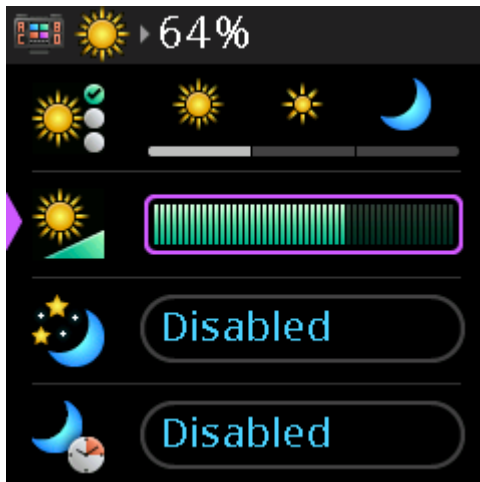
7.2.6.2

Brightness

Use the **Brightness** menu item to adjust the brightness for the currently selected display mode. Adjustments to the brightness appear in increments of two, from 0% to 100%.

Adjust the brightness

1. Navigate to the **Brightness menu item** (Beltpack > Display > Brightness).
2. Press the **SEL/MENU button**.



3. Use either **encoder knob** to adjust the brightness level.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.2.6.3

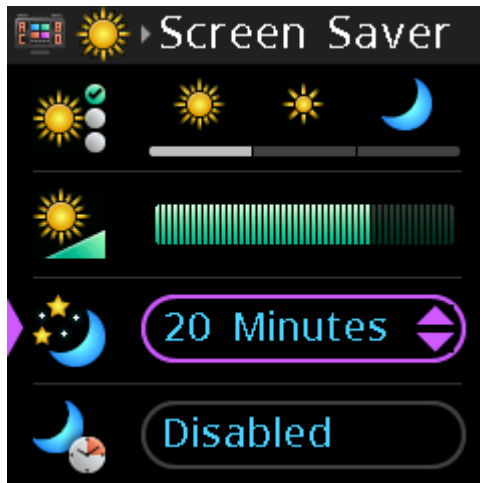
Screen Saver

Use the **Screen Saver** menu item on the beltpack to configure how long the display remains active before the screen saver engages. This feature helps conserve power and reduce screen wear during periods of inactivity.

Available options: Disabled, 5 Minutes, 10 Minutes, 20 Minutes, 30 Minutes, and 1 Hour.

Configure the screen saver

1. Navigate to the **Screen Saver menu item** (Beltpack > Display > Screen Saver).
2. Press the **SEL/MENU button**.



3. Rotate either **encoder knob** to scroll through the available options.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.2.6.4

Display Off Timer

Use the **Display Off Timer** to set how long the display stays active before it automatically turns off. This feature conserves power, reduces screen wear during inactivity, and keeps the device dark in theater environments.

When the set time expires, the screen automatically goes dark to conserve power. To wake the screen, press any key on the beltpack. The display immediately reactivates, allowing you to resume operation without delay.

Available options include:

Disabled (default), 5 s, 10 s, 15 s, 20 s, 30 s, 45 s, 1 m, 2 m, and 5m.

Set the display off timer

1. Navigate to the **Display Off Timer menu item** (Beltpack > Display > Dark Mode Timer).
2. Press the **SEL/MENU button**.



3. Rotate either **encoder knob** to scroll through the available options.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.2.6.5 Language

Use the **Language** menu on the beltpack to actively select the language in which the user interface is displayed. This setting allows you to operate the beltpack in your preferred language.

Set the language

1. Navigate to the **Language menu item** (Beltpack > Display > Language).
2. Press the **SEL/MENU button**.



3. Rotate either **encoder knob** to scroll through the available options.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.2.6.6 Screen Flip

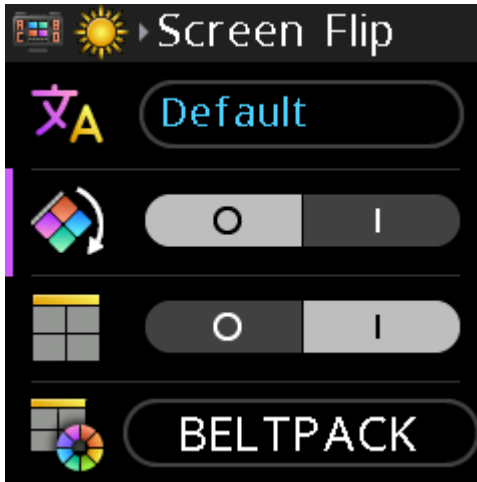
Use the **Flip Screen** menu on the beltpack to actively rotate the display orientation by 180 degrees. This feature allows you to adapt the screen layout based on how the beltpack is worn—whether it is positioned upside down, on the opposite side of the body, or mounted in a non-standard configuration. By adjusting the screen orientation, you ensure that the display remains readable and the controls stay intuitive, enhancing usability and comfort in any setup.

**Notice!**

The correspondence of the navigation buttons and shaft encoders remain unchanged after the initiation of a screen flip. In addition, key assignments remain associated with the original A, B, C, and D keys, independent of screen orientation.

Flip the screen

1. Navigate to the **Screen Flip menu item** (Beltpack > Display > Screen Flip).
2. Press the **SEL/MENU button**.



3. Rotate either **encoder knob** to toggle between enable and disable.



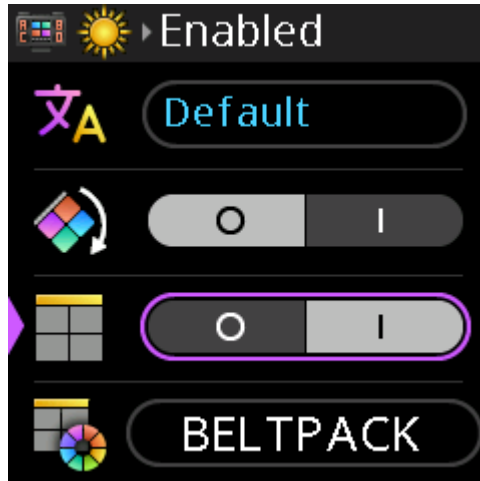
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.2.6.7**Show ID Banner**

Use the **Show ID Banner** menu item on the beltpack to control the visibility and appearance of the ID banner, which displays the beltpack's unique identifier along with the assignment page icon. You can choose to turn this banner on for quick identification or off to simplify the display. By default, the banner is visible.

Enable or disable the ID banner

1. Navigate to the **Show ID Banner menu item** (Beltpack > Display > Show ID Banner).
2. Press the **SEL/MENU button**.



3. Rotate either **encoder knob** to toggle between enable and disable.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.2.6.8

Banner Color

Use the **Banner Color** menu item on the beltpack to customize the appearance of the ID banner. You can select a banner color that suits your preferences, enhancing visibility and personalization. Additionally, you can change the text color within the banner from black to white, allowing for better contrast and readability depending on the background color you choose. This feature gives you full control over how identification information is visually presented on the display.

Customize the banner

1. Navigate to the **Banner Color** menu item (Beltpack > Display > Banner Color).
2. Press the **SEL/MENU button**.



3. Rotate the **B/D encoder knob** to change the background color of the banner.
4. Rotate the **A/C encoder knob** to toggle between black or white text.
5. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.3

Audio Menu

Access the **Audio** menu to configure and manage the following components:

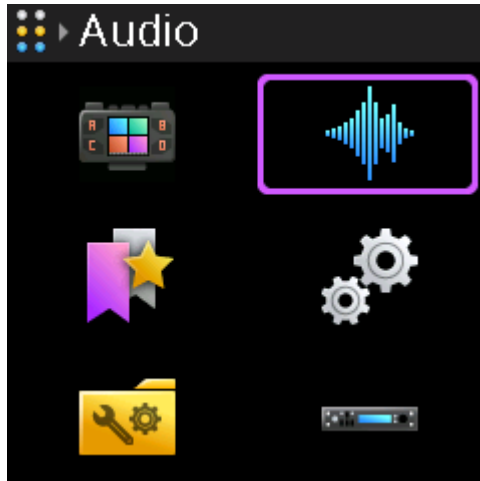


Figure 7.6: Audio Menu

Headset:

Adjust and fine-tune headset settings, including:

- Hdst echo cancellation
- Sidetone
- Hdst max volume
- Hdst min volume

Microphone:

Select and customize microphone settings including:

- Mic select
- Mic gain
- Noise gate
- Hot mic
- Mic AGC (auto gain control)
- Mic noise reduction
- XLR microphone type

Speaker Options:

Access and modify speaker parameters, including:

- Speaker mode
- Auto transfer
- Speaker dim
- Speaker hot key

Mixer:

Blend and balance multiple audio sources including:

- My sound
- To intercom
- To external devices

BT Levels:

Coming soon

3.5mm Aux:

Configure external audio connections including:

- Aux mode
- Input gain
- Output gain
- Aux stereo mix

7.3.1

Headset

Access the **Headset** menu to enable and customize audio settings for your headset.

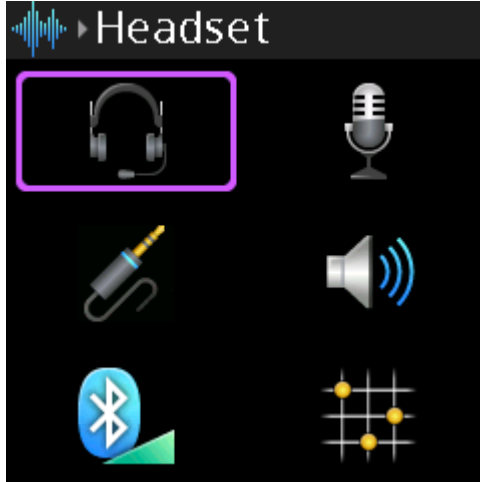


Figure 7.7: Audio Headset Menu

Below are the available options and their functions:

- **Hdst Echo Canceller**
Enable the echo canceller to reduce feedback between the microphone and the speaker on the beltpack.
- **Sidetone**
Set the volume level at which you hear your own voice through the headset.
- **Hdst Max Volume**
Set the maximum headset volume level
- **Hdst Min Volume**
Set the minimum headset volume level

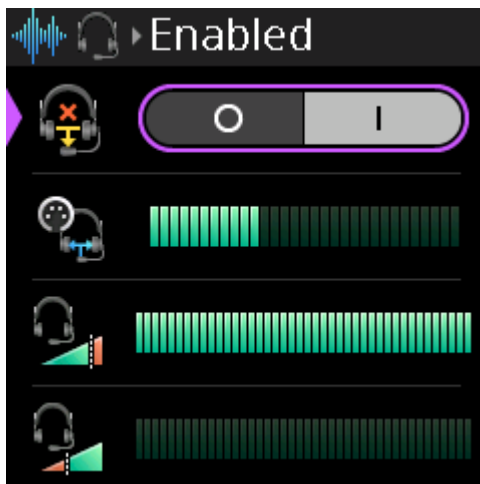
7.3.1.1

Hdst Echo Canceller

Use the **Hdst Echo Canceller** menu to enable echo cancellation for the headset. This feature actively reduces feedback between the microphone and speaker on the beltpack, improving audio clarity during communication. If you still hear an echo after enabling this setting, the source may be another user on the network rather than your own device.

Enable Hdst Echo Cancellation

1. Navigate to the **Hdst Echo Canceller menu item** (Audio > Headset > Hdst Echo Canceller).
2. Press the **SEL/MENU button**.



3. Rotate either **encoder knob** to toggle between enable and disable.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.3.1.2

Sidetone

Use the **Sidetone** menu to set the volume level, in decibels (dB), at which you hear your own voice through the headset. This feature helps reduce the muffled sensation that can occur while speaking, especially when using a dual-sided headset. The menu provides two sidetone options—3.5mm and XLR—but only one appears at a time, depending on which microphone input is currently active. Adjust the sidetone level to suit your comfort and communication needs.

The range for this field is 0 to 30 and disabled.

The default setting is 10.

Adjust the Sidetone level

1. Navigate to the **Sidetone menu item** (Audio > Headset > Sidetone).
2. Press the **SEL/MENU button**.



3. Use either **encoder knob** to adjust the sidetone level.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.3.1.3

Hdst Max Volume

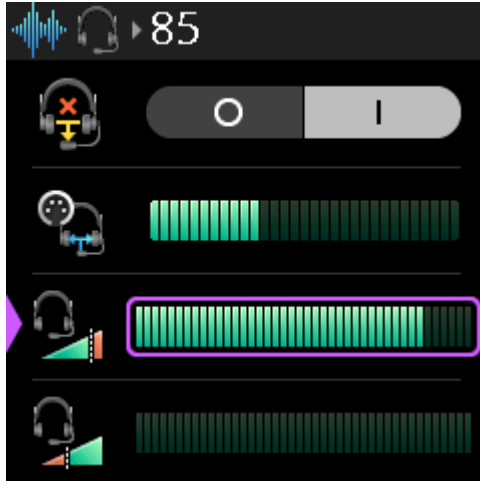
Use the **Hdst Max Volume** menu item to set the maximum output level for the headset.

This setting allows you to control how loud the headset can get, ensuring safe and comfortable listening levels for users. By setting an appropriate maximum level, you help prevent audio distortion and protect users from excessive volume, especially in high-noise environments.

You can adjust the maximum volume within a range from 0 to 100, or choose to disable the limit entirely.

Adjust the Hdst Max Volume

1. Navigate to the **Hdst Max Volume menu item** (Audio > Headset > Hdst Max Volume).
2. Press the **SEL/MENU button**.



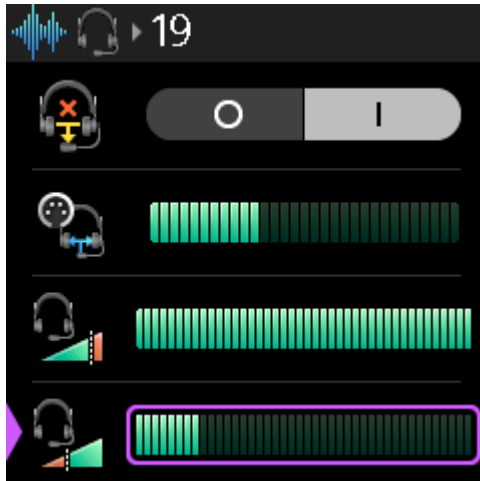
3. Rotate either **encoder knob** to adjust the **Hdst Max Volume**.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.3.1.4 Hdst Min Volume

Use the **Hdst Min Volume** menu item define the lowest volume threshold that the headset can reach, ensuring consistent audibility even when users attempt to lower the volume. You can adjust the minimum level within a range of 0 to 100, or choose to disable the limit entirely. Setting a minimum volume helps maintain clear communication and prevents the audio from becoming unintentionally too quiet during operation.

Adjust the Hdst Min Volume

1. Navigate to the **Hdst Min Volume menu item** (Audio > Headset > Hdst Max Volume).
2. Press the **SEL/MENU button**.



3. Rotate either **encoder knob** to adjust the **Hdst Min Volume**.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.3.2 Microphone Menu

The **Microphone** menu provides all the essential controls for configuring and optimizing your microphone settings. Use this menu to ensure clear, consistent audio performance for your system.

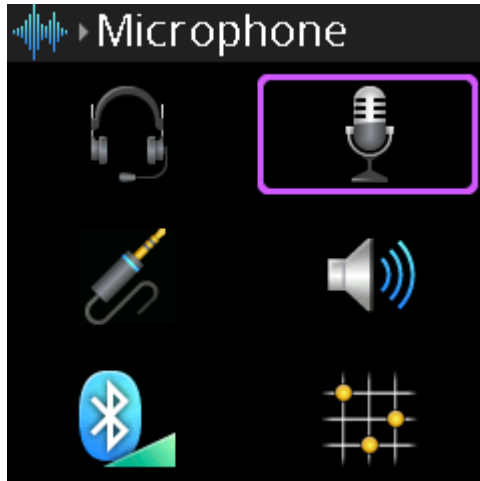


Figure 7.8: Microphone Menu

Below are the available options and their functions:

- **Select Microphone Type**
Choose the type of microphone you are using (e.g., built-in, 3.5mm, XLR). Selecting the correct type ensures proper signal handling and compatibility.
- **Adjust Mic Gain**
Set the microphone gain to control input volume. Increasing gain amplifies the signal, while reducing it prevents distortion and clipping.
- **Set Noise Gate Levels**
Configure the noise gate to eliminate unwanted background noise. The gate opens when the input signal exceeds the threshold and closes when it falls below, reducing ambient sounds during quiet moments.
- **Enable Hot Mic**
Activate the hot mic feature to keep the microphone live at all times, even when other audio sources are active. This is useful for continuous communication or monitoring.
- **Configure Mic AGC (Automatic Gain Control) Level**
Enable and adjust AGC to automatically regulate microphone volume. This feature maintains consistent audio levels regardless of changes in speaking volume or distance.
- **Enable Mic Noise Reduction**
Turn on noise reduction to minimize environmental sounds such as hums, fans, or background chatter, improving clarity.
- **Set XLR Mic Type**
Specify the XLR microphone type for accurate impedance and signal matching. This ensures optimal performance for professional-grade microphones.

7.3.2.1

Mic Select

Use the **Mic Select** menu item to choose which microphone is active on the beltpack.

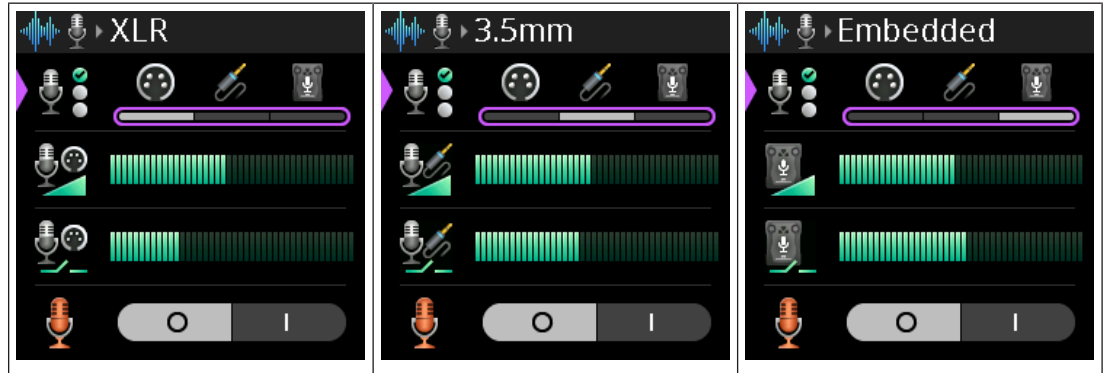
Your selection in this menu item directly influences what is seen in the Mic Gain, Noise Gate, Noise Reduction, AGC, and Mic Type menu items. For example, the Mic Gain menu item adjusts to show gain settings specific to the selected microphone type (e.g., XLR, 3.5 mm, or Embedded).

The selection made in this menu item also affects what is shown in the Sidetone menu item under the Headset menu.

The beltpack automatically detects when a headset is inserted or removed and adjusts the active microphone accordingly:

- When no headset is connected, inserting the first headset automatically sets it as the active microphone.

- If the active headset is removed, and multiple headsets are connected, the beltpack automatically switches to one of the remaining headsets to maintain functionality.



Available selections for this menu are XLR, 3.5 mm, and Embedded.

Select the Active Mic

1. Navigate to the **Mic Select menu item** (Audio > Microphone > Mic Select).
2. Press the **SEL/MENU button**.



3. Rotate either **encoder knob** to scroll through the available options.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.3.2.2

Mic Gain

Use the **Mic Gain** menu item to control how much the system amplifies the microphone’s input signal before further processing.

By default, the mic gain is set to 0.

You can manually increase or decrease the gain within a range of -10 to +10:

- Negative values reduce the input signal, which can help minimize background noise or prevent clipping in loud environments.
- Positive values boost the input signal, making quieter sounds more audible.

Adjust the mic gain

1. Navigate to the **Mic Gain menu item** (Audio > Microphone > Mic Gain).
2. Press the **SEL/MENU button**.



3. Use either **encoder knob** to adjust the mic gain level.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.3.2.3

Noise Gate

The **Noise Gate** feature reduces or eliminates low-level background noise—such as fan hum, keyboard clicks, or other ambient sounds—by blocking audio signals that fall below a defined threshold. Signals that exceed this threshold, such as your voice, pass through normally.

Use the Noise Gate menu to set the threshold level at which quieter input is suppressed on the active microphone. Note, to set the active mic, see *Mic Select*, page 122.

The noise gate defaults to a different value depending upon the microphone selected.

XLR = -30

3.5 mm = -24

Embedded Speaker = -20

Available options: Disabled, -40 to 0.

Adjust the noise gate

1. Navigate to the **Noise Gate menu item** (Audio > Microphone > Noise Gate).
2. Press the **SEL/MENU button**.



Notice!

When you enter the noise gate menu, the blue arrows show the current noise gate setting. As you speak into the mic, the level meter changes, allowing you to set the gate to the proper threshold.

3. Rotate either **encoder knob** to adjust the noise gate.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.3.2.4 Hot Mic

Use the **Hot Mic** menu item to enable or disable the hot mic feature.

When you enable Hot Mic, the microphone continuously sends audio to the intercom system, regardless of whether the talk key is pressed.

When you disable Hot Mic, the microphone only transmits audio to the intercom when the talk key is actively engaged. This helps reduce unintended transmissions and background noise.

By default, the Hot Mic feature is disabled.

Enable or disable the hot mic

1. Navigate to the **Hot Mic menu item** (Audio > Microphone > Hot Mic).
2. Press the **SEL/MENU button**.



3. Rotate either **encoder knob** to toggle between enable and disable.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.3.2.5 Mic AGC (Auto Gain Control) Level

The **Mic AGC Level** sets the target volume that the Automatic Gain Control adjusts your microphone input toward. When your voice falls below the AGC target, the system increases the mic gain. When your voice rises above the target, it reduces the gain. This automatic adjustment helps maintain a consistent output level even when your speaking volume or distance varies.

Adjusting this setting helps ensure that your audio remains clear and balanced, especially in dynamic or noisy environments where noise levels fluctuate.

By default, AGC is set to 6.

The range for this menu item is -40 to 0 and Disabled.

Set the Mic AGC level

1. Navigate to the **Mic AGC Level menu item** (Audio > Advanced > Mic AGC Level).
2. Press the **SEL/MENU button**.



3. Rotate either **encoder knob** to adjust the AGC level.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

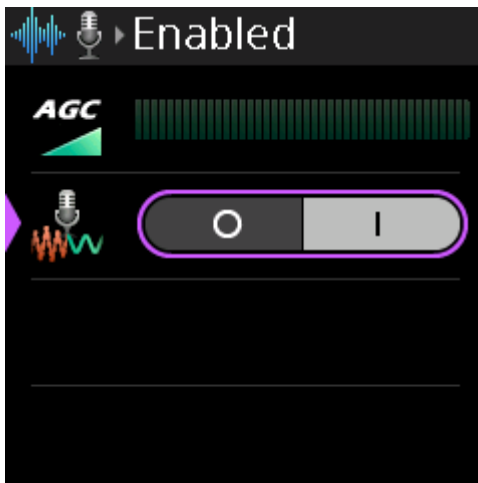
7.3.2.6

Mic Noise Reduction

Use the **Mic Noise Reduction** menu item to minimize unwanted background sounds captured by a microphone, helping to improve the clarity and quality. When enabled, the system actively analyzes the incoming audio signal and filters out ambient noise such as hums, fan sounds, wind, or chatter that is not part of the speaker's voice.

Enable or disable mic noise reduction

1. Navigate to the **Mic Noise Reduction menu item** (Audio > Advanced > Mic Noise Reduction)
2. Press the **SEL/MENU button**.



3. Rotate either **encoder knob** to toggle between enable and disable.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.3.2.7

XLR Mic Type

Use the **XLR Mic Type** menu item to specify the type of XLR microphone connected to the device. This configuration ensures optimal audio performance by matching the input settings to the microphone's characteristics.

**Notice!**

The XLR Mic Type menu item is hidden unless you select XLR in the Mic Select menu.

Available options for this menu item:

- **A - Automatic Detection:** The system automatically identifies whether the connected XLR microphone is an Electret or Dynamic type and adjusts the input settings accordingly.
- **E - Electret Microphone:** Select this option if you are using an electret microphone, which typically requires a bias voltage (also known as plug-in power) to operate.
- **D - Dynamic Microphone:** Choose this setting for dynamic microphones, which do not require external power.

Select the XLR mic type

1. Navigate to the **XLR Mic Type menu item** (Audio > Microphone > XLR Mic Type).
2. Press the **SEL/MENU button**.



3. Rotate either **encoder knob** to scroll through the available options.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.3.3

Speaker

The **Speaker** menu provides an easy way to manage essential audio settings, allowing users to tailor their experience for convenience and control.

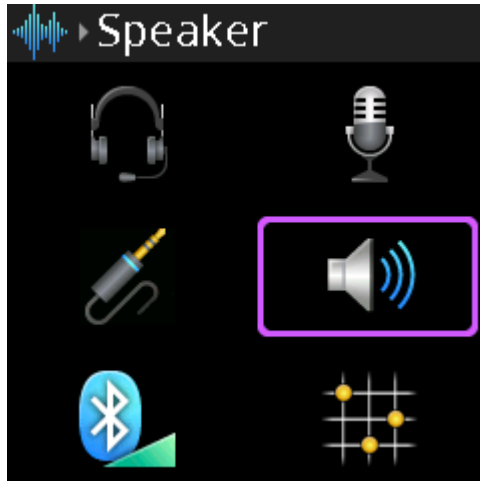


Figure 7.9: Speaker Menu

Within this menu, you can:

- **Enable Speaker Mode**
Turns on hands-free audio so calls and media play through the device’s loudspeaker rather than its earpiece, making it easier to listen without holding the device.
- **Enable Auto Transfer**
Automatically switches audio to the appropriate output (such as a connected headset or speaker) when devices are plugged in or disconnected, ensuring a smooth, uninterrupted audio experience.
- **Speaker Dim**
Reduces feedback and echo picked up by the microphone, keeping conversations clear without completely muting surrounding sounds.
- **Enable Speaker Hot Key**
Activates a dedicated shortcut that lets you instantly toggle speaker functions without navigating menus, providing quick, convenient control.

7.3.3.1

Speaker Mode

Activate **Speaker Mode** to enable hands-free communication through the beltpack’s external speaker. When Speaker Mode is turned on, the beltpack uses its built-in speaker and microphone to transmit audio, allowing users to communicate without wearing a headset or holding a microphone.

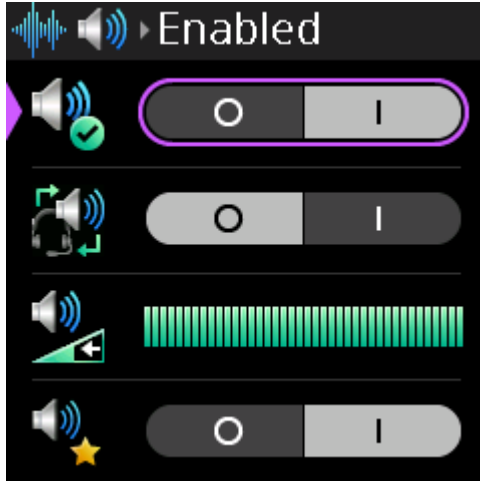


Notice!

The system hides this menu item if the Allow Speaker feature is not enabled. For more information, see Allow speaker.

Enable or disable speaker mode

1. Navigate to the **Speaker Mode menu item** (Audio > Headset > Speaker Mode).
2. Press the **SEL/MENU button**.



3. Rotate either **encoder knob** to toggle between enable and disable.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.3.3.2

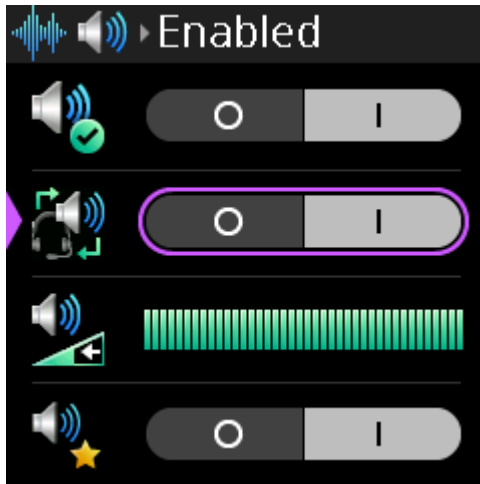
Auto Transfer

Auto Transfer automatically switches the device from speaker mode to headset mode. When you enable this feature and the device is in speaker mode, it switches to headset mode as soon as you connect a 3.5 mm or XLR headset. Conversely, if you operate in headset mode and disconnect your headset, the speaker and embedded mic activate when this feature is enabled.

By default, Auto Transfer is not enabled.

Enable Auto Transfer

1. Navigate to the **Auto Transfer menu item** (Audio > Speaker > Auto Transfer).
2. Press the **SEL/MENU button**.



1. Rotate either **encoder knob** to toggle between enable and disable.
2. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.3.3.3

Speaker Dim

Speaker Dim automatically lowers the speaker volume in an intercom system whenever a microphone becomes active. This feature reduces the speaker’s audio output so the microphone doesn’t pick it up, helping prevent feedback and echo.

The range for this menu item is 0 to -19, and Disabled.

By default Speaker Dim is set to 0.

Adjust speaker dim

1. Navigate to the **Speaker Dim menu item** (Audio > Speaker > Speaker Dim).
2. Press the **SEL/MENU button**.



3. Rotate either **encoder knob** to adjust the speaker dim.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.3.3.4

Speaker Hot Key

The **Speaker Hot Key** feature lets users quickly switch audio output between the headset and the speaker without navigating through menus. When this hot key is enabled, the user can toggle between the headset and the speaker by pressing and holding the Back button and then pressing the BD encoder.

Enable the Speaker Hot Key

1. Navigate to the **Speaker Hot Key menu item** (Audio > Speaker > Speaker Hot Key)
2. Press the **SEL/MENU button**.



1. Rotate either **encoder knob** to toggle between enable and disable.
2. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.3.4

Mixer

Use the **Mixer** menu to route selected input audio signals to specific output destinations. This feature allows you to customize how audio is distributed across various channels and devices, ensuring that each signal reaches the appropriate listener or system component.

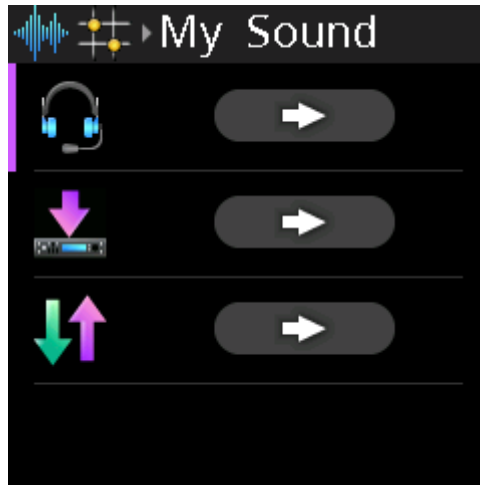


Figure 7.10: Mixer Menu

Within this menu, you can:

- **My Sound**
Configure what audio hear and where you hear it.
- **To Intercom**
Select which input source is routed to the intercom system.
- **To External Devices**
Select which input source is routed to the auxiliary output.

7.3.4.1

My Sound

The **My Sound** menu allows you to configure what audio you hear and where you hear it as well as where your audio is sent.

Available configurations:

- Left headset
- Right headset
- Speaker

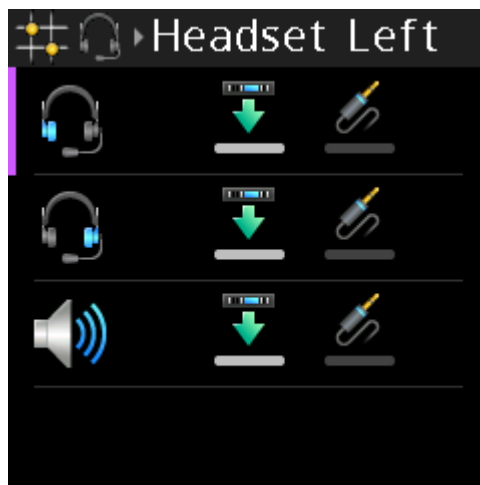


Figure 7.11: My Sound Menu

7.3.4.1.1

Headset Left

Use the **Headset left** menu item to select which input source is routed specifically to the left channel of the headset. This setting allows you to configure the left audio channel independently from the right, giving you greater control over how audio is distributed to each ear.

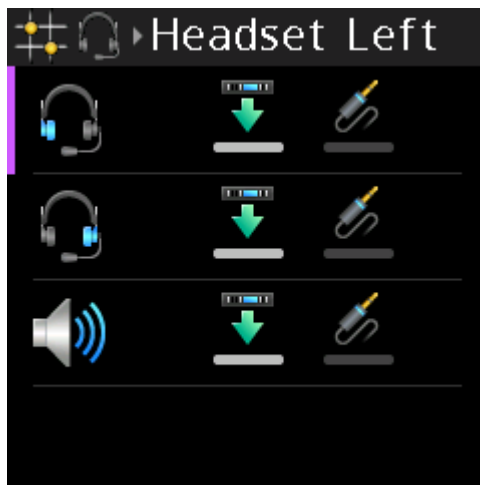
By default, the system selects From Intercom as the input source, meaning audio from the intercom is routed to the left headset channel.

Depending on your setup and preferences, you can change this input source to one of the following options:

- **From Intercom:** Routes audio from the intercom system to the left headset channel.
- **Aux In:** Sends audio from an auxiliary input (such as a connected external device) to the left headset channel.

Select which input sources are routed to the left channel of the headset

1. Navigate to the **Headset Left menu item** (Audio > Mixer > Headset Left).
2. Press the **SEL/MENU button**.



3. Rotate the **A/C encoder knob** to move through the settings.
4. Rotate the **B/D encoder knob** to toggle the setting on or off.
5. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.3.4.1.2

Headset Right

Use the **Headset Right** menu item to select which input source is routed specifically to the right channel of the headset. This setting allows you to configure the right audio channel independently from the left, giving you greater control over how audio is distributed to each ear.

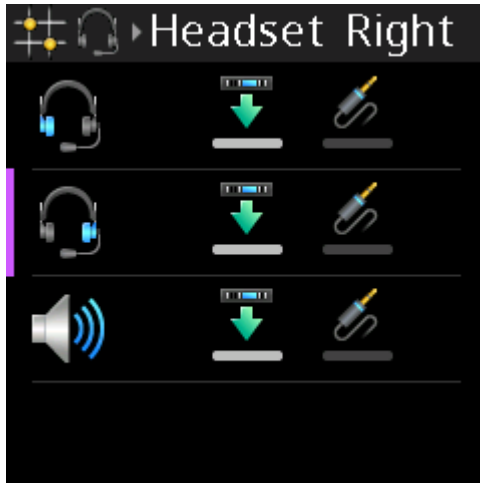
By default, the system selects From Intercom as the input source, meaning audio from the intercom is routed to the right headset channel.

Depending on your setup and preferences, you can change this input source to one of the following options:

- **From Intercom:** Routes audio from the intercom system to the right headset channel.
- **Aux In:** Sends audio from an auxiliary input (such as a connected external device) to the right headset channel.

Select which input sources are routed to the right channel of the headset

1. Navigate to the **Headset Right menu item** (Audio > Mixer > Headset Right).
2. Press the **SEL/MENU button**.



3. Rotate the **A/C encoder knob** to move through the settings.
4. Rotate the **B/D encoder knob** to toggle the setting on or off.
5. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.3.4.1.3

Speaker

Use the **Speaker** menu item to select which input source is routed to the external speaker. This setting allows you to control what audio is played through the device's built-in speaker, ensuring that the correct signal is broadcast for monitoring or communication purposes.

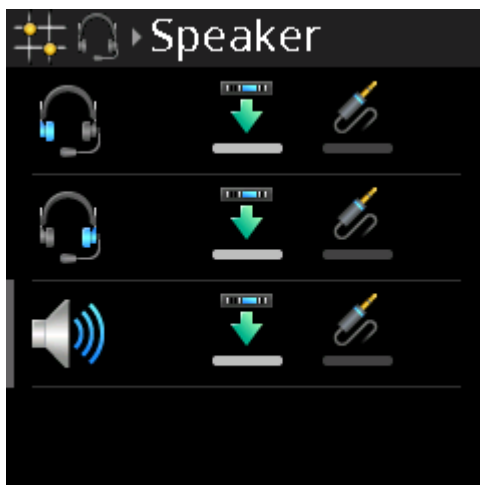
By default, the system selects From Intercom as the input source.

You can change this source based on your operational needs by choosing from the following available options:

- **From Intercom:** Routes audio from the intercom system to the external speaker.
- **Aux In:** Sends audio from an auxiliary input device to the speaker

Select the input source for the speaker

1. Navigate to the **Speaker menu item** (Audio > Mixer > Speaker).
2. Press the **SEL/MENU button**.



3. Rotate the **A/C encoder knob** to move through the settings.
4. Rotate the **B/D encoder knob** to toggle the setting on or off.
5. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.3.4.2

To Intercom

Use the **To Intercom** menu item to select which input source is routed to the intercom system. This setting determines what audio is transmitted from the device to other users on the intercom network, allowing you to control the origin of outgoing communication.

By default, the system selects Active Mic as the input source, meaning audio from the currently active microphone is sent to the intercom. If needed, you can change this source to suit your operational requirements by choosing from the following available options:

- **Active Mic:** Routes audio from the microphone currently in use.
- **Aux In:** Sends audio from an external device connected via the auxiliary input.

Select the input sources routed to the intercom

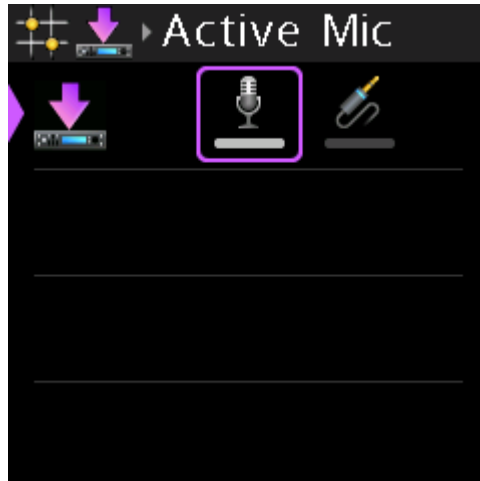
1. Navigate to the **To Intercom** menu item (Audio > Mixer > To Intercom).



2. Press the **SEL/MENU** button.



3. Press the **SEL/MENU** button.



4. Rotate the **A/C encoder knob** to move through the settings.
5. Rotate the **B/D encoder knob** to toggle the setting on or off.
6. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.3.4.3

To External Devices

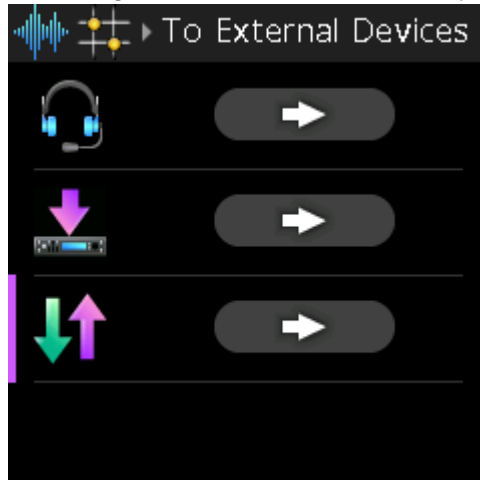
Use the **To External Devices** menu item to select which input source is routed to the auxiliary output. This setting allows you to control the audio signal sent to external devices connected via the Aux Out port, such as speakers, recorders, or monitoring systems.

You can choose from the following available input sources:

- **From Intercom:** Sends audio from the intercom system to the Aux Out.
- **Active Mic:** Routes audio from the currently active microphone to the output.

Select the input sources routed to Aux Out

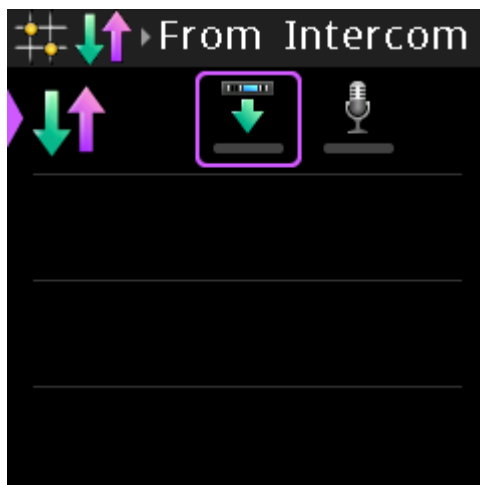
1. Navigate to the **Aux Out menu item** (Audio > Mixer > To External Devices).



1. Press the **SEL/MENU button**.



2. Press the **SEL/MENU** button.

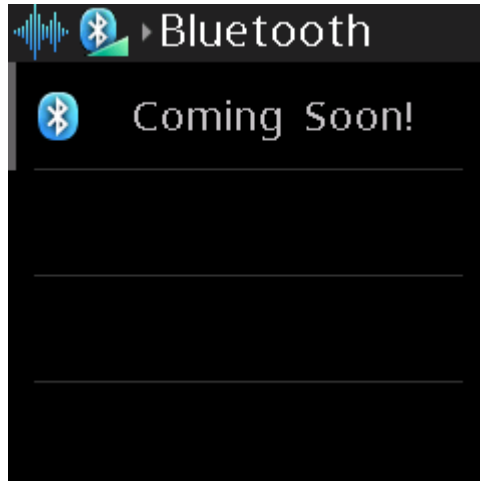


3. Rotate the **A/C encoder knob** to move through the settings.
4. Rotate the **B/D encoder knob** to toggle the setting on or off.
5. Press the **SEL/MENU** button to confirm the change, or press the **CLR/BACK** button to abort the changes.

7.3.5

BT levels

Use the **BT Aux Levels** menu to adjust the input and output audio levels for the Bluetooth interface. This setting allows you to fine-tune how loud or soft the audio is when it enters the system from a Bluetooth source or exits the system to a Bluetooth-connected device.



7.3.6

3.5mm Aux

Use the **3.5mm Aux** menu to configure audio settings for the auxiliary interface. This menu allows you to adjust how the system handles audio signals sent to and received from the 3.5mm auxiliary port, ensuring optimal performance for connected external devices.

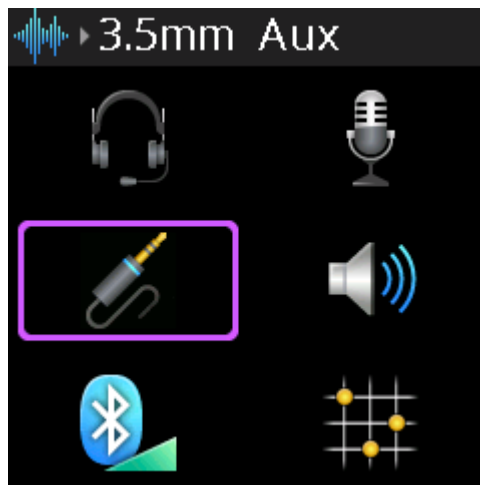


Figure 7.12: Audio 3.5 mm Aux Menu

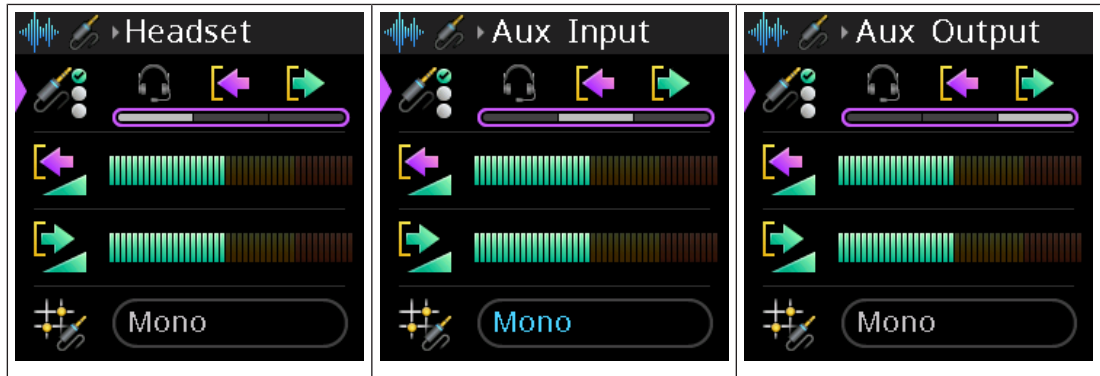
Within this menu, you can:

- **Set the Aux Mode**
Choose how the auxiliary port functions.
- **Adjust Input Gain**
Control the strength of incoming audio signals from external devices.
- **Adjust Output Gain**
Set the volume level of audio being sent out through the auxiliary port.
- **Configure Aux Stereo Mix**
Choose how stereo audio is handled.

7.3.6.1

Aux Mode

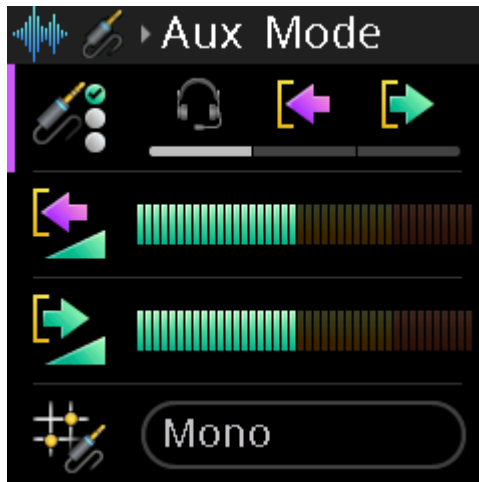
Use the **Aux Mode** menu item to configure how the auxiliary port operates. You can choose to enable the Aux port for connected headsets, enable it as an input, or enable it as an output depending on your specific audio routing needs.



- **Headset:** Sends external audio sources connected to the Aux port to be routed to the headset.
- **Aux Input:** Sends external audio sources connected to the Aux port to be routed into the system.
- **Aux Output:** Sends audio from the system to external devices through the Aux port.

Configure Aux Mode

1. Navigate to the **Aux Mode** menu item (Audio > 3.5 mm Aux > Aux Mode).



2. Press the **SEL/MENU** button.



3. Rotate either **encoder knob** to scroll through the available options.
4. Press the **SEL/MENU** button to confirm the change, or press the **CLR/BACK** button to abort the changes.

7.3.6.2

Input Gain

Use the **Input Gain** menu item to adjust the volume level of the audio signal received through the Aux Input. This setting allows you to control how strongly the system amplifies incoming audio from external devices connected via the auxiliary port.

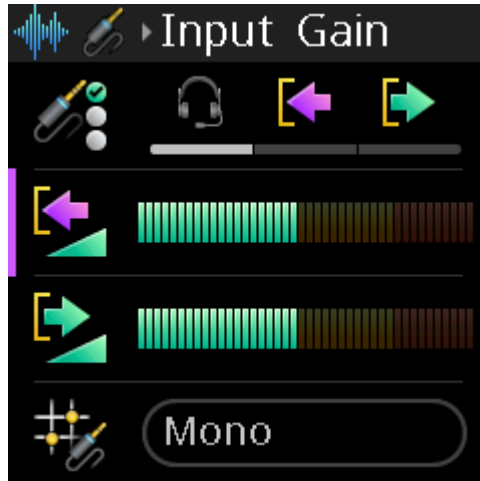
By increasing the input gain, you boost quieter signals to ensure they are clearly heard. Conversely, reducing the input gain helps prevent distortion or clipping when the incoming audio is too loud.

By default, input gain is set to 0.

The range for the input gain menu item is -10 to 10.

Adjust the input gain for the aux input

1. Navigate to the **Input Gain** menu item (Audio > 3.5 mm Aux > Input Gain).



2. Press the **SEL/MENU** button.



3. Rotate either **encoder knob** to adjust the input gain.
4. Press the **SEL/MENU** button to confirm the change, or press the **CLR/BACK** button to abort the changes.

7.3.6.3

Output Gain

Use the **Output Gain** menu item to adjust the volume level of the audio signal sent through the Aux Output. This setting allows you to control how loud the system's audio is when it reaches external devices connected via the auxiliary port.

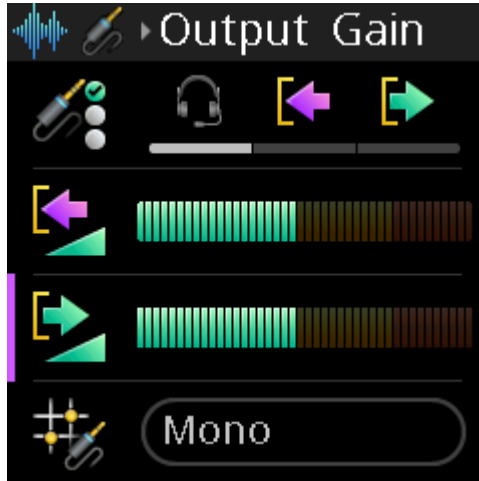
By increasing the output gain, you boost the signal strength, making the audio louder for the receiving device. Lowering the output gain reduces the volume, which can help prevent distortion or overpowering downstream equipment.

By default, output gain is set to 0.

The range for the output gain menu item is -10 to 10.

Adjust the output gain

1. Navigate to the **Output Gain menu item** (Audio > 3.5 mm Aux > Output Gain).



2. Press the **SEL/MENU button**.



3. Rotate either **encoder knob** to adjust the output gain.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.3.6.4

Aux Stereo Mix



Notice!

Before you enable Aux Stereo Mix, you must first set Aux Mode to Input. See *Aux Mode*, page 137.

Use the **Aux Stereo Mix** to control how stereo audio signals are handled through the auxiliary (Aux) port. This menu item determines how the left and right audio channels are processed and routed.



- **Mono:** the system typically combines both channels into a mono signal.
- **Stereo:** the system maintains standard stereo separation—meaning the left and right channels are preserved and sent as-is to the headset.
- **L/R Swap:** allows you to reverse the left and right channels.

By default, Aux Stereo Mix is set to L/R Swap.

Available options are Disabled, Enabled, and L/R Swap.

Configure the Aux Stereo Mix

1. Navigate to the **Aux Stereo Mix** menu item (Audio > 3.5 mm Aux > Aux Stereo Mix).
2. Press the **SEL/MENU** button.



3. Rotate either **encoder knob** to scroll through the available options.
4. Press the **SEL/MENU** button to confirm the change, or press the **CLR/BACK** button to abort the changes.

7.4 Setup

Using the **Setup** menu streamlines access to these critical features, making it easier to maintain and customize the device for your operational needs.

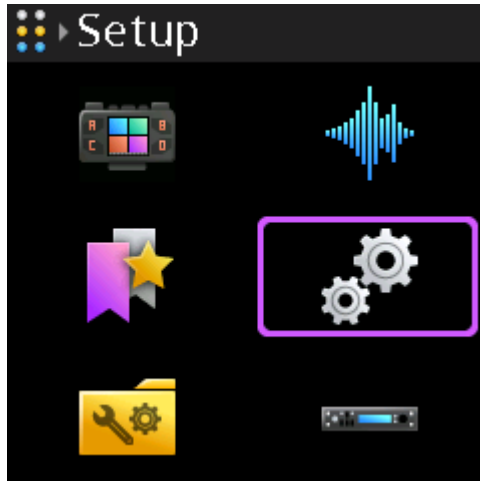


Figure 7.13: Setup Menu

From the Setup menu, you can open submenus that allow you to manage essential settings, including:

Device Registration:

- Register the device with the system or network.

DECT Configuration:

- Set up and manage DECT wireless communication parameters.

Service Settings:

- Configure service-related options for device functionality.

Authentication Settings:

- Define user authentication methods and credentials.

Firmware Updates:

- Check for and install the latest firmware to ensure optimal performance and security.

Bluetooth Configuration:

- Coming soon

7.4.1

Registration

The **Registration** menu provides access to key features that help manage device registration. These tools ensure that your system is properly authenticated, connected, and ready for use.

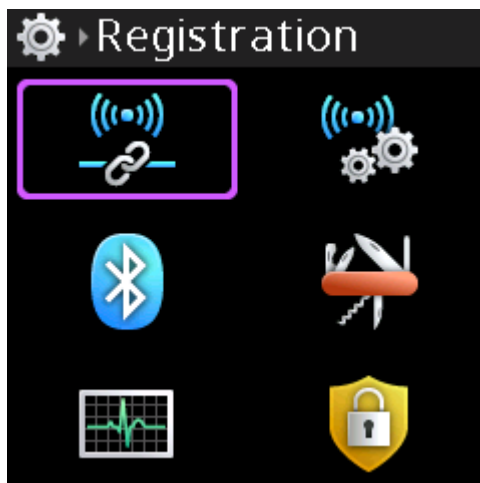


Figure 7.14: Registration Menu

Active System:

- View the current activation status and system identification details.

Registration?:

- Start the main registration workflow to set up or update your device's registration credentials.

7.4.1.1 Active System

The **Active System** displays the name of the Matrix system to which the beltpack is currently connected. When the beltpack powers up and establishes a connection, it selects the appropriate Matrix and shows its name on the screen. The beltpack remembers the last system it was logged into at boot, helping users reconnect quickly in familiar environments. In multi-system setups, users must configure the beltpack separately for each system using IPedit. Although switching between systems is possible with proper setup, the beltpack does not automatically change systems when entering a new coverage area. Users must manually select the desired system to ensure proper connectivity.

Change Systems

1. Navigate to the **Active System menu item** (Setup > Registration > Active System).
2. Press the **SEL/MENU button**.
3. Rotate either **encoder knob** to scroll through the available options.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.4.1.2 Register ?

Use the **Register?** menu item to register the beltpack to an AP-1000.



Notice!

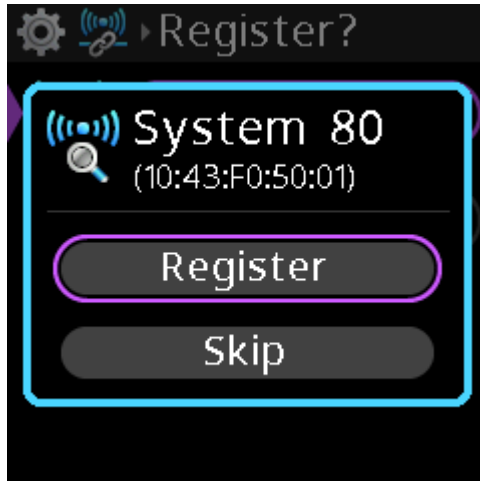
The AP-1000 must be in pairing mode before you can register the beltpack.

Register the Beltpack

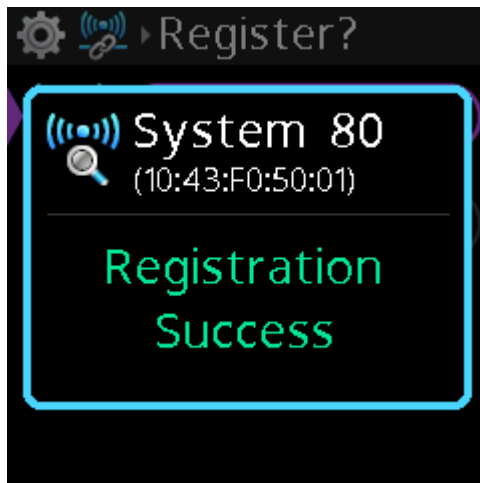
1. Power on the **TR-1000**.
The front display turns on.
2. Navigate to the **Register? menu item** (Setup > Registration > Register?).
3. When the AP-1000 System ID appears, press the **SEL button**.
A Register message appears.



4. Using either encoder knob, move **focus to the Register button**.



5. Press the **SEL** button
The TR-1000 registers with the AP-1000.



For more information, see *Register the TR-1000 and Connect to the AP-1000*, page 58.

7.4.2

DECT

Use the **DECT** menu to set the beltpack name and view the beltpack transmit power.

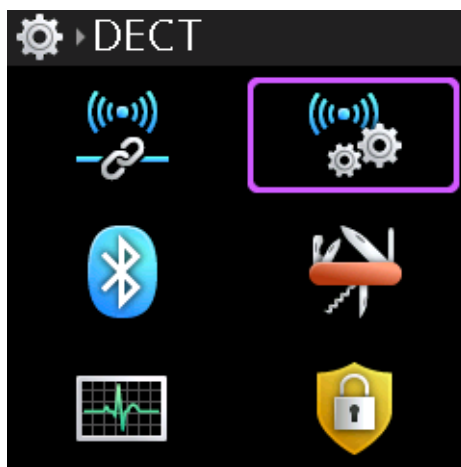


Figure 7.15: DECT Menu

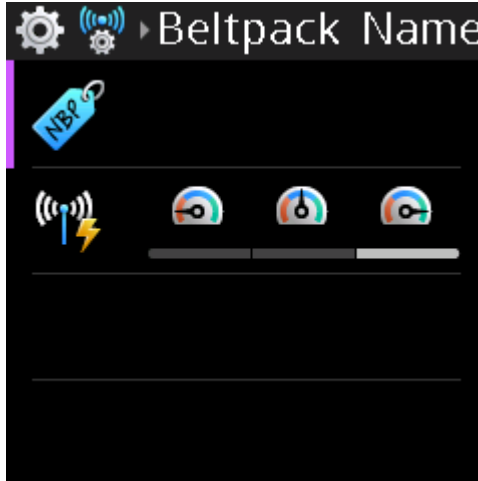
7.4.2.1

Beltpack Name

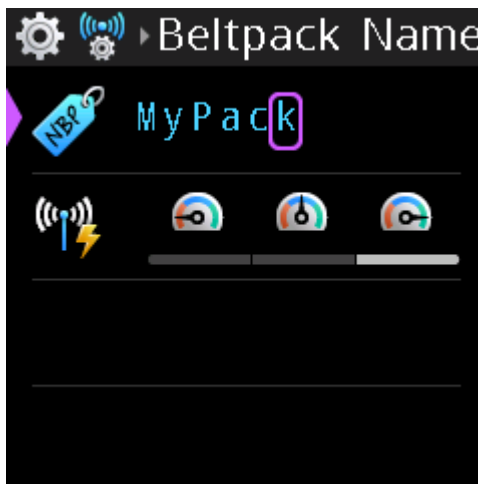
Use the **Beltpack Name** menu to set a unique, standardized name ensuring the beltpack can be easily recognized by software, monitoring tools, and pairing workflows.

Set the Beltpack Name

1. Navigate to the **Beltpack Name menu item** (Setup > DECT > Beltpack Name).



2. Press the **SEL/MENU button**.
The first character position highlights.



3. Rotate the **B/D encoder knob** to scroll through available characters.
4. Rotate the **A/C encoder knob** to move to the next character space for modification.
5. Repeat **steps 3 and 4** until you enter the full name of the beltpack.
6. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

Notice!**Delete characters**

Press and hold the A/C encoder knob to highlight a character in red. If you continue holding it, the system deletes the highlighted character after a few seconds. If you release the encoder knob while the character is still red—but before it deletes—the system cancels the action and leaves the character unchanged. If you press and release the encoder knob quickly, it functions like the CLR button and immediately aborts the current edit.

Add characters

Press and hold the B/D encoder knob to highlight the selected character in white. If you continue holding it, the system inserts a new character just before the currently selected one after a few seconds. If you release the encoder knob while the character is still white—but before the new character is inserted—the system cancels the action and makes no changes. If you press and release the encoder knob quickly, it acts like the SEL/MENU button and saves your edits immediately.

**7.4.2.2****TX power**

DECT **TX Power** refers to the transmit power level used by a DECT device when communicating with its base station.

Notice!

This menu item is for status only and cannot be configured on the beltpack. The access point controls this setting. To configure this setting, go to the DECT tab in IPedit.



- Higher TX Power can improve range and signal reliability, especially in environments with interference or physical obstructions.
- Lower TX Power conserves battery life and reduces potential interference with other wireless devices.

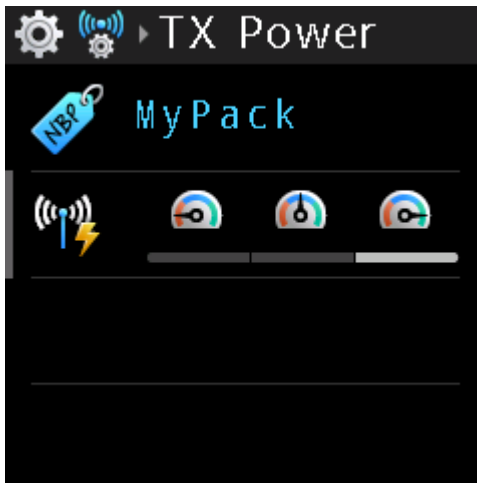


Figure 7.16: TX Power Menu

7.4.3**Service**

The **Service** menu gives you direct control over essential diagnostic and configuration tools, allowing you to adjust system behavior, run tests, manage firmware, and access advanced logging options. Use these features to troubleshoot issues, optimize performance, and restore device settings when needed.

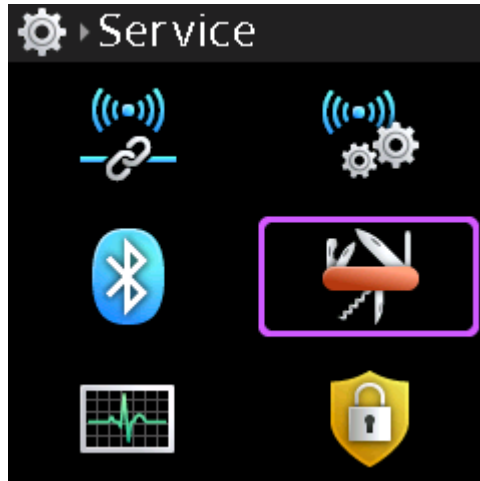


Figure 7.17: Service Menu

Tone:

- Adjusts system audio indicators for alerts and diagnostics.

Conference Mode:

- Configures settings optimized for multi-participant audio sessions.

Demo Mode:

- Activates a controlled environment for demonstrations or showroom setups.

Firmware Update:

- Installs the latest system firmware to improve performance and stability.

User Reset:

- Restores user-level settings without affecting core system data.

Factory Reset:

- Resets all settings to original factory defaults.

Test Mode:

- Runs built-in hardware and software diagnostic tests.

Advanced Menu:

- Provides access to enhanced troubleshooting tools and log management options:
 - Export Logs - Saves system logs to an external storage location for review or support assistance.
 - Delete Logs - Removes stored system logs to free memory or prepare for new diagnostics.
 - Save Logs - Stores current system logs internally for later analysis.

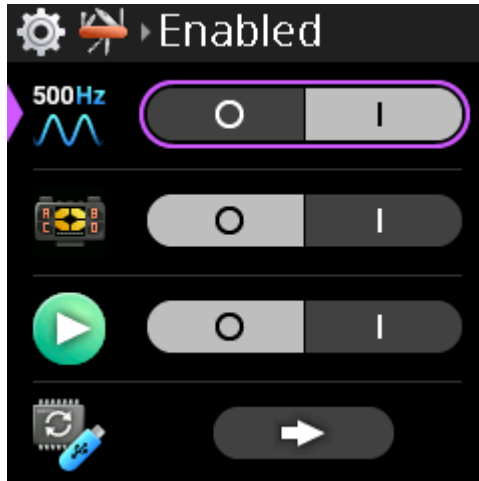
7.4.3.1

Tone

Use the **Tone** menu item to enable or disable the tone generator, which transmits a continuous 500Hz audio signal from the beltpack. This feature is typically used for testing audio paths or verifying signal routing within the system. Activating the tone helps to ensure proper connectivity and performance during setup or troubleshooting.

Enable or disable the tone

1. Navigate to the **Tone menu item** (Setup > Service > Tone).
2. Press the **SEL/MENU button**.



3. Rotate either **encoder knob** to toggle between enable and disable.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.4.3.2

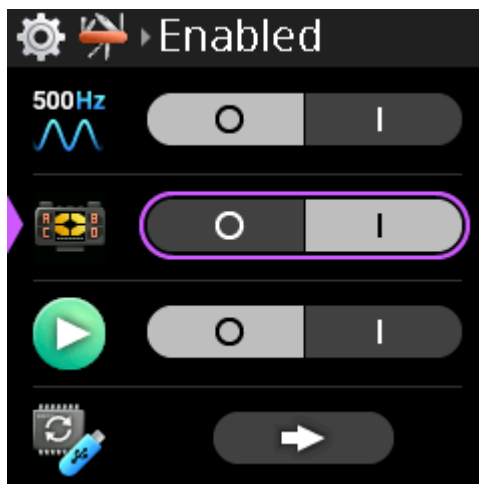
Conference Mode

Conference Mode is a communication mode used in intercom systems where multiple users can talk and listen on the same audio channel simultaneously, commonly referred as party line. In this mode, all beltpacks assigned to the same party line can hear each other and contribute to the conversation without needing to press a call button or establish a private connection. It's ideal for group coordination, such as production crews or technical teams, where open and continuous communication is needed across multiple roles.

In Conference Mode, the display screen shows Party Line assignments, Relay assignments, or UPL Resource assignments. You can assign Party Lines directly from the beltpack, while Relay and UPL Resource assignments must be made using AZedit. This setup allows users to manage communication paths efficiently, depending on the type of resource and the configuration tools available.

Enable/disable conference mode

1. Navigate to the **Conference Mode menu item** (Setup > Service > Conference Mode).
2. Press the **SEL/MENU button**.



3. Rotate either **encoder knob** to toggle between enable and disable.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.4.3.3 Demo Mode



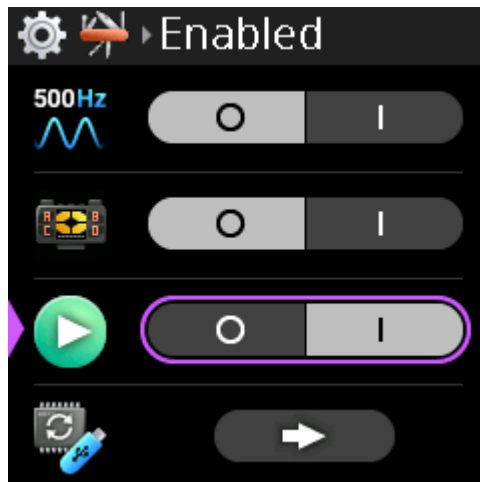
Notice!

This menu item appears only when the beltpack is not connected to a system.

The **Demo Mode** menu item is a feature that allows you to showcase the beltpack's functions and interface without requiring a live connection or affecting actual device settings. When you activate demo mode, the beltpack simulates normal operation, displaying typical screens and responses as if it were in use. This mode is especially useful for training, demonstrations, or familiarizing new users with the device's features, all without impacting real configurations or network connections.

Enter demo mode

1. Navigate to the **Demo Mode menu item** (Setup > Service > Demo Mode).
2. Press the **SEL/MENU button**.



3. Rotate either **encoder knob** to highlight Enable.
4. Press the **SEL/MENU button**.
The beltpack enters demo mode.

Exit demo mode

While demo mode is running:

1. Press the **SEL/MENU button**.
2. Navigate to the **Demo Mode menu item** (Setup > Service > Demo Mode).
3. Press the **SEL/MENU button**.
4. Rotate either **encoder knob** to highlight Disabled.
5. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.4.3.4 Firmware Update

Updating the beltpack firmware improves device performance, enhances stability, and enables new features. Firmware updates also correct known issues and increase compatibility with connected systems, allowing the beltpack to operate reliably and efficiently.

Update the Firmware

1. Navigate to the **Firmware Update menu item** (Setup > Service > Firmware Update).

2. Press the **SEL/MENU button**.
3. Navigate to the **component** you want to update.
A message appears directing you to insert a USB drive.
4. Insert a **USB drive** in the rear of the device.
5. Press the **SEL/MENU button**.
The firmware update begins.

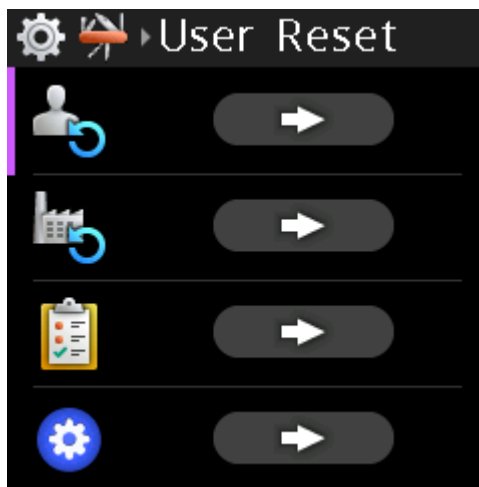
7.4.3.5

User Reset

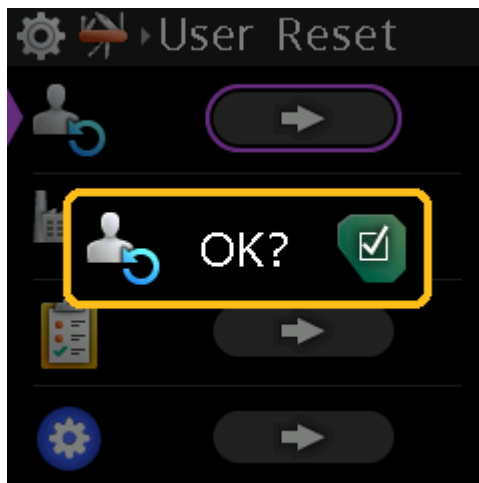
Use the User Reset menu item to reset your device configurations to their default user settings, while keeping your connection and access settings intact. This process restores most user-configurable options to their standard state, which can help resolve issues or prepare the device for a new user, but it does not erase saved network or access point information. Unlike a factory reset, a user reset preserves your essential connection settings, ensuring you remain connected to your usual networks after the reset.

Perform a user reset

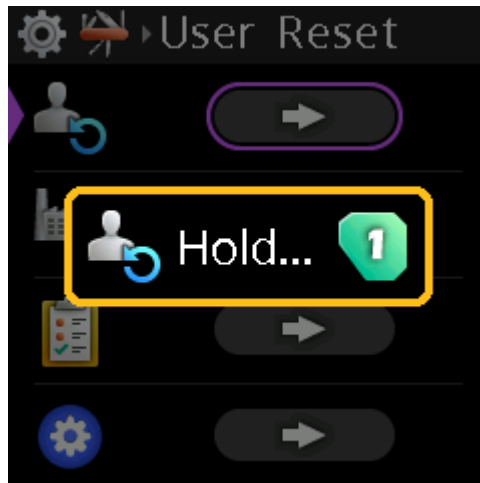
1. Navigate to the **User Reset menu item** (Setup > Service > User Reset).



2. Press the **SEL/MENU button**.
A popup message appears to confirm the reset.

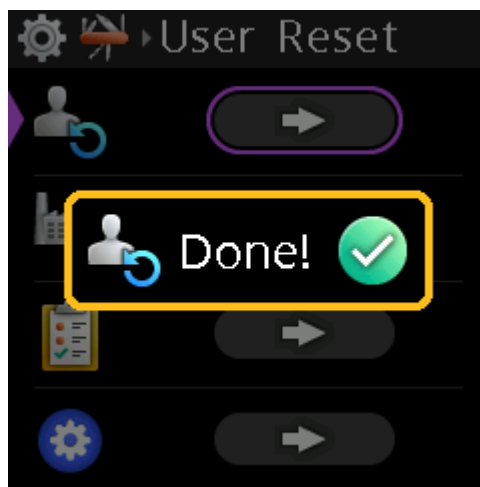


3. Press the **SEL/MENU button**.
A popup message appears.



4. Press and hold the **SEL/MENU** button for 3 seconds.

A three-second countdown screen appears and then the configuration resets. The unit does not reboot after a User Reset.



7.4.3.6

Factory Reset

A factory reset restores a device to its original system state by erasing all user data, settings, and installed applications. Users initiate the reset to fix persistent issues, remove personal information before selling the device, or start fresh with a clean setup.

Perform a factory reset

1. Navigate to the **Factory Reset** menu item (Setup > Service > Factory Reset).



- 2. Press the **SEL/MENU** button.
The Factory Reset confirmation message appears.



- 3. Press and hold the **SEL/MENU** button for three seconds.
A three-second countdown message appears and then the belt pack performs a factory reset and then reboots.



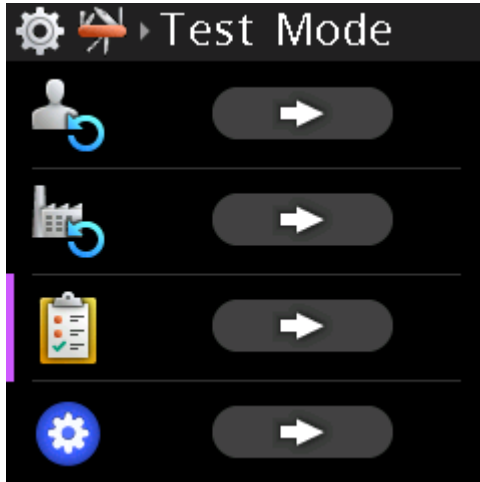
7.4.3.7

Test Mode

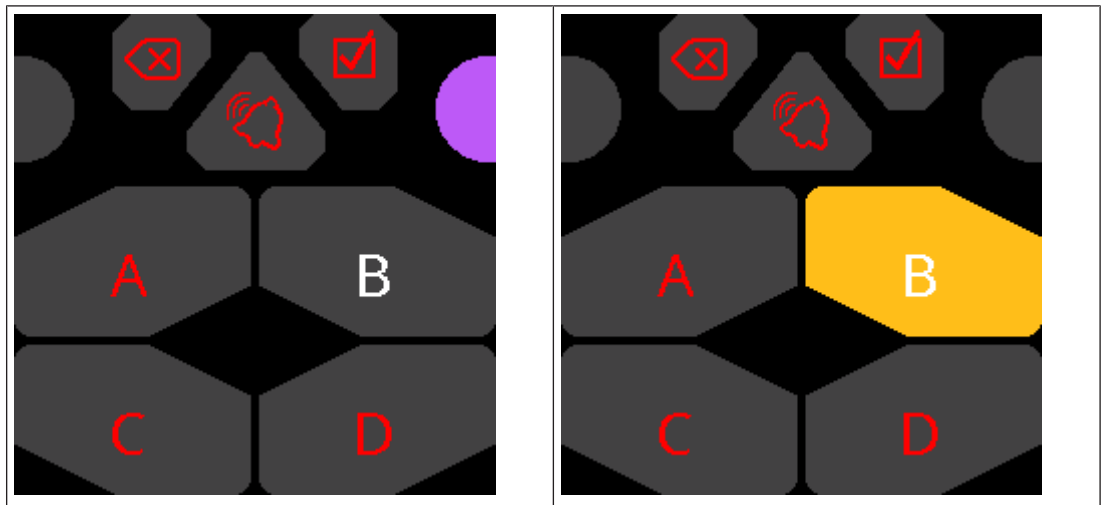
Use the **Test Mode** menu item to check the operation of all keys and displays on your beltpack. This feature allows you to verify that each button responds correctly and that all display elements are functioning as expected.

Enter Test Mode

1. Navigate to the **Test Mode menu item** (Setup > Service > Test Mode).



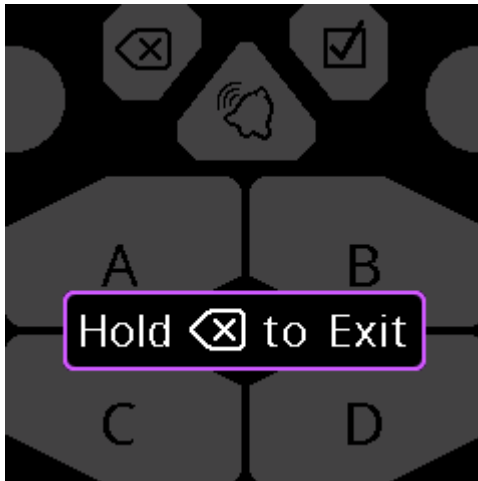
2. Press the **SEL/MENU button**.
The Test Mode screen displays.
3. Press each **A through D key, CLR/BACK, CALL, and SEL/MENU buttons** to check operation. The A through D letters light in white and then in red, each time you press the button, and the corresponding LEDs on the physical buttons light in the same color. The icons on the CLR/BACK, CALL, and SEL/MENU keys light white when pressed and the corresponding LEDs on the physical buttons light as well.



4. Press the **encoder knobs** and rotate the **encoder knobs**.
On the display, the encoder knob buttons light in magenta when pushed and blue directional arrows appear to indicate the rotational direction when rotating the encoder knob.

Exit Test Mode

- ▶ Press and hold the **CLR/BACK button**.
After 3 seconds test mode closes.



7.4.3.8

Advanced menu

The **Advanced** menu gives users direct control over managing their log data through several action-oriented tools.

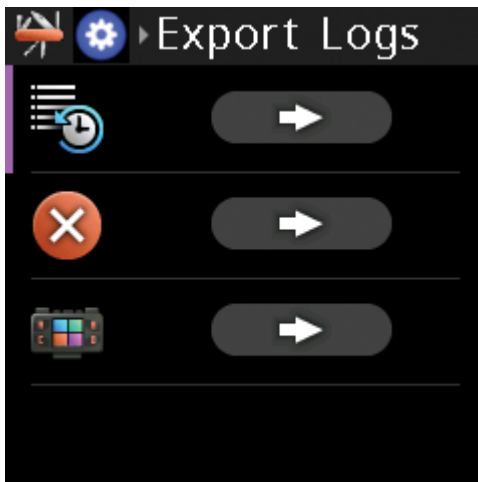


Figure 7.18: Advanced Menu



Notice!

These log files are used for troubleshooting by service technicians.

Users can:

- **Export logs**
Download logs for external review or troubleshooting.
- **Delete logs**
Remove outdated or unnecessary information.
- **Save log**
Preserve the current activity records.

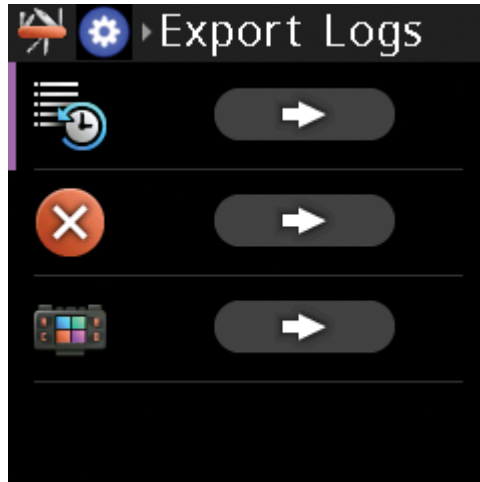
7.4.3.8.1

Export Logs

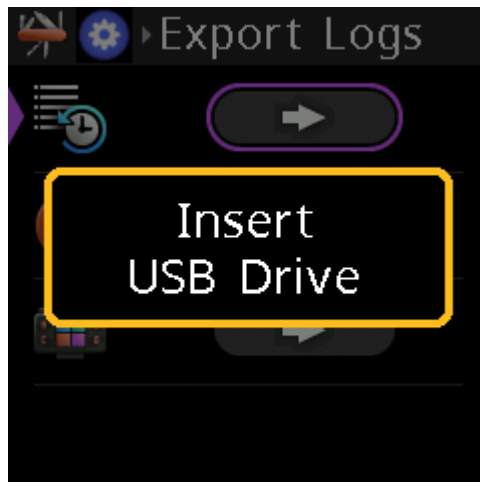
Use **Export Logs** to quickly generate a copy of your log data for use outside the application. When you export logs, you create a portable file that you can share, analyze, or archive as needed.

Export logs from the beltpack

1. Navigate to the **Export Logs menu item** (Setup > Service > Advanced Menu > Export Logs).



2. Press the **SEL/MENU** button.
The message Insert USB Drive appears.

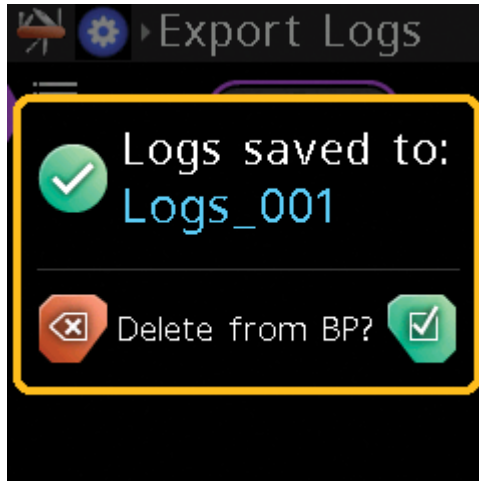


3. Insert a **USB-C thumb drive** into the USB-C connector on the bottom of the beltpack.
The beltpack vibrates when it discovers the USB connection. The message Logs Saved to: <Logs_XXX> appears.



Notice!

When you insert the USB-C drive into the beltpack, the beltpack automatically saves the logs to it. If the USB-C drive is already inserted, pressing the SEL/MENU button from the Export Logs menu saves the logs to the drive.



4. Press the **CLR/BACK button** to keep the logs locally on the beltpack or press the **SEL/MENU button** to delete the logs from the beltpack.

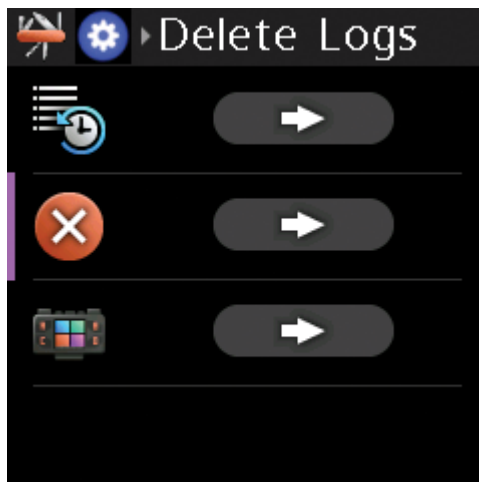
7.4.3.8.2

Delete Logs

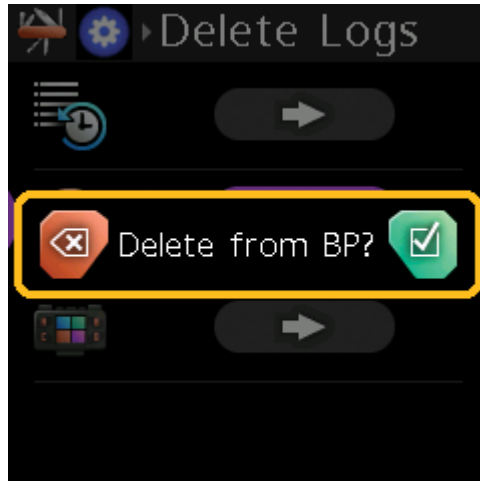
Use **Delete Logs** to quickly remove log files that are no longer needed. By deleting logs, you clear out outdated, duplicate, or unnecessary data to keep your workspace organized and reduce storage clutter.

Delete logs off the beltpack

1. Navigate to the **Delete Logs menu item** (Setup > Service > Advanced Menu > Delete Logs).

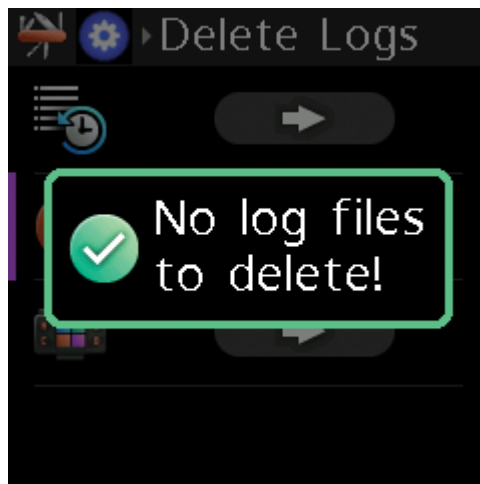


2. Press the **SEL/MENU button**.
A confirmation message appears.



3. Press the **SEL/MENU button** to confirm deletion or press the **CLR/BACK button** to abort the action.

NOTE: If the beltpack has no logs, the system displays a message informing you that no logs are available.

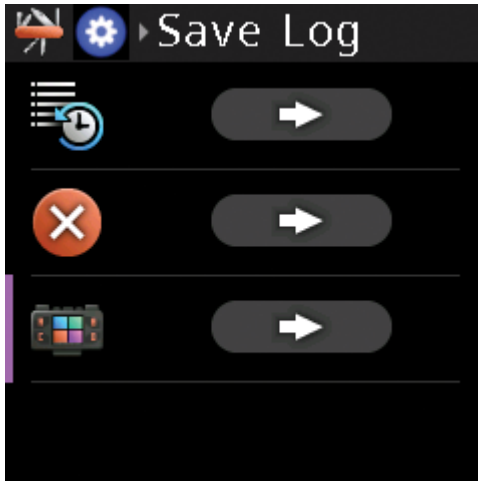


7.4.3.8.3

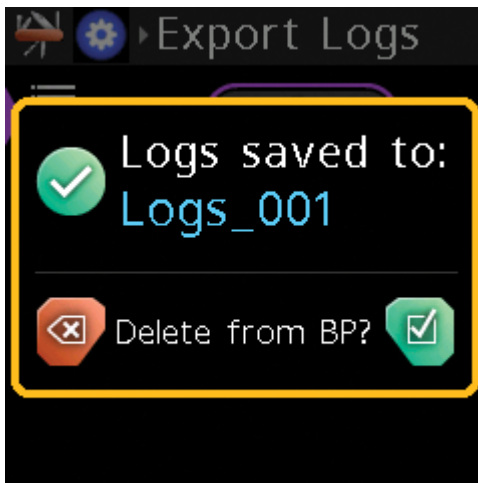
Save Log

Use **Save Log** to capture and store the current log information for future reference. When you save a log, you create a record of system activity that you can review or use for troubleshooting.

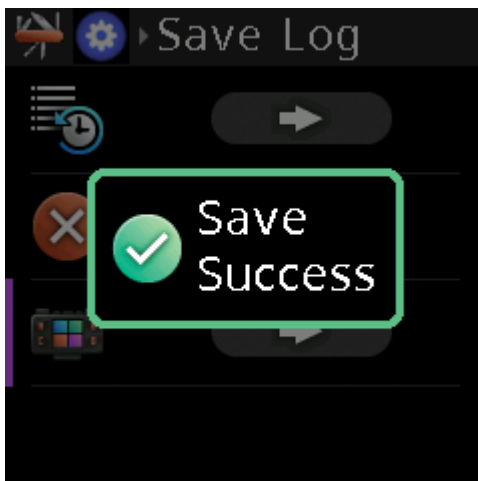
1. Navigate to the **Save Log menu item** (Setup > Service > Advanced Menu > Save Log).



2. Press the **SEL/MENU** button.
A confirmation message appears.



3. Press the **SEL/MENU** button to confirm the save or press the **CLR/BACK** button to abort the action.
Once you save the log, a success message appears.



7.4.4

Authentication

Use the **Authentication** menu to manage PIN entry settings and security:

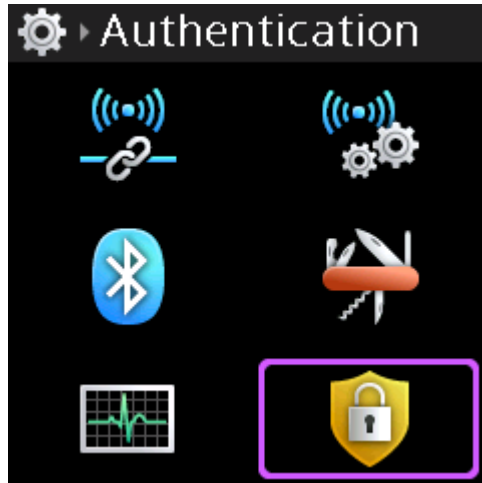


Figure 7.19: Authentication Menu

Within this menu, you can:

- **Enable PIN protection**
Control access to critical settings.
- **Set the User PIN**
Restrict basic user-level changes.
- **Set the Admin PIN**
Secure advanced configuration options.
- **Select the appropriate user level**
Define what the operator can access.



Notice!

If authentication is enabled, the system prompts you to confirm your PIN either when you exit the menu or whenever you change the PIN. This confirmation step helps maintain security and prevents unauthorized changes.

7.4.4.1

Require PIN

If you want to enhance security, you must manually enable the **Require PIN** feature. Until you activate this setting, users can access the menu structure without entering a PIN code.

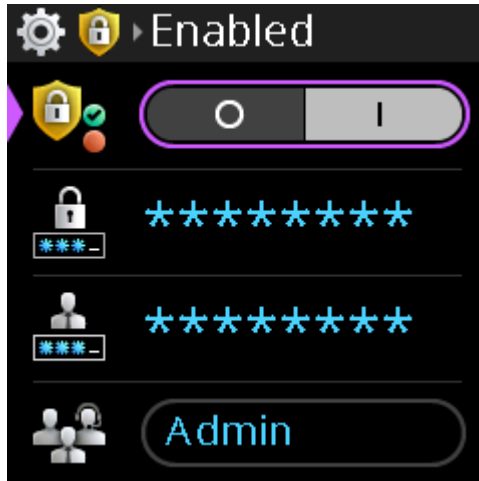


Notice!

Before you enable the Require PIN setting, you must create either a User PIN or an Admin PIN. If you have not set a PIN code before enabling the Require PIN setting, the system displays a warning message instructing you to create a PIN. For more information on setting the Admin PIN, see *Set Admin PIN*, page 161.

Enable/Disable Require PIN

1. Navigate to the **Require PIN menu item** (Setup > Authentication > Require PIN).
2. Press the **SEL/MENU button**.



3. Rotate either **encoder knob** to toggle between enable and disable.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.

7.4.4.2

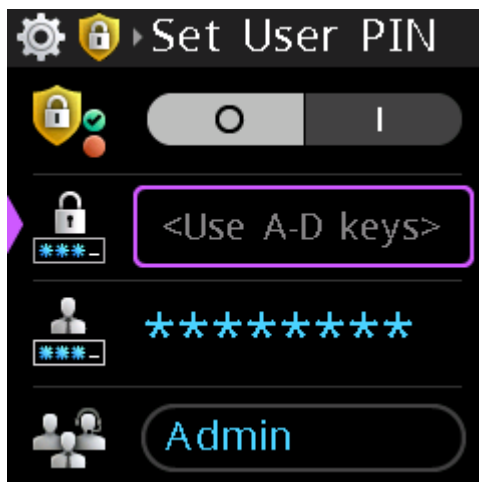
Set User PIN

Use the **Set User PIN** menu item to create a security PIN code that restricts access to specific belt pack menu functions. To define the PIN, press a sequence of talk key buttons. Once you enable the PIN, the system prompts you to enter it before granting access to the menu structure. Unlike the Admin PIN, the User PIN provides access to only a limited set of menu items, allowing for controlled user interaction while maintaining overall system security.

PIN length can be 1 to 8 characters.

Set the User PIN

1. Navigate to the **Set User PIN menu item** (Setup > Authentication > Set User PIN).
2. Press the **SEL/MENU button**.
The field displays <Use A-D keys>.



3. Press the **sequence for the PIN** to finish entering the PIN.
4. Press the **SEL/MENU button**.
5. Press the **CLR/BACK button to exit the screen**.
A Save? prompt appears on the screen.



Notice!

If you leave this menu without enabling authentication or without changing the PIN, then you do not have to confirm the PIN.

7.4.4.3

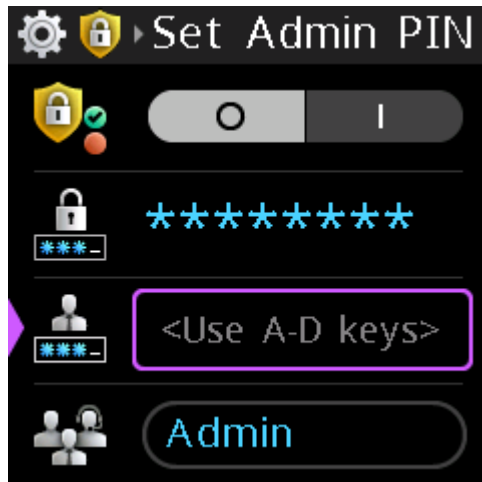
Set Admin PIN

Use the **Set Admin PIN** menu item to establish a high-level security PIN that grants full access to all belt pack menu functions. You create the Admin PIN by entering a specific sequence of talk key button presses. Once activated, the system requires this PIN to unlock the complete menu structure, including advanced configuration and system settings. The Admin PIN ensures that only authorized personnel can modify critical parameters, helping maintain operational integrity and prevent unauthorized changes.

PIN length can be 1 to 8 characters.

Set the Admin PIN

1. Navigate to the **Set Admin PIN menu item** (Setup > Authentication > Set Admin PIN).
2. Press the **SEL/MENU button**.
The field displays <Use A-D keys>.



3. Press the **sequence for the PIN** to finish entering the PIN.
4. Press the **SEL/MENU button**.
5. Press the **CLR/BACK button to exit the screen**.
A Save? prompt appears on the screen.



Notice!

If you leave this menu without enabling authentication or without changing the PIN, then you do not have to confirm the PIN.

7.4.4.4

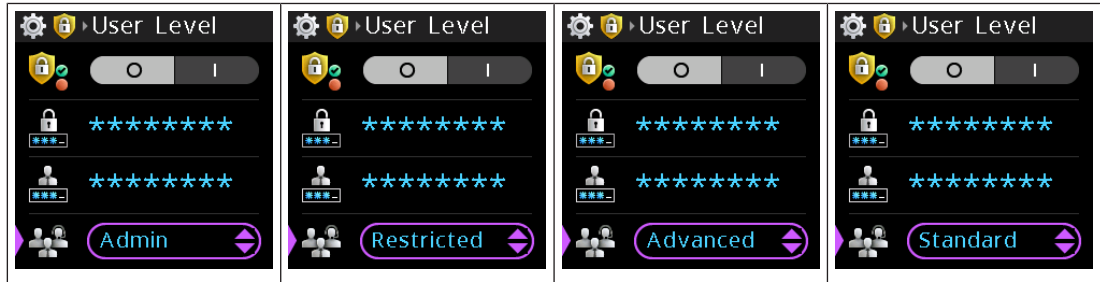
User Level

Use the **User Level** menu item to assign a specific profile to the belt pack, tailoring access and functionality based on the user's role. You can choose from four distinct profiles:

- **Admin** - Grants full access to all menu items and system settings, intended for advanced users or technicians responsible for configuration and maintenance.
- **Restricted** - Limits access to essential functions only, ideal for temporary users or environments where minimal interaction is required.
- **Standard** - Provides access to commonly used features while restricting advanced settings, suitable for general day-to-day operation.

- **Advanced** - Offers extended functionality beyond the Standard profile, allowing access to more technical features without full administrative control.

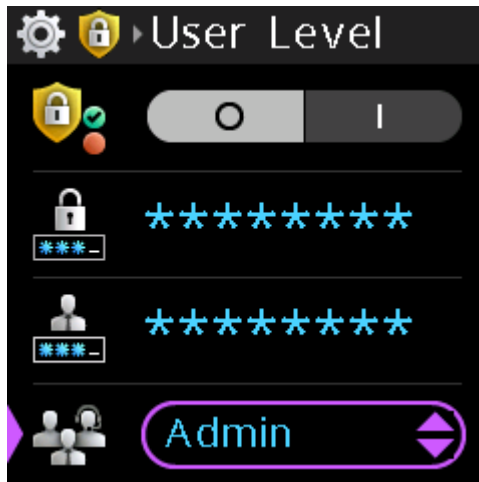
For more detailed user level access, see *NOMAD User Access Level*, page 217.



By selecting the appropriate user level, you ensure that each user interacts with the belt pack in a way that matches their responsibilities and technical expertise.

Set the User Level

1. Navigate to the **User Level** menu item (Setup > Authentication > User Level).
2. Press the **SEL/MENU** button.



3. Rotate either **encoder knob** to scroll through the available options.
4. Press the **SEL/MENU** button to confirm the change, or press the **CLR/BACK** button to abort the changes.

7.4.5

Status Menu

Access the **Status** menu to actively monitor and manage key aspects of your device:

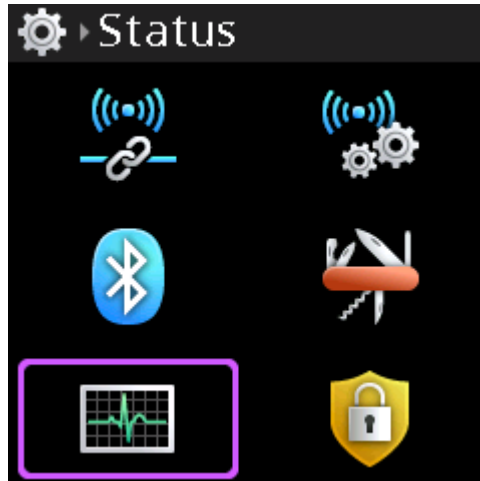


Figure 7.20: Setup Status Menu

Battery:

- Check the current charge level
- Estimate the remaining time before the battery is empty
- Review the battery’s health as a percentage
- Track the total number of charge cycles
- Monitor the current temperature of the beltpack
- View the minimum and maximum temperature ranges the battery has experienced.

Connections:

- Monitor the status of the Intercom connection
- Track any Intercom drops
- Review the status and drop history of Access Points (APs) to ensure stable communication

Versions:

- View detailed information about the firmware versions currently running on the beltpack

Hardware:

- Access hardware details such as the serial number and board versions

Advanced:

- Perform a site survey to assess wireless coverage
- Run diagnostics to troubleshoot issues
- Check which region the device is operating in
- Confirm the encryption status to ensure secure communications.

DECT:

- View the beltpack’s unique ID
- Identify the current Access Point (AP) in use
- See which AP is set as the home AP.
- Monitor the Received Signal Strength Indicator (RSSI) and Frame Error Rate (FER)
- Check the current temperature of the DECT module
- Review the allowed temperature range for optimal operation.

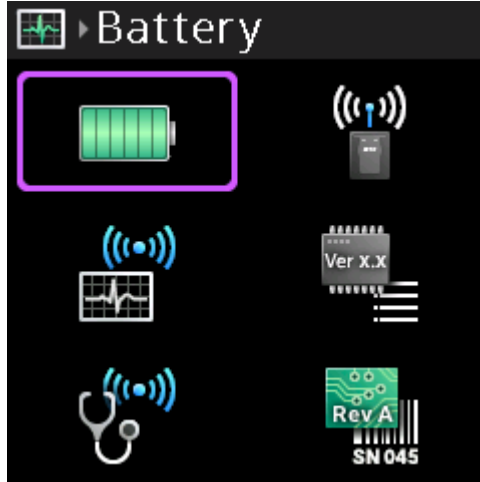
7.4.5.1

Battery

Access the battery menu to view and monitor essential battery information. You can check the current battery life, see an estimate of the time remaining until the battery is empty, and review the battery’s overall health. The menu also allows you to track the number of charge cycles, monitor the current battery temperature, and view the minimum and maximum temperatures the battery has experienced.

Access Battery Status Menu

1. Navigate to the **Battery** menu item (Setup > Status > Battery).

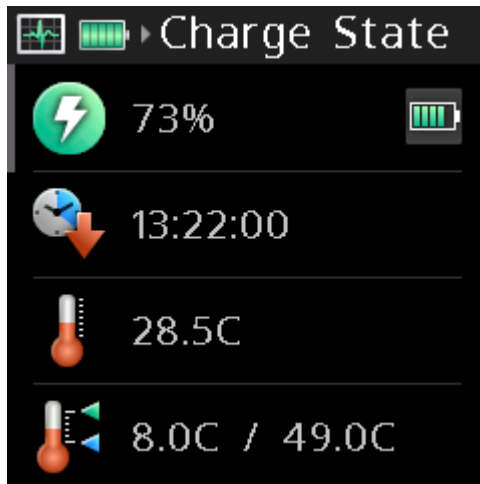


2. Press the **SEL/MENU** button.

7.4.5.1.1

Charge State

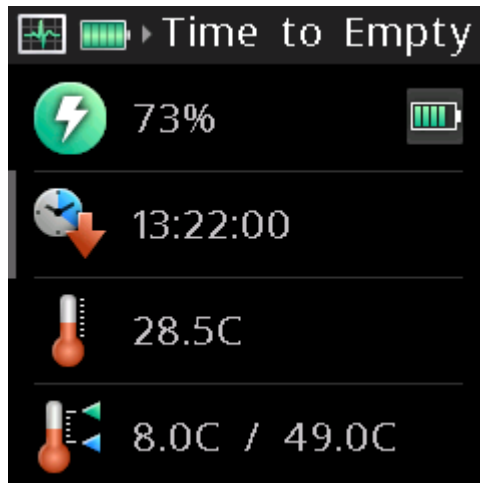
The **Charge State** menu item displays the current battery percentage, allowing you to quickly see how much charge remains. By accessing this menu, you can actively monitor the battery's status and ensure the device has sufficient power for continued operation.



7.4.5.1.2

Time to Empty

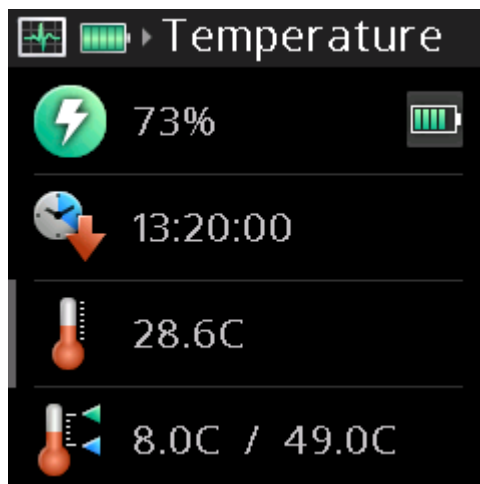
The **Time to Empty** menu shows to the estimated amount of time remaining before a battery is fully discharged, based on its current charge level and the rate at which the device is using power. This value helps users understand how long the device can continue to operate before it needs to be recharged.



7.4.5.1.3

Temperature

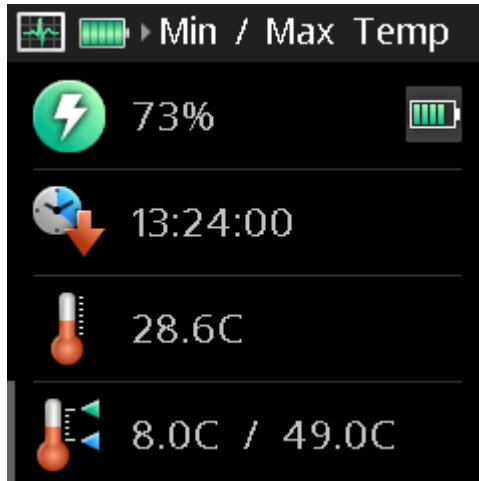
The **Temperature** menu item displays the current temperature of the battery. This menu allows you to actively monitor the battery's thermal status, helping you ensure that the battery is operating within safe and optimal temperature ranges.



7.4.5.1.4

Min/Max Temp

The **Min/Max Temp** menu item shows the minimum and maximum operating temperatures for the beltpack. This menu provides clear information about the temperature range within which the beltpack functions safely and efficiently. By monitoring these limits, you can help ensure the device operates reliably and avoid potential issues caused by extreme temperatures.



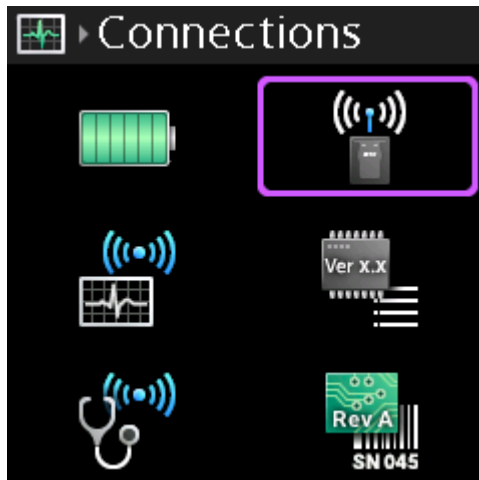
7.4.5.2

Connections

Access the **Connections** menu to view detailed connection statistics for your beltpack. You can check how long the beltpack has been connected to the intercom, see the number of times the intercom connection has dropped, and monitor the duration of the current connection to the access point. Additionally, the menu displays the number of drops that have occurred with the access point.

Access the Connections Menu

1. Navigate to the **Connections** menu item (Setup > Status > Connections).



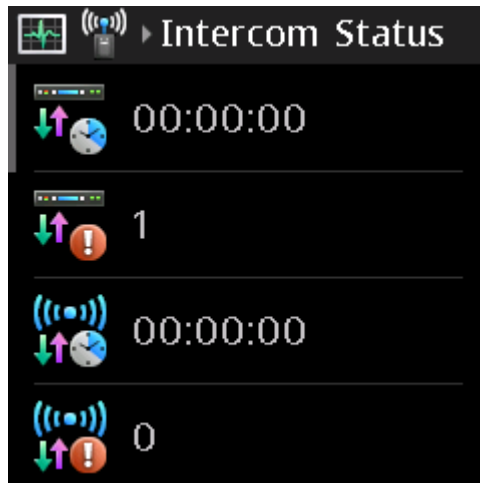
2. Press the **SEL/MENU** button.

7.4.5.2.1

Intercom Status

Intercom Status tracks how long a beltpack has been actively connected to a Matrix system. This connection begins when the beltpack receives its power-up packet, and it remains active until the access point signals a loss of matrix connectivity, at which point the status is cleared.

The Intercom Status time and the AP Status time should closely match, since the beltpack connects to the Matrix and the access point at nearly the same moment. Any significant difference between the two may indicate a delay or issue in establishing one of the connections.



7.4.5.2.2

Intercom Drops

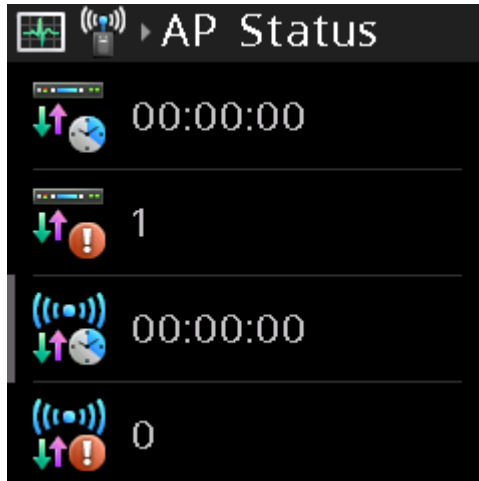
Intercom Drops menu displays how many times the beltpack has lost communication with the access point. Each time the connection between the beltpack and the access point is interrupted, the system records a drop and updates the count. This feature helps users monitor the stability of their wireless link and identify potential issues with signal strength, interference, or system configuration.



7.4.5.2.3

AP Status

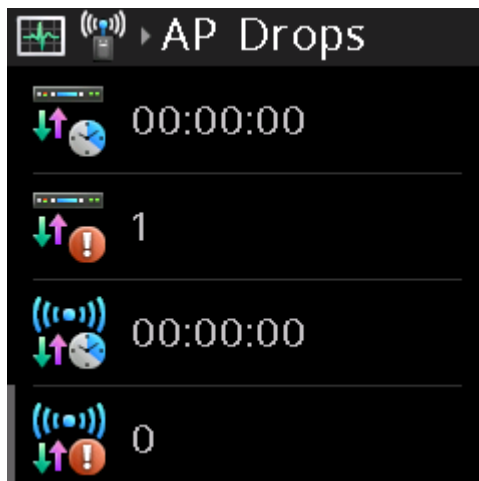
AP Status accurately reflects the full duration of a beltpack's connection to an access point. The beltpack initiates this status as soon as it establishes a connection, and it clears the status when the module detects disconnects.



7.4.5.2.4

AP Drops

AP Drops menu tracks how many times the access point has lost communication with the beltpack. Each time the connection between the access point and the beltpack is interrupted, the system logs an AP drop and updates the count. This information helps users monitor the reliability of the wireless link and identify potential issues such as signal interference, range limitations, or hardware instability.



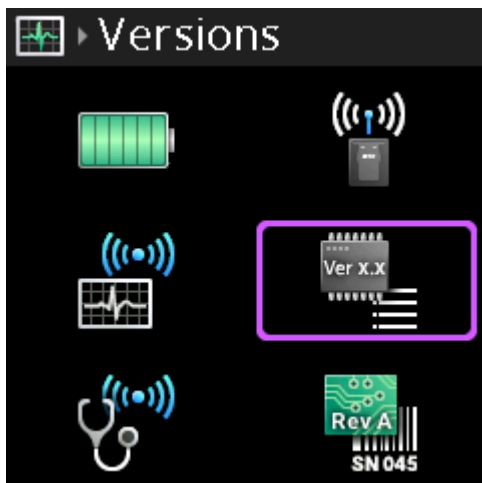
7.4.5.3

Versions

Access the **Versions** menu item to view the firmware versions currently installed on your beltpack. This menu displays detailed version information for the beltpack application, the DECT application, and the Bluetooth application, allowing you to verify that your device is running the correct and most up-to-date software.

Access the Version Menu

1. Navigate to the **Versions menu item** (Setup > Status > Versions).



2. Press the SEL/MENU button.

7.4.5.3.1

Application

Use the **Application** menu item to view the firmware version currently running on your beltpack. This menu provides information about the installed firmware, helping you verify that your device is up to date and operating with the correct software version.



7.4.5.3.2

DECT

Use the **DECT** menu item to view the DECT module version currently running on your beltpack.



7.4.5.3.3

Bluetooth

Use the **Bluetooth** menu item to view the Bluetooth version currently running on your beltpack.



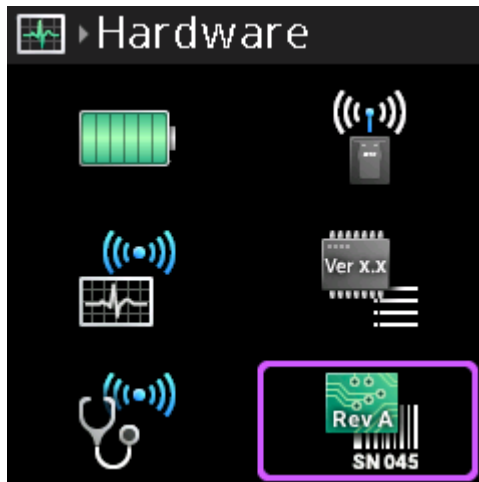
7.4.5.4

Hardware Menu

Access the **Hardware** menu item to view important hardware details for your beltpack. This menu displays the beltpack's serial number, the version of the main board, the version of the display board, and the version of the antenna board. By checking this information, you can easily identify your device and verify its hardware components for support or inventory purposes.

Access the Hardware Menu

1. Navigate to the **Hardware menu item** (Setup > Status > Hardware).

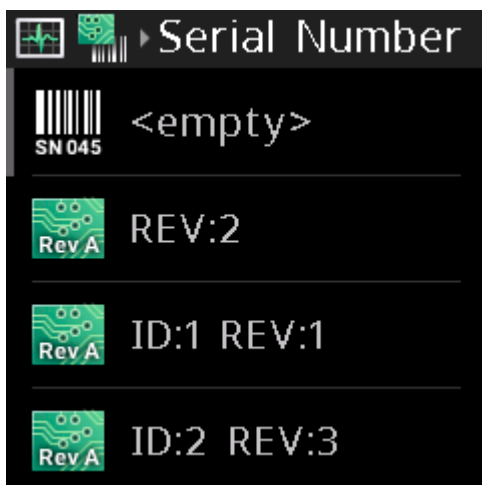


2. Press the **SEL/MENU** button.

7.4.5.4.1

Serial Number

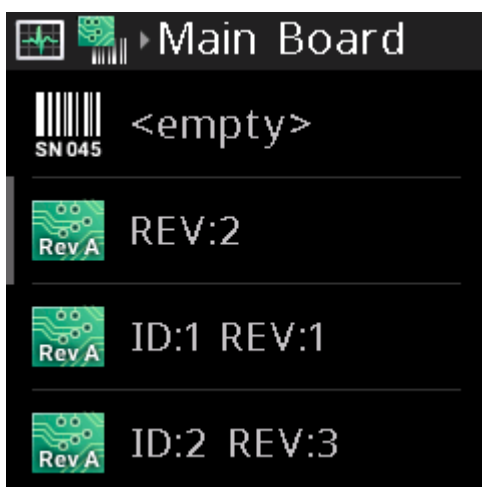
Use the **Serial Number** menu item to view the unique serial number assigned to your beltpack. This information helps you identify your specific device for inventory, support, or warranty purposes.



7.4.5.4.2

Main Board

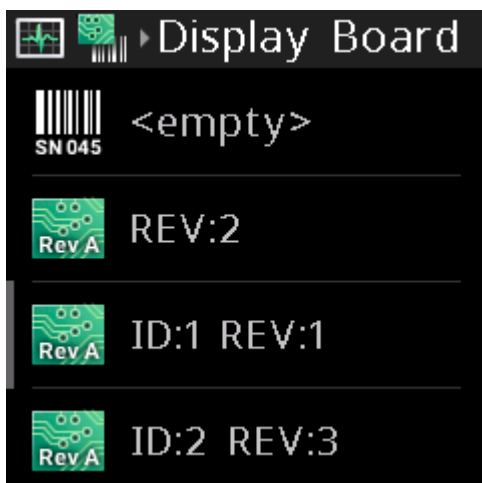
Use the **Main Board** menu item to view the board version currently installed in the beltpack.



7.4.5.4.3

Display Board

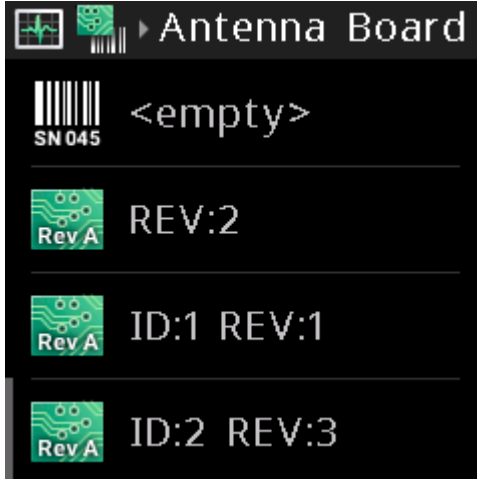
Use the **Display Board** menu to view the board version currently installed in the beltpack.



7.4.5.4.4

Antenna Board

Use the **Antenna Board** menu to view the board version currently installed in the beltpack.



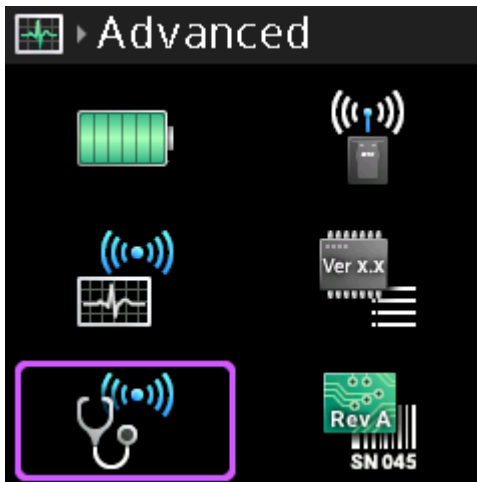
7.4.5.5

Advanced (DECT)

Access the **Advanced (DECT)** menu item to perform a site survey and run diagnostics on the beltpack. You can also view the region where the beltpack is currently operating and check whether encryption is enabled.

Access the advanced menu

1. Navigate to the **Advanced (DECT) menu** (Setup | Status | Advanced (DECT)).

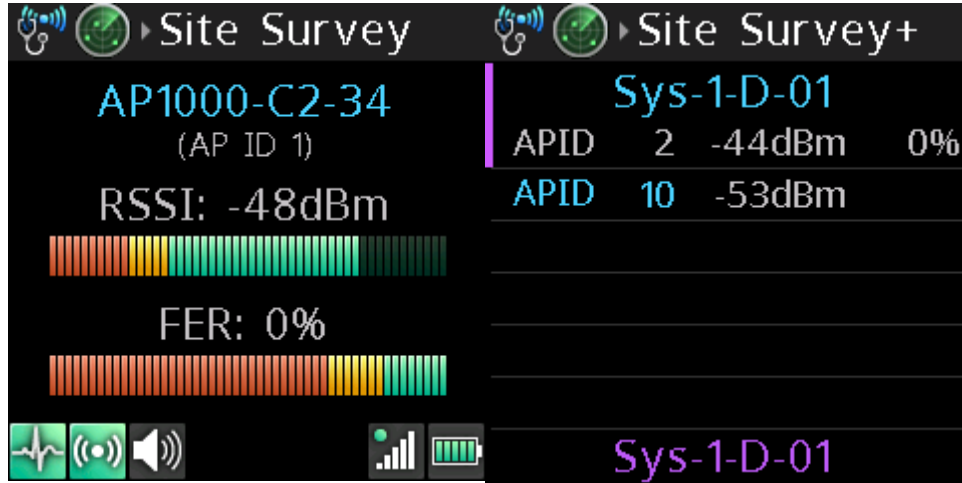


2. Press the **SEL/MENU** button.

7.4.5.5.1

Site Survey

Use the Site Survey feature to assess your wireless environment. By performing a site survey, you can identify signal strengths, detect potential sources of interference, and determine the best locations for access points. This process helps you optimize wireless coverage and ensure reliable communication for your beltpack. The Site Survey includes two pages: the first displays details about the access point you are currently connected to, and the second provides a list of all access points detected within range.



Access the Site Survey Tool

1. Navigate to the **Site Survey** menu item (Setup > Status > Advanced > Site Survey).
 2. Press the **SEL/MENU** button to start the Site Survey.
 3. Press the **SEL/MENU** button again to display a list of all the access points within range.
- For detailed instructions on how to perform a site survey, see *Site Survey*, page 43.

Interpreting the Site Survey screen

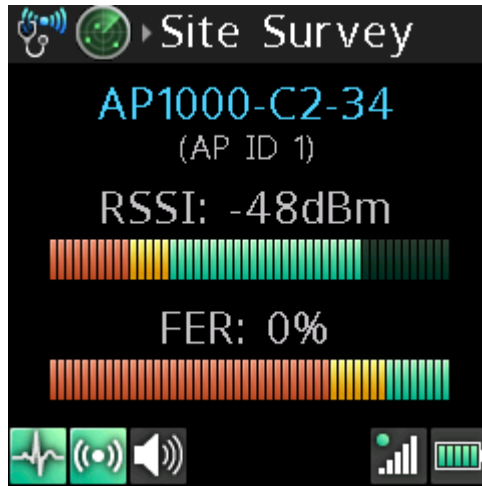


Figure 7.21: Site Survey Screen

Metric	Description
AP ID	Unique identifier for each AP-1000
RSSI	Signal strength (higher is better)
FER	Frame rate error (lower is better)

RSSI Levels

RSSI thresholds for good, marginal, and weak are typically found experimentally.

Range	Color	Description
-97 dBm to -115 dBm	Red	Weak: poor or no reception
-88 dBm to -96 dBm	Yellow	Marginal: some audio dropouts

Range	Color	Description
>-20 dBm to -87 dBm	Green	Strong: Good RF coverage

FER Levels

Range	Color	Description
29% to 100%	Red	Frequent dropouts
15% to 28%	Yellow	Some dropouts
0% to 14%	Green	Reliable coverage

7.4.5.5.2

Diagnostics

The **Diagnostics** screen displays detailed information about the operational states of the DECT module. This diagnostic data is primarily intended for engineering analysis. When DECT-related issues occur, the information shown on this screen provides the technical detail required for engineering or technical support to review and evaluate the system’s behavior.

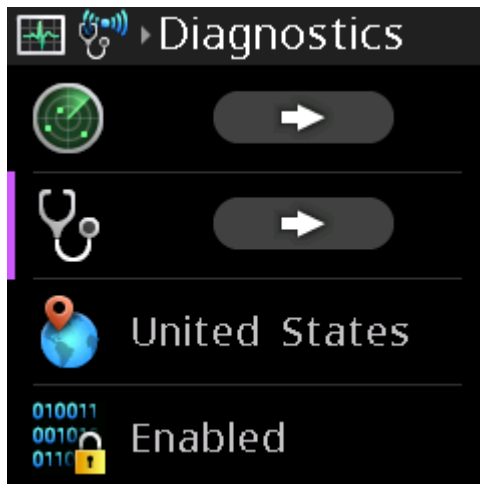


Figure 7.22: Diagnostics Menu

Open the Diagnostics Menu

1. Navigate to the **Diagnostics menu item** (Setup > Status > Advanced > Diagnostics).
2. Press the **SEL/MENU button**.
The Diagnostics screen opens



7.4.5.5.3

Region

Use the **Region** menu item to see the specific geographic area or country setting that a DECT device is configured to operate in. DECT systems use different frequency bands and comply with various regulatory requirements depending on the region, such as North America, Europe, or Asia. Using a device intended for the correct DECT region ensures that the device operates legally and without interference, using the appropriate frequencies and power levels allowed in that location.

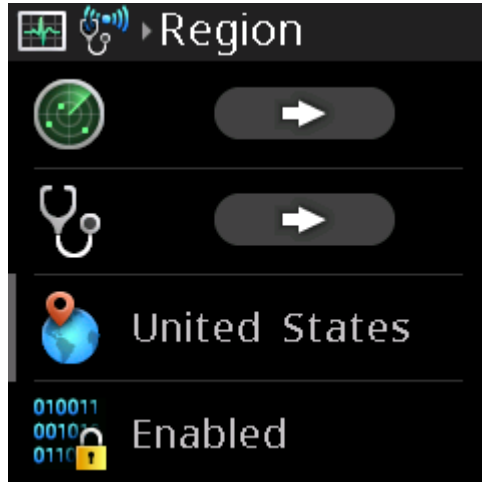


Figure 7.23: Region Menu

7.4.5.5.4

Encryption

The **Encryption** menu item lets you know that the DECT signal is encrypted. DECT encryption refers to the security feature used in DECT wireless systems to protect voice and data transmissions between devices, such as belt packs and access points. When DECT encryption is enabled, the system uses encryption algorithms to scramble the data being sent over the air, making it unreadable to unauthorized listeners or devices.



Figure 7.24: Encryption Menu



Notice!

This is DECT encryption and is always on. You are unable to change this setting.

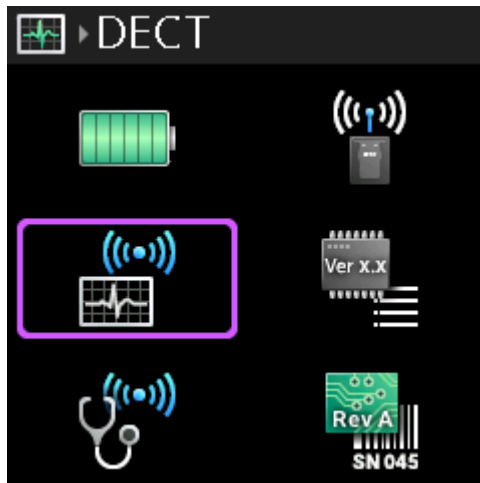
7.4.5.6

DECT Menu

Access the **DECT** menu to view the Beltpack ID and actively monitor the DECT connection to the Access Point (AP). You can also check the status of the Home AP connection, track the Received Signal Strength Indicator (RSSI) and Frame Error Rate (FER), and monitor the current temperature of the DECT module. Additionally, the menu displays the minimum and maximum temperature ranges required for the DECT module to operate optimally, helping you maintain reliable performance.

Access the DECT Menu

1. Navigate to the **DECT menu** (Setup > Status > DECT).



2. Press the **SEL/MENU** button.

7.4.5.6.1

Beltpack ID

Use the **Beltpack ID** menu item view the unique identification number for a beltpack so the system can recognize and communicate with it correctly.

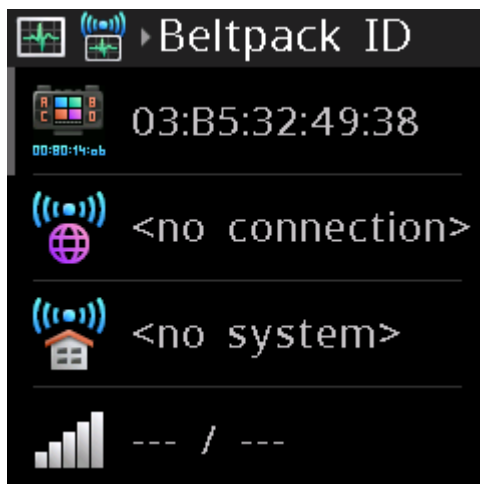


Figure 7.25: Beltpack ID Menu

7.4.5.6.2

Current AP Menu

Use the **Current AP** menu to view the access point the beltpack is currently connected to.

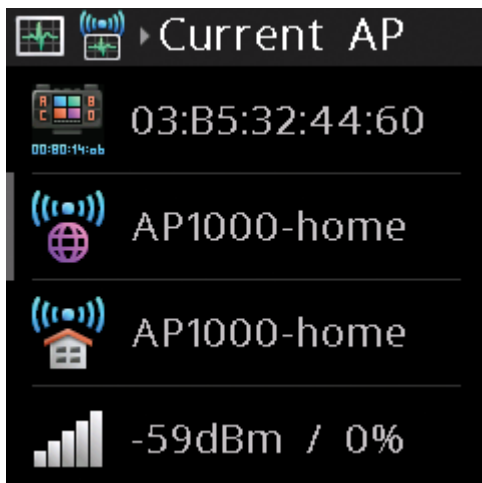


Figure 7.26: Current AP Menu

7.4.5.6.3

Home AP Menu

Use the **Home AP** menu item to view the home access point of the beltpack.

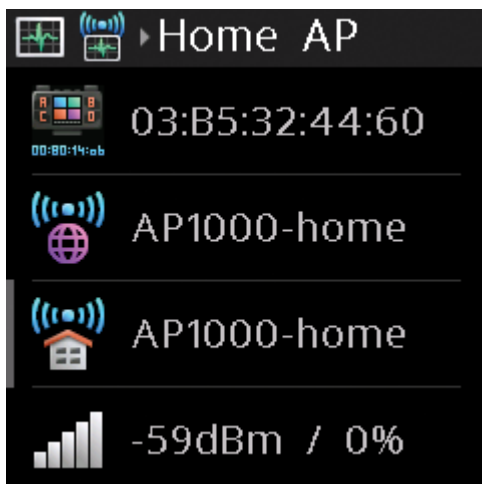


Figure 7.27: Home AP Menu

7.4.5.6.4

RSSI/FER Menu

Use the **RSSI/FER** menu item to view the current RSSI and FER status. For more information on RSSI and FER see System Overview, page 35.

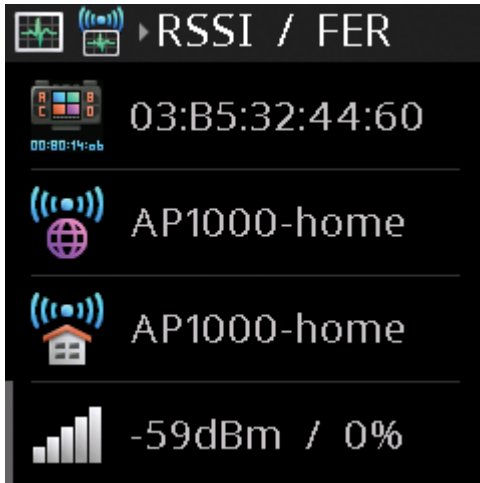


Figure 7.28: RSSI / FER Menu

7.4.5.6.5

Temperature Menu

Use the **Temperature** menu item to see the current temperature of the DECT module in beltpack.

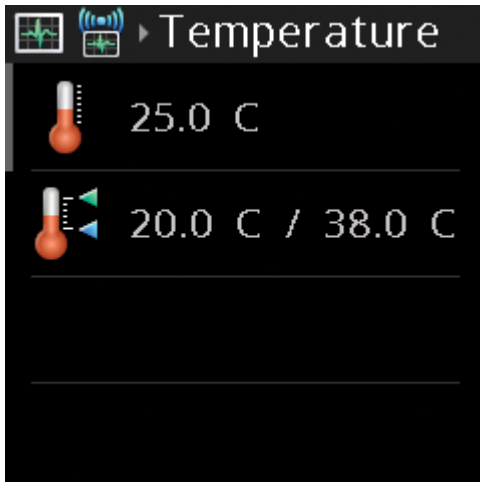
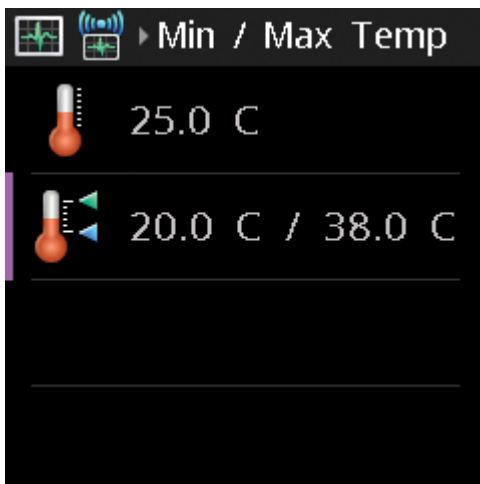


Figure 7.29: Temperature Menu

7.4.5.6.6

Min/Max Temp

Use the **Min/Max Temp** menu item to monitor the minimum and maximum temperature of the DECT module inside the beltpack.



7.4.6

Bluetooth

Coming soon!

7.5

Intercom Menu

The **Intercom** menu provides options that control how microphones are managed across connected intercom units.

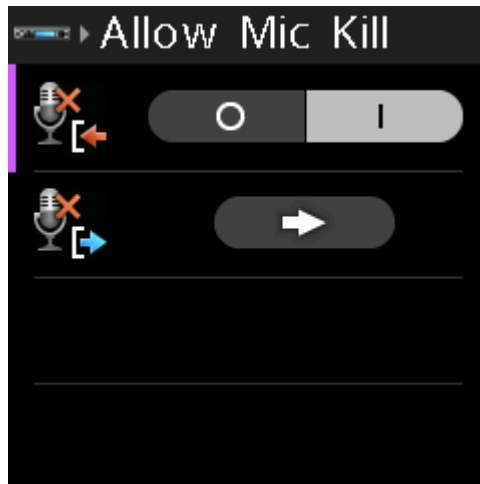


Figure 7.30: Intercom Menu

Allow Mic Kill:

- Enables the device to accept a “mic kill” command from another intercom unit, allowing its microphone to be muted remotely for smoother coordination and reduction of unwanted noise.

Send Mic Kill:

- Sends a “mic kill” command to other connected intercom units, instantly muting their microphones when needed to maintain clear communication flow.

7.5.1

Allow Mic Kill

Use the **Allow Mic Kill** menu item to enable or disable the reception of incoming Mic Kill signals. When you enable this setting, the device will respond to a Mic Kill signal by automatically turning off all active talk keys. This feature is useful for quickly silencing all devices on the intercom line when necessary.

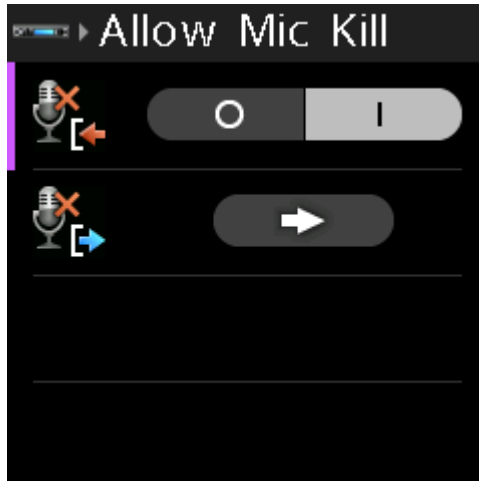
Mic Kill is an inaudible control signal sent by a belt pack to force all connected devices to stop transmitting audio. It’s typically used in environments where a supervisor or system controller needs to regain control of the communication channel.

- The Mic Kill signal has no effect if Hot Mic is enabled, since audio is transmitted continuously regardless of talk key state.
- It also has no effect if any talk key mode is set to Always On, as the device will ignore commands to deactivate the talk key.
- Additionally, the Mic Kill function does not work with Clear-Com analog belt packs, which do not support this feature.

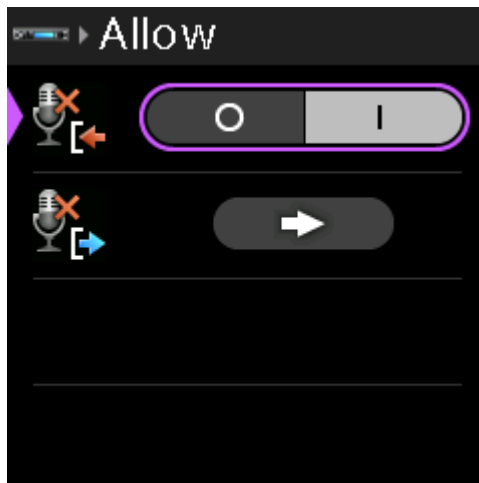
By default, Allow Mic Kill is disabled.

Enable or Disable the Allow Mic Kill Signal

1. Navigate to the **Allow Mic Kill menu item** (Audio > Microphone > Allow Mic Kill).



2. Press the **SEL/MENU** button.



3. Rotate either **encoder knob** to toggle between allow and disallow.
4. Press the **SEL/MENU** button to confirm the change, or press the **CLR/BACK** button to abort the changes.

7.5.2

Send Mic Kill

Use the **Send Mic Kill** menu item to transmit an inaudible control signal that forces all devices on the selected port to stop transmitting audio. This signal specifically targets devices with active talk keys, instructing them to immediately deactivate and cease communication.

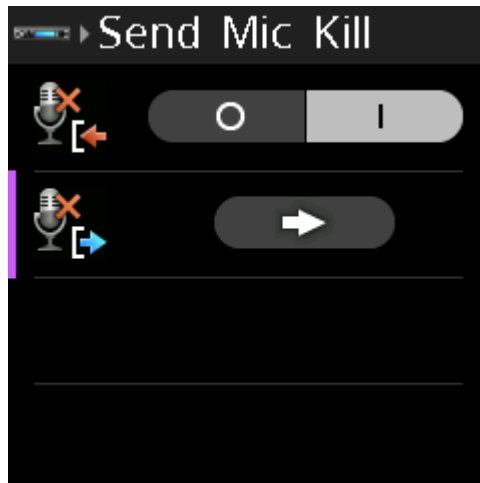
The Mic Kill function is useful in situations where a system operator needs to quickly silence all ongoing transmissions across a channel—such as during an emergency, a system reset, or to regain control of a noisy communication line.

Note:

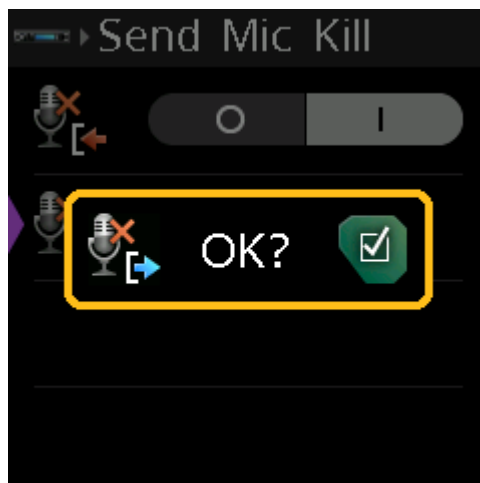
- The signal only affects devices with talk keys currently engaged.
- Devices with **Hot Mic enabled** or talk key modes set to **Always On** will **not respond** to the Mic Kill signal.
- This feature is **not compatible** with **Clear-Com analog belt packs**, which do not support Mic Kill functionality.

Send a Mic Kill Signal

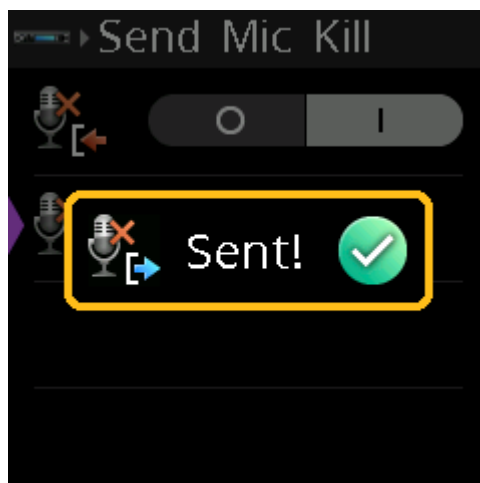
1. Navigate to the **Send Mic Kill menu item** (Audio > Microphone > Send Mic Kill).



- 2. Press the **SEL/MENU** button.
A confirmation message appears.



- 3. Press the **SEL/MENU** button.
A Sent message appears.



7.6 Presets Menu

The **Presets** menu enables users to save the current configuration, load a preset into the current configuration or clear a preset to default settings. Users actively save their preferred settings—such as audio levels and interface preferences—into distinct presets, ensuring a consistent experience every time they use the device. When multiple people share a beltpack, each user can simply load their preset to instantly apply their configuration without needing to adjust settings manually.

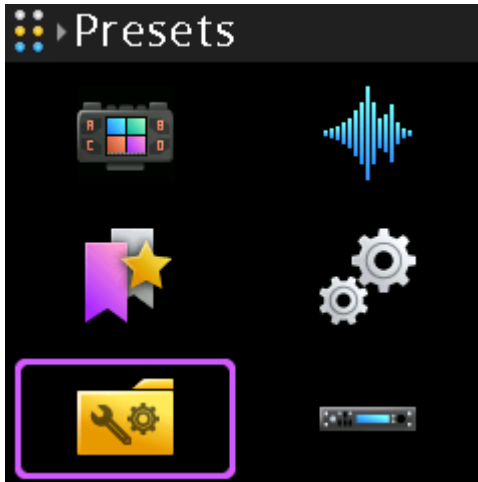


Figure 7.31: Presets Menu

To keep presets organized, users can rename them with meaningful labels, and if needed, they can reset any preset back to its default state. By using these options, users take full control of their beltpack experience, streamlining setup and maximizing efficiency in shared environments.

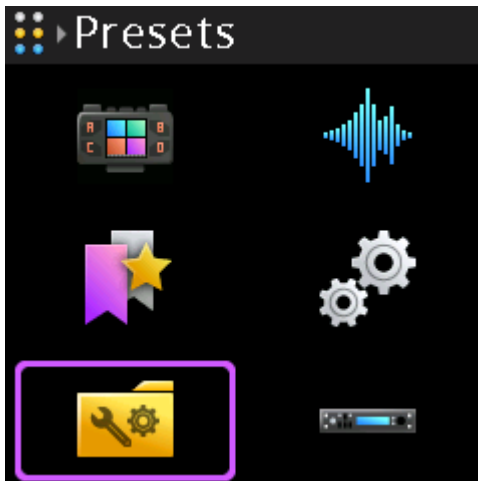
7.6.1

Rename the Preset

You can rename preset configurations on the beltpack to make them easier to identify during setup and operation. Assigning clear, descriptive names helps users quickly select the correct preset and keeps system organization simple and efficient.

Rename the Preset

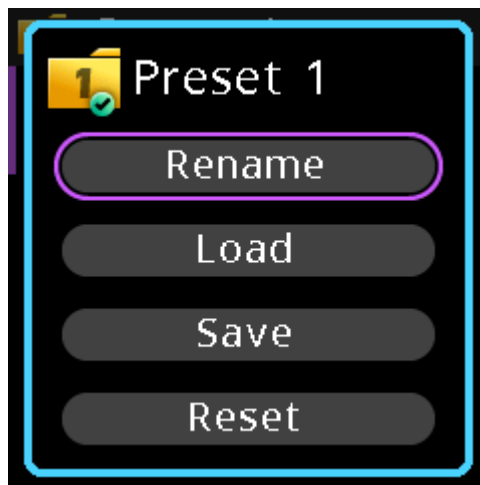
1. Navigate to the **Presets** menu.



2. Press the **SEL/MENU** button.



3. Rotate either **encoder knob** to scroll through the available options.
4. Press the **SEL/MENU button** to select the preset you want to rename.
5. Rotate either **encoder knob** to put focus on the Rename button.



6. Press the **SEL/MENU button**.
The first character position highlights.



7. Rotate the **B/D encoder knob** to scroll through available characters.
8. Rotate the **A/C encoder knob** to move to the next character space for modification.
9. Repeat **steps 7 and 8** until you finish.



10. Press the **SEL/MENU** button to confirm the change, or press the **CLR/BACK** button to abort the changes.

The name of the file changes to green and a green checkmark appears on the preset folder.

7.6.2

Load a Preset

Loading a preset beltpack configuration allows users to quickly apply their own saved settings to a shared device. Because presets store individual preferences—such as audio levels and operating modes—different users can access their personalized setup even when using the same beltpack at different times. This ensures a consistent and comfortable experience without manually reconfiguring the device for each shift or production.

Load a Preset

1. Navigate to the **Presets menu item**.
2. Press the **SEL/MENU** button.



3. Use either **encoder knob** to scroll to the preset you want to load.
4. Press the **SEL/MENU** button to confirm the change, or press the **CLR/BACK** button to abort the changes.

The Preset menu opens.



1. Use either **encoder knob** to scroll to the Load button.
2. Press the **SEL/MENU button**.
The selected preset loads to the beltpack, the preset name changes to green and a green checkmark appears on the preset folder.



7.6.3

Save the Preset

Saving a preset allows users to store their personalized beltpack settings for quick access later. By capturing preferred audio levels and operating preferences, each user can create a configuration tailored to their workflow. Once saved, these presets make it easy to restore your exact setup anytime, especially when sharing a beltpack across multiple users or shifts.

Save a Preset Configuration

1. Navigate to the **Presets menu item**.
2. Press the **SEL/MENU button**.



1. Use either **encoder knob** to scroll to the preset you want to save.
2. Press the **SEL/MENU button**.
The Preset menu opens.
3. Use either **encoder knob** to scroll to the Save button.
4. Press the **SEL/MENU button**.
Once the preset saves, the preset name changes to green and a green checkmark appears on the preset folder.

7.6.4

Reset the Preset

Resetting a preset allows users to clear previously saved beltpack settings and return that preset slot to its default state. This is useful when configurations are no longer needed, outdated, or require a fresh start for new users. By resetting a preset, you ensure that future saved settings begin from a clean baseline without carrying over any old preferences.

Reset a Preset

1. Navigate to the **Presets menu**.
2. Press the **SEL/MENU button**.
3. Use either **encoder knob** to scroll to the preset you want to reset.



4. Press the **SEL/MENU button**.
5. Rotate either **encoder knob** to put focus on the Reset button.



6. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.
Once the preset resets, the preset name displays in yellow.



Notice!

The system shows a checkmark next to the most recently loaded or saved Preset. When the current beltpack settings match that Preset, the Preset name appears in green. If you change any settings so they no longer match the Preset, the system shows the Preset name in gold to indicate that it is still the current Preset but differs from the current settings.

7.7

Favorites

Use the **Favorites** menu to quickly access menu items you use most on the beltpack. The system displays up to eight entries, including menu items you access most frequently and any items you manually pinned for convenience.

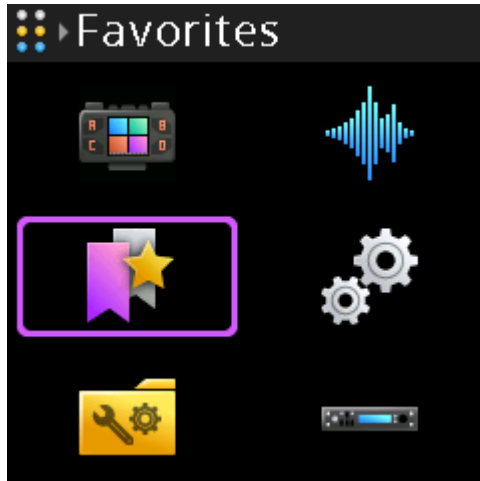
The system automatically adds the most often used menu items to the Favorites list. You can pin menu items from anywhere within the menu structure, not just from the Favorites menu, allowing you to keep essential items permanently accessible.

Pinned items appear at the top of the Favorites list and display a gold sidebar, making them easy to identify. Most used items display a purple sidebar, helping you distinguish between temporary and permanent entries at a glance.

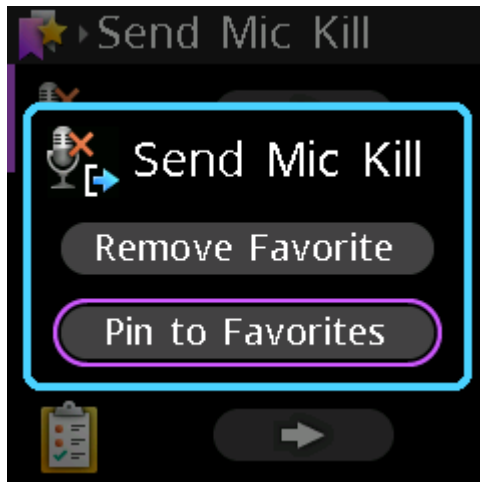
Pinned items remain in the Favorites menu until you unpin them. However, keep in mind that the more items you pin, the fewer spots remain available for most visited entries. For example, if you pin three items, only the five most used items will be shown.

Pin from the Favorites Menu

1. Navigate to the **Favorites menu**.



2. Press the **SEL/MENU** button.
3. Rotate either **encoder knob** to scroll to the item you want to pin.
4. Long press the **SEL/MENU** button.
A message appears.



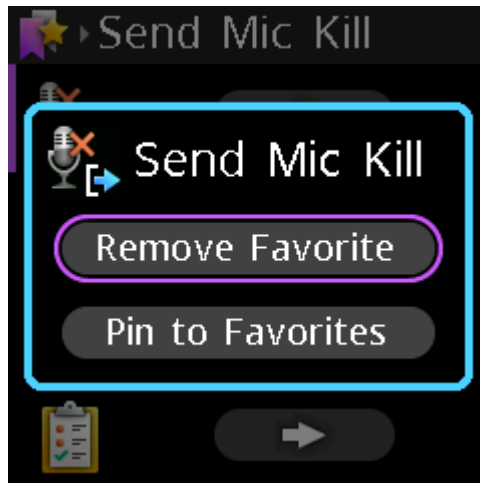
5. Rotate either **encoder knob** to scroll to Pin to Favorites.
6. Press the **SEL/MENU** button.
The menu item is pinned to the top of the list.

Manually Pin a Menu Item to the Favorites Menu

1. Navigate to the **menu item** you want to pin to the Favorites menu.
2. Long press the **SEL/MENU** button.
A Pin to Favorites message appears.
3. Verify the **menu focus is on Pin to Favorites**.
4. Press the **SEL/MENU** button to confirm, or press the **CLR/BACK** button to abort the action.
The item is pinned to the top of the Favorites list.

Remove an Item From the Favorites Menu

1. Navigate to the **Favorites** menu.
2. Rotate either **encoder knob** to scroll to the item you want to remove.
3. Long press the **SEL/MENU** button.
A message appears.



4. Rotate either **encoder knob** to navigate to Remove Favorite.
5. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.
The item is removed from the Favorites list.

Unpin an Item in the Favorites Menu

1. Navigate to the **Favorites menu**.
2. Rotate either **encoder knob** to scroll to the pinned item you want to unpin.
3. Long press the **SEL/MENU button**.
A message appears.



4. Rotate either **encoder knob** to navigate to Unpin Favorite.
5. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort the changes.
The item is unpins from the Favorites list.

8 Troubleshooting

RF Performance Issues

Issue	Possible Cause	Solution
RF range of beltpack is less than normal	Access point antennas are within 12 inches of metal obstacles	Move the access point so antennas are away from metal and maintain clear visibility over the coverage area.
RF range of beltpack is less than normal	Metal or reflective tape wrapped around the beltpack body	Keep the lower half of the beltpack case free of metal tape. Internal antennas are located below the DOWN and SELECT buttons.

Connection Issues

Issue	Possible Cause	Solution
No DECT connection displayed on the beltpack	Access points not powered or still booting	Verify all access points are powered on. Power and status LEDs must both be solid green.
No DECT connection displayed on the beltpack	Beltpack is out of RF range	Move the beltpack closer to an access point and verify adequate RF coverage.
No DECT connection displayed on the beltpack	Beltpack not registered to system	Verify Home access point assignment, BP ID entry, OMNEO path, and register the beltpack within 40 ft line-of-sight.
No matrix connection on beltpack	Matrix is offline	Ensure the matrix is powered on and fully operational.

Audio Issues

Issue	Possible Cause	Solution
Beltpack audio dropouts	Weak RF connection or DECT saturation	Reposition or add access points. Reduce nearby DECT devices to improve RF availability.
Beltpack audio dropouts	Insufficient access point overlap	Ensure adequate overlap coverage to support seamless handover between access points. For more information, see <i>Roaming</i> , page 40.

Issue	Possible Cause	Solution
No audio from beltpack	DECT connection down	Restore RF DECT connection. No audio is transmitted without DECT connectivity.
No audio from beltpack	Matrix connection down	Restore matrix connectivity to re-enable audio.
Audio leakage between assignments	Acoustic coupling between headset and microphone	Enable headset echo canceller in the beltpack settings. For more information, see <i>Hdst Echo Canceller</i> , page 119.

Network and IP Issues

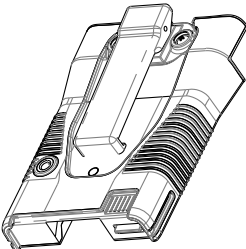
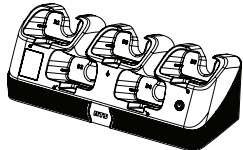
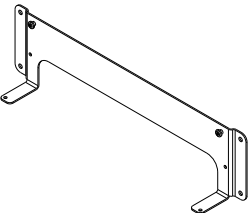
Issue	Possible Cause	Solution
Unable to find access points in IPedit	Computer IP address not on same network as access point	Use DHCP or assign a static IP within the system network. For more information, see <i>Prepare the Hardware</i> , page 48.
Access point detected but not added in IPedit	Device not added to catalog	Add AP to IPedit device catalog. For more information, see <i>Add the AP-1000 to IPedit</i> , page 51.
Experiencing continuous connect/disconnect in IPedit	Duplicate IP addresses	Resolve duplicate IP addresses by reassigning unique values.
Cannot download firmware to beltpack	USB flash drive damaged or not detected	Replace flash drive or reboot the beltpack.
Cannot download firmware to access point	Firmware tool PC not on same network	Configure PC for DHCP or assign static IP in matrix network.
Duplicate IP addresses in system	Static IPs duplicated across devices	Disconnect affected device, assign new IP, and reconnect to network.

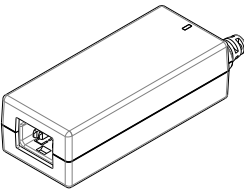
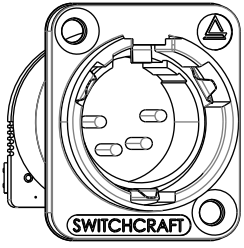
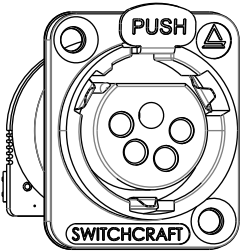
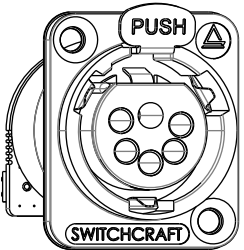

Beltpack Specific Issues

Issue	Possible Cause	Solution
Beltpack shows no lights or display	Dark Mode enabled or brightness set to 0%	Disable Dark Mode or increase display and button brightness. For more information see <i>Display</i> , page 111 or <i>Display Mode</i> , page 112.

Issue	Possible Cause	Solution
Beltpack will not connect to multiple systems	Beltpack registered to a single system only	Unregister beltpack from original system before registering to a new one. For more information, see <i>Clear the Beltpack Registration Table in IPedit</i> , page 201.
Beltpack not charging via USB-C while powered on	Insufficient charger output or cable length	Use 5V @ 3A charger, short USB-C cable, or charge while powered off.
Vowel attenuation heard from beltpack	Microphone noise reduction enabled	Disable microphone noise reduction on the affected beltpack. For more information, see <i>Mic Noise Reduction</i> , page 126.

8.1 Accessories and Replacement Parts

	Name	Description	CTN
	TR-1000 spare battery		BP-1000
	Charging bay	The CB-1000 provides users with a full-featured intelligent charger specifically designed to charge TR-1000 beltpacks and batteries.	CB-1000
	Charging bay wall bracket	Because the CB-1000 spans a width that does not match standard 16-inch stud spacing, you may use the gypsum wall mount bracket to achieve a solid installation. The bracket bridges the gap between available studs, creating multiple secure attachment	CB-1000-GWB

	Name	Description	CTN
		points that distribute the device's weight evenly across the wall structure.	
	AP - AC/DC power supply		AP-1000-PS1
	XLR cartridge 4-pin male		TR-1000-XLR4M
	XLR cartridge 4-pin female		TR-1000-XLR4F
	XLR cartridge 5-pin female		TR-1000-XLR5F
	TR-1000 Color Bar - Black		TR-1000-BAR-BLK
	TR-1000 Color Bar - Red		TR-1000-BAR-RED
	TR-1000 Color Bar - Green		TR-1000-BAR-GRN
	TR-1000 Color Bar - Yellow		TR-1000-BAR-YLW
	TR-1000 Color Bar - Blue		TR-1000-BAR-BLU
	TR-1000 Color Bar - Orange		TR-1000-BAR-ORG

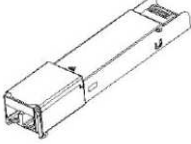
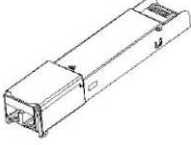
	Name	Description	CTN
	SM SFP Optical Module	Single Mode (SM) Small Form Factor Pluggable (SFP) optical transceiver module. <ul style="list-style-type: none"> - A 1000Base-LX Ethernet module with up to 10km range on 9/125 μm. - The SM DFP has a transmitter wavelength of 1310 nm. - Single Mode Fiber (SMF) - FTLF1318P3BTL 	OM-SM-FIBER
	MM SFP Optical Module	Multi Mode (MM) Small Form Factor Pluggable (SFP) optical transceiver module. <ul style="list-style-type: none"> - A 1000Base-SX Ethernet module with up to 500m range on 50/125 μm. - The MM SFP has a transmitter wavelength of 850 nm. - Multi Mode Fiber (MMF) - FTLF8519P3BNL 	OM-MM-FIBER

Table 8.1: Accessories and Replacement Parts

9 Maintenance

9.1 AP-1000

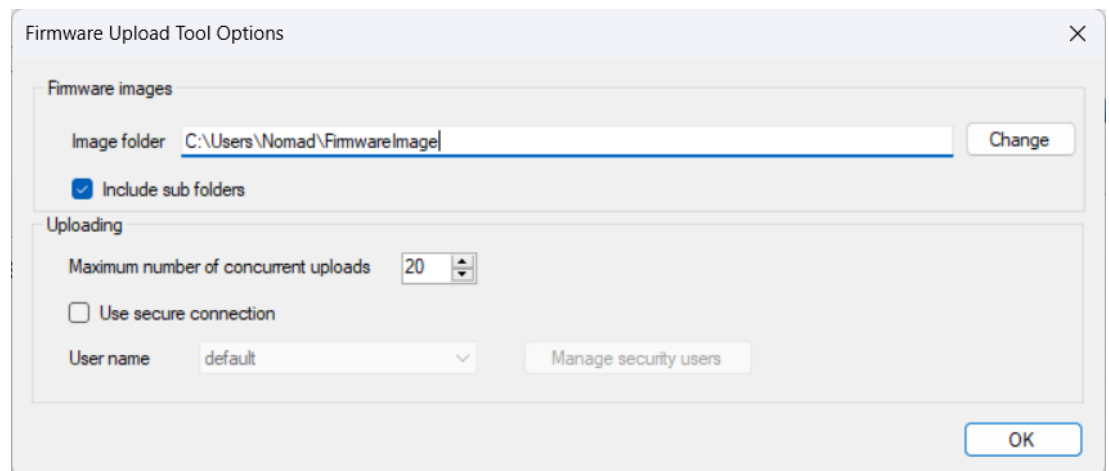
9.1.1 Update Firmware

**Notice!**

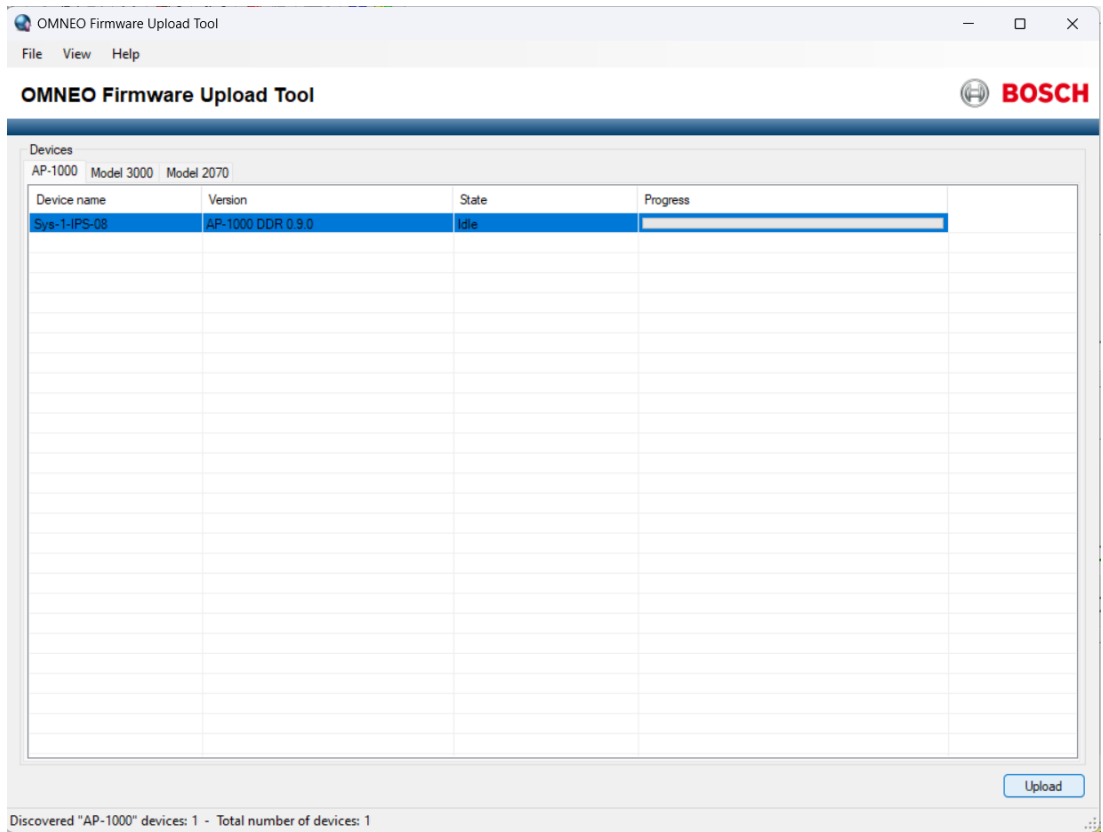
The AP-1000 should remain powered during the entire update process. To avoid the possibility of the AP-1000 losing power during the update process, RTS recommends using PoE or DC-adapter during the update process instead of battery power.

Update the Access Point firmware

1. Open the **Firmware Upload Tool**.
2. From the File menu, select **Options**.



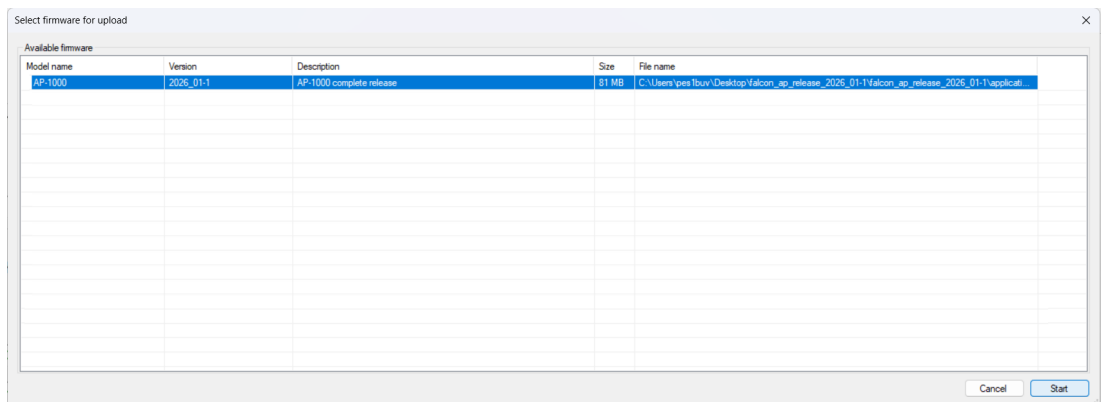
3. Click the **Change button**.
A network folder appears.
4. Navigate to the **folder** holding the AP-1000 firmware.
5. Click **OK**.
The network folder window closes.
6. Click **OK**.
The Option window closes.
7. Click the **AP-1000 tab**.
A list of AP-1000 devices appears in the main window.
8. Select the **AP-1000** device or devices to upload the new firmware.



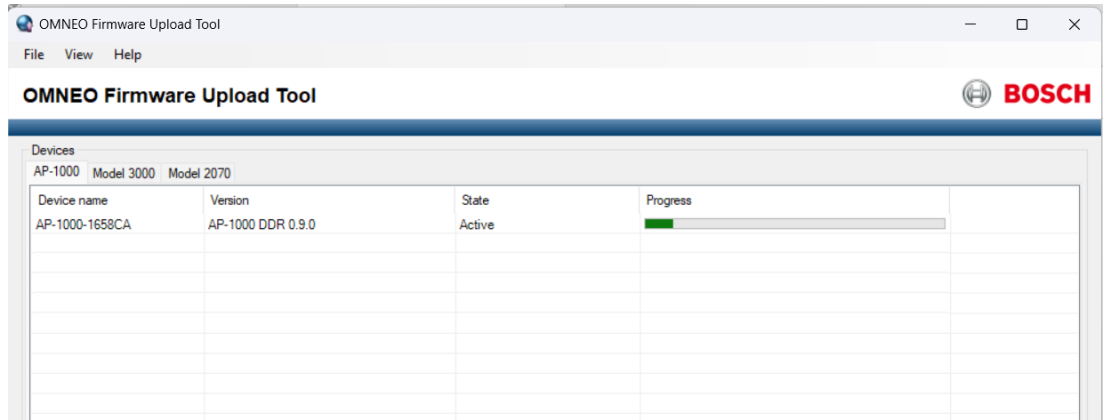
Notice!

In a multiple AP system, do not update more than three APs at a time.

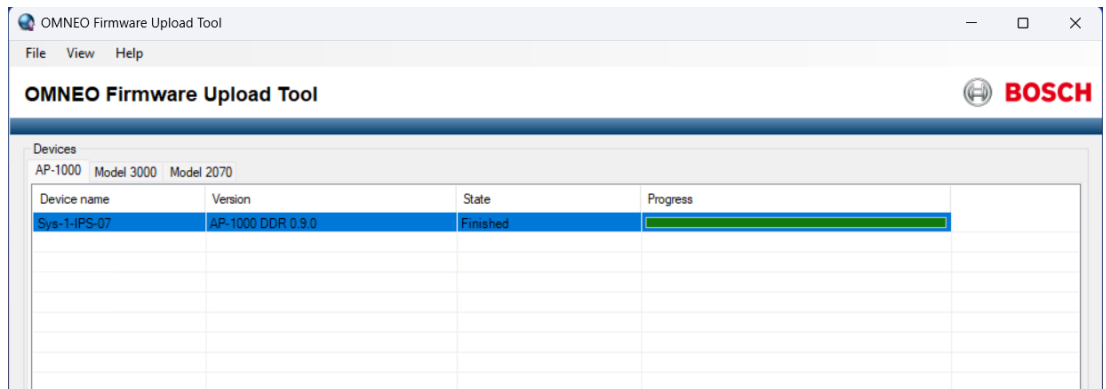
9. Click the **Upload button**.
The Select Firmware for Upload window appears.
10. Select the **firmware image** desired.



11. Click the **Start button**.
The upload begins showing a progression status bar.



Once the upload is done, Finished appears in the Status column.



Notice!

Never disconnect the access point from the network during the update. Once the Firmware Update Tool displays the firmware update is finished, it may be several minutes before the access point is available for use.

9.1.2 Create a System

9.1.2.1 Single Access Point



Notice!

You must have administrator rights for this procedure.

Create a Single Access Point System

1. Configure the **Access Point to the OMI, OMS, or ODIN**, see *Connecting the AP-1000 and the TR-1000*, page 49.
2. Using IPedit, configure the **System ID, PIN number, etc**, see *Register the TR-1000 and Connect to the AP-1000*, page 58.

9.1.2.2 Multiple Access Points

Create a System of Multiple Access Points

1. Configure each **Access Point to the same OMI, OMS, or ODIN**; see *Connecting the AP-1000 and the TR-1000*, page 49.
2. Using IPedit configure each **access point to have the same System ID and separate AP IDs**, see *Configure the AP-1000 and Assign the TR-1000*, page 53.

9.1.3 Replace an Existing AP



Notice!

You must have administrator rights for this procedure.

Replace an Existing Access Point

1. Configure the **new AP** with an OMI card, OMS, or ODIN with no backup.
OR
Load configuration from IPedit when the backup AP is available.
2. **Reboot/Send Changes.**
3. Configure the **Sys ID, AP ID, and PIN** for the new access point to match the access point you want to replace.
4. Configure the **Channels.**
5. **Reboot/Send Changes.**

9.1.4 Change IP Address of the AP

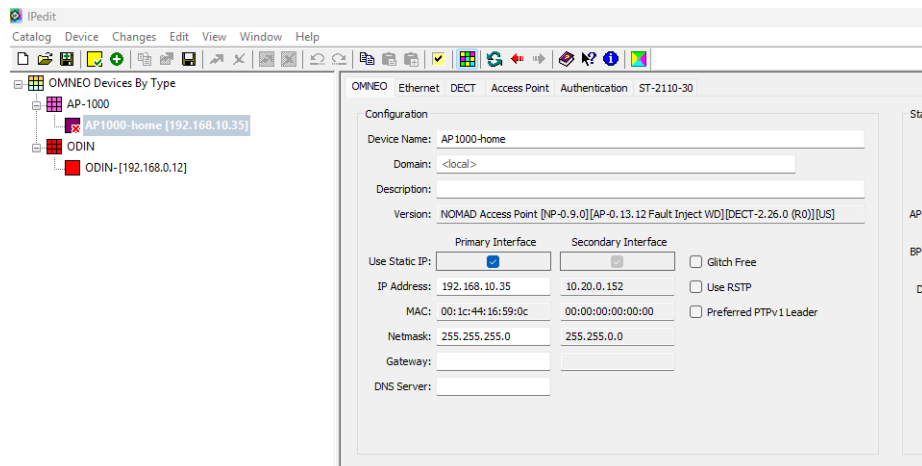


Notice!

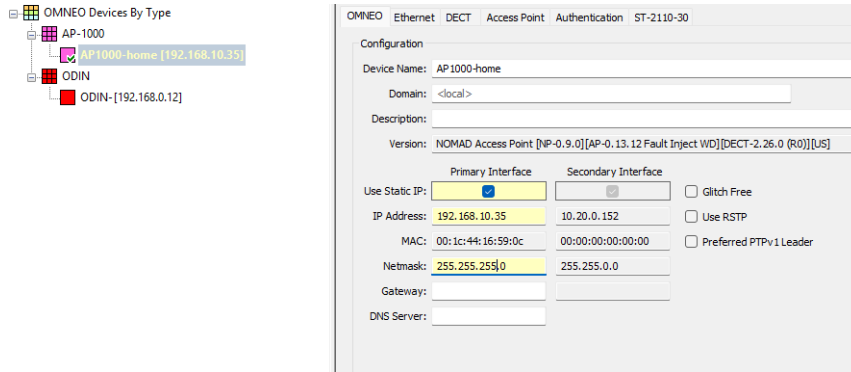
Use these instructions with static IP Address systems only.

Change the IP Address of the Access Point

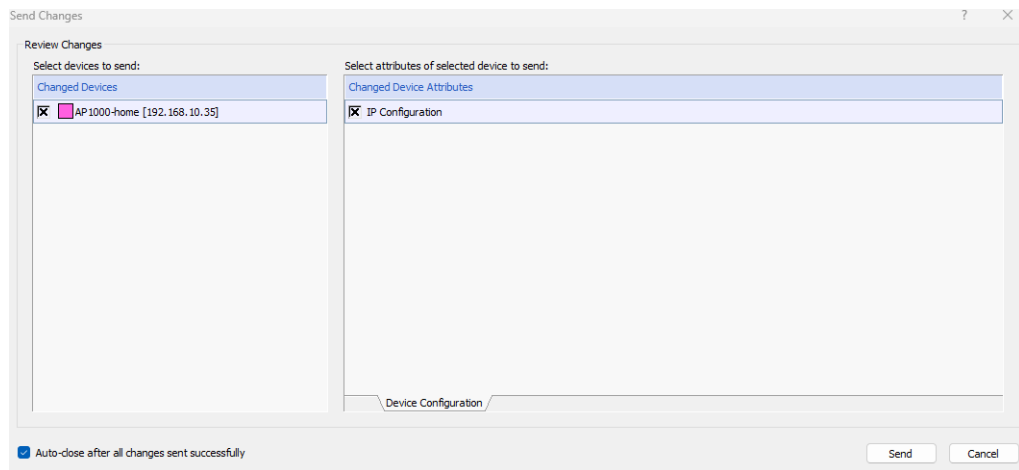
1. Select the **Access Point** to change the IP Address.
The Device Information panel populates with the access points configuration information.



2. In the IP Address field, change the **IP Address**.
The IP Address field turns yellow.



3. Press **Enter**.
4. Click the **Send All Changes** icon to send the changes to the matrix.
The Send Changes window appears.



5. Verify the **changes** are correct.
6. Click **Send**.
The Send Status column displays complete.
7. Click **Done**.
The Send Changes window closes and the Access Point automatically resets. If the connection cannot reestablish communications, reboot the AP-1000.



Notice!

Each beltpack connected to the Access Point must re-register to the system before it can connect to the access point.

9.1.5

Add AP to the System

Add an Access Point to the System

1. Configure each access point to the **OMI, OMS, or ODIN**.
2. Using IPedit, configure the access point to have the same **System ID** and pick a **unique AP ID**.



Notice!

The Primary DECT Sync check box is not selected if another access point is assigned as the primary DECT sync for the system.

3. If applicable, set up the **channel configuration settings** (only necessary if a beltpack is going to use the access point as HOME).
4. Send **Changes**.

- If applicable, register a **beltpack**.

9.1.6

Reboot AP-1000

An AP-1000 can be rebooted in two ways:

- Power-cycle reboot
- Software reboot through IPedit

Power-cycle reboot



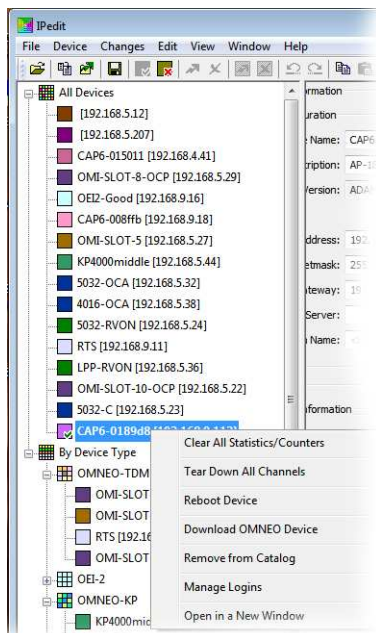
Notice!

Ensure the AP-1000 is not being updated prior to removing power and rebooting.

- Unplug the **power cord** from the AP-1000.
The AP-1000 turns off.
- Plug the **power cord** into the device.
The AP-1000 turns on and runs through its LED cycle.

Software Reboot through IPedit

- Right-click the **AP-1000** to reboot.
A popup menu appears.



- From the popup menu, select **Reboot Device**.
The device reboots.

9.1.7

Perform a Factory Reset on the AP-1000

Use the Factory Reset to set the access point to factory defaults.

Factory Reset the AP-1000

- Using a paperclip, press and hold the **reset button** for 10 seconds.
 - The Power LED starts blinking green, and then starts blinking amber.
 - The unit aborts the reset if the reset button is not pressed continuously.
- Release the **reset button**.
 - You must press the Reset button within 1 second after you release the Reset button.

3. Press and hold the **reset button** for another 10 seconds.
The Power LED starts blinking red, indicating the defaults being restored.
4. Release the **reset button**.
The unit resets and powers up with the factory defaults.



Caution!

Never unplug the AP while factory reset is taking place. Always verify the AP has successfully booted by waiting for three green LEDs (Power LED, Matrix-connectivity LED, and Status LED) and/or verifying IPedit connection.

9.1.8

Perform a Normal Reset on the AP-1000

A **Normal Reset** reboots the AP-1000 without making any changes to the configurations.

Perform a Normal Reset

1. Press and hold the **reset button for three seconds**.
The LED starts blinking green, indicating normal reset mode.
2. Release the **reset button** to reset.
The AP-100 resets.

9.1.9

Clear the Beltpack Registration Table in IPedit

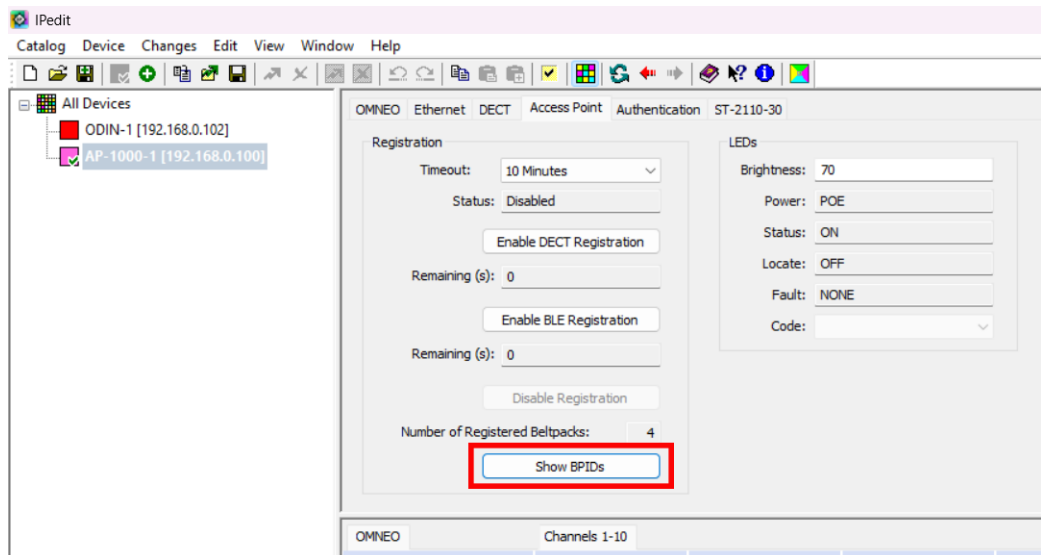
Use the **Clear Beltpack Registration Table** function to reset all stored belt pack registration entries on the Access Point (AP).



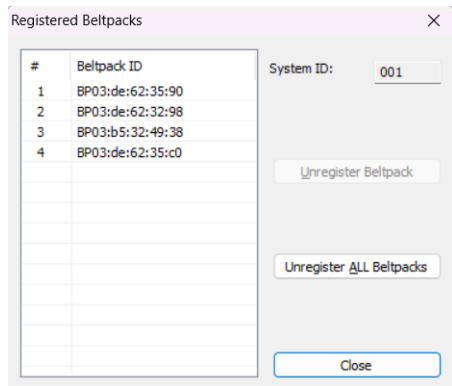
Notice!

Use this process when updates are made to a system while one or more APs are powered off.

1. Open **IPedit**.
2. Select the **AP** you want to clear the beltpack registration table.
3. Click the **Access Point** tab at the top of the window.



4. Click the **Show BPIDs** button.
The Registered Beltpack window opens.



- Click the **Unregister All Beltpacks** button.
The Beltpack list clears.
- Power on the **Access Point**.
Upon power-up the AP re-syncs its registration table with another AP (in a multi-AP system) or re-build itself in single AP deployment.

9.2 TR-1000

9.2.1 Update Firmware on the TR-1000

- Press the **SEL/MENU** button.

9.2.2 Add a TR-1000 to the System

Add a beltpack to the system

- Find the **access point** that will be the Home AP for the beltpack.
- Add the **BPID to the specific channel assigned to connect** the beltpack.
- Send **Changes**.
- Register the **beltpack** to the system. See *Register the TR-1000 and Connect to the AP-1000*, page 58.

9.2.3 Factory Reset the TR-1000

A factory reset restores a device to its original system state by erasing all user data, settings, and installed applications. Users initiate the reset to fix persistent issues, remove personal information before selling the device, or start fresh with a clean setup.

Perform a factory reset

- Navigate to the **Factory Reset** menu item (Setup > Service > Factory Reset).



2. Press the **SEL/MENU button**.
The Factory Reset confirmation message appears.



3. Press and hold the **SEL/MENU button** for three seconds.
A three-second countdown message appears and then the belt pack performs a factory reset and then reboots.



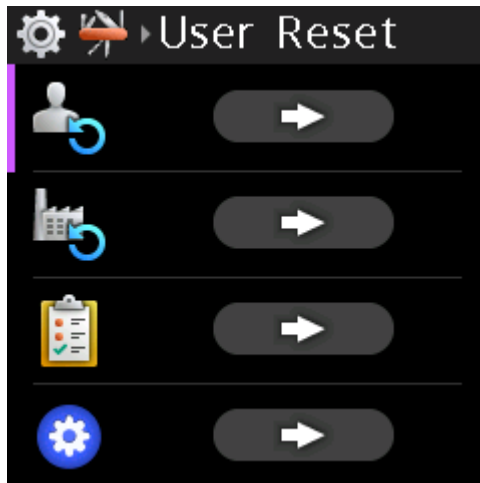
9.2.4

User Reset the TR-1000

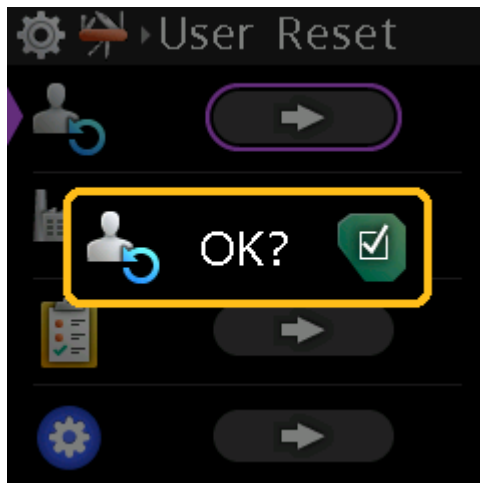
Use the User Reset menu item to reset your device configurations to their default user settings, while keeping your connection and access settings intact. This process restores most user-configurable options to their standard state, which can help resolve issues or prepare the device for a new user, but it does not erase saved network or access point information. Unlike a factory reset, a user reset preserves your essential connection settings, ensuring you remain connected to your usual networks after the reset.

Perform a user reset

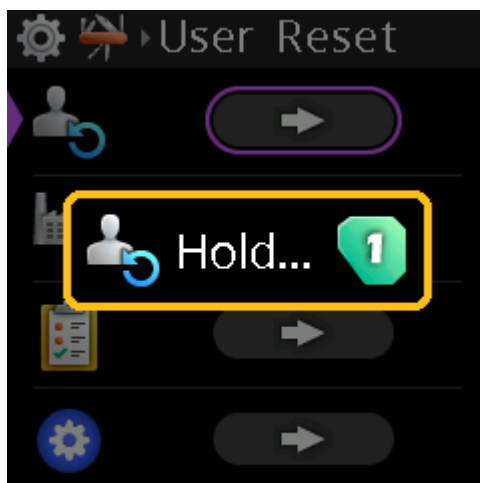
1. Navigate to the **User Reset menu item** (Setup > Service > User Reset).



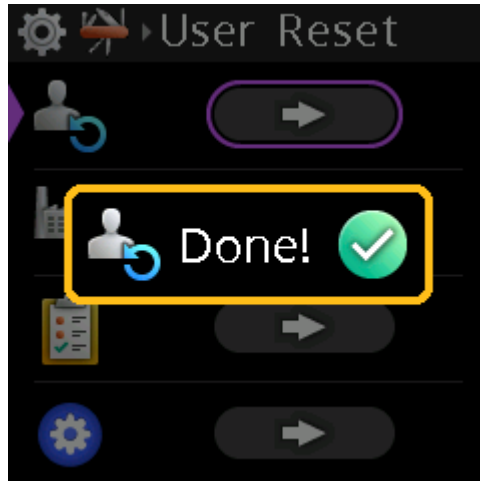
2. Press the **SEL/MENU** button.
A popup message appears to confirm the reset.



3. Press the **SEL/MENU** button.
A popup message appears.



4. Press and hold the **SEL/MENU** button for 3 seconds.
A three-second countdown screen appears and then the configuration resets. The unit does not reboot after a User Reset.



9.2.5

Change the Color Bars

Color Bars serve as a convenient visual tool that allows users to quickly identify and organize beltpacks according to specific group assignments or purposes. Each beltpack comes equipped with a default black color bar, which users can easily remove and replace with an alternate color to match their team or operational setup.



Notice!

Improperly installing the color bar compromises the BP's IP-65 rating.

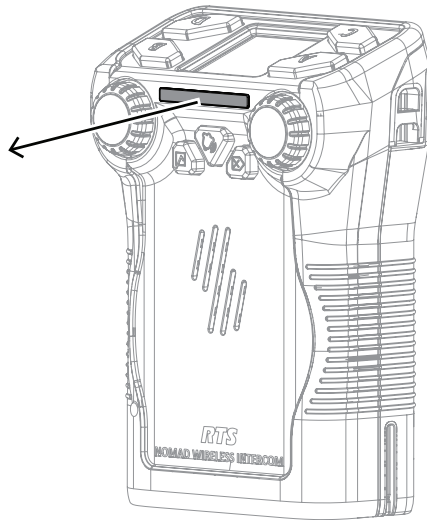


Caution!

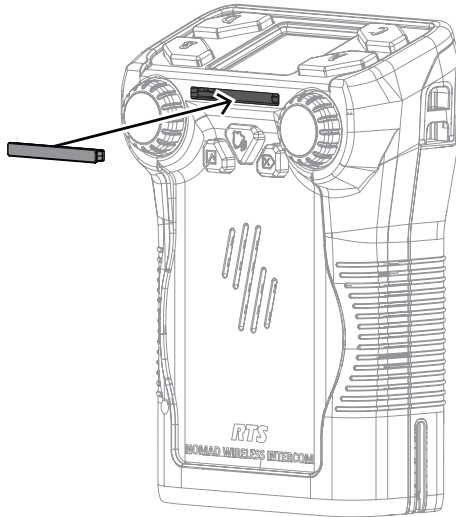
Do not use screwdrivers or other sharp tools to remove the color bar, as doing so can damage the device.

Change a Color Bar

1. Grip **one corner of the outer flange** of the color bar and pull it outward, peeling the bar away from the beltpack.



2. Align the **new color bar** with the designated opening.



3. Press the **color bar firmly into place** until the outer flange sits flush against the outer surface of the belt pack.

9.2.6

Change the Headset Connector

A connector replacement may be required when the existing connector does not meet the compatibility requirements of the associated equipment or when the beltpack must interface with a different system.

The beltpack supports three connector types:

- XLR-4F
- XLR-4M
- XLR-5F

For more information on connector pin-outs, see *Connector Pin-outs*, page 74.

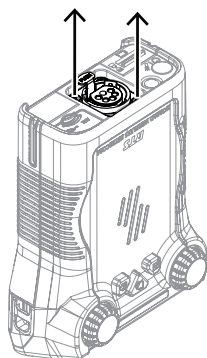
The steps in this section guide you through removing the old connector and installing the new one that matches your equipment and headset requirements.

**Notice!**

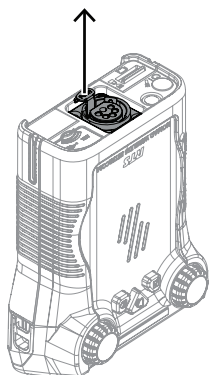
Use only a manual screwdriver when replacing the headset connector to avoid damaging the beltpack

Change the Headset Connector

1. Using a #1 Phillips head screwdriver, carefully **remove the two connector screws**. Remove the O-rings to prevent them from binding or catching within the hole.



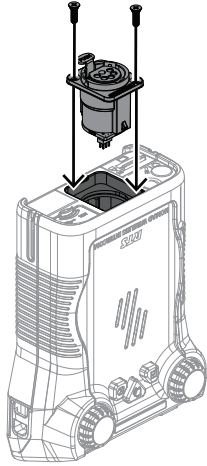
2. Gently pull the **XLR connector** from the device.



3. Insert the **new XLR connector** into the beltpack until it is fully seated. You may need to wiggle the XLR connector to fully seat in the unity.

**Notice!**

Firmly push the XLR connector into place, but avoid jamming it into the hole to prevent damage to the device.



4. Replace the **screws** to secure the connector in the beltpack, making sure to place the O-rings directly under the screw head.



Caution!

Avoid cross-threading or over-tightening the screws.

10 Technical Data

10.1 TR-1000

General

	TR-1000 Beltpack
Audio	BV32 wideband audio
Bandwidth (over DECT)	20 Hz - 7.5 kHz
Backlit display	Color, 240 x 240 pixel, TFT
Typical battery life	18 hours
Wireless encryption	AES256

Environmental

	TR-1000 Beltpack
Operating temperature (°F)	14 °F - 104 °F
Operating temperature (°C)	-10 °C - 40 °C
Storage temperature (°F)	-4 °F - 140 °F
Storage temperature (°C)	-20 °C - 60 °C
Operating relative humidity, non-condensing (%)	10% - 90%
Dimensions (H x W x D) (in)	5.63 in x 3.90 in x 2.17 in
Dimensions (H x W x D) (mm)	143 mm x 99 mm x 55 mm
Weight (lb)	1.23 lb
Weight (kg)	0.56 kg
Ingress protection (IP)	IP-65

Battery

	TR-1000 Beltpack
Battery Model	BP-1000 (Battery Pack)
Voltage (nominal)	3.7 V
Type	Li-Ion Polymer
Capacity	6600 mAh (minimum) 6700 mAh (typical)
Charge temperature (°F)	32 °F - 113 °F
Charge temperature (°C)	0 °C - 45 °C
Discharge temperature (°F)	-4 °F - 140 °F
Discharge temperature (°C)	-20 °C - 60 °C
Storage temperature (°F)	-4 °F - 140 °F

	TR-1000 Beltpack
Storage temperature (°C)	-20 °C - 60 °C
Relative humidity	10% - 90%

Controls

	TR-1000 Beltpack
Level controls	Two rotary encoders
Talk/Listen control	4 top panel talk buttons (listen function programmable)
Full-Duplex audio paths	Up to 16
Number of assignment pages	4
Call waiting control	Reply and Clear functionality
Main menu sub-menus	Beltpack, Audio, Favorites, Setup, Pre-sets, Status

Connections

	TR-1000 Beltpack
Headset connectivity	XLR-5F, XLR-4F, XLR-4M (User replaceable) 3.5 mm
XLR	
Microphone	Dynamic or Electret (auto-detect)
Headset impedance	150 Ω nominal (32 Ω - 600 Ω)
3.5 mm	
Microphone	Electret only
Headset impedance	32 Ω - 600 Ω
Aux in	1 Vrms (nominal), 20 Hz - 20 kHz (+0/-1 dB)
Aux out	1 Vrms (nominal), DECT: 20 Hz - 7.5 kHz
USB-C	
In-beltpack charging jack	Yes (15 W, 3 A @ 5 Vdc)
Firmware update jack	Yes
Lanyard	Integrated lanyard clip connection points

Internal Microphone

	TR-1000 Beltpack
Type	Omni-directional
Typical input	80 dBSPL

	TR-1000 Beltpack
Max. input	100 dB SPL
Bandwidth	20 Hz - 20 kHz (+0/-3 dB) 20 Hz - 5 kHz (+0/-1 dB)

Internal Speaker

	TR-1000 Beltpack
Nominal output	84 dB SPL (1 kHz @ ½ meter)
Max. output	94 dB SPL (1 kHz @ ½ meter)
Frequency range	350 Hz - 6 kHz (+0/-3 dB)

DECT Communications

	TR-1000 Beltpack
RF frequency range (MHz)	1,920 MHz - 1,930 MHz (US, Canada) 1,880 MHz - 1,900 MHz (EU = Europe, Asia, Australia) 1,894 MHz - 1,906 MHz (Japan) 1,910 MHz - 1,930 MHz (Mexico, South America)
Communication protocol	DECT
Frequency selection	Automatic via DCS (Dynamic Channel Selection)
Modulation	DBPSK
Antennas DECT	Dual, internal inverted F antennas
Delay-spread and multi-path RF protection	Next generation DECT channel compensation
Maximum peak RF output power (mW)	100 mW (20 dBm) (US, Canada, Malaysia) 250 mW (24 dBm) (Europe, Mexico, South America, Japan)
Average power (US, Canada, Malaysia)	4 mW
Average power (Europe, Mexico, South America, Japan)	10 mW

Bluetooth Low Energy Communications

	TR-1000 Beltpack
BLE 5.3 frequency range	2400 - 2483.5 MHz
Communication protocol	BLE 5.3
Modulation	GFSK
Antenna	Internal ¼-wave
Maximum output power	1 mW

10.2

AP-1000

General

	AP-1000 Access Point
Audio	BV32 wideband audio
Max. beltpacks per AP-1000	10
Max. access points in a system	120
Ethernet type	100BASE-T or GigE
Protocols / standards	OMNEO ST-2110/ST2022-7 DECT
Ethernet cabling required	CAT-5e or better
Input voltage (VDC)	
DC Power supply	+12 VDC, 4-pin XLR input (optional) – Will accept input range of 11VDC ~ 18VDC
DC Battery	14.2 VDC, external battery, via 4-pin XLR input (optional)
PoE	Class 3 device (compatible with PoE, PoE+, and PoE++)
Power consumption	8.5 W, typical
LED indicators	4 (power, fault, connectivity, location)

Environmental

	AP-1000 Access point
Operating temperature (°F)	-4 °F – 113 °F
Operating temperature (°C)	-20 °C – 45 °C
Operating relative humidity, non-condensing (%)	10% - 90%
Storage temperature (°F)	-4 °F – 158 °F
Storage temperature (°C)	-20 °C – 70 °C
Dimensions (H x W x D) (in)	9.02 in x 7.60 in x 3.00 in (with bracket) 9.02 in x 7.60 in x 2.64 in (w/out bracket)
Dimensions (H x W x D) (mm)	229 mm x 194 mm x 76 mm (with bracket) 229 mm x 194 mm x 67 mm (w/out bracket)
Weight (lb)	4.72 lb (with bracket) 4.14 lb (w/out bracket)
Weight (kg)	2.14 kg (with bracket) 1.88 kg (w/out bracket)
Ingress Protection (IP)	IP-65

Connections

	AP-1000 Access Point
Ethernet connectors	2 x EtherCON RJ-45 jacks
Power connector	1 x 4-pin XLR-F Jack (accepts power supply or battery supply)
Optical connector	2 x SFP
GPO connector	2 x GPO relay ports

DECT Communications

	AP-1000 Access Point
RF frequency range (MHz)	1,920 MHz - 1,930 MHz (US, Canada) 1,880 MHz - 1,900 MHz (EU = Europe, Asia, Australia) 1,894 MHz - 1,906 MHz (Japan) 1,910 MHz - 1,930 MHz (Mexico, South America)
Frequency selection	Automatic via DCS (Dynamic Channel Selection)
Modulation	DBPSK
Antennas	Dual, internal dipole antennas
High Difficulty DECT RF environments	Next generation DECT channel compensation
Maximum peak RF output power (mW) (dBm)	100 mW (20 dBm) (US, Canada, Malaysia) 250 mW (24 dBm)(Europe, Mexico, South America, Japan)
Average power (US, Canada, Malaysia) (dependent on the number of belt packs)	4 mW - 42 mW
Average power (Europe, Mexico, South America, Japan) (dependent on the number of belt packs)	10 mW - 105 mW

Bluetooth Low Energy Communications

	AP-1000 Access Point
BLE frequency range	2400 - 2483.5 MHz
Communication protocol	BLE 5.3 (Bluetooth Low Energy)
Modulation	GFSK
Antenna	Internal ¼-wave
Maximum output power	1 mW

10.3

CB-1000

Power

	CB-1000 Charging bay for 5 beltpacks
Input voltage (VAC)	100 VAC – 240 VAC
Input current (A)	1.5 A
Frequency	50 - 60 Hz
Power consumption (W) Max.	72 W

Charge times (15 °C to 45 °C)

	CB-1000 Charging bay for 5 beltpacks
Battery Only in a bay	< = 3.5 hours ¹
Battery on a belt pack (on) in a bay	< = 5 hours ¹
Battery on a belt pack (off) in a bay	< = 3.5 hours ¹

¹ This charger is optimized for best charging rate in the 15 °C to 25 °C ambient temperature range. Charging outside this range will increase charging times.

Bay LED Indicators

	CB-1000 Charging bay for 5 beltpacks
Solid green	Charged
Blinking green	Charged to > 75%
Blinking amber	Charging < 75%
Blinking red	Over or under temperature of battery in bay
Solid red	Battery error or connection issue

Mechanical

	CB-1000 Charging bay for 5 beltpacks
Dimensions (H x W x D) (in)	4.98 in x 15.11 in x 6.02 in
Dimensions (H x W x D) (mm)	126.6 mm x 384 mm x 153 mm
Weight (lb)	3.58 lb
Weight (kg)	1.62 kg

Environmental

	CB-1000 Charging bay for 5 beltpacks
Operating temperature (°F)	35 °F – 95 °F
Operating temperature (°C)	0 °C – 40 °C
Operating relative humidity, non-condensing (%)	5% – 90%
Storage temperature (°F)	-4 °F – 158 °F

	CB-1000 Charging bay for 5 beltpacks
Storage temperature (°C)	-20 °C – 70 °C
Storage relative humidity (%)	15% – 90%

Mounting Options

- Desktop
- 5 RU high drawer with 2 chargers (chargers fully loaded with belt packs)
- 4 RU high tray with 2 chargers (chargers fully loaded with belt packs)
- Wall mount (back or bottom)

11 Battery Longevity Best Practices

The TR-1000 uses a BP-1000 battery pack, which is a 3.7-volt lithium-ion polymer battery with a typical capacity of 6,700 mAh. To maximize battery capacity and extend cycle life over time, follow the guidelines below for normal use and long-term storage.

Normal Use Guidelines

Location	Avoid using a backpack with battery in excessive heat or excessive cold locations.
State of Charge (SoC)	RTS allows users to access nearly the full capacity of the battery. To maximize battery longevity, avoid regularly discharging the battery below 20% state of charge (SoC). Maintaining charge levels above this threshold helps reduce capacity fade and extend the battery's cycle life over time.
Battery on Charge	The CB-1000 charger can hold a battery or backpack at nearly 100% charge indefinitely; however, avoid doing so for extended periods (five days or more), because maintaining a Li-ion battery near full charge reduces its capacity and cycle life over time.
20 - 80 % SoC Rule	Avoid 0-100% discharge and charge cycles to greatly increase cycle life and reduce battery capacity fade over time. When possible, charge the battery to just above 75% state of charge (SoC)—the point at which the CB-1000 charger begins flashing green—and then use the battery. Stop using the battery at approximately 20% SoC. Following this practice can significantly increase the total number of charge cycles the battery delivers before its capacity falls to 80% of its original level, often doubling or tripling the cycle count compared to repeated 0-100% discharge/charge cycling.

Long-term Storage Guidelines (storage > 1 month)

Location	<ul style="list-style-type: none"> – Cool location, 10 - 25 °C (50 - 77 °F), away from heat sources – Dry place, 20 - 50% relative humidity. High humidity should be avoided – Out of the direct sunlight
Storage State	Stored in original packaging or similar (terminals covered so they cannot short)
State of Charge (SoC)	40 - 60% SoC. Storage near 100% or 0% should be avoided.
Monitor/Charge every 6 Months (A Li-ion battery can lose about 3% of its state of charge per month due to self-discharge while it sits on a shelf)	For long-term storage, regularly check that the battery remains between 40-60% state of charge (SoC). If the charge level falls outside this range, recharge the battery to bring it back to 40-60% SoC. You can use a TR-1000 backpack to verify the battery's SoC.

12 NOMAD User Access Level

	Configuration Item	Access Level			
		Restricted	Standard	Advanced	Admin
Beltpack Menu	Key Mode (A-Key)	-	Y	Y	Y
	Key Mode (B-Key)	-	Y	Y	Y
	Key Mode (C-Key)	-	Y	Y	Y
	Key Mode (D-Key)	-	Y	Y	Y
	Key Backlight (Talk key ACTIVE state)	-	-	Y	Y
	Key Backlight (Talk key IDLE state)	-	-	Y	Y
	Key Backlight (Navigation key ACTIVE state)	-	-	Y	Y
	Key Backlight (Navigation key IDLE state)	-	-	Y	Y
	Alert Volume (one volume for all alerts)	Y	Y	Y	Y
	Call Beep Enable	-	Y	Y	Y
	Call Vibration Mode	-	Y	Y	Y
	Alert Enable (Group 1: Call Alerts)	-	Y	Y	Y
	Alert Enable (Group 2: USB Events)	-	Y	Y	Y
	Alert Enable (Group 3: Bluetooth Events)	-	Y	Y	Y
	Alert Enable (Group 4: DECT Events)	-	Y	Y	Y
	Alert Enable (Group 5: Hardware Events)	-	Y	Y	Y
	Display Mode	-	Y	Y	Y
	Display Brightnesses (NORMAL mode)	-	-	Y	Y
	Display Brightnesses (DIM mode)	-	-	Y	Y
	Display Brightnesses (DARK mode)	-	-	Y	Y
	Screen Saver Mode	-	Y	Y	Y
Dark Mode Timer	-	-	Y	Y	
Language (for context help)	-	-	-	Y	

	Screen Flip Enable	-	-	Y	Y
	ID Banner	-	-	Y	Y
	Banner Text Color	-	-	Y	Y
	Banner Background Color	-	-	Y	Y
	Flashlight Enable	-	-	-	Y
	Flashlight Color	-	Y	Y	Y
	Flashlight Brightness (WHITE)	Y	Y	Y	Y
	Flashlight Brightness (RED)	Y	Y	Y	Y
	Flashlight Timeout	-	-	Y	Y
Audio Menu	Headset / Speaker Mode	Y	Y	Y	Y
	Auto Transfer Enable	-	-	-	Y
	Echo Canceller Enable (speaker)	-	-	Y	Y
	Echo Canceller Enable (headset)	-	-	Y	Y
	Speaker Dim Amount	-	Y	Y	Y
	Sidetone Level (XLR headset)	Y	Y	Y	Y
	Sidetone Level (3.5mm headset)	Y	Y	Y	Y
	Master Volume (headset mode)	Y	Y	Y	Y
	Master Volume (speaker mode)	Y	Y	Y	Y
	Maximum Volume (headset mode)	-	-	Y	Y
	Maximum Volume (speaker mode)	-	-	Y	Y
	Minimum Volume (headset mode)	-	Y	Y	Y
	Minimum Volume (speaker mode)	-	Y	Y	Y
	Allow Speaker Mode	-	-	-	Y
	Mic Select	Y	Y	Y	Y
	Mic Gain (XLR)	-	Y	Y	Y
	Mic Gain (3.5mm)	-	Y	Y	Y
	Mic Gain (Embedded)	-	Y	Y	Y
	Noise Gate Level (XLR)	-	-	Y	Y
	Noise Gate Level (3.5mm)	-	-	Y	Y
	Noise Gate Level (Embedded)	-	-	Y	Y
	Hot Mic Enable (one setting)	-	-	Y	Y
Allow Mic Kill	-	-	Y	Y	

	Send Mic Kill	-	Y	Y	Y
	XLR Mic Type	-	-	Y	Y
	Mic AGC Level	-	-	Y	Y
	Mic Noise Reduction Enable	-	-	Y	Y
	Headset Left Mixes (bitmap)	-	-	Y	Y
	Headset Right Mixes (bitmap)	-	-	Y	Y
	To Intercom Mixes (bitmap)	-	-	Y	Y
	3.5mm Left Out Mixes (bitmap)	-	-	Y	Y
	3.5mm Right Out Mixes (bitmap)	-	-	Y	Y
	3.5mm Aux Mode	-	-	Y	Y
	3.5mm Input Gain	Y	Y	Y	Y
	3.5mm Output Gain	Y	Y	Y	Y
	3.5mm Aux Stereo Mix Enable	-	-	Y	Y
Setup Menu	DECT Registration : Available AP's	-	-	-	Y
	DECT Registration : Select AP (if multi-reg)	-	-	-	Y
	DECT Registration : Enable AP Registration	-	-	-	Y
	DECT Beltpack Name	-	-	-	Y
	DECT Multiple Registration Enable	-	-	-	Y
	DECT Zone Select	-	-	Y	Y
	DECT Tx Power	-	-	-	Y
	Tone Enable	-	Y	Y	Y
	User Reset	-	Y	Y	Y
	Factory Reset	-	-	-	Y
	Test Mode	Y	Y	Y	Y
	Conference Mode	-	Y	Y	Y
	Demo Mode	-	Y	Y	Y
	Footswitch Enable	-	Y	Y	Y
	Auth Enable	-	-	-	Y
	User Auth PIN	-	-	-	Y
	Admin Auth PIN	-	-	-	Y
User Access Level	-	-	-	Y	

	Firmware Update	-	-	-	Y
Presets	Load Preset	Y	Y	Y	Y
	Save Preset	-	Y	Y	Y
	Rename Preset	-	-	Y	Y
	Reset Preset	-	-	Y	Y
Status	Battery Charge State	Y	Y	Y	Y
	Battery Time to Full / Time to Empty	Y	Y	Y	Y
	Battery Health	Y	Y	Y	Y
	Charge Cycles	Y	Y	Y	Y
	Battery Temperature	Y	Y	Y	Y
	Battery Min/Max Temperature	Y	Y	Y	Y
	Matrix Connection Duration	Y	Y	Y	Y
	Matrix Connection Drops	Y	Y	Y	Y
	AP Connection Duration	Y	Y	Y	Y
	AP Connection Drops	Y	Y	Y	Y
	Client Version	Y	Y	Y	Y
	DECT Version	Y	Y	Y	Y
	Bluetooth Version	Y	Y	Y	Y
	Serial Number	Y	Y	Y	Y
	Main Board Revision	Y	Y	Y	Y
	Display Board ID / Revision	Y	Y	Y	Y
	Antenna Board ID / Revision	Y	Y	Y	Y
	Beltpack ID	Y	Y	Y	Y
	Current AP	Y	Y	Y	Y
	Home AP	Y	Y	Y	Y
	RSSI / FER%	Y	Y	Y	Y
	DECT Temperature	Y	Y	Y	Y
	DECT Min/Max Temperature	Y	Y	Y	Y
	Site Survey	-	-	Y	Y
	Diagnostics	-	-	Y	Y
	DECT Region	Y	Y	Y	Y
DECT Encryption State	Y	Y	Y	Y	
Logging	-	-	Y	Y	

	DECT Min/Max Temperature	Y	Y	Y	Y
	Site Survey	-	-	Y	Y



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