

# Bolero 3.1

## Next Generation Wireless

User Manual





Management  
System  
ISO 9001:2015



[www.tuv.com](http://www.tuv.com)  
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**Bolero 3.1 User Manual**

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This device complies with Part 15 of the FCC Rules and with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. 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 energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes or modifications made to this equipment not expressly approved by Riedel may void the FCC authorization to operate this equipment.

Radiofrequency radiation exposure Information (for the Beltpack):

For body worn operation, this equipment has been tested and meets the FCC RF exposure guidelines when used with the Riedel accessories supplied or designated for this product. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

Radiofrequency radiation exposure Information (for the Antenna):

This equipment complies with FCC and IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps. Ce transmetteur ne doit pas être placé au même endroit ou utilisé simultanément avec un autre transmetteur ou antenne.

This device is granted pursuant to the Japanese Radio Law (電波法) and the Japanese Telecommunications Business Law (電気通信事業法). This device should not be modified (otherwise the granted designation number will become invalid).

Beltpack: Este produto está homologado pela Anatel, de acordo com os procedimentos regulamentados pela Resolução nº. 242/2000 e atende aos requisitos técnicos aplicados, incluindo os limites de exposição da Taxa de Absorção Específica referente a campos elétricos, magnéticos e eletromagnéticos de radiofreqüência de acordo com as Resoluções nº. 303/2002 e 533/2009.

Taiwan NCC Warning Statement

交通部電信總局低功率電波輻射性電機管理辦法 (930322) 根據交通部低功率管理辦法規定第十二條，經型式認證合格之低功率射頻電機，非經許可、公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。第十四條，低功率射頻電機之使用不得影響飛航安全及干擾合法通信，經發現有干擾現象時，立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。



The device conforms to the following EU guidelines as attested by the CE mark.

- EMV (EMC) 2014/30/EU
- NSR (LVD) 2014/35/EU
- RTTE (RED) 2014/53/EU



- YFJANT101019  
(Bolero DECT Antenna / BL-ANT-1010-19)
- YFJBPK100619  
(Bolero DECT Beltpack / BL-BPK-1006-19)
- YFJANT100824  
(Bolero 2.4GHz Antenna / BL-ANT-1008-24)
- YFJBPK100624  
(Bolero 2.4GHz Beltpack / BL-BPK-1006-24)
- YFJBPK100424  
(Bolero 2.4GHz Beltpack / BL-BPK-1004-24)

Standards

- EN 300 328 V1.9.1 / ETSI EN 300 328 V2.0.20
- EN 300 330 V1.8.1 / ETSI EN 300 330 V2.1.0
- EN 301 406 V2.2.1
- EN 301 489-1/-3/-6/-17, EN 55022, EN 55024
- IEC/EN 60950-1, IEC 62368-1
- ARIB STD-T66
- ARIB STD-T101

Industry  
Canada

- 8706A-ANT101019  
(Bolero DECT Antenna / BL-ANT-1010-19)
- 8706A-BPK100619  
(Bolero DECT Beltpack / BL-BPK-1006-19)
- 8706A-ANT100824  
(Bolero 2.4GHz Antenna / BL-ANT-1008-24)
- 8706A-BPK100624  
(Bolero 2.4GHz Beltpack / BL-BPK-1006-24)
- 8706A-BPK100424  
(Bolero 2.4GHz Beltpack / BL-BPK-1004-24)

Australia

Any device that connects to the data ports must comply with the clause 4.7 of AS/NZS 60950.1

Warning: This equipment is compliant with Class A of CISPR 32. In a residential environment this equipment may cause radio interference.

Singapore

Complies with  
IMDA Standards  
DB105184

Taiwan

Complies with  
BSMI Standards

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## 1 Preface

Thank you for choosing a Riedel product.

This PDF document provides detailed information about the Bolero system, pin outs, mechanical and electrical data.

For further information, please refer to the [Riedel Website](#) or contact your local distributor or the Riedel headquarters in Wuppertal.

### NOTICE

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## 1.1 Information

### Symbols

The following tables are used to indicate hazards and provide cautionary information in relation to the handling and use of the equipment.

<b>Danger</b>	
	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
<b>The highlighted line indicates the activity to prevent the danger.</b>	

<b>Warning</b>	
	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
<b>The highlighted line indicates the activity to prevent the danger.</b>	

<b>Caution</b>	
	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.
<b>The highlighted line indicates the activity to prevent the danger.</b>	

	This text is for generally information. It indicates the activity for ease of work or for better understanding.
---	---

### Service

- All service has to be undertaken ONLY by qualified service personnel.
- Do not plug in, turn on or attempt to operate an obviously damaged device.
- Never attempt to modify the equipment components for any reason.

<b>Caution</b>	
	<b>All adjustments have been done at the factory before the shipment of the devices.</b> <b>No maintenance is required and no user serviceable parts are inside the module.</b>

### Voltage

- The power cable should only be connected to a properly grounded source.
- Do not use any adapters.
- Never bypass a ground contact.

### Danger



**To reduce the risk of electric shock do not remove cover or expose the products to rain or moisture.**

### Warning



- Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan.
- Apparaten må tilkoples jordet stikkontakt.
- Apparaten skall anslutas till jordat uttag.
- Apparats stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproprens jord.

### Battery Safety

The Bolero-Beltpacks are operated with the following battery type: Lithium-Ion, 3.6V, 4.8Ah, 17.3Wh, 1ICP7/39/65-2, with integrated electronics. For best performance charge the battery fully before initial use or reusing it after being stored for a long period. Charge the battery at least every six months to avoid deep discharge, which could damage the battery. In order to ensure air transport safety, the Bolero Battery Pack is tested according to UN 38.3 – Transport of dangerous goods.

### Warning



There is a risk of fire and burns if the battery pack is handled improperly.

- **Do not short-circuit.**
- **Do not dismantle, open, crush, heat above 60°C (140°F) or incinerate.**
- **Recycle or Dispose of properly.**
- **Charge before initial use.**
- **Use the specified Riedel Bolero Charger only or charge the battery via the Beltpack.**
- **Do not charge using any other equipment from either side.**
- **Do not connect the contacts to any other equipment.**

Further recommendations:

- Avoid storage in direct sunlight.
- Do not subject batteries to mechanical shock.
- In the event of a cell leaking, do not allow the liquid to come into contact with the skin or eyes. If contact has been made, wash the affected area with copious amounts of water and seek medical advice.
- Do not use batteries which are not designed for use with the Beltpack.
- Keep batteries out of the reach of children.
- Keep batteries clean and dry.
- Wipe the battery terminals with a clean dry cloth if they become dirty.
- Use the battery only in the application for which it was intended.
- When possible, remove the battery from the Beltpack when not in use.

**Environment**

- Never place the devices in an area of high dust particles or humidity.
- Never expose the device to any liquids.
- If the devices have been exposed to a cold environment and transferred to a warm environment, condensation may form inside the housing. Wait at least 2 hours before applying any power to the devices.

**Disposal**

Disposal of old Electrical & Electric Equipment (Applicable throughout the European Union and other European countries with separate collection programs)



This symbol, found on your product or on its packaging, indicates that this product should not be treated as household waste when you wish to dispose of it. Instead, it should be handed over to an applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences to the environment and human health, which could otherwise be caused by inappropriate disposal of this product. The recycling of materials will help to conserve natural resources. For more detailed information about the recycling of this product please contact your local city office.

## 1.2 Change History

**New in 3.1** This user manual contains following changes:

### ► 2.4 GHz Beltpacks and Antennas

The Bolero product portfolio has been expanded by a 2.4GHz type Antenna and 2.4GHz-Beltpacks that operate exclusively in the 2.4 GHz range.

Each 2.4GHz-Antenna supports up to eight 2.4GHz-Beltpacks. The different Antenna types (2.4GHz and DECT) can be added to the same Network Space. 2.4GHz-Antennas can be configured and used in the same way as DECT-Antennas. The different Antennas can even be used in the same Standalone/Link ring topology. The 2.4GHz-Antennas have the same (remote) power capabilities as the DECT-Antennas.

The Beltpacks also work the same, but 2.4GHz-Beltpacks will only connect to 2.4GHz-Antennas and DECT-Beltpacks will only connect to DECT-Antennas. Talking from a 2.4GHz-Beltpack to a DECT-Beltpack or vice versa works as long as they are both in the same Network Space or connected to the same Artist net. All Beltpack types can use the same Charger (even at the same time) for charging and updating.

All types of Beltpacks can be registered via NFC on all types of Antennas, i.e. registering a 2.4GHz-Beltpack on a DECT-Antenna or a DECT-Beltpack on a 2.4GHz-Antenna is possible. Of course OTA (over-the-air) registration works only for Beltpacks and Antennas of the same type (both 2.4GHz or both DECT).

⇒ ['Bolero Beltpack'](#)

⇒ ['Bolero Antenna'](#)

- **Retransmit**

Defines the maximum number of repetitions (only for Bolero-2.4GHz) when the signal is disturbed.

⇒ ['Features in Detail > Web Interface > Antennas > Action Button \(Antennas\) > General Settings: Edit Network Space'](#)

- **Frequency Hopping Mode**

The frequency hopping mode of several Bolero systems in the same radio range and the same PTP Grand Master must be different to avoid interference between the systems.

The setting is normally done automatically.

⇒ ['Features in Detail > Web Interface > Antennas > Action Button \(Antennas\) > General Settings: Edit Network Space'](#)

- **Bluetooth**

Bluetooth is not supported for 2.4GHz-Beltpacks.

⇒ ['Features in Detail > Web Interface > Beltpacks > Edit \(Beltpacks\)'](#)

⇒ ['Bolero Beltpack > Main Menu'](#)

⇒ ['Bolero Beltpack > Main Menu > Bluetooth'](#)

⇒ ['Bolero Beltpack > Features in Detail > Bluetooth'](#)

⇒ ['Bolero Beltpack > Technical Specifications'](#)

- **Walk Test**

For 2.4GHz-Beltpacks, the Walk Test displays the interference level of all carrier frequencies in green, yellow, orange and red. In addition, the currently used carrier frequencies are displayed with a stripe. Furthermore, the radio and audio error rate for the receive and transmit direction, as well as the number of retransmitted packets are displayed.

⇒ ['Bolero Beltpack > Main Menu > Service'](#)

⇒ ['Bolero Beltpack > Features in Detail > Walk Test'](#)

### ► Override & Net Override

Force Beltpack settings while the Beltpack is connected to a specific Antenna or to the Network Space.

⇒ ['Features in Detail > Web Interface > Antennas > Action Button \(Antennas\) > Edit Network Space > Net Override'](#)

⇒ ['Features in Detail > Web Interface > Antennas > Edit \(Antennas\) > Override'](#)

### ► Noise Gate

The audio is only forwarded to the system when the VOX is active.

⇒ ['Features in Detail > Web Interface > Beltpacks > Edit \(Beltpacks\): Microphone VOX'](#)

⇒ ['Features in Detail > Web Interface > Audio Channels > Edit \(Audio channels\): VOX'](#)

#### ► **Reply Feature**

The Reply functionality can be adjusted for Beltpacks and Partylines in the System Modes 'Standalone/AES67' and 'Standalone/Link'.

- The Reply function can be deactivated for Partylines.  
⇒ ['Features in Detail > Web Interface > Partylines > Edit \(Partylines\)'](#)
- The Reply key can be used to reply only to the Beltpack that last spoke into the Partyline, instead of speaking into the entire Partyline.  
⇒ ['Features in Detail > Web Interface > Beltpacks > Edit \(Beltpacks\)'](#)

#### ► **Change Beltpack Name via Profile**

In profile editing, it is now possible to set the names of all Beltpacks of a profile at the same time. Additionally, an incremental ID can be added for Beltpacks that are linked to the profile.

⇒ ['Features in Detail > Web Interface > Profiles > Edit \(Profiles\)'](#)

#### ► **Beltpack Language: Chinese**

A Chinese translation of all Beltpack menus is now available and can be activated using the Language setting in the Web Interface or on the Beltpack.

- ⇒ ['Features in Detail > Web Interface > Beltpacks > Edit \(Beltpacks\)'](#)
- ⇒ ['Bolero Beltpack > Main Menu > General Settings > Language'](#)

#### ► **Control Multicast IP**

Bolero uses an IP multicast group to exchange control data between Antennas in a Network Space. This multicast group can now be changed for each Antenna.

Please note: All Antennas in the Network Space must use the same Control Multicast IP address, otherwise the Antennas cannot communicate properly and will not be displayed in the Antenna list.

Note: Under normal circumstances it is not necessary to change this setting.

⇒ ['Features in Detail > Web Interface > Antennas > Edit \(Antennas\)'](#)

#### ► **New Feature: Master Priority "None"**

A new master priority setting "None (X)" has been added to the Antenna Settings view.

This setting can be used to prevent certain Antennas from becoming the radio master even if the real master Antenna is down or currently unreachable. In particular, this prevents Antennas with insecure Ethernet connections (e.g. via media converters) from establishing their own "one-Antenna network space", i.e. from taking over the role of radio master, just because they cannot communicate with the real radio master at the moment.

⇒ ['Features in Detail > Web Interface > Antennas > Edit \(Antennas\) > General'](#)

## ► Web Interface Improvements

### • Copy Configuration to Profile

With this function the current Beltpack configuration can be saved as a profile.

An already existing profile can be overwritten, but also a new profile can be created.

⇒ ['Features in Detail > Web Interface > Beltpacks > Action-Button \(Beltpacks\)'](#)

### • Device Description

You can add a description to an Antenna or IO device.

⇒ ['Features in Detail > Web Interface > Antennas > Edit \(Antennas\)'](#)

⇒ ['Features in Detail > Web Interface > Antennas > Info \(Antennas\)'](#)

⇒ ['Features in Detail > Web Interface > IO Devices > Edit \(IO-Devices\)'](#)

⇒ ['Features in Detail > Web Interface > IO Devices > Info \(IO-Devices\)'](#)

### • Highlighting configuration changes

Changed settings are now highlighted in all configuration views.

### • Antenna information view

A reduced view of Antenna information is now displayed for unassigned Antennas.

### • Advanced Radio Monitoring

The measurement data can now also be retrieved via the Action Button of the Antenna or Beltpack.

This shows the measured data directly in the browser (or in a separate browser window) and not in the popup window. This allows system changes to be made at the same time as viewing the measurement results.

• Action Button (Antennas): Open Radio Scanner

⇒ ['Features in Detail > Web Interface > Antennas > Action Button \(Antennas\)'](#)

⇒ ['Features in Detail > Advanced Radio Monitoring > Antenna Radio Scanner'](#)

• Action Button (Beltpacks): Open Beltpack Monitor

⇒ ['Features in Detail > Web Interface > Beltpacks > Action Button \(Beltpacks\)'](#)

⇒ ['Features in Detail > Advanced Radio Monitoring > Beltpack Radio Monitoring'](#)

## ► PTP Grandmaster Selection

New chapter with a description of the PTP grandmaster selection used by Bolero.

⇒ ['Features in Detail > PTP Grandmaster Selection'](#)

## ► Status Indication

### • Bolero S-Beltpack

Status display of a firmware update via the key LEDs 1+2.

⇒ ['Bolero S-Beltpack > Firmware Update'](#)

⇒ ['Bolero Charger > Firmware Update'](#)

### • Bolero Charger

Status display of the battery life.

⇒ ['Bolero Charger > Status LEDs'](#)

## 1.3 Package Version

This manual refers to Package version **3.1.x** of the Bolero system.

The "x" indicates the bugfix version which is described in the related release notes.

In order to make an update of the Bolero system comfortable, all required firmwares of the different Bolero devices are combined in one file called 'Package'. Thus only one package file must be used for an update.

### Checking the Package Version

The package version can be checked in the Beltpacks, Antennas and in the web interface:

#### Beltpack

- Press and hold the Menu key (>3s).
- Navigate with a rotary encoder and the key-4 to the menu: **Service > Information > Beltpack**.

The upper line shows the Beltpack's **Package Version**.



figure 1: package version (Beltpack)

#### Antenna

- Push any key to open the menu.
- Navigate with the cursor keys to the menu: **Information > System Info**.

The fourth line shows the Antenna's **Package version**.

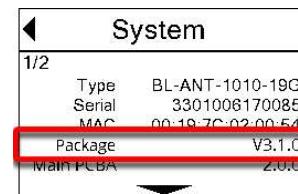


figure 2: package version (Antenna)

#### Web Interface

- Enter the IP address of a Bolero Antenna into a web browser.
- Click on the right side on the settings symbol.
- Choose **Firmware Manager** in the opened dialog.
- Enter the 'Admin PIN' of the Net.

The right column shows the **Firmware Package** shows of all Bolero Antennas within this Net.

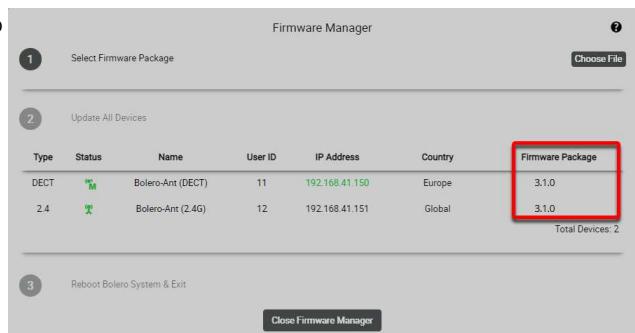


figure 3: package version (web interface)

## 1.4 About Bolero

### Bolero Wireless Intercom

The Riedel Bolero Wireless Intercom system is a digital, easy to use full-duplex communications solution for broadcast, security, industrial and theater applications as well as for sports and cultural events. It is an all-new wireless intercom system capable of supporting up to 10 Beltpacks per Antenna and up to 100 Antennas in a single deployment. Bolero redefines the wireless intercom category with features such as ADR (Advanced DECT Receiver) with multiple-diversity and RF anti-reflection technology for greater RF robustness.

Bolero DECT devices utilize the benefits of the Digital Enhanced Cordless Telecommunications (DECT) standard's base layer. Bolero 2.4GHz devices operate in 2.4 GHz range. This provides a license-free, cellular architecture with seamless hand-over between cells, allowing each Bolero Wireless Beltpack to continuously monitor and automatically select the best connection to the Antenna.

Bolero is fully integrated in Riedel's Artist Matrix. Features like "Touch&Go" Beltpack registration, versatile operation as a wireless Beltpack, a wireless keypanel, and – in an industry first – a walkie-talkie pushing it beyond the limits of existing wireless intercom solutions.

Bolero **Integrated** leverages the powerful Artist ecosystem, including SmartPanels and extensive I/O connectivity, and runs over a standards-based SMPTE 2110-30 (AES67) IP network. Decentralized Bolero Antennas connect to AES67-capable switches and to Artist frames equipped with AES67 client cards, providing a fully integrated point-to-point seamless handover intercom ecosystem. With each decentralized Antenna and Beltpack added, coverage and network robustness are increased. Up to 250 Beltpacks per Bolero Net are supported.

Bolero **Standalone Link** provides plug & play simplicity that is ideal for smaller installations, portable deployments, or cases where IP networks are not required. Up to 100 Antennas and 100 Beltpacks can be quickly and easily set up and configured via a web browser, without the need for an Artist Intercom matrix since audio mixing and all control functions are handled by the Antennas. Antennas may be positioned in a redundant ring or daisy chain topology or deployed individually using CAT5 cabling. With the optional EPS-1005 power supply, up to five Antennas can be powered and adding multiple PSUs creates a redundant power ring. Finally, an NSA-002A stream adapter is used to interface Bolero with other intercom systems via analog 4-wire and provide GPIOs for convenient external device handling.

Similarly, Bolero **Standalone AES67 (2110)** lets users establish IP-based Bolero networks without the need for an Artist matrix. The Antennas are distributed over a SMPTE 2110-30 (AES67) IP network and connected via AES67 PoE switches. As in Standalone Link deployments, audio mixing and control functions are handled by the Antennas and 100 Beltpacks can be accommodated per Bolero Net and configured via a web browser. An optional NSA-002A provides analogue interfacing and GPIOs and fiber-connected switches or switch cascades can be used to cover long distances.

The Bolero high-clarity voice codec provides both higher speech intelligibility and more efficient use of RF spectrum supporting a higher number of Beltpacks per Antenna in the same audio bandwidth.

The Riedel-exclusive ADR technology, combines a unique receiver design with multiple diversity elements specifically designed to reduce sensitivity to multipath RF reflections, making Bolero useable in challenging RF environments where other systems have great difficulty.

The Beltpack itself features 6 buttons for 6 intercom channels or point to point communications, plus a separate "Reply" button that easily facilitates a reply to the last person that called. Bolero's sunlight readable and dimmable display can be inverted so that it is readable in any orientation. The Beltpack can be used without a headset like a walkie-talkie radio utilizing an integrated mic and speaker.

Bolero DECT Beltpacks support Bluetooth 4.1, allowing either a Bluetooth headset or a Smartphone to be connected. When a Smartphone is connected, the Beltpack can act like a car's "hands free" setup so the user can receive calls on their phone and talk and listen via their Beltpack headset. User can also inject phone calls directly into the intercom channels, providing new levels of workflow flexibility.

Based on Riedel's extensive rental experience, the Beltpack uses a combination of premium materials, including high-impact plastics and rubber overmolds making it both tough and comfortable to use in any situation.

Light and powerful high-performance lithium rechargeable battery packs are used for the Beltpack. Battery packs are able to charge inside the Beltpack as well as separately in the 5-bay Charger.

### What is Bolero?

- A next generation high-performance digital wireless intercom system
- License-free, cellular architecture with seamless hand-over
- Riedel exclusive advanced next generation receiver with multiple-diversity and RF anti-reflection technology for greater RF robustness
- Efficient use of RF spectrum for a hassle-free operation even with high channel count

### Riedel Bolero – Key Features

- 10 Beltpacks per DECT-Antenna
- 8 Beltpacks per 2.4GHz-Antenna
- 100 Antennas per system
- Cellular architecture with seamless hand-over
- License free
- No registration headaches! Touch the Beltpack to the Antenna and GO!
- Riedel-exclusive ADR receiver technology
- Up to six full-duplex keys plus convenient REPLY button
- Modern, high-clarity voice codec
- Integrated mic and speaker for headset-free operation
- Can be used as a Beltpack, a portable desktop keypanel, or Walkie-Talkie
- Tough & ergonomic – Beltpack built to survive
- Bluetooth 4.1 (only DECT-Beltpacks)
- Weatherproof
- Bottle opener – just in case

### Integrated/Artist

- Seamless comms environments with the full power of Artist, including SmartPanels and extensive I/O connectivity
- Multiple fiber-connected switch cascades for long distances
- Antenna distribution via standards-based, decentralized, SMPTE 2110-30 (AES67) IP network
- Extensive connectivity options including SMPTE 2110-30/31 (AES67), AES3, MADI, Dante and analogue 4-wires
- Configuration via Director, Artist's powerful configuration tool
- 500 conferences and unlimited point-to-point connections
- 250 Beltpacks, 100 Antennas

### Standalone/AES67 (2110)

- Antenna distribution via standards-based, decentralized, SMPTE 2110-30 (AES67) IP network
- Multiple fiber-connected switch cascades for long distances
- Analogue 4-wires and GPIOs via optional NSA-002A throwdown box
- Integrated web browser for configuration (Artist is not required)
- Up to 32 Partylines and unlimited point-to-point connections
- 100 Beltpacks, 100 Antennas

### Standalone/Link

- Daisy chain or redundant ring Antenna network
- Plug&Play simplicity
- EPS-1005 PSU powers up to five Antennas
- Up to 300m CAT5 cable between Antennas
- Analogue 4-wires and GPIOs via optional NSA-002A throwdown box
- Integrated web browser for configuration (Artist is not required)
- Up to 32 Partylines and unlimited point-to-point connections
- 100 Beltpacks, 100 Antennas

## 2 Features in Detail

### 2.1 System Modes

The Bolero system features three modes of operation: [Standalone/AES67 \(2110\)](#), [Standalone/Link](#) and [Integrated/Artist](#).

#### 2.1.1 Standalone/AES67 (2110)

In this mode antennas are connected via an standards-based IP network. This mode enables communication between Bolero Beltpacks or communication via user defined Partylines (⇒'Partylines') in the Bolero system itself. An Artist system is not required in this mode but one Antenna requires a valid 'Standalone' license to operate in this mode (⇒'License Manager' and 'License Installation').

In this operating mode, the antennas are connected via the **AES67/Config** connector to the AES67 infrastructure. Power can be supplied either by individual power supplies or by a 'PoE+' switch. The simultaneous connection of both variants ensures redundant power supply.

A description of how to set up a Bolero system in **Standalone/AES67** mode can be found in the following chapter: '[Standalone/AES67 Setup](#)'.

Furthermore, IO Devices (NSA-002A) can be integrated in the Bolero system. You can find a description of this in the chapter: '[NSA-002A Integration](#)'.

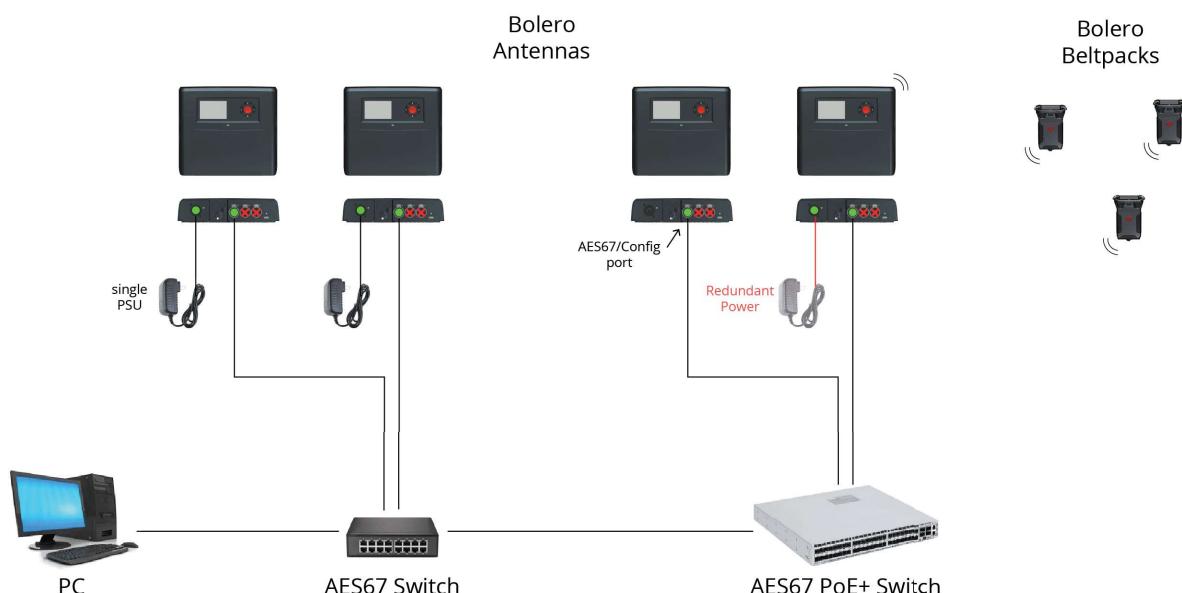


Figure 4: **Standalone/AES67 (2110)**

## 2.1.2 Standalone/Link

In this mode Antennas are connected via a simple plug & play, non-IP CAT5 connection. This mode enables communication between Bolero Beltpacks or communication via user defined Partylines (⇒ ['Partylines'](#)) in the Bolero system itself. An Artist system is not required in this mode but one Antenna requires a valid 'Standalone' license to operate in this mode (⇒ ['License Manager'](#) and ['License Installation'](#)).

In this operating mode, the Antennas are connected via the **LINK** connectors of the Antennas. The **LINK-1** connector is always connected to the **LINK-2** connector of the next Antenna (daisy chain).

In addition, a redundant system can be set up by connecting the **LINK-1** connector of the last Antenna to the **LINK-2** connector of the first Antenna (redundant ring).

CAT cables with a maximum length of 300 meters are supported.

The **AES67/Config** port is primarily used as config port, i.e. to provide a connection to the web interface.

With an External Power Supply (EPS-1005), you can power up to 2 Antennas over Link 1 and 2 Antennas over Link 2 (i.e. 5 Antennas in total).

It is not possible to use routers, switches or other standard IP devices.

A description of how to set up a Bolero system in **Standalone/Link** mode can be found in the following chapter: ['Standalone/Link Setup'](#).

Furthermore, IO Devices (NSA-002A) can be integrated in the Bolero system. You can find a description of this in the chapter: ['NSA-002A Integration'](#).

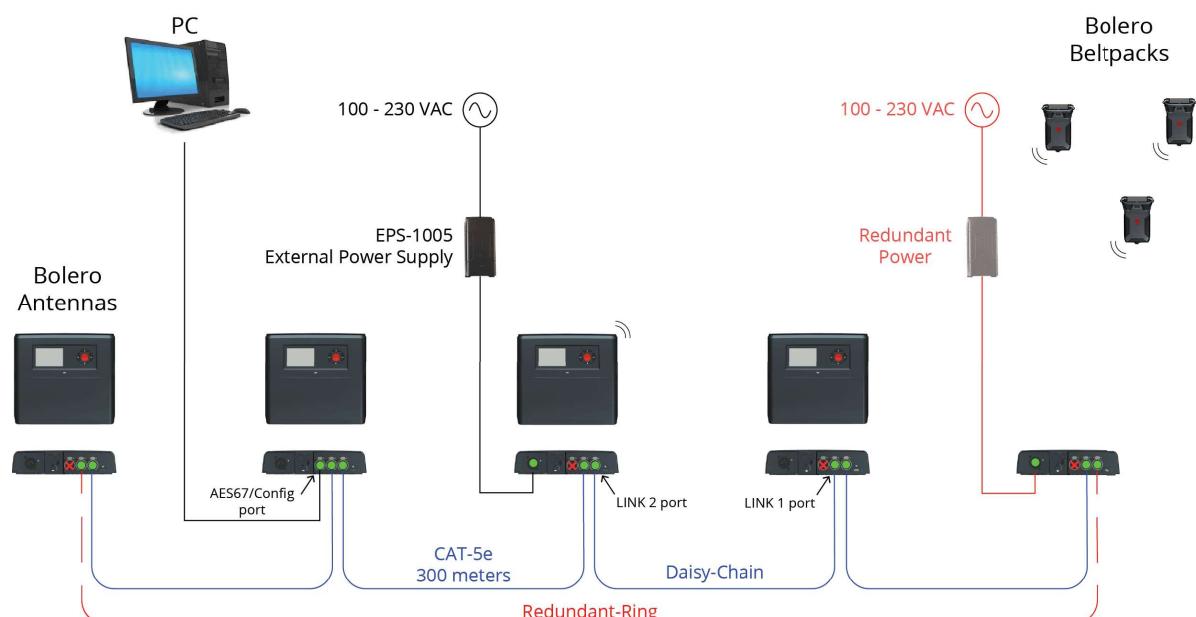


Figure 5: Standalone/Link

### 2.1.3 Integrated/Artist

In this mode antennas and Artist matrix are connected via a standards-based IP network. The Bolero system is integrated in the Artist system. This enables the communication between Bolero Beltpacks and panels/ports in the Artist system. In this mode the Artist system is mandatory.

The **AES67/Config** port is connected to the IP net which also hosts the Artist-AES67 card. The other two **LINK** ports are not used. If they are connected anyway, an error will be issued and radio transmission will be disabled.

Power can be supplied either by individual power supplies or by a 'PoE+' switch. The simultaneous connection of both variants ensures redundant power supply.

A description of steps required to integrate a Bolero-System with an Artist-System can be found in chapter: ['Integrated/Artist Setup'](#).

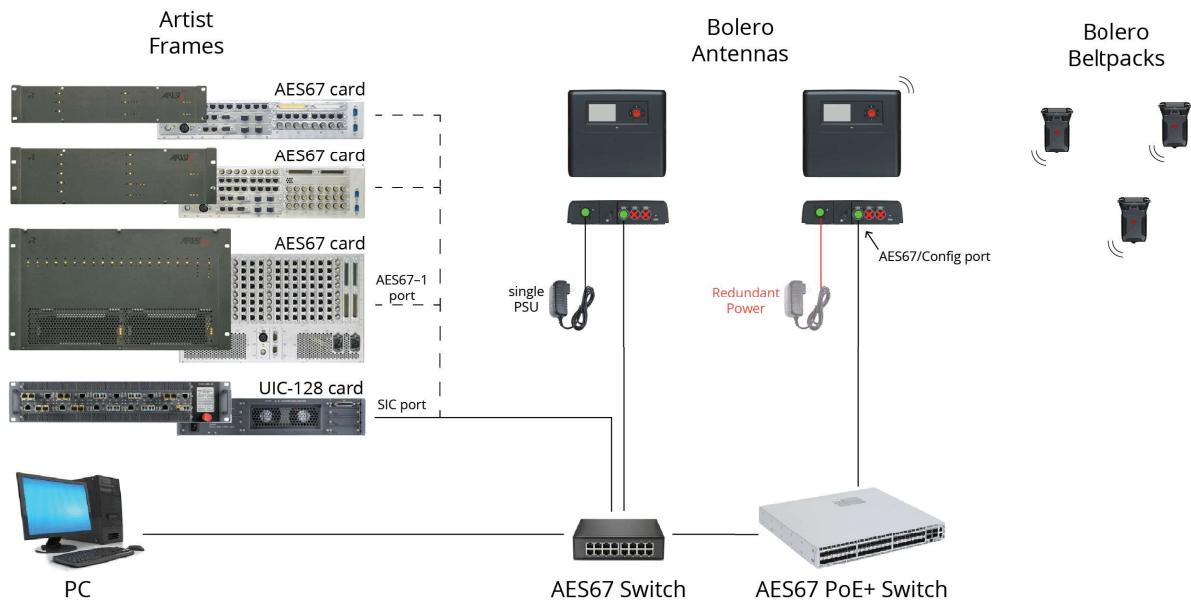


Figure 6: Integrated/Artist

## 2.2 System Setup

The following chapters describes step-by-step the general setup of the three system modes [Standalone/AES67 \(2110\)](#), [Standalone/Link](#) and [Integrated/Artist](#).

### 2.2.1 Standalone/AES67 Setup

This chapter describes the required steps to operate a Bolero-System in the **Standalone/AES67** mode. An Artist system is not required in this mode but one Antenna requires a valid 'Standalone' license to operate in this mode (⇒ ['License Manager'](#) and ['License Installation'](#)).

The following devices are required:

- ✓ Bolero Antenna (with standalone license)
- ✓ Bolero Beltpacks
- ✓ Gbps Network Switch (optionally with PoE+ functionality)
- ✓ PC

- Connect the PC to the network switch.
- Connect the Antenna's '**AES67/Config**' port to the network switch.  
If a PoE+ switch is used, the Antenna is also supplied with power.
- Alternatively (or for additional redundancy), attach a separate DC power supply to the Antenna's power connector. Riedel recommends using the Bolero-Power-Supply 'BL-EPS-1001-00'.

- Determine the IP address of an antenna with standalone license.

The IP address of the Antenna is shown in the bottom right of the display (e.g. 192.168.41.150). The e-ink display shows the current IP also when the Antenna is not powered.



Figure 7: Antenna Display

Open the web interface of the Antenna to access the configuration:

- Enter the IP address of the Bolero Antenna in the web browser (e.g. 192.168.41.150).

The PC must have an IP address within the same subnet.



Figure 8: Web interface of the Antenna

- Select the unassigned Antenna(s) by left clicking.

Selected elements will be highlighted.

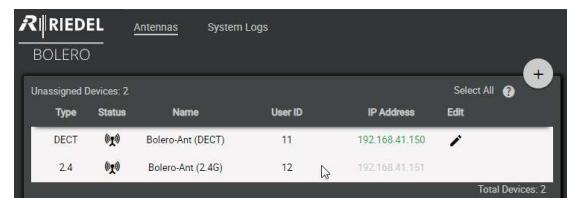


Figure 9: Selected Antennas

- Click on the plus symbol and select the entry **Create Network Space**.

A dialog is opened.



Figure 10: Create Network Space

- Enter a name for the Bolero net in the field **Name** (e.g. Bolero-Net).
- Select the system mode **Standalone/Link**.
- Define an **Admin PIN** (4 digits, 0-9).
- Apply** the entries.

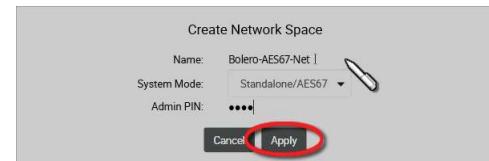


Figure 11: Dialog – Create Network Space

This example shows the new created Network Space called **Bolero-Net**. In this example, the net consists of two Antennas.

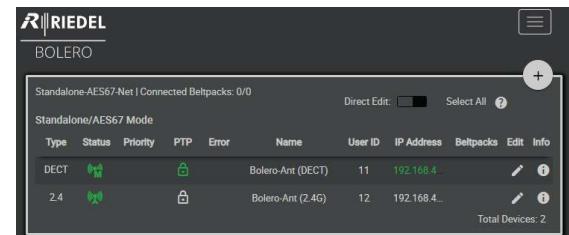


Figure 12: Assigned Antenna

- Click on the plus symbol and select the entry **Registration Mode**.

A dialog is opened to enter the registration options.

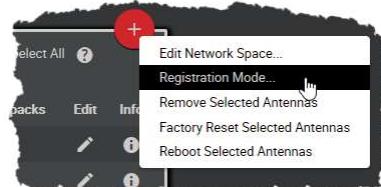


Figure 13: Registration Mode

- Enable the **OTA** and/or **NFC** registration method.
- Apply** the changes.

Beltpacks require a PIN for the OTA registration. By default the **Admin PIN** is used. If the function 'Use Admin PIN for OTA Registration' is *disabled*, a different OTA Registration PIN can be defined for the OTA registration.

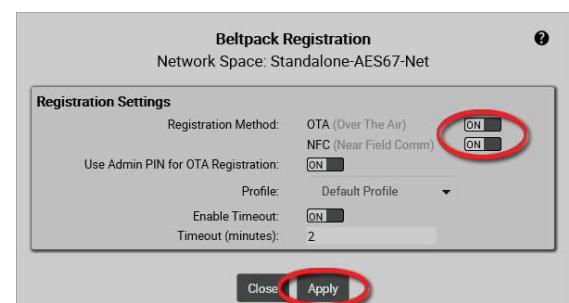


Figure 14: Dialog – Beltpack Registration

Beltpacks are able to register to this net as long as the registration mode is active (⇒ ['Bolero Beltpack > Features in Detail > Add Beltpacks'](#))

**Registration Active (OTA|NFC)**

Figure 15: Beltpack Registration active

Registered Beltpacks are listed on the page **Beltpacks**.

- Enable the **Direct Edit** switch.
- Click on the Beltpacks' ID and enter a unique Beltpack ID (0-999).



Figure 16: Registered Beltpacks

- Click the  button to configure the individual key functions of the respective Beltpack.

 Use the **Profiles** page to configure all Beltpacks assigned to the profile in one step.  
(⇒[Profiles \(User Rights\)](#))

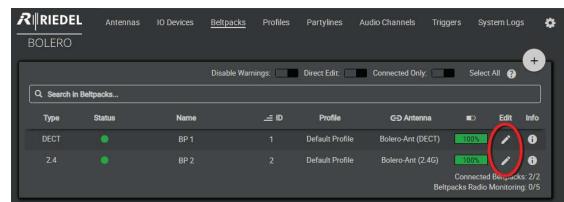


Figure 17: Registered Beltpacks

In the **Keys** section the keys of the Beltpack can be configured and functions can be assigned.

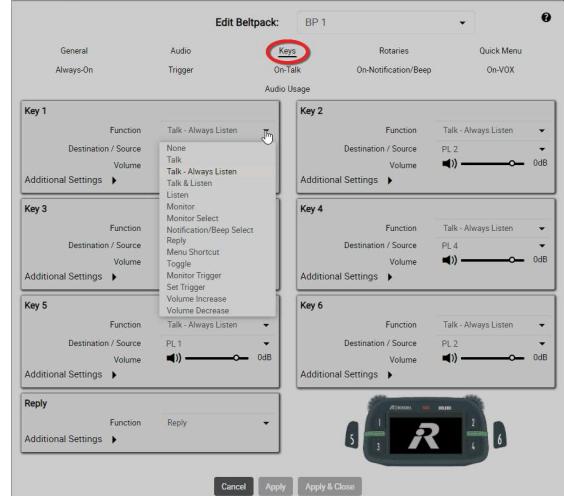


Figure 18: edit Beltpacks – Keys

After configuration, Beltpacks can communicate with each other.

## 2.2.2 Standalone/Link Setup

This chapter describes the required steps to operate a Bolero-System in the **Standalone/Link** mode. An Artist system is not required in this mode but one Antenna requires a valid 'Standalone' license to operate in this mode (⇒ ["License Manager"](#) and ["License Installation"](#)).

The following devices are required:

- ✓ Bolero Antenna (with standalone license)
- ✓ Bolero Beltpack
- ✓ PC

- If you are using more than one Antenna, connect the **LINK-1** connector of one antenna to the **LINK-2** connector of the next Antenna (daisy chain).
- To achieve redundancy, connect the **LINK-1** connector of the last Antenna to the **LINK-2** connector of the first Antenna (redundant ring).
- Power the Antenna(s) via the separate Bolero-Power-Supply 'BL-EPS-1005-00' or 'BL-EPS-1001-00'.
- Connect the Antenna's 'AES67/Config' port to the PC.

The IP address of the Antenna is shown in the bottom right of the display (e.g. 192.168.41.150). The e-ink display shows the current IP also when the Antenna is not powered.



Figure 19: Antenna Display

Open the web interface of the Antenna to access the configuration:

- Enter the IP address of a Bolero Antenna in the web browser (e.g. 192.168.41.150).

The PC must have an IP address within the same subnet.



Figure 20: Web interface of the Antenna

- Select the unassigned Antenna(s) by left clicking.

Selected elements will be highlighted.

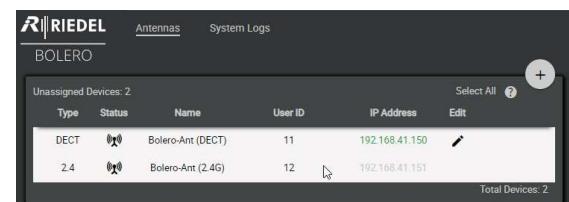


Figure 21: Selected Antennas

- Click on the plus symbol and select the entry **Create Network Space with Selected Antennas**.

A dialog is opened.

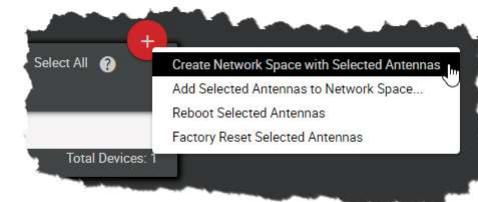


Figure 22: Create Network Space

- Enter a name for the Bolero net in the field **Name** (e.g. Bolero-Net).
- Select the system mode **Standalone/Link**.
- Define an **Admin PIN** (4 digits, 0-9).
- Apply** the entries.

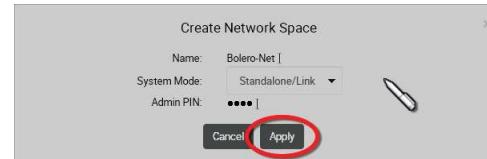


Figure 23: Dialog – Create Network Space

This example shows the new created Network Space called **Bolero-Net**. In this example, the net consists of two Antennas.

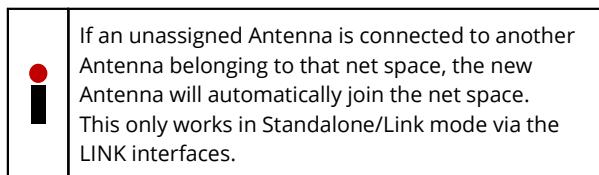


Figure 24: Assigned Antenna

- Click on the plus symbol and select the entry **Registration Mode**.

A dialog is opened to enter the registration options.

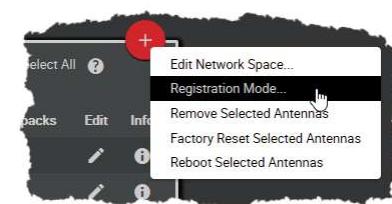


Figure 25: Registration Mode

- Enable the **OTA** and/or **NFC** registration method.
- Apply** the changes.

Beltpacks require a PIN for the OTA registration. By default the **Admin PIN** is used. If the function '**Use Admin PIN for OTA Registration**' is *disabled*, a different **OTA Registration PIN** can be defined for the OTA registration.

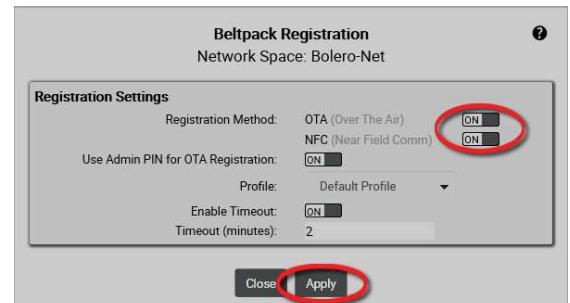


Figure 26: Dialog – Beltpack Registration

Beltpacks are able to register to this net as long as the registration mode is active (⇒ '[Bolero Beltpack > Features in Detail > Add Beltpacks](#)')

**Registration Active (OTA|NFC)**

Figure 27: Beltpack Registration active

Registered Beltpacks are listed on the page **Beltpacks**.

- Enable the **Direct Edit** switch.
- Click on the Beltpacks' ID and enter a unique Beltpack ID (0-999).

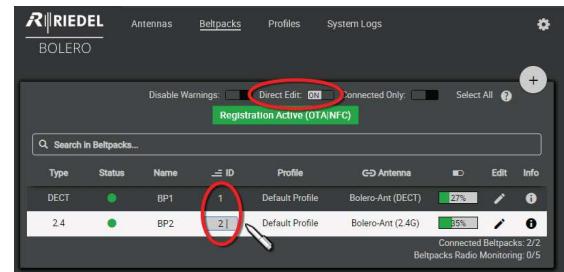


Figure 28: Registered Beltpacks

The page **Beltpacks** allows programming the Beltpacks key functions individually.

- Click the  button to configure the individual key functions of the respective Beltpack.

 Use the **Profiles** page to configure all Beltpacks assigned to the profile in one step.  
(⇒ [Profiles \(User Rights\)](#))

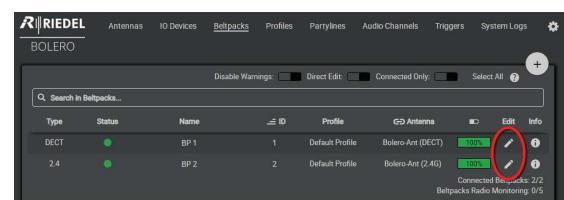


Figure 29: Registered Beltpacks

In the **Keys** section the keys of the Beltpack can be configured and functions can be assigned.

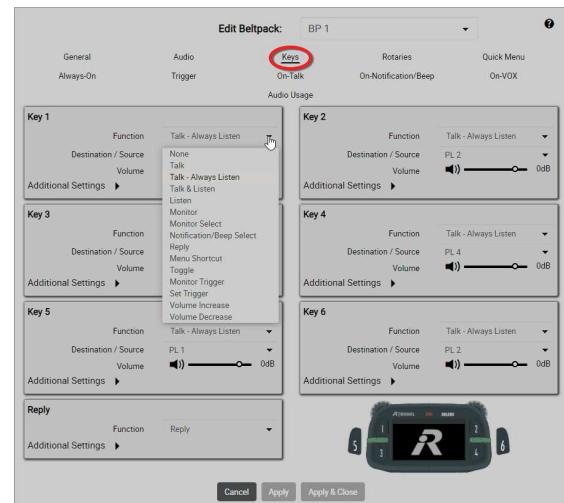


Figure 30: edit Beltpacks - Keys

After this configuration the Beltpacks are able to communicate to other Beltpacks as well as to the audio channels of the IO devices.

## 2.2.3 Integrated/Artist Setup

This chapter describes the required steps to operate a Bolero-System in the **Integrated/Artist** mode and connect it with an Artist-System.

The following devices are required:

- ✓ Artist-32/64/128 with AES67 client card and/or ARTIST-1024 with UIC-128 Subscriber Interface Card.
- ✓ Bolero Antenna
- ✓ Bolero Beltpack
- ✓ Gbps Network Switch (optionally with PoE+ functionality)
- ✓ PC



AES67 client cards and ARTIST-1024 SICs are not visible in the Bolero Web Interface.

- Connect the 'AES67-1' port of the AES67 client card and/or the 'UIC-128' SIC to the network switch.
- Power up the Artist frame.
- Connect the PC to the network switch.

- Connect the Antenna's 'AES67/Config' port to the network switch. If a PoE+ switch is used, the Antenna is also supplied with power.
- Alternatively, attach a separate DC power supply to the Antenna's power connector. Riedel recommends using the Bolero-Power-Supply 'BL-EPS-1001-00'.

The IP address of the Antenna is shown in the bottom right of the display (e.g. 192.168.41.150). The e-ink display shows the current IP also when the Antenna is not powered.



Figure 31: Antenna Display

- Start the Artist configuration software (**Director**) on your PC. For detailed information about Artist configuration and setup please refer to the Artist and Director manual.
- Open the AES67 properties by right clicking on the respective card and choosing "**Properties**".

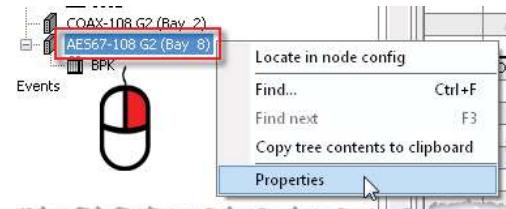


Figure 32: Open the AES67 card properties

Bolero traffic can be routed between different subnets. Hence, client cards and Antennas don't have to be in the same subnet.

- Same Subnet/VLAN (Layer2 network): If necessary, edit the IP address so that it is in the subnet of the Antenna.
- Different Subnets/VLANs (Layer3 network): Take care that the gateways of the client card and the Antenna (in the web interface of the Antenna, see chapter: ['Antennas > Edit \(Antennas\) > IP Settings'](#)) contains the respective subnet. It may be necessary to configure a bridge between the different subnets in the switches used in the setup.
- Transfer changes to the Artist frame.

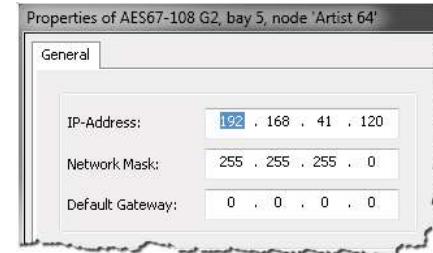


Figure 33: Properties of the AES67 card

Open the web interface of the Antenna to access the configuration:

- Enter the IP address of a Bolero Antenna in the web browser (e.g. 192.168.41.150).

The PC must have an IP address within the same subnet.



Figure 34: Web interface of the Antenna

- Select the unassigned Antenna(s) by left clicking.

Selected elements will be highlighted.

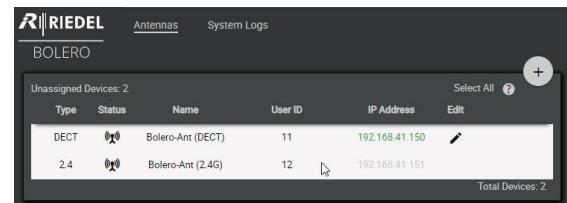


Figure 35: Selected Antennas and AES67 cards

- Click on the plus symbol and select the entry **Create Network Space**.

A dialog is opened.

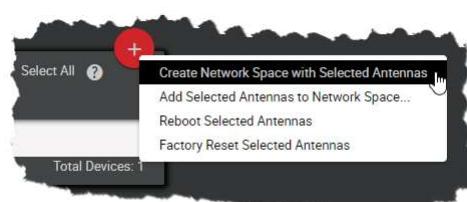


Figure 36: Create Network Space

- Enter a name for the Bolero net in the field **Name** (e.g. Bolero-Net).
- Select the system mode **Integrated/Artist**.
- Define an **Admin PIN** (4 digits, 0-9).
- Apply the entries.

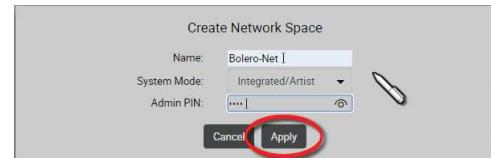


Figure 37: Dialog – Create Network Space

This example shows the new created Network Space called **Bolero-Net**. In this example, the net consists of two Antennas.

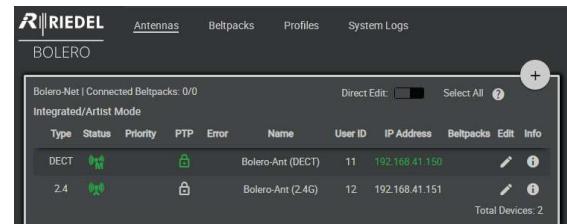


Figure 38: Assigned Antenna and AES67 card

- Click on the plus symbol and select the entry **Registration Mode**.

A dialog is opened to enter the registration options.

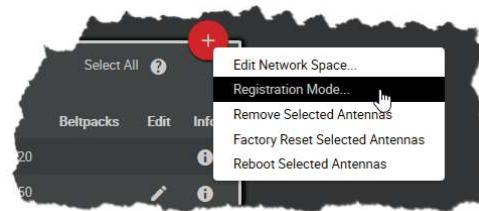


Figure 39: Registration Mode

- Enable the **OTA and/or NFC** registration method.
- Apply the changes.

Beltpacks require a PIN for the OTA registration. By default the **Admin PIN** is used. If the function '**Use Admin PIN for OTA Registration**' is *disabled*, a different **OTA Registration PIN** can be defined for the OTA registration.

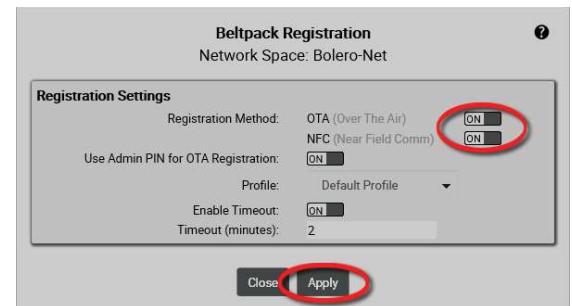


Figure 40: Dialog – Beltpack Registration

Beltpacks are able to register to this net as long as the registration mode is active (⇒ ['Bolero Beltpack > Features in Detail > Add Beltpacks'](#))

Registered Beltpacks are listed on the page **Beltpacks**.

- Enable the **Direct Edit** switch.
- Click on the Beltpacks' ID and enter a unique Beltpack ID (0-999).

Registration Active (OTA|NFC)

Figure 41: Beltpack Registration active

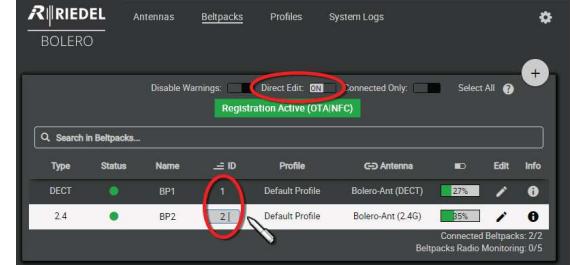


Figure 42: Registered Beltpacks

Now from the Artist configuration software (Director):

- Open the Beltpack properties by right clicking on the respective Beltpack and choosing "**Properties**".

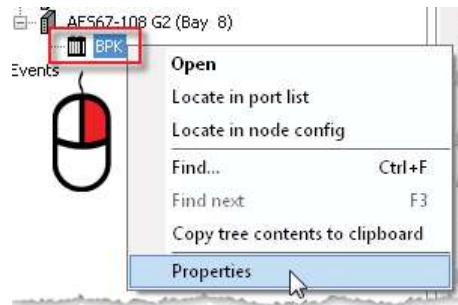


Figure 43: Open the Beltpack properties

- Select the 'Bolero' tab.
- Enter the same Bolero User ID that you entered in the Antenna's web interface.
- Edit the Multicast address.

A unique Multicast address must be used for each Beltpack in the Director config.

Riedel recommends using the start address '239.255.0.1' for the Beltpacks Multicast addresses.

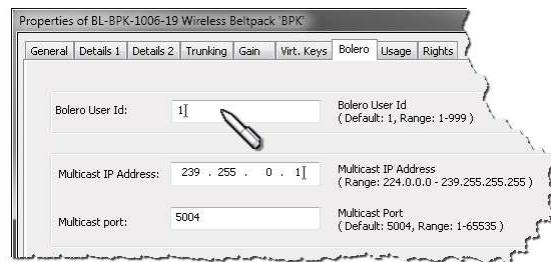


Figure 44: Properties of the Beltpack

The Beltpacks' key functions can be defined now via Director.

The Beltpacks are now able to talk to the Artist system and vice versa.

## 2.3 Web Interface

The Web Interface is opened by entering the IP address of an Antenna (e.g. 192.168.41.150).

Basic information is displayed and settings can be modified in the Web Interface.

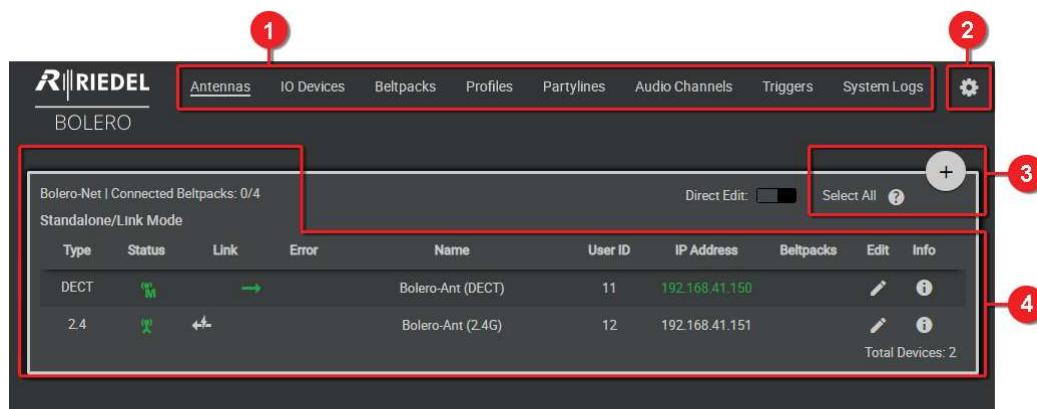
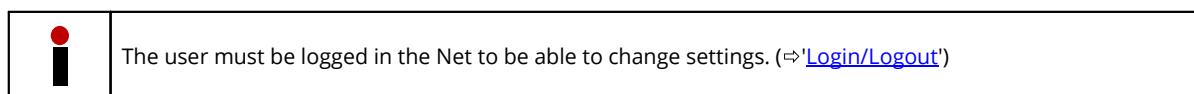


Figure 45: Antenna – Web-Interface (example: Standalone/Link mode)

The web interface is divided in following regions:

<b>1</b>	<b>Page Selection</b>
The selected page is underlined.	
	<a href="#">Antennas</a> Basic setup of the Bolero-Net and settings of Antennas.
	<a href="#">IO Devices </a> Settings of inputs and outputs of NSAs those are included in the Bolero-Net.
	<a href="#">Beltpacks</a> Settings of Beltpacks.
	<a href="#">Profiles</a> Definition and maintenance of Beltpack profiles.
	<a href="#">Partylines </a> Creation and maintenance of Partylines.
	<a href="#">Audio Channels </a> Settings of audio channels of NSAs those are included in the Bolero-Net.
	<a href="#">Triggers </a> Settings of GPIs of NSAs those are included in the Bolero-Net.
	<a href="#">System Logs</a> Listing of system errors and events.
<b>2</b>	<b>Settings</b>
The gear wheel opens the menu with the basic settings.	
<b>3</b>	<b>Basic Functions</b>
These functions are identically in all views.	
	 <b>Button</b> Selects (deselects) all devices.
	 <b>Help button</b> Opens brief description of the current user interface.
	 <b>Lock symbol *1</b> Clicking this button opens the <a href="#">Login</a> dialog.
	 <b>Action Button *2</b> Clicking the action button offers different features in the current view. The dialog can be closed by pressing the ESC key or by clicking on another region in the window.
<b>4</b>	<b>Content</b>
In this region the content of the selected page is displayed.	
<ul style="list-style-type: none"> <li>Entries in the tables can be sorted by clicking on the desired column header. The order is indicated by symbols (  ) in the respective column.</li> <li>Clicking on an entry will select/deselect the respective item. A selected entry is highlighted.</li> </ul>	

\*1 if no user is logged in

\*2 if a user is logged in

 if **System Mode** = Standalone/AES67 or Standalone/Link

### 2.3.1 Login/Logout

To be able to modify system settings, the user must be logged into the respective Net. A big plus symbol is displayed in the top right of a Net if the user is logged in. If no user is logged in, a lock symbol is displayed instead.

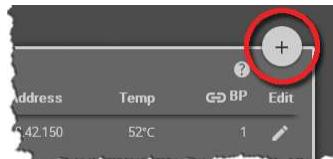


Figure 46: User logged in

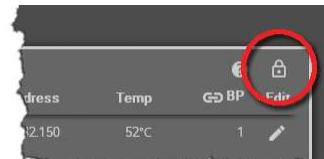


Figure 47: User logged out

#### Login

Click on the  symbol to log into the system. A dialog is opened to enter the Net's Admin-PIN.

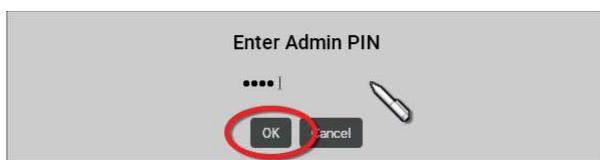


Figure 48: Dialog – Enter Admin PIN

#### Logout

Click on the  symbol to open a window on the right side. Click on **Logout** to open the dialog for confirmation. Click on **OK** to log out of the system.

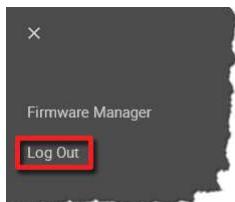


Figure 49: Logout function

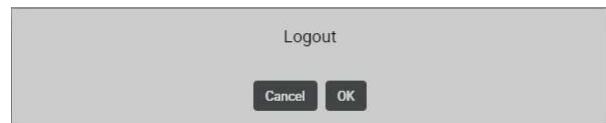


Figure 50: Logout confirmation

### 2.3.2 Antennas

The **Antennas** window displays the active Network Space and features following functions:

- Displaying a list of all (currently online) devices belonging to the same net.
- Creating Nets
- Assigning Bolero Antennas to Nets
- General settings of Nets
- Defining the registration method of Beltpacks

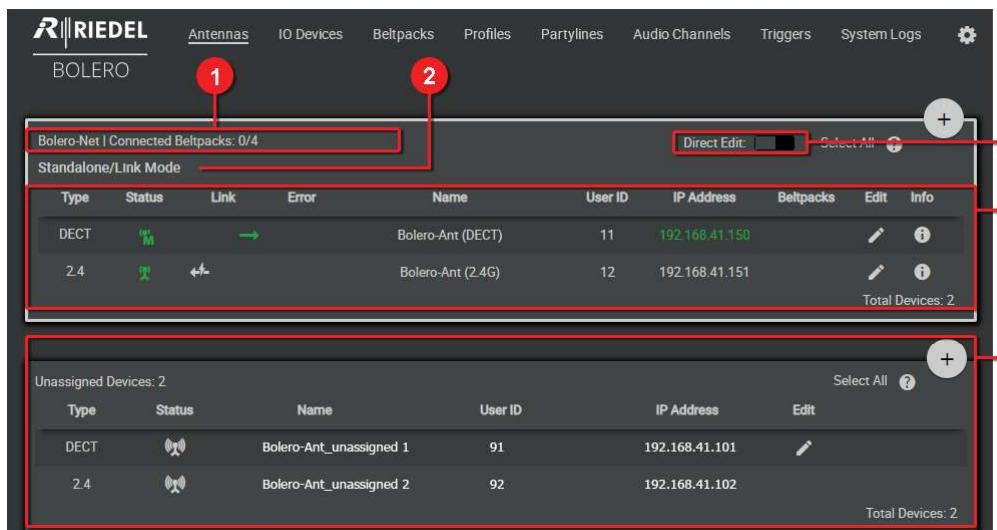


Figure 51: Web-Interface – Antennas

<b>1</b>	<ul style="list-style-type: none"> <li>• <b>Name of the Network Space</b></li> <li>• <b>Number of connected Beltpacks</b></li> <li>• <b>Number of registered Beltpacks</b></li> </ul>
<b>2</b>	<b>Operation Mode</b> Shows the operation mode of the system: <b>Standalone/AES67</b> , <b>Standalone/Link</b> or <b>Integrated/Artist</b> .
<b>3</b>	<b>Direct Edit:</b> <input checked="" type="checkbox"/> If the switch is enabled (On), the <b>Name</b> , <b>User-ID</b> and <b>IP-Address</b> of an Antenna are directly editable in the <b>Antennas</b> window by clicking on the desired entry.
<b>4</b>	<b>Network Space</b> The network space is a collection of one or more Bolero Antenna(s). These Antennas are working together to provide increased coverage or capacity for Bolero Beltpacks. An active network space is the network space to which the web browser is actually connected to. You are able to monitor and configure all devices within this Bolero network space. The IP address in the URL bar of the web browser always belongs to one of the Bolero Antennas in this Network Space, which can be identified by the green IP address. If an Artist matrix intercom is integrated into this Network Space, corresponding AES67 client cards are not visible in the <b>Antennas</b> window.
<b>Type</b>	Displays the Antenna type (frequency range in which the Antenna operates):
	2.4GHz-Antenna (2.403 ... 2.479 GHz) <b>2.4</b>
	DECT Antenna (1.880 ... 1.930 GHz) <b>DECT</b>
<b>Status</b>	Indicates the state of the radio: The radio is switched off.  The radio is switched on.  Character 'M' next to the Antenna icon indicates that the device is radio master.  Indicates the Antenna's local <a href="#">RF Strength Level</a> : (Normal, Low, Ultralow)  The Antenna is operating as radio scanner. 

<b>4</b>	<b>Link</b>	Indicates a connection to a neighboring Antenna connected via Link 1 (left arrow) or Link 2 (right arrow).  A remote net is connected and waiting to be merged (by clicking the arrow).  The power-icon indicates that the link is providing remote power for other devices.	      <b>- 1 2 3</b>
	<b>PTP *1</b>	The Antenna receives a valid PTP and is synchronized.  The antenna is sync master.  The antenna receives an invalid PTP and is not synchronized.	  
	<b>Error</b>	Shows device problems.	
	<b>Name</b>	Shows the name of the device.	
	<b>User ID</b>	Shows the unique ID of the device.	
	<b>IP Address</b>	Shows the IP address of the Antenna. A green address indicates the device through which the web interface is accessed.	
	<b>Beltpacks</b>	Shows the amount of Beltpacks that are currently connected at the Antenna.	
	<b>Edit</b>	Button to edit the Antenna settings.	
	<b>Info</b>	Opens a brief information of the respective device.	
	<b>Total Devices</b>	Shows the number of total devices within the Net.	
<b>5</b>	<b>Unassigned Devices</b>	Unassigned Antennas/AES67 client cards are Bolero devices that are currently not part of any network space. The list can include both Bolero Antennas and Artist Matrix AES67 cards. Devices in this list can be used to create a new network space or can be added to an existing one.	

\*1 not in 'Standalone/Link' mode

### 2.3.2.1 Action Button (Antennas)

Clicking the  action button offers different functions depending on the device's assignment state.  
The dialog can be closed by pressing the ESC key.

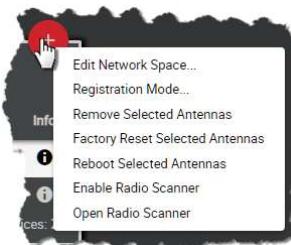


Figure 52: Action Button (Antennas, assigned devices)

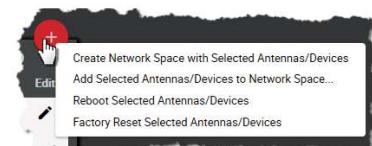


Figure 53: Action Button (Antennas, unassigned devices)

#### Create Network Space with Selected Antennas/Devices

Function in the section **Unassigned Devices** to create a new Network Space with the previous selected devices.

<b>Name</b>	Name of the Bolero Net (Network-Space).
<b>System Mode</b>	Defines at Antennas if the Net is operated standalone (Standalone/AES67 or Standalone/Link) or if the Net is connected to an Artist system (Integrated/Artist). The standalone mode requires a licensed Antenna. (⇒'License Manager')
<b>Admin PIN</b>	Defines the admin PIN that is required to log into the Network Space. (⇒'Login/Logout')

### Add Selected Antennas/Devices to Network Space

Function in the section **Unassigned Devices** that allows adding devices to an existing new Network Space. The devices to be added must be selected previously.

<b>Select Network Space</b>	Selection of an existing Bolero Net. The previously selected devices are added to the Network Space without confirmation.
-----------------------------	---

### Edit Network Space

#### General

Change general settings of the Network Space.

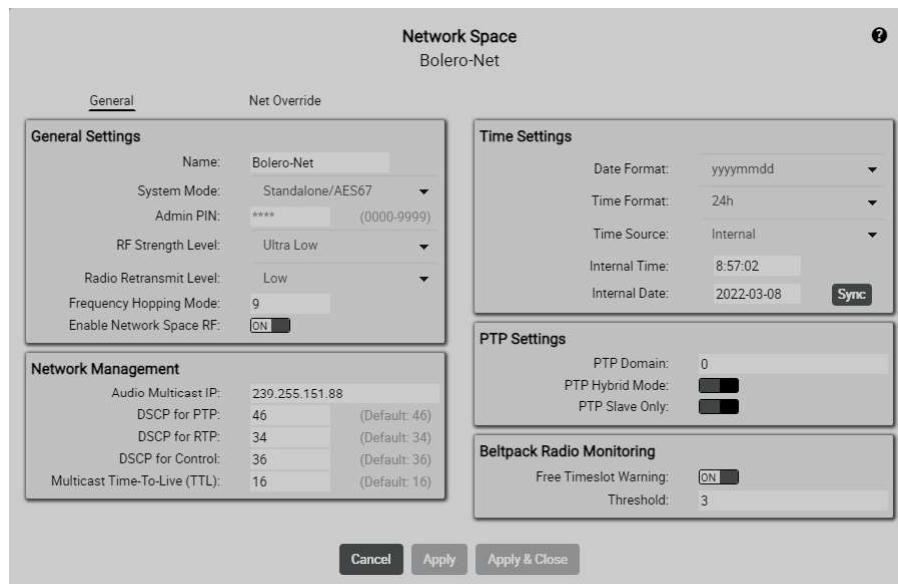


Figure 54: Edit (Network Space) – General

<b>General Settings</b>	<b>Name</b>	Name of the Bolero Net.
	<b>System Mode</b>	Defines if the Net is operated standalone (Standalone/AES67 or Standalone/Link) or if the Net is connected to an Artist system (Integrated/Artist). The standalone mode requires a licensed Antenna (⇒'License Manager')
	<b>Admin PIN</b>	Defines the admin PIN (is required to log into the system. (⇒'Login/Logout')
	<b>RF Strength Level</b>	Selection of the radio power (Normal, Low, Ultralow).
	<b>New in 3.1</b> <b>Radio Retransmit Level</b>	Defines the maximum number of repetitions (only for Bolero-2.4GHz) when the signal is disturbed. (Very High, High, Medium, Low)
	<b>New in 3.1</b> <b>Frequency Hopping Mode</b>	The frequency hopping mode must be unique if multiple Bolero systems operate in the same radio range and use the same PTP grandmaster. (only for Bolero-2.4GHz)
	<b>Enable Network Space RF</b>	Enabling/Disabling the radio of the Antenna.

<b>Network Management</b>	<b>Multicast IP *1</b>	Multicast IP address which is used for Beltpack↔Beltpack communication in Standalone/AES67 mode only. Usually the system finds a suitable address automatically, but it can be manually set as well if needed.
	<b>DSCP for PTP</b>	Allows you to define the priority of PTP (Precision Time Protocol) messages. Those messages are needed for synchronization (0 ... 63, default: 46).
	<b>DSCP for RTP</b>	Allows you to define the priority of RTP (Real Time Protocol) messages. Those messages contain the AES67 audio streams (0 ... 63, default: 34).
	<b>DSCP for Control</b>	Allows you to define the priority of control messages sent between antennas and/or Artist frames (0 ... 63, default: 36).
	<b>Multicast Time-To-Live (TTL)</b>	The TTL (Time To Live) setting allows you to specify how many "hops" (e.g., from router to router) a message can make before it is regarded obsolete and dropped. In large IP networks with a deep structure of routers, it might be necessary to increase this setting so that messages can traverse through the entire net (1 ... 255, default: 016).
	<b>Date Format</b>	Selection of the date format (ddmmyyyy, mmddyyyy, yyyyymmdd).
<b>Time Settings</b>	<b>Time Format</b>	Selection of the time format (12h, 24h).
	<b>Time Source</b>	Selection of the system time source (Internal, PTP, NTP).
	<b>Internal Time/Date *2</b>	Field to enter time and date manually.
	<b>Sync *2</b>	Button for adopting the system time of the PC.
	<b>NTP Server *3</b>	Field to enter the IP address of the NTP server.
	<b>Offset *3</b>	Field to change the time zone.
	<b>PTP Domain</b>	Selection of the PTP domain (0 ... 127, default: 0). Connected Artist client cards have to use the same domain.
<b>PTP Settings</b>	<b>PTP Hybrid Mode *4</b>	Allows more efficient PTP communication. Note that all connected Artist client cards and external PTP devices (e.g. the grandmaster) have to be set to the same PTP mode to work correctly.
	<b>PTP Slave Only *4</b>	Forces the Bolero Net to use an external grandmaster. Note: The system will not work if no external PTP master is present.
	<b>Beltpack Radio Monitoring *5</b>	If the function 'Free Timeslot Warning' is enabled and the number of available timeslots falls below the defined 'Threshold' value, a warning is displayed in the Beltpack list. The Beltpacks' status symbols change from green to orange or flash orange.

\*1 if **System Mode** = Standalone/AES67

\*2 if **Time-Source** = Internal

\*3 if **Time-Source** = NTP

\*4 not if **System-Mode** = Standalone/Link

\*5  Advanced Monitoring License necessary



### **New in 3.1** Net Override

Force Beltpack settings while the Beltpack is connected to the Network Space.

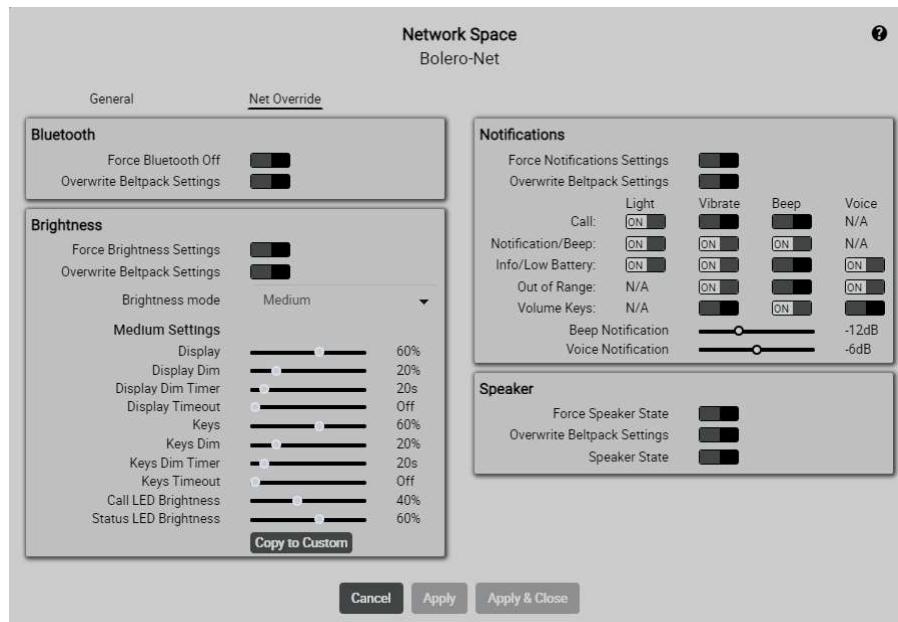


Figure 55: Edit (Network Space) – Net Override

The parameters correspond to those that are also available in the settings of the Beltpacks.

(⇒ [Features in Detail > Web Interface > Beltpacks > Edit \(Beltpacks\)](#))



Changes in the Net Override settings in the web interface are immediately applied to all Beltpacks logged in this Network Space. Only the changed settings (highlighted in blue) are applied, while all other settings remain unaffected.

### Remove Selected Antennas/Devices

Execute this command to remove one or more selected Antennas from the network space.  
A dialog is opened to confirm the action.

### Factory Reset Selected Antennas/Devices

Reset one or more selected devices to factory default values. To reset also the IP settings, the button 'Clear IP Settings' must be enabled. Attention: Antennas are removed from the network!  
A dialog is opened to confirm the action.  
This action requires the "Factory Reset PIN". Please consult the Riedel Service in case of need.

**Registration Mode**

In this view the Beltpack registration settings can be changed and activated.

<b>Registration Method</b>	<b>OTA</b>	If enabled, Beltpacks are allowed to register via radio to this Net.
	<b>NFC</b>	If enabled, Beltpacks are allowed to register via Antenna NFC to this Net.
<b>Use Admin PIN for OTA Registration</b>	If enabled, the <i>Admin PIN</i> must be entered in the Beltpack during the registration procedure. If disabled, another field is visible to define an 'OTA Registration PIN' that must be entered in the Beltpack during the registration procedure.	
<b>Profile</b>	Selection of the profile, that will be assigned to a new registered Beltpack.	
<b>Enable Timeout</b>	If enabled, the registration to this Net will be disabled after a defined timeout.	
<b>Timeout</b>	Timeout in minutes to disable the registration to this Net.	

**Reboot Selected Antennas/Devices**

Execute this command to reboot one or more selected devices.  
A dialog is opened to confirm the action.

**Enable/Disable Radio Scanner (DECT only)**

To change an DECT-Antenna to scanner mode, select the DECT-Antenna in the Antenna list and select the action button entry 'Enable Radio Scanner'. In radio scanner mode the Antenna is not available for Beltpacks anymore. All Beltpacks connected before will disconnect and need to find a new Antenna to connect.

**New in 3.1 Open Radio Scanner (DECT only)**

Displays the measured '[Radio Scanner](#)' data of the selected DECT-Antenna.

### 2.3.2.2 Edit (Antennas)

Clicking the  Edit symbol opens a dialog to edit Antenna (device) settings. The dialog can be closed by pressing the ESC key without saving any changes. In the drop-down list at the top, it is possible to directly switch to the 'Edit Antenna' view of another Antenna.

 <b>?</b>	Opens the online help.
<b>Cancel</b>	Discards all changes.
<b>Apply</b>	Stores all changes.
<b>Apply &amp; Close</b>	Stores all changes and closes the window.

#### General

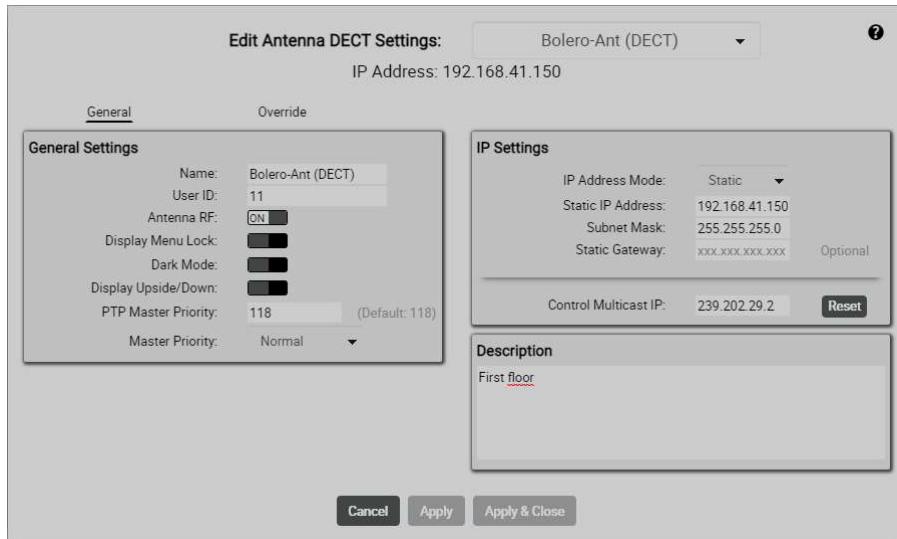


Figure 56: Edit (Antennas) – General

### General Settings

<b>Name</b>	Name of the Antenna.
<b>User ID</b>	Unique ID of the Antenna.
<b>Antenna RF</b>	Enabling/Disabling the radio of the Antenna.
<b>Display Menu Lock</b>	Enabling/disabling of locking the Antenna display to prevent unauthorized access to the Antenna or Network Space settings. If locked, the Web Interface has to be used to change any settings.
<b>Dark Mode</b>	Enabling/disabling all LEDs except the DC and PoE+ Power LEDs next to the sockets at the bottom.
<b>Display Upside/Down</b>	Display upside down.
<b>PTP Master Priority</b>	To synchronize all components, Bolero uses PTP (Precision Time Protocol). The <b>PTP Master Priority</b> setting (0...255, default: 118; corresponding to the 'PTP Priority 2' attribute of the local clock) can be used to select an internal grandmaster for the net. Smaller numeric values indicate higher priority, i.e. the device with the lowest number will become master. Note that 'PTP Priority 1' is always set to 128 for all Antennas.
<b>Radio Master Priority</b>	Defines the priority of an Antenna becoming master for the entire system. In <b>Standalone/Link</b> mode, this includes the master as well as the internal synchronization master. In the other modes, this only affects the master, as the synchronization master is determined by means of PTP. Usually, there is no need to make changes to this setting. However, sometimes it might be desired to assign dedicated antennas as master. <b>(Primary (1), Secondary (2), Normal, Low (-), None (x))</b>
<b>New in 3.1</b>	
The new master priority setting " <b>None (X)</b> " can be used to prevent the Antenna from becoming the radio master even if the actual master Antenna cannot be reached.	

### IP Settings

<b>IP Address Mode</b>	Selection of the mode for determining the IP address.
<b>Auto</b>	Zero Configuration Networking (Zeroconf). Assigns addresses without a DHCP server. IP range: 169.254.xxx.xxx
<b>DHCP</b>	Dynamic Host Configuration Protocol is a network management protocol that automatically assigns IP addresses to devices connected to the network via a DHCP server. If no DHCP server is found, the system switches to <b>Auto</b> mode to set a valid IP address.
<b>Static</b>	Set a fixed IP address.
<b>Static IP Address *1</b>	Fixed IP address of the Antenna.
<b>Subnet Mask *1</b>	Fixed subnet mask of the Antenna.
<b>Static Gateway *1</b>	Fixed Gateway of the Antenna.
<b>New in 3.1</b>	Adjustment of the IP multicast group that Bolero uses to exchange control data between the Antennas in a Network Space.
<b>Control Multicast IP</b>	The 'Reset' button resets the setting to the default address (239.202.29.2). <b>Caution:</b> Under normal circumstances, it is not necessary to change this setting. All Antennas in the Network Space must use the same address, otherwise they will not communicate properly and will not be displayed in the Antenna list.

\*1 if **IP Address Mode** = **Static**

### **New in 3.1** Description

You can add a description to the device in this area, e.g. the exact location.

**New in 3.1** **Override**

Force Beltpack settings while the Beltpack is connected to a specific Antenna.

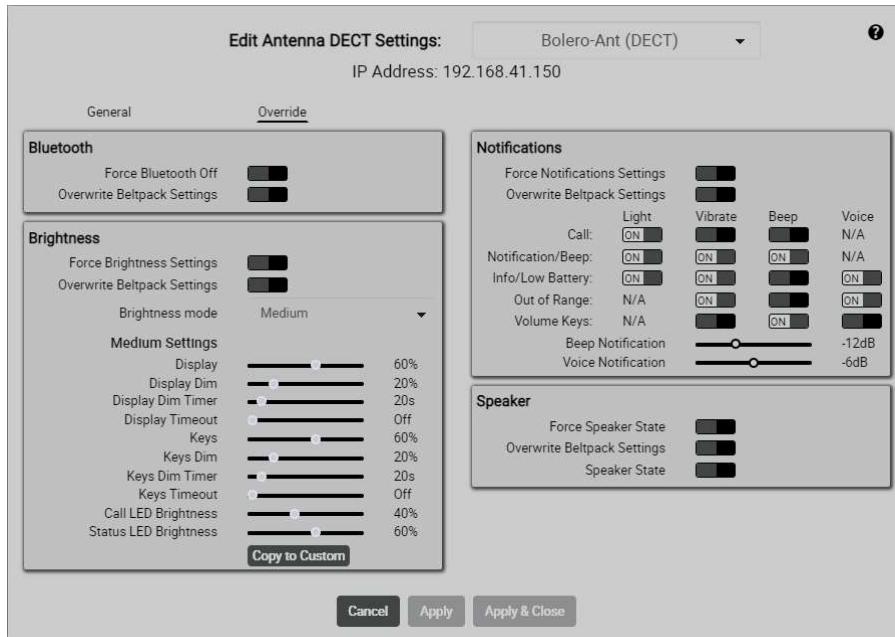


Figure 57: Edit (Antennas) – Override

The parameters correspond to those that are also available in the settings of the Beltpacks.  
 (⇒ [Features in Detail > Web Interface > Beltpacks > Edit \(Beltpacks\)](#))



Changes in the Override settings in the web interface are immediately applied to all Beltpacks logged on this Antenna. Only the changed settings (highlighted in blue) are applied, while all other settings remain unaffected.

### 2.3.2.3 Info (Antennas)

Clicking the  Info symbol shows information of the respective device. The dialog can be closed by pressing the ESC key.

	Opens the online help.
<b>Close</b>	Closes the information.

The left side displays generally valid device information (**Device Status**) and the right side displays operating mode specific information (Standalone/AES67 and Integrated/Artist mode: **PTP Status**; Standalone/Link mode: **Standalone Status** and **LINK 1/2**).

#### Device Status

<b>Type</b>	Full name of the device type.
<b>IP</b>	IP address of the device.
<b>Net Mask</b>	Fixed subnet mask of the device.
<b>MAC</b>	MAC address of the device.
<b>Package</b>	Firmware and bugfix version of the device.
<b>Riedel Serial</b>	Serial number of the device.
<b>Stored Licenses</b>	Licenses, that are stored on the device.
<b>Active Licenses</b>	Licenses, that are currently found in the Network Space and activated on the device.
<b>Temperature</b>	Current temperature inside the device.
<b>Power Source</b>	Terminal, that is used to power the device.
<b>Ethernet Link Speed</b>	Bandwidth of the AES67/Config connector.
<b>Radio Activated</b>	Shows if the radio operation is enabled.

#### **New in 3.1** Description

This area displays the description of the device, which can be entered in the  Edit Antenna view.

## Standalone/AES67 & Integrated/Artist Mode

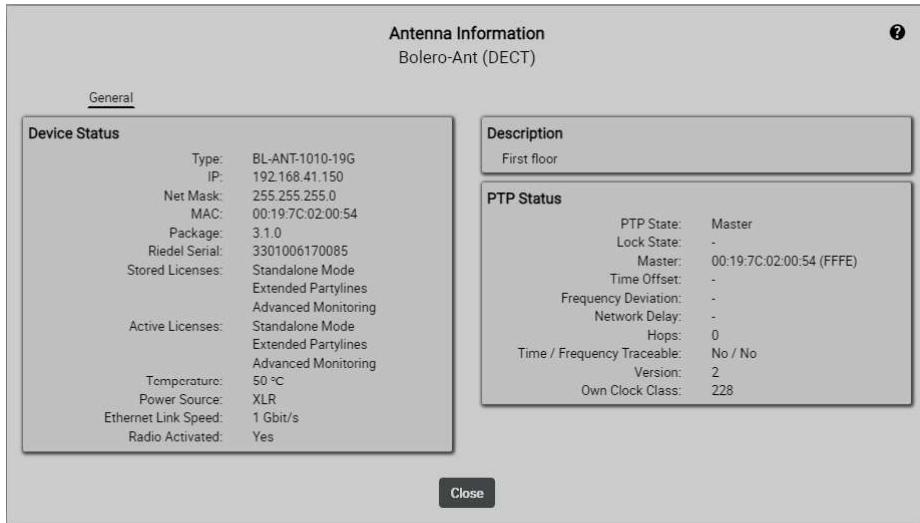


Figure 58: Info (Antennas) – General (AES67-Mode)

### PTP Status

<b>PTP State</b>	Shows the current state of PTP (Off, Unlocked, Slave, Master).
<b>Lock State</b>	Shows the locking state of PTP (Unlocked, Locking, Locked, Warning, Error). Warning and error are issued when the PTP offset exceeds certain limits.
<b>Master</b>	Shows the MAC address of the PTP master device.
<b>Time Offset</b>	Shows the magnitude of the PTP offset in nanoseconds, averaged over the last couple of minutes.
<b>Frequency Deviation</b>	Shows the magnitude of the frequency deviation in parts per billion, averaged over the last couple of minutes.
<b>Network Delay</b>	Shows statistics (mean and standard deviation) of the network delay of PTP packages from the last couple of minutes.
<b>Hops</b>	Shows how many hops (i.e. network devices) are between the Antenna and the sync master device.
<b>Time / Frequency Traceable</b>	If time/frequency is traceable to a primary reference (e.g. GPS), the respective entry is 'TRUE'.
<b>Version</b>	Specifies the version of the used PTP standard.
<b>Own Clock class</b>	Specifies the clock class as defined by the PTP standard. The clock class has a major impact on whether the device is suited to become PTP master. The lower the clock class, the more accurate the clock.

## Standalone/Link Mode

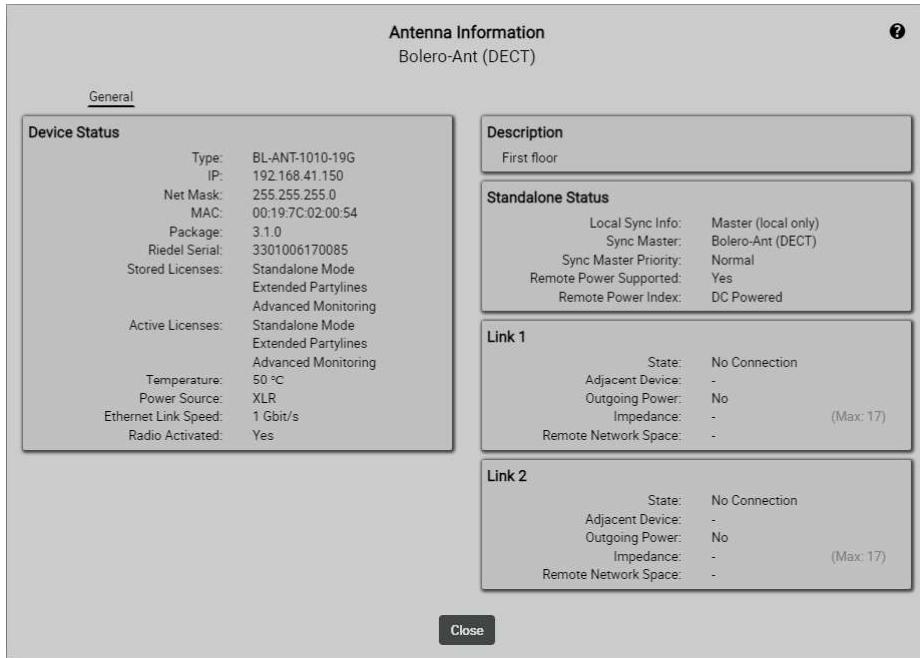


Figure 59: Info (Antennas) – General (Link-Mode)

### Standalone Status

<b>Local Sync Info</b>	Shows if the Antenna is sync master or slave. In case of slave, it is also indicated to which of the two links (Link 1/2) the device is synchronized.
<b>Sync Master</b>	The name of the antenna which currently acts as synchronization master. Notice that in standalone mode, the synchronization master can change without affecting the running system.
<b>Sync Master Priority</b>	Shows the configured priority of the current sync master.
<b>Remote Power Supported</b>	Indicates whether remote power is supported or not. Notice that old hardware (before G2) does not support remote power.
<b>Remote Power Index</b>	Shows "DC Powered" if the local device is directly powered with an external power supply. Otherwise (if it is powered remotely via Link 1 or Link 2) a value indicates "how far away" from the DC supply the Antenna is.

### Link 1/2

<b>State</b>	Indicates the current state of the respective link. The following values are possible:
<b>No Connection</b>	No cable is connected or the link is disabled.
<b>Error (Cabling)</b>	Indicates that the cable connects two similar ports (e.g., Link 1 to Link 1). One must always connect Link 1 to Link 2 and vice versa.
<b>Error (Authentication)</b>	Indicates that the link cannot be established because authentication was denied.
<b>Error (Version)</b>	Indicates that the connected Antennas are not operating on the same version and are thus incompatible.
<b>Pending</b>	Indicates that a link is in the process of being established.
<b>Pending (Remote Net)</b>	Indicates that a link to an Antenna of another net has been established. The user has to manually join those two nets in the web Interface.
<b>Link Up</b>	The link is fully established and working.
<b>Adjacent Device</b>	Shows the name of the antenna which is connected to this link.
<b>Outgoing Power</b>	Shows if the remote power supply is enabled at the respective Link connector to supply the adjacent Antenna.
<b>Impedance</b>	Shows the link's impedance in Ohms. This value is important if remote power supply is used. Correct operation of a remotely powered Antenna is only guaranteed if the impedance is at most 17 Ohms.
<b>Remote Network Space</b>	If the link is connected to an Antenna which belongs to another networks space, the remote name is displayed here.

### 2.3.3 IO Devices

The IO Devices window displays NSA-002A devices attached at Bolero Antennas.

This view is only available in the system modes 'Standalone/AES67' and 'Standalone/Link'.

#### The upper panel lists all device configurations for a network space:

Configurations are editable offline and have to be assigned a physical device to take effect.

Once assigned, an Antenna (Standalone/Link mode: the physically connected one) of the local network space connects to the device, sets the configuration and starts the audio stream. Unassigning a configuration will disconnect and stops the stream, removing also deletes it. These commands can be performed via the [Action Button](#) to the top right.

#### The lower panel shows discovered IO devices:

Upon connecting to an Antenna in the local network space, the entry is removed and the corresponding assigned config dot in the upper panel turns green. If unconnected and in a different net, you can make a device available by selecting the menu item 'Clear Assigned Net'.

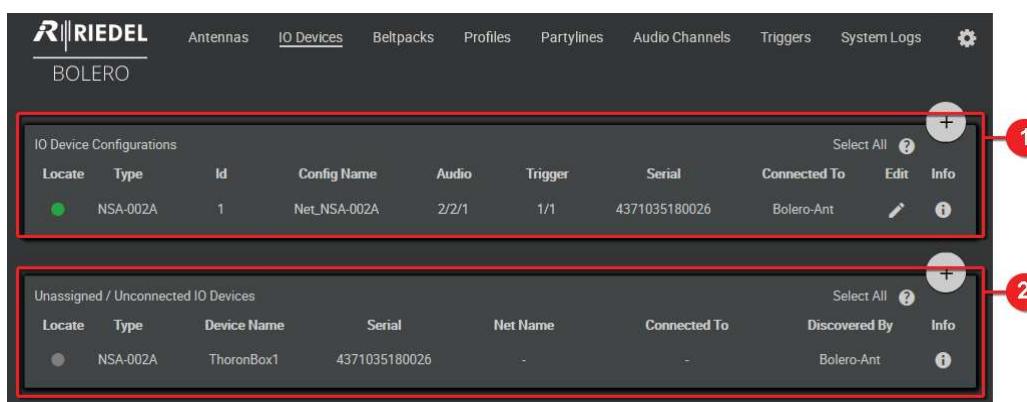


Figure 60: Web-Interface – IO Devices

#### 1 IO Device Configurations

Table of all IO Device configurations in the Network Space.

<b>Locate</b>	Click to flash the front LEDs of the respective IO Device. The dot colors indicate connection status.	unassigned	<input type="radio"/>
		not connected	<input checked="" type="radio"/>
		connected	<input checked="" type="radio"/>
		connection limit exceeded	<input checked="" type="radio"/>
		incompatible device type / firmware or configuration failure	<input checked="" type="radio"/>
		locate active (blinks alternately)	<input checked="" type="radio"/>

**Type** Name of the device type.

**Id** Shows the unique ID of the configuration.

**Name** Shows the configuration name.

**Audio** Number of audio input/output/4-Wire channels.

**Trigger** Number of trigger inputs/outputs enabled.

**Serial** Shows the serial number of the IO Device.

**Connected To** Shows the Antenna name, the IO device is connected to.

**Edit** Button to edit the IO Device settings.



#### 2 Unassigned / Unconnected IO Devices

Table of devices that are not assigned to configurations or attached to an Antenna.

Some content is identically to the table above.

**Name** Shows the name of the device.

**Net Name** Shows the name of the Network Space.

**Discover By** Shows the name of the device that discovered the IO Device.

### 2.3.3.1 Action Button (IO Devices)

Clicking the  action button offers functions to manage IO devices.

The dialog can be closed by pressing the ESC key without saving any changes.



Figure 61: Action Button (IO Device Configurations)

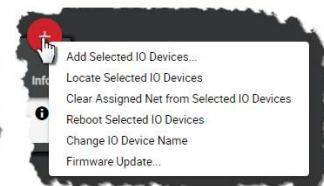


Figure 62: Action Button (Unassigned / Unconnected IO Devices)

#### Create IO Device Configuration

Function in the section **IO Device Configurations** to create a new IO Device configuration.

##### General

<b>ID</b>	Auto generated consecutive ID of the configuration.
<b>Type</b>	Shows the hardware type of the IO device.
<b>Name</b>	Field to enter the configuration name. (Not to be confused with the device name, pertaining to a specific hardware device.)
<b>Multicast IP</b>	Defines the multicast IP of the audio stream to be transmitted. Unique to each configuration and device, which relate 1:1. No duplicates are allowed.

##### Triggers

###### Input Pin 1 ... 3 / Output Pin 1 ... 3

<b>Pin Mode</b>	<b>Off</b>	Disabled interfaces are not shown in drop-down menus.
	<b>Normal</b>	Momentary action.
	<b>Latching</b>	Activation on first rising edge, release on second falling edge.
	<b>Toggle</b>	Like above but release on second starting edge.
	<b>Auto</b>	Short (< 500 ms) high states act like Latching, longer ones like Normal mode (for e.g. speak while holding).
<b>Trigger Name</b>	Field to enter the name of the trigger. Default: config id/trigger index.	
<b>Invert PIN</b>	This inverts the above modes.	

For disconnected devices, both In- and Output triggers are always low. For Output triggers, the **Invert** setting applies even if the trigger is disabled in the config or on the trigger itself under the triggers tab. The web interface shows the state *after* Modes/Invert applied for Input triggers and state *before* Modes/Invert applied for Output triggers.

##### Audio Channels

<b>Pair</b> <b>1 ... 6</b>	<b>Unused</b>	Disabled interfaces are not shown in drop-down menus.
	<b>4-Wire split</b>	Input and Output separately routable.
	<b>4-Wire</b>	Input and Output treated as a unit, used for e.g. mix-minus one.
	<b>Input only</b>	Output disabled.
	<b>Output only</b>	Input disabled.
<b>Name</b>	Field to enter the name of the audio channel.	

### Add Selected IO Devices

Function in the section **Unassigned / Unconnected IO Devices** that allows adding IO devices.  
A single IO device must be selected previously.

<b>Select IO Device Config</b>	Selection of an existing configuration or creation of a new configuration. Creating a new configuration is identical to the feature <b>Create IO Device Configuration</b> .
--------------------------------	---

### Assign Hardware

Function in the section **IO Device Configurations** that assigns IO devices to a device configuration.

<b>Select Hardware to assign</b>	Selection of an IO device that should be assigned to the previously selected configuration.
----------------------------------	---

### Unassign Hardware

Function in the section **IO Device Configurations** that removes the assigned IO device from the selected configuration without confirmation.

### Remove Selected Configurations

Function in the section **Unassigned / Unconnected IO Devices** that allows removing one or more selected configurations. A dialog is opened to confirm the action.  
This will remove all associated audio channels, triggers and key bindings.

### Locate Selected IO Devices

Allows identifying the selected IO device visually. The LEDs on the front side of the respective IO device will start flashing for about 15 seconds.

### Reboot Selected IO Devices

Function that allows rebooting one or more selected IO devices.  
A dialog is opened to confirm the action.

### Change Device Name

Function that allows changing the name of IO devices.

### Clear Assigned Net from Selected IO Devices

Function in the section **Unassigned / Unconnected IO Devices** only.  
Unconnected and existing IO devices in other network spaces can be made available by this feature.  
The respective IO device must be selected previously. This action requires the "Admin PIN" of the Network Space.

### Firmware Update

It is possible to update NSA-002A IO devices using the Bolero web interface.  
Select the devices to update in the 'IO Device Configurations' or 'Unassigned / Unconnected IO Devices' list, click this action menu item 'Firmware update...' and select the update file. The update will start immediately and will be completed with an IO Device reset automatically.

	NSA-002A can only be updated if they belong to the current Network Space or are unassigned.  Different firmware versions are required for the G1 and G2 hardware versions of the NSA-002A. The firmware update is only possible when the corresponding valid version is selected.						
	<table><thead><tr><th>NSA-002A Hardware</th><th>NSA-002A Firmware</th></tr></thead><tbody><tr><td>G1*</td><td>1.2.0-2ea62f6#68</td></tr><tr><td>G2</td><td>2.0.9-8e2b4b7#64</td></tr></tbody></table>	NSA-002A Hardware	NSA-002A Firmware	G1*	1.2.0-2ea62f6#68	G2	2.0.9-8e2b4b7#64
NSA-002A Hardware	NSA-002A Firmware						
G1*	1.2.0-2ea62f6#68						
G2	2.0.9-8e2b4b7#64						
	* The existing firmware version must be 1.1.0-e90d84a#54 or higher to be updated through the Bolero web interface. Otherwise, the device must be updated through its own web interface.						

### 2.3.3.2 Edit (IO Devices)

Clicking the  Edit symbol opens a dialog to edit IO device settings.

The dialog can be closed by pressing the ESC key without saving any changes.

In the drop-down list at the top, it is possible to directly switch to the 'Edit IO Devices' view of another device.

 <b>?</b>	Opens the online help.
<b>Cancel</b>	Discards all changes.
<b>Apply</b>	Stores all changes.
<b>Apply &amp; Close</b>	Stores all changes and closes dialog.



Figure 63: Edit (IO Devices)

#### General

<b>ID</b>	Auto generated consecutive ID of the configuration.
<b>Type</b>	Shows the hardware type of the IO device.
<b>Name</b>	Field to enter the configuration name. (Not to be confused with the device name, pertaining to a specific hardware device.)
<b>Multicast IP</b>	Defines the multicast IP of the audio stream to be transmitted. Unique to each configuration and device, which relate 1:1. No duplicates are allowed.

#### New in 3.1 Description

You can add a description to the device in this area.

### GPI/O to Trigger Mapping

#### Input Pin 1 ... 3 / Output Pin 1 ... 3

<b>Pin Mode</b>	<b>Off</b>	Disabled interfaces are not shown in drop-down menus.
	<b>Normal</b>	Momentary action.
	<b>Latching</b>	Activation on first rising edge, release on second falling edge.
	<b>Toggle</b>	Like above but release on second starting edge.
	<b>Auto</b>	Short (< 500 ms) high states act like Latching, longer ones like Normal mode (for e.g. speak while holding).
<b>Trigger Name</b>	Field to enter the name of the trigger. Default: config id/trigger index.	
<b>Invert PIN</b>	This inverts the above modes.	

For disconnected devices, both In- and Output triggers are always low. For Output triggers, the **Invert** setting applies even if the trigger is disabled in the config or on the trigger itself under the triggers tab. The web interface shows the state *after* Modes/Invert applied for Input triggers and state *before* Modes/Invert applied for Output triggers.

### Audio Channels

<b>Pair</b> <b>1 ... 6</b>	<b>Unused</b>	Disabled interfaces are not shown in drop-down menus.
	<b>4-Wire split</b>	Input and Output separately routable.
	<b>4-Wire</b>	Input and Output treated as a unit, used for e.g. mix-minus one.
	<b>Input only</b>	Output disabled.
	<b>Output only</b>	Input disabled.
<b>Name</b>	Field to enter the name of the audio channel.	

### 2.3.3.3 Info (IO Devices)

Clicking the  Info symbol shows information of the respective device or configuration. The dialog can be closed by pressing the ESC key.

 ?	Opens the online help.
<b>Close</b>	Closes the information.



Figure 64: Info (IO-Device Configurations)

#### Status

<b>HW Name</b>	Shows the name of the IO Device.
<b>Connection Status</b>	Shows the state of the connection.
<b>Connected To</b>	Shows the name of the Antenna to which the IO device is connected.
<b>Assigned Net</b>	Shows the name of the Net to which the IO device is assigned.
<b>Serial Number</b>	Shows the serial number of the IO Device.
<b>IP</b>	Shows the IP address of the IO Device.
<b>MAC</b>	Shows the MAC address of the IO Device.
<b>FW Version</b>	Shows the Package version of the IO Device.
<b>HW Version</b>	Shows the hardware version of the IO Device.

#### Description

This area displays the description of the device, which can be entered in the  Edit IO Devices view.

#### Configuration

Only in the region IO Device Configurations:

<b>Name</b>	Shows the name of the configuration which is assigned to the IO Device.
-------------	---

**PTP Status**

Only in the region IO Device Configurations:

<b>Port State</b>	Shows the current state of PTP (Off, Unlocked, Slave, Master).
<b>Time Offset</b>	Shows the magnitude of the PTP offset in nanoseconds, averaged over the last couple of minutes.
<b>Master</b>	Shows the MAC-address of the sync-master.

**Audio Streams**

Only in the region IO Device Configurations:

<b>Receiver State</b>	Shows the state of receiving direction.
<b>Sender State</b>	Shows the state of transmitting.

### 2.3.4 Beltpacks

The **Beltpacks** window lists all registered Beltpacks of the active network space.

Beltpacks are listed even if they are not connected (out of range, turned off). Once a Beltpack is registered, after powering up it will instantly connect and become operational.

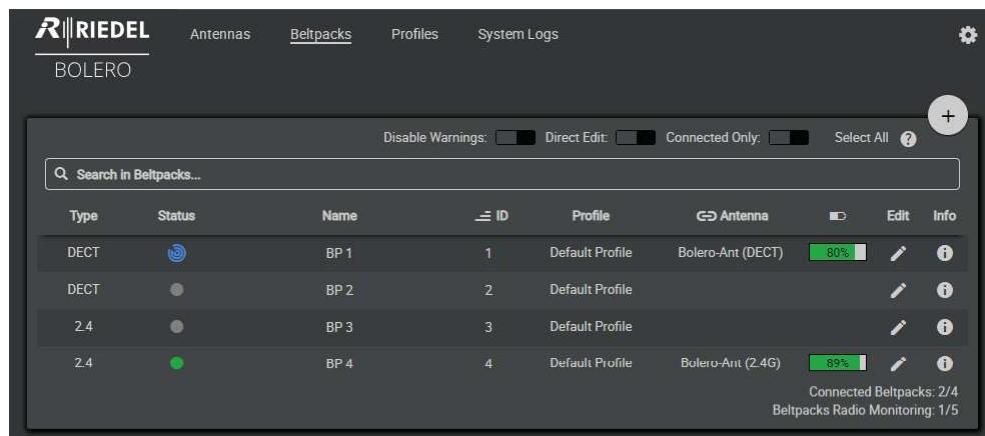
The registered Beltpack list shows the Beltpack status information with remaining battery capacity.

The icon in the 'Status' column displays the type and status of the Beltpack.

When you are logged in as admin user, it is possible to edit Beltpack settings by clicking the edit icon.

The **Registered Beltpacks** window features the following functions:

- Listing of all registered Beltpacks in the Net.
- Changing of Beltpack settings
- Changing of assigned Profiles
- Removing Beltpacks from Nets
- Enable registration
- Locating Beltpacks



Type	Status	Name	ID	Profile	Antenna	Battery	Edit	Info
DECT	Connected	BP 1	1	Default Profile	Bolero-Ant (DECT)	80%		
DECT	Disconnected	BP 2	2	Default Profile				
2.4	Disconnected	BP 3	3	Default Profile				
2.4	Connected	BP 4	4	Default Profile	Bolero-Ant (2.4G)	89%		

Figure 65: Web-Interface – Beltpacks

Disable Warnings: <b>ON</b> *1	If the <a href="#">Beltpack Monitoring</a> is switched on and the number of available timeslots falls below the defined <b>Threshold</b> , the status symbols change from green to orange or flash orange. If this function 'Free Timeslot Warning' is activated, the status symbols remain green. This function does the same as the ' <a href="#">Free Timeslot Warning</a> ' function in the ' <a href="#">Edit Network Space</a> ' view.
Direct Edit: <b>ON</b>	If the switch is enabled (On), the <b>Name</b> , <b>ID</b> and <b>Profile</b> of a Beltpack are directly editable in the <b>Beltpacks</b> window by clicking on the desired entry.
Connected Only: <b>ON</b>	If the switch is enabled (On), unconnected Beltpacks are hidden in the list.
Select All	Selects all Beltpacks in the list.
<b>Q</b> <a href="#">Search in Beltpacks...</a>	Only Beltpacks that contain the search text in the <b>Type</b> , <b>Name</b> , <b>ID</b> , <b>Profile</b> or <b>Antenna</b> field are displayed (case sensitivity is ignored).
<b>Type</b>	Displays the type of Beltpack (DECT or 2.4GHz).  <b>DECT</b> <b>2.4</b>
<b>Status</b>	Shows the state of the Beltpack. (Bolero S-Beltpacks are marked with an <b>S</b> in the symbol.)  The Beltpack is online (connected to the Network Space).  The Beltpack is offline.  The symbol can be used to identify a specific Beltpack visually. When this icon is clicked, the icon flashes alternately green/yellow (for about 10 seconds); the status line and the status LED of the respective Beltpack flash yellow until any button of the Beltpack is pressed.  The threshold of free timeslots is reached. *3 This threshold can be adjusted in the 'Antennas' view with the Action Button 'Edit Network Space' (⇒ <a href="#">Action Button (Antennas) &gt; Edit Network Space</a> ).  No free timeslots found. *3  The Beltpack Radio Monitoring is active / enabled. *3
<b>Name</b> *2	Name of the Beltpack.
<b>ID</b> *2	Unique ID of the Beltpack.
<b>Profile</b> *2	Name of the assigned Profile.
<b>Last Conn.</b>	Date and time of last connection.
<b>Antenna</b>	Name of the Antenna to which the Beltpack is connected.
<b>Battery</b>	State of battery of the Beltpack.
<a href="#">Edit</a>	Button to edit the Beltpack settings.
<a href="#">Info</a>	Opens a brief information of the respective device.

\*1 not for 2.4GHz-Beltpacks

\*2 direct editable if the switch **Direct Edit** is enabled

\*3  Advanced Monitoring License necessary

### 2.3.4.1 Action Button (Beltpacks)

Clicking the  action button offers functions to manage Beltpacks. The dialog can be closed by pressing the ESC key.

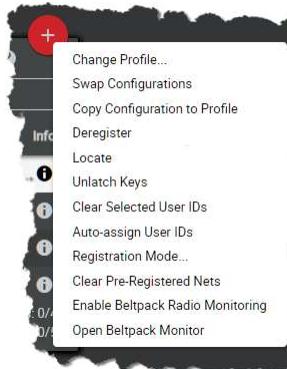


Figure 66: Action Button (Beltpacks)

#### Change Profile

Allows assigning a profile to the selected Beltpacks. Profiles are a collection of Beltpack parameters that can be applied to multiple Beltpacks without setting the parameters manually in each Beltpack.

#### Swap Configurations

Allows swapping the Beltpack configuration of two selected Beltpacks.

#### **New in 3.1** Copy Configuration to Profile

With this function the current Beltpack configuration can be saved as a profile. An already existing profile can be overwritten, but also a new profile can be created.

#### Deregister

This function deregisters the selected Beltpacks from the active network space. The Beltpacks are removed from the list.

#### Locate

Allows identifying the selected Beltpack visually. The Status-LED and the Status-Bar of the respective Beltpacks will start flashing yellow until a Beltpack key is pressed.

#### Unlatch Keys

This function will unlatch all keys on the selected Beltpacks. All latched keys and even (momentary) keys currently pressed are deactivated, they have to be released and pressed again to activate them again.

#### Clear Selected User IDs

Clears the User IDs of the selected Beltpacks. The User ID is set to zero ("0").

#### Auto-assign User IDs

Automatically assign unique and available user IDs to Beltpacks with empty ID field. The initial value is one ("1").

#### Registration Mode

Opens the Beltpack registration settings.

(⇒'Bolero Antenna > Web Interface > Net/Antenna > [Menu – Registration Mode](#)').

#### Clear Pre-Registered Nets

Deletes all pre-registered nets in the selected Beltpacks. A dialog is opened to confirm the action.

#### Enable/Disable Beltpack Radio Monitoring

To change a Beltpack to the detailed monitoring mode, select the Beltpack in the Beltpack list and select the action button entry 'Enable Beltpack Radio Monitoring'. In this mode the Beltpack is in full operation, the detailed monitoring happens in the background.

**New in 3.1** **Open Beltpack Monitor (DECT only)**

Displays the measured '[Radio Monitoring](#)' data of the selected DECT-Beltpack.

### 2.3.4.2 Edit (Beltpacks)

Clicking the  Edit symbol opens a dialog to edit Beltpack settings on several pages. The selected page is underlined. The dialog can be closed by pressing the ESC key without saving any changes. In the drop-down list at the top, it is possible to directly switch to the 'Edit Beltpacks' view of another Beltpack.

<b>Cancel</b>	Discards all changes.
<b>Apply</b>	Stores all changes.
<b>Apply &amp; Close</b>	Stores all changes and closes dialog.

#### General

This view is used for editing general Beltpack settings.



Figure 67: Edit (Beltpacks) – General

#### Name

<b>Name</b>	Name of the Beltpack.
<b>User ID</b>	Unique ID of the Beltpack.

## General

<b>Headset Type</b>	Auto, Dynamic Detect, Electret Detect, Dynamic, Electret. (⇒'Headset Type')
<b>Display Mode</b>	Selection of the display mode. (⇒'Display Mode') Standard, Alternative, Standard Flip, Alternative Flip
<b>Language</b>	Selection of a pre-programmed Beltpack language English and German. <b>New in 3.1</b> Besides German and English, a Chinese translation of all Beltpack menus is now available.
<b>Silent Mode</b>	If the Silent Mode is activated, speaker and vibration are disabled.
<b>New in 3.1</b>	<b>No Partyline Reply:</b> Regardless of the <b>Show on Reply</b> switch, the Reply functionality is disabled.
<b>Show on Reply *1</b>	<p><b>Reply to Caller:</b> When the Reply key is pressed, the Beltpack speaks specifically only to the Beltpack that last spoke into the Partyline.</p> <p><b>Shown on Reply: Off</b></p> <ul style="list-style-type: none"> <li>The Beltpack will be ignored as a reply target for other Beltpacks in this Partyline. This means that this Beltpack will not be addressed when pressing the Reply key of another Beltpack, even if it has spoken last.</li> </ul> <p><b>Shown on Reply: On</b></p> <ul style="list-style-type: none"> <li>The Beltpack will not be ignored as a reply target for other Beltpacks in this Partyline. This means that this Beltpack is addressed when pressing the Reply key of another Beltpack if it has spoken last.</li> </ul> <p><b>Reply to Partyline:</b> Regardless of the <b>Show on Reply</b> switch, when the Reply key is pressed, the Beltpack speaks into the Partyline that spoke last.</p>
<b>New in 3.1</b>	
<b>Partyline Reply *1</b>	

\*1 only in system mode 'Standalone/AES67' and 'Standalone/Link'

## Notification

<b>Call</b>	Switch to enable the respective signalization:
<b>Notification/Beep</b>	<ul style="list-style-type: none"> <li>Light</li> <li>Vibrate</li> <li>Beep</li> <li>Voice (not for: Call, Notification/Beep)</li> </ul>
<b>Info/Low Battery</b>	
<b>Out Of Range</b>	
<b>Volume Keys</b>	
<b>Beep Notification</b>	Slider to adjust the tone signalization volume.
<b>Voice Notification</b>	Slider to adjust the voice signalization volume.

## Replay

The Replay function allows repeated listening to the last call. Recordings are VOX controlled. Thus, no silence is recorded.

<b>Recording Time</b>	Defines the duration of recordings.
<b>Store Time</b>	Defines the time, how long the recording is stored.

## Timeout

<b>Volume Timeout</b>	Slider to adjust the volume change timeout (how long the volume adjustment is opened without activity).
<b>Menu Timeout</b>	Slider to adjust the menu timeout (how long a menu is opened without activity).

### Display Brightness

This view is used for setting the Beltpacks display brightness.

<b>Brightness mode</b>	Selection between one user defined and three pre-defined brightness definitions: Off, Low, <u>Medium</u> , High, Custom (see Beltpack <a href="#">Brightness Mode</a> )
<b>Custom Settings</b>	<b>Display</b> Normal brightness level of the display.
	<b>Display Dim</b> Dimmed brightness level of the display.
	<b>Display Dim Timer</b> Time of inactivity until the display illumination is dimmed.
	<b>Display Timeout</b> Time of inactivity until the display illumination is switched off.
	<b>Keys</b> Normal brightness level of the keys.
	<b>Keys Dim</b> Dimmed brightness level of the keys.
	<b>Keys Dim Timer</b> Time of inactivity until the key illumination is dimmed.
	<b>Keys Timeout</b> Time of inactivity until the key illumination is switched off.
	<b>Call LED Brightness</b> Brightness level of the Call LED.
<b>Copy to Custom</b>	The displayed brightness values of all predefined brightness modes can be taken over (and then adjusted) as user-defined values with this function.

### Registration

<b>Allow Multi-Registration *1</b>	<b>On:</b> (automatically enabled if <b>Automatic net change</b> is active) The Beltpack can be registered in up to 10 Nets. If the Beltpack is registered in another new Net, the 'oldest' Net from the list will be automatically deleted. <b>Off:</b> The Beltpack can be registered in a single Net. All Nets except the connected or last pre-registered Net will be deleted if the Beltpack is switched off. If the Beltpack is registered in another Net, the previous Net is replaced.
<b>Automatic Net Change</b>	<b>Off:</b> The Beltpack will only connect to the last connected Net. <b>On:</b> The Beltpack will search and change to another Net when starting up or losing connection.

\*1 automatically enabled if **Automatic net change** is enabled

## Audio

This view is used for editing the Beltpacks audio settings.



Figure 68: Edit (Beltpacks) - Audio

### Levels

<b>Headset</b>	Adjustment of the headset volume.
<b>Sidetone</b>	Adjustment of the sidetone volume.
<b>Headset Mic</b>	Adjustment of the gain of the headset microphone.
<b>Internal Mic</b>	Adjustment of the gain of the internal microphone.
<b>Line Input</b>	Adjustment of the gain of the line input.
<b>Priority Dim</b>	Adjustment of the dim level for priority calls.

### Limits

<b>Headset Lower Limit</b>	Slider to adjust the lowest headset volume.
<b>Speaker Lower Limit</b>	Slider to adjust the lowest speaker volume.
<b>Mic Limiter</b>	Slider to adjust the threshold level of the microphone limiter.
<b>Headset Limiter</b>	Slider to adjust the threshold level of the headset limiter.

**Enhancements**

<b>Microphone Filter</b>	Activate a low-cut filter or improve the microphone intelligibility of a Riedel headset. (low-cut 60/120Hz, filter for AIR/PRO/MAX/RUN headsets dynamic and electret)
<b>Headphone Filter</b>	Activate a low-cut filter, improve the headphone sound of a Riedel headset or increase the intelligibility (plus). (low-cut 80/150Hz, filter for AIR/PRO/MAX/RUN headsets standard and plus)
<b>Headset Echo Suppression</b>	Switch to prevents/reduces acoustic echo distortions to improve voice quality of the headset. <b>Echo suppression</b> is always on in Speaker mode.

**Speaker**

<b>Enable</b>	Switch to enable the internal Beltpack speaker and microphone.
<b>Volume</b>	Slider to adjust the speaker volume.
<b>Plug - Activate Headset</b>	Switch to enable automatically activating the headset mode if a headset is connected at the XLR connector. (↔ <a href="#">'Speaker'</a> )
<b>Unplug - Activate Speaker</b>	Switch to enable automatically activating the speaker mode if a headset is disconnected from the XLR connector.

**Microphone VOX**

The 'Microphone VOX' is a switch that operates when a sound is detected at the microphone and exceeds the defined threshold.

This view is only available in the system modes **Standalone/AES67** and **Standalone/Link**.

<b>VOX Mode</b>	Off: The VOX functionality is turned off. The audio signal is always going through. <b>Standard</b> : The VOX functionality is turned on. The audio signal is switched through depending on the configurable parameters <b>Threshold</b> , <b>Hold Time</b> and <b>Release Time</b> . <b>Adaptive</b> : The adaptive VOX functionality is switched on and the threshold is continuously adapted to the current background noise. The audio signal is switched through depending on the configurable parameters <b>Delta</b> , <b>Hold Time</b> and <b>Release Time</b> .
<b>Threshold *1</b>	Slider to define the audio level that triggers the VOX. The Off threshold is fix 3dB below this adjusted threshold.
<b>Delta *2</b>	Slider to define the delta audio level between the background noise level and the audio level that triggers the VOX.
<b>Hold Time</b>	Slider to define the amount of time the VOX remains engaged during brief speech pauses. This also means the last several seconds of each audio transmission is always silence.
<b>Release Time</b>	Slider to set the time period for the microphone to change from open to fully closed.
<b>New in 3.1</b>	The audio is only <u>forwarded</u> to the system when the VOX is active.
<b>Noise Gate</b>	

\*1 if VOX Mode = **Standard**

\*2 if VOX Mode = **Adaptive**

### BT/Line Input VOX Dim

The 'BT/Line Input VOX Dim' is a switch that operates when a someone is talking to the Beltpack via the intercom network. If the voice is detected and exceeds the defined threshold the Bluetooth and Line Input audio is dimmed.

<b>VOX Mode</b>	Off: The VOX functionality is turned off. Bluetooth and Line In signals are never dimmed. <b>Standard:</b> The VOX functionality is turned on. Bluetooth and Line In signals are dimmed depending on the configurable parameters <b>Threshold</b> , <b>Hold Time</b> and <b>Release Time</b> and if audio is sent from the Antenna to the Beltpack. <b>Adaptive:</b> The adaptive VOX functionality is switched on and the threshold is continuously adapted to the current background noise. Bluetooth and Line In signals are dimmed depending on the configurable parameters <b>Delta</b> , <b>Hold Time</b> , <b>Release Time</b> and <b>Dim Level</b> and if audio is sent from the Antenna to the Beltpack.
<b>Threshold *1</b>	Slider to define the audio level that triggers the VOX. The Off threshold is fix 3dB below this adjusted threshold.
<b>Delta *2</b>	Slider to define the delta audio level between the background noise level and the audio level that triggers the VOX.
<b>Hold Time</b>	Slider to define the amount of time the VOX remains engaged during brief speech pauses. This also means the last several seconds of each audio transmission is always silence.
<b>Dim Level</b>	Slider to define the Dim level.

\*1 if VOX Mode = **Standard**

\*2 if VOX Mode = **Adaptive**

### Bluetooth

**New in 3.1** This menu is not available for 2.4GHz-Beltpacks.

<b>BT State</b>	Activates the Bluetooth functionality: <u>Off</u> , Connect to Headset, Connect to Mobile/PC
<b>Microphone Gain *1</b>	Slider to adjust the Bluetooth microphone amplification.
<b>Share to net *2</b>	Allows to listen to the audio signal of a paired device locally ( <b>Local</b> ) or to include it into the intercom ( <b>Public</b> ).
<b>Mobile/PC Volume *2</b>	Slider to adjust the Bluetooth volume.

\*1 if BT State = **Connect to Headset**

\*2 if BT State = **Connect to Mobile/PC**

## Keys

This view is used for defining the functions of the Beltpack keys 1 to 6 and Reply. This view is only available in the system modes **Standalone/AES67** and **Standalone/Link**. In this mode, the keys are configured using the **Director** configuration software.

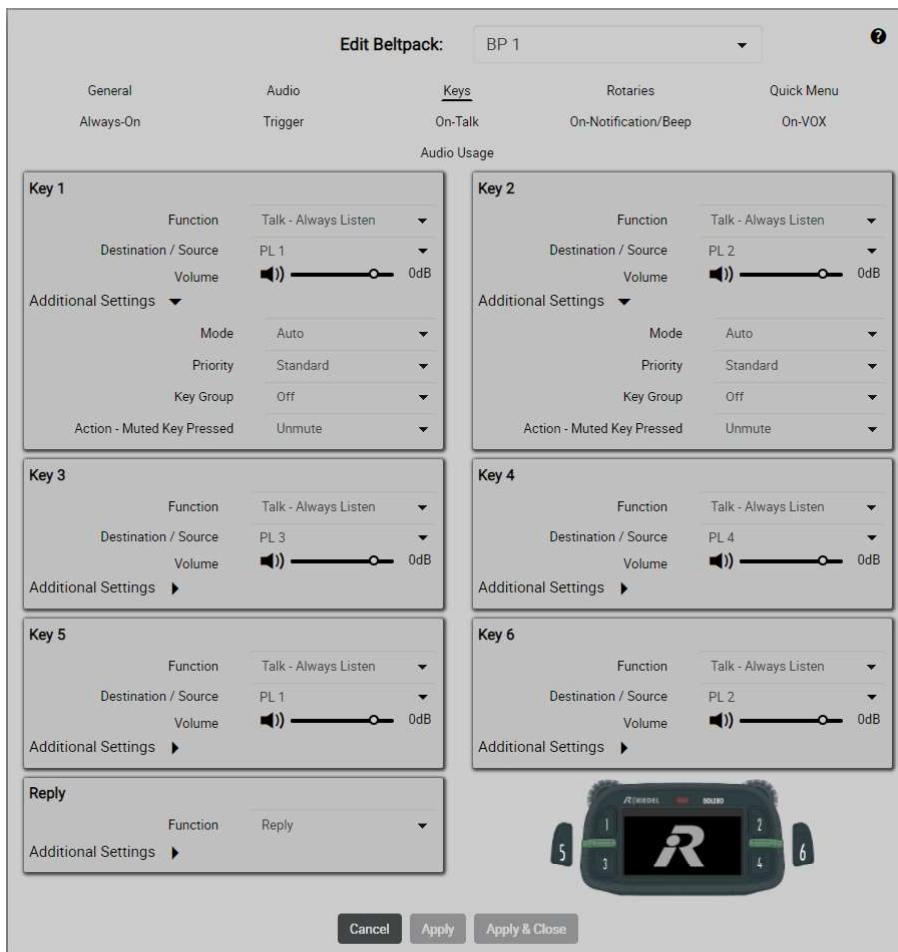


Figure 69: Edit (Beltpacks) – Keys

**Key 1 ... 6, Reply**

<b>Function</b>	Selection of the function of the respective Beltpack key:
<b>None</b>	No function.
<b>Talk</b>	Beltpack talks to the destination when the key is active.
<b>Talk - Always Listen</b>	Beltpack talks to the destination when the key is active and listens always to it.
<b>Talk &amp; Listen</b>	Beltpack talks to the destination and listens to the source when the key is active.
<b>Listen</b>	The Beltpack will force the selected source microphone open and listens to the source audio if Beltpack key is active; can only be configured in the Web Interface.
<b>Monitor</b>	The monitor function will only listen to the selected source if the selected source activates its own microphone.
<b>Monitor Select</b>	Enable monitoring on any Talk key destination.
<b>Notification / Beep Select</b>	Press and hold this key, then activate a Talk key to initiate a Notification/Beep indication on the Talk key destination (Beltpack, Partyline, Audio Channel).
<b>Reply</b>	Beltpack talks to the source of the most recent incoming call (Beltpack or Audio Channel) when the key is active; only Point-to-Point calls are considered as reply destinations.
<b>Menu Shortcut</b>	Jump to a specific entry in the Beltpack menu when pressing the key (e.g. Walk Test Pro, Lock Keys, etc.); same as a Quick Menu entry.
<b>Toggle</b>	Toggle a setting when pressing the respective Beltpack key. Echo Suppression, Speaker, Brightness Mode, Silent Mode, Display Mode, BT: Connect/Disconnect, BT: Local/Public
<b>Monitor Trigger</b>	Show the state of the Trigger on the Beltpack screen (active: thick white line, inactive: thin gray line).
<b>Set Trigger</b>	Trigger is active as long as the key is active; Trigger may be active even if the key is released when there is another source activating the Trigger (other key, etc.).
<b>Volume Increase / Volume Decrease</b>	Increase/decrease the selected volume(s); same as turning a rotary to the right/left.
<b>Destination *1</b>	Defines the destination depending on the selected function:
<b>Talk</b>	Defines the destination of calls: <ul style="list-style-type: none"><li>• Partylines</li><li>• Beltpacks</li><li>• Audio Channel (Output, 4-Wire)</li></ul>
<b>Menu Shortcut</b>	Opens the selected menu by pressing the respective Beltpack key.
<b>Monitor Trigger</b>	Defines the (physically/virtual) GPIO-input/output to be monitored: <ul style="list-style-type: none"><li>• Define Input/Output/Virtual Trigger</li><li>• Create Virtual Trigger</li></ul>
<b>Set Trigger</b>	Defines (physically/virtual) GPIO-outputs to be switched: <ul style="list-style-type: none"><li>• Define Output/Virtual Trigger</li><li>• Create Virtual Trigger</li></ul> Create Virtual Trigger allows creating a new virtual trigger in the network space. This trigger can be used to trigger events from all devices registered in this network space. Each trigger has a unique ID. The trigger can be toggled normally or forced to a fixed condition (1/0).

\*1 if Function = Talk, Menu Shortcut, Set/Monitor Trigger

<b>Destination/ Source *<sup>2</sup></b>	Defines the destination and the source depending on the selected function:  <b>Talk - Always Listen</b> Defines the destination and source of calls: • Partylines
<b>Source *<sup>3</sup></b>	Defines the source depending on the selected function:  <b>Listen</b> Defines the source of calls: • Partylines  <b>Monitor</b> • Beltpacks • Audio Channel (Output, 4-Wire)
<b>Additional Settings</b>	Further settings can be expanded by clicking the arrow:  <b>Mode *<sup>4</sup></b> Defines if the key press is latching, momentary or set automatically (short press: latching, long press: momentary).  <b>Priority *<sup>5</sup></b> • If a channel is set to 'High Prio', all <u>other</u> audio signals to the sink with lower priority (standard or low) are dimmed when the high priority audio signal is active. • If a channel is set to 'Low Prio', <u>this</u> audio signal is dimmed when the sink receives a higher priority (standard or high) active audio signal. Note that "sink" is the destination in case of a <b>Talk</b> function and the own Beltpack in case of a <b>Listen</b> function. The dim level can be adjusted in the <a href="#">Audio Settings &gt; Levels &gt; Priority Dim</a> for each Beltpack.  <b>Key Group</b> In Standalone mode, Key Groups can be used to make sure that some keys on a Beltpack are mutually exclusive. At most one key of a Key Group can be active at the same time. If an additional key of the same Key Group is pressed, the previously active key is deactivated automatically. Five different Key Groups can be used per Beltpack. Key Groups are local to a Beltpack, i.e. keys on different Beltpacks are not affected even if they have the same Key Group number.  <b>Action - Muted Key Pressed</b> When activating a key with a muted audio signal on it, the Beltpack can now react differently, according to this Standalone mode key setting: (⇒ <a href="#">Quick Mute</a> ) • <b>Keep Mute State:</b> No changes, the incoming audio signal stays muted. • <b>Unmute:</b> The incoming audio signal is immediately unmuted when the key is activated. • <b>Momentary Unmute:</b> The incoming audio signal is immediately unmuted when the key is activated and automatically muted when the key is deactivated again.

\*<sup>2</sup> if Function = Talk - Always Listen

\*<sup>3</sup> if Function = Listen, Monitor

\*<sup>4</sup> if Function = Talk, Talk - Always Listen, Listen, Monitor, Reply, Set Trigger

\*<sup>5</sup> if Function = Talk, Talk - Always Listen, Listen, Monitor

## Rotaries

This view is used for defining the function of the rotary encoders.

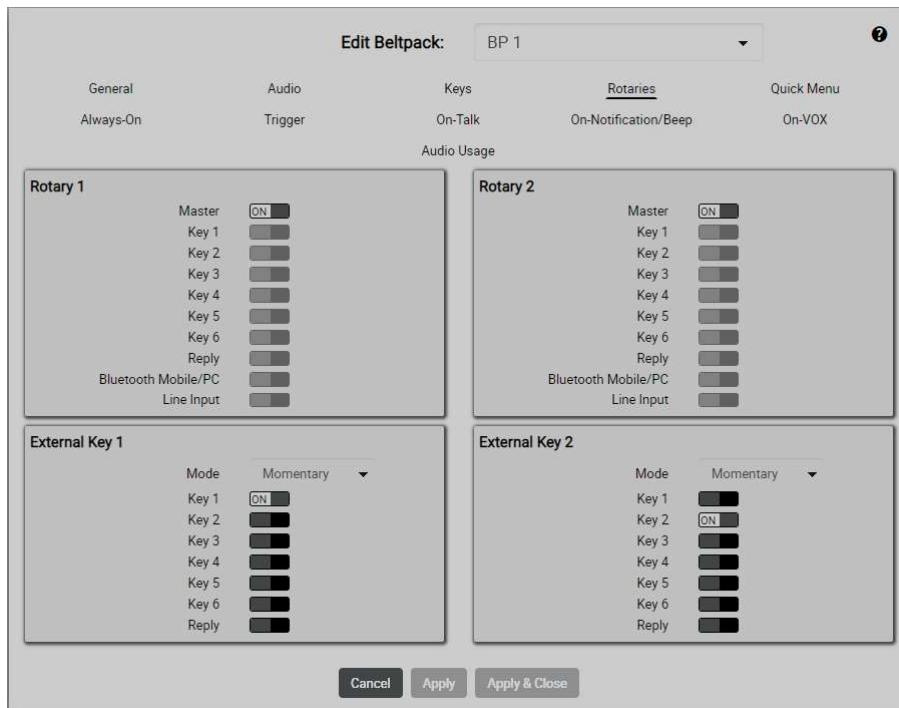


Figure 70: Edit (Beltpacks) – Rotaries

### Rotary 1,2

<b>Master</b>	Switch for selecting the respective audio channel whose volume is to be changed using rotary 1 or 2.
<b>Key 1 ... 6</b>	
<b>Reply</b>	
<b>Bluetooth Mobile/PC *1</b>	
<b>Line Input</b>	

\*1 not for 2.4GHz-Beltpacks

### External Key 1,2

This function requires the PTT (Push To Talk) accessory.

<b>Mode</b>	Defines if the key press mode: <u>Momentary</u> , <u>Latching</u> , <u>Auto</u> , <u>On only</u> , <u>Off only</u>
<b>Key 1 ... 6</b>	Switch for selecting the respective audio channel whose volume is to be changed using external PTT button 1 or 2.
<b>Reply</b>	

## Quick Menu

This view is used for defining up to 16 entries that are present in the Beltpacks quick menu.

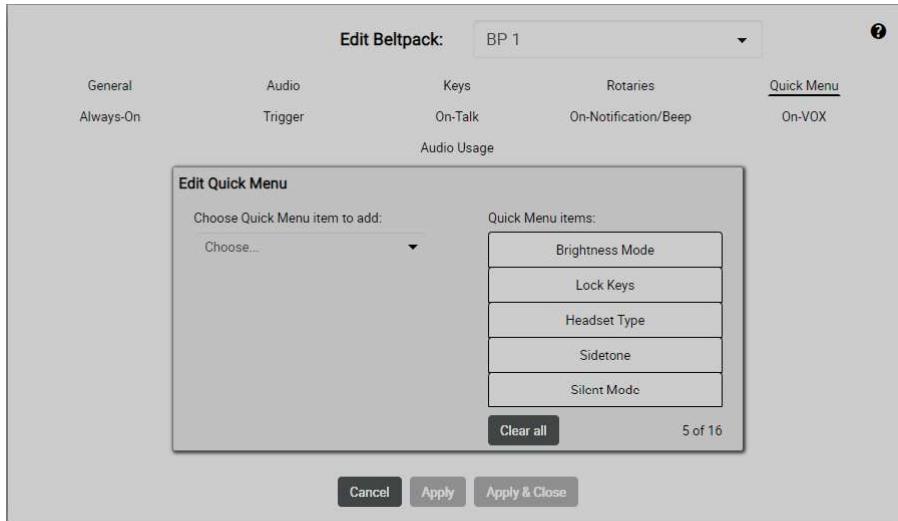


Figure 71: Edit (Beltpacks) – Quick Menu

Select in the drop-down list on the left side (**Choose Quick Menu item to add**) the quick menu item to be added to the respective Beltpack.

On the right side the present quick menu items are displayed. The order of the menu items can be changed by drag and drop. A menu item can be deleted by drag and drop the respective entry outside the window. Clicking the **Clear all** button deletes all entries.

## Always-On

This view is used for defining up to five functions that are permanent active, when a Beltpack is connected, without pressing any Beltpack key.

This view is only available in the system modes **Standalone/AES67** and **Standalone/Link**.

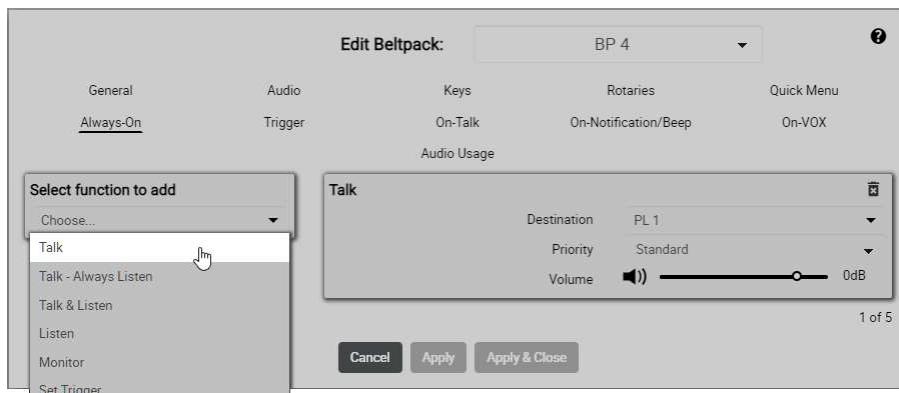


Figure 72: Edit (Beltpacks) - Always-On

In total, the following functions are available and permanently active:	
<b>Function to add</b>	<p><b>Talk</b> Call to the selected destination.</p> <p><b>Talk - Always Listen</b> Call to the selected destination and permanently listen to the selected source.</p> <p><b>Talk &amp; Listen</b> Call to the selected destination and listen to the selected source.</p> <p><b>Listen</b> Forces the selected source microphone to open and listen to the source.</p> <p><b>Monitor</b> Listens to the selected source only if it has its own microphone open.</p> <p><b>Set Trigger</b> Switching of (physical/virtual) GPIO outputs.</p>
<b>Destination /Source</b>	Defines the destination (or source) depending on the selected function: <ul style="list-style-type: none"> <li><b>Talk</b> Destination (or source) of calls:           <ul style="list-style-type: none"> <li>present Partylines</li> <li>present Beltpacks</li> <li>present Audio Channels</li> </ul> </li> <li><b>Talk - Always Listen</b> Destination and source of calls:           <ul style="list-style-type: none"> <li>present Partylines</li> </ul> </li> <li><b>Talk &amp; Listen</b></li> <li><b>Set Trigger</b> GPIO outputs to be switched (physically/virtual):           <ul style="list-style-type: none"> <li>Define Output/Virtual Trigger</li> <li>Create Virtual Trigger</li> </ul> </li> </ul>
<b>Priority *1</b>	Defines the <u>priority</u> ( <u>Standard</u> , High, Low) of the function and the resulting dimming of the audio signal.
<b>Volume *1,*2</b>	Volume adjustment.
	A function can be deleted by clicking the trash button.

\*1 not if Function = Set Trigger, Notification/Beep

\*2 not if Function = Talk and Destination = Audio Channels > Ouput Audio Channels

## Trigger

Up to 5 functions can be configured, which are activated when and as long as the selected trigger is in the "high" state.

This view is only available in the system modes **Standalone/AES67** and **Standalone/Link**.

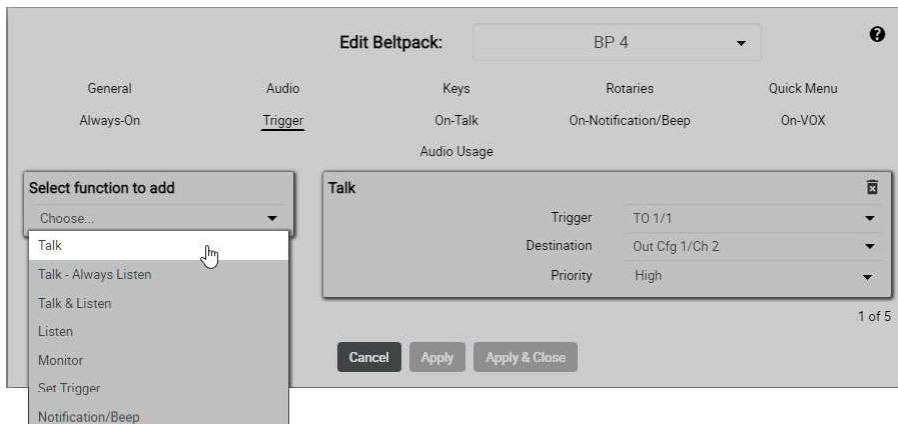


Figure 73: Edit (Beltpacks) – Trigger

<b>Function to add</b>	In total, the following functions are available, which are activated when the selected trigger fires:	
<b>Talk</b>	Call to the selected destination.	
<b>Talk - Always Listen</b>	Call to the selected destination and permanently listen to the selected source.	
<b>Talk &amp; Listen</b>	Call to the selected destination and listen to the selected source.	
<b>Listen</b>	Forces the selected source microphone to open and listen to the source.	
<b>Monitor</b>	Listens to the selected source only if it has its own microphone open.	
<b>Set Trigger</b>	Switching of (physical/virtual) GPIO outputs.	
<b>Notification/Beep</b>	Triggering a notification / beep.	
<b>Trigger</b>	Defines the trigger (input/output/virtual) that causes activating the respective function.	
<b>Destination /Source</b>	Defines the destination (or source) depending on the selected function:	
• <b>Talk</b>	Destination (or source) of calls:	
• <b>Listen</b>	<ul style="list-style-type: none"> <li>present Partylines</li> <li>present Beltpacks</li> <li>present Audio Channels</li> </ul>	
• <b>Talk - Always Listen</b>	Destination and source of calls:	
• <b>Talk &amp; Listen</b>	<ul style="list-style-type: none"> <li>present Partylines</li> </ul>	
• <b>Set Trigger</b>	GPIO outputs to be switched (physically/virtual):	
• <b>Notification/Beep</b>	<ul style="list-style-type: none"> <li>Define Output/Virtual Trigger</li> <li>Create Virtual Trigger</li> </ul>	
<b>Priority *1</b>	Destination of beep-tones / voice-notifications:	
• <b>Priority</b>	<ul style="list-style-type: none"> <li>present Partylines</li> <li>present Beltpacks</li> <li>present Audio Channels</li> </ul>	
<b>Volume *1,*2</b>	Volume adjustment.	
	A function can be deleted by clicking the trash button.	

\*1 not if Function = Set Trigger, Notification/Beep

\*2 not if Function = Talk and Destination = Audio Channels > Ouput Audio Channels

## On-Talk

Up to 5 functions can be configured, which are automatically activated when and as long as someone talks to the Beltpack.

This view is only available in the system modes **Standalone/AES67** and **Standalone/Link**.

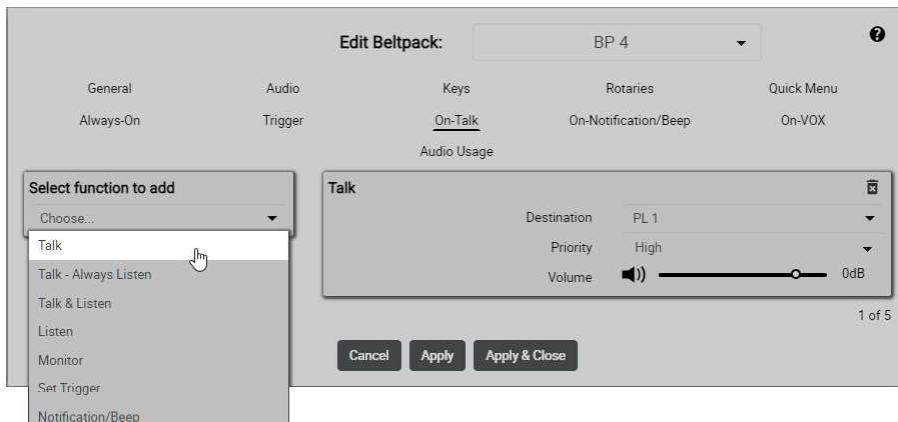


Figure 74: Edit (Beltpacks) – On-Talk

<b>Function to add</b>	In total, the following functions are available, which are activated when and as long as someone is talking to the Beltpack:
<b>Talk</b>	Call to the selected destination.
<b>Talk - Always Listen</b>	Call to the selected destination and permanently listen to the selected source.
<b>Talk &amp; Listen</b>	Call to the selected destination and listen to the selected source.
<b>Listen</b>	Forces the selected source microphone to open and listen to the source.
<b>Monitor</b>	Listens to the selected source only if it has its own microphone open.
<b>Set Trigger</b>	Switching of (physical/virtual) GPIO outputs.
<b>Notification/Beep</b>	Triggering a notification / beep.
<b>Destination /Source</b>	Defines the destination (or source) depending on the selected function: <ul style="list-style-type: none"> <li><b>Talk</b> Destination (or source) of calls:               <ul style="list-style-type: none"> <li>present Partylines</li> <li>present Beltpacks</li> <li>present Audio Channels</li> </ul> </li> <li><b>Talk - Always Listen</b> Destination and source of calls:               <ul style="list-style-type: none"> <li>present Partylines</li> </ul> </li> <li><b>Talk &amp; Listen</b></li> <li><b>Set Trigger</b> GPIO outputs to be switched (physically/virtual):               <ul style="list-style-type: none"> <li>Define Output/Virtual Trigger</li> <li>Create Virtual Trigger</li> </ul> </li> <li><b>Notification/Beep</b> Destination of beep-tones / voice-notifications:               <ul style="list-style-type: none"> <li>present Partylines</li> <li>present Beltpacks</li> <li>present Audio Channels</li> </ul> </li> </ul>
<b>Priority *1</b>	Defines the <a href="#">priority</a> ( <i>Standard</i> , High, Low) of the function and the resulting dimming of the audio signal.
<b>Volume *1,*2</b>	Volume adjustment.
	A function can be deleted by clicking the trash button.

\*1 not if Function = Set Trigger, Notification/Beep

\*2 not if Function = Talk and Destination = Audio Channels > Ouput Audio Channels

## On-Notification/Beep

Up to 5 functions can be configured, which are automatically activated when and as long as someone "beeps" the Beltpack.

This view is only available in the system modes **Standalone/AES67** and **Standalone/Link**.

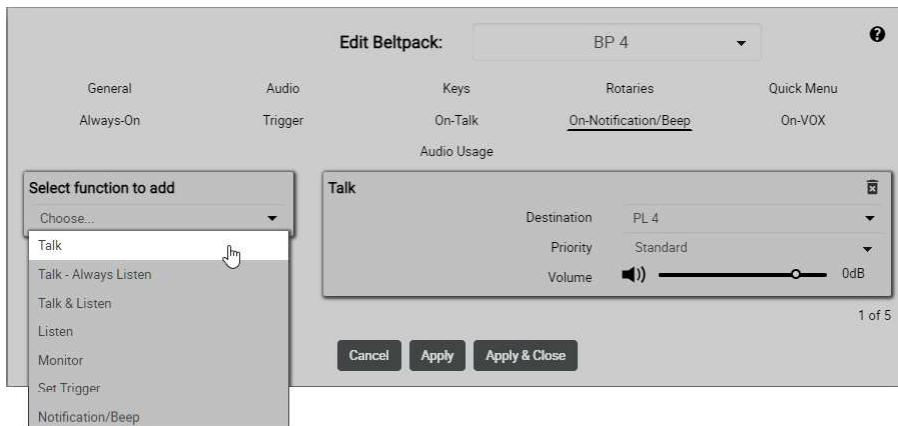


Figure 75: Edit (Beltpacks) – On-Notification/Beep

<b>Function to add</b>	In total, the following functions are available, which are activated when and as long as someone "beeps" the Beltpack:
<b>Talk</b>	Call to the selected destination.
<b>Talk - Always Listen</b>	Call to the selected destination and permanently listen to the selected source.
<b>Talk &amp; Listen</b>	Call to the selected destination and listen to the selected source.
<b>Listen</b>	Forces the selected source microphone to open and listen to the source.
<b>Monitor</b>	Listens to the selected source only if it has its own microphone open.
<b>Set Trigger</b>	Switching of (physical/virtual) GPIO outputs.
<b>Notification/Beep</b>	Triggering a notification / beep.
<b>Destination /Source</b>	Defines the destination (or source) depending on the selected function: <ul style="list-style-type: none"> <li><b>Talk</b> Destination (or source) of calls:                             <ul style="list-style-type: none"> <li>present Partylines</li> <li>present Beltpacks</li> <li>present Audio Channels</li> </ul> </li> <li><b>Talk - Always Listen</b> Destination and source of calls:                             <ul style="list-style-type: none"> <li>present Partylines</li> </ul> </li> <li><b>Talk &amp; Listen</b></li> <li><b>Set Trigger</b> GPIO outputs to be switched (physically/virtual):                             <ul style="list-style-type: none"> <li>Define Output/Virtual Trigger</li> <li>Create Virtual Trigger</li> </ul> </li> <li><b>Notification/Beep</b> Destination of beep-tones / voice-notifications:                             <ul style="list-style-type: none"> <li>present Partylines</li> <li>present Beltpacks</li> <li>present Audio Channels</li> </ul> </li> </ul>
<b>Priority *1</b>	Defines the <a href="#">priority</a> ( <i>Standard</i> , High, Low) of the function and the resulting dimming of the audio signal.
<b>Volume *1,*2</b>	Volume adjustment.
	A function can be deleted by clicking the trash button.

\*1 not if Function = Set Trigger, Notification/Beep

\*2 not if Function = Talk and Destination = Audio Channels > Ouput Audio Channels

## On-VOX

Up to 5 functions can be configured, that are automatically activated when and as long as the [Microphone VOX](#) is triggered. The VOX is a switch that operates when a sound is detected and exceeds the defined threshold. This view is only available in the system modes **Standalone/AES67** and **Standalone/Link**.

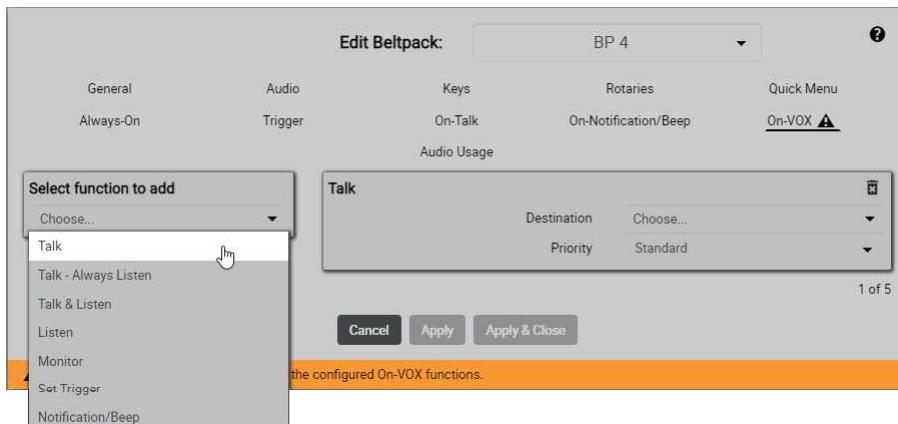
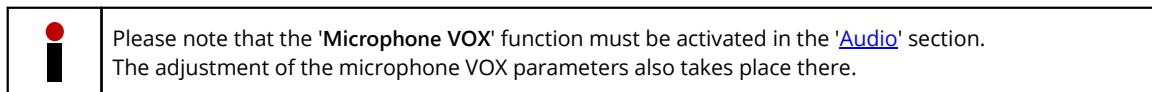


Figure 76: Edit (Beltpacks) – On-VOX

<b>Function to add</b>	In total, the following functions are available, which are activated when and as long as the Microphone VOX is triggered:
<b>Talk</b>	Call to the selected destination.
<b>Talk - Always Listen</b>	Call to the selected destination and permanently listen to the selected source.
<b>Listen</b>	Call to the selected destination and listen to the selected source.
<b>Talk &amp; Listen</b>	Forces the selected source microphone to open and listen to the source.
<b>Monitor</b>	Listens to the selected source only if it has its own microphone open.
<b>Set Trigger</b>	Switching of (physical/virtual) GPIO outputs.
<b>Notification/Beep</b>	Triggering a notification / beep.
<b>Destination /Source</b>	Defines the destination (or source) depending on the selected function: <ul style="list-style-type: none"> <li><b>Talk</b></li> <li><b>Listen</b></li> <li><b>Monitor</b></li> </ul> Destination (or source) of calls: <ul style="list-style-type: none"> <li>present Partylines</li> <li>present Beltpacks</li> <li>present Audio Channels</li> </ul> <ul style="list-style-type: none"> <li><b>Talk - Always Listen</b></li> <li><b>Talk &amp; Listen</b></li> </ul> Destination and source of calls: <ul style="list-style-type: none"> <li>present Partylines</li> </ul> <ul style="list-style-type: none"> <li><b>Set Trigger</b></li> </ul> GPIO outputs to be switched (physically/virtual): <ul style="list-style-type: none"> <li>Define Output/Virtual Trigger</li> <li>Create Virtual Trigger</li> </ul> <ul style="list-style-type: none"> <li><b>Notification/Beep</b></li> </ul> Destination of beep-tones / voice-notifications: <ul style="list-style-type: none"> <li>present Partylines</li> <li>present Beltpacks</li> <li>present Audio Channels</li> </ul>

**Priority \*1** Defines the [priority](#) (*Standard*, High, Low) of the function and the resulting dimming of the audio signal.

**Volume \*1,\*2** Volume adjustment.



A function can be deleted by clicking the trash button.

\*1 not if Function = Set Trigger, Notification/Beep

\*2 not if Function = Talk and Destination = Audio Channels > Ouput Audio Channels

## Audio Usage

This view is only available in the system modes **Standalone/AES67** and **Standalone/Link**.

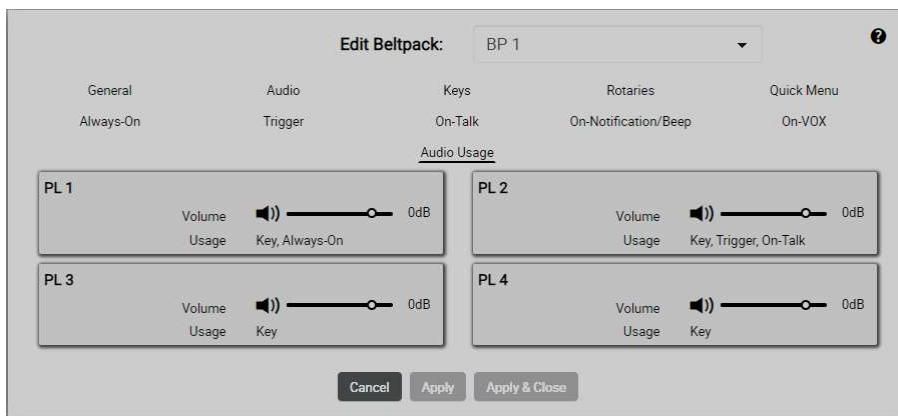


Figure 77: Edit (Beltpacks) – Audio Usage

Listing of all audio channels that can be received by the Beltpack.

With the Volume slider and the Mute button, the volume can be adjusted or muted.

### 2.3.4.3 Info (Beltpacks)

Clicking the  Info symbol shows information of the respective device. The dialog can be closed by pressing the ESC key.

 <b>?</b>	Opens the online help.
<b>Close</b>	Closes the information.

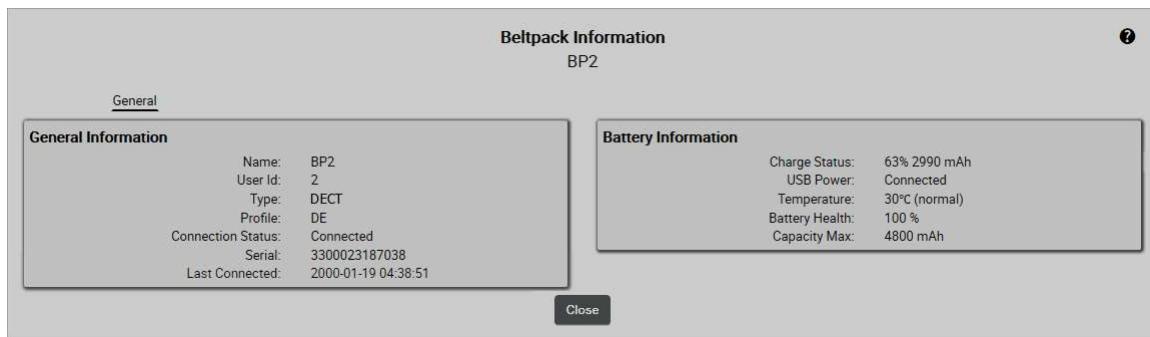


Figure 78: Info (Beltpacks) – General

#### General Information

<b>Name</b>	Name of the Beltpack.
<b>User ID</b>	Unique ID of the Beltpacks
<b>Type</b>	Type of device (DECT, 2.4GHz, S-Beltpack)
<b>Profile</b>	Name of the active profile
<b>Connection Status</b>	State of the network connection
<b>Serial</b>	Serial number of the Beltpack
<b>Last Connected</b>	Shows the date and time when the Beltpack was last logged on.

#### Battery Information

<b>Charge Status</b>	State of charge in percent and mAh.
<b>USB Power</b>	Shows whether the Beltpack is supplied with power via the USB interface.
<b>Temperature</b>	Temperature in °C (too cold!, cold, normal, warm, too hot!).
<b>Battery Health</b>	Battery status as percentage of the original maximum capacity.
<b>Capacity Max</b>	Maximum capacity of the battery.

### 2.3.5 Profiles (User Rights)

The **Profiles** window lists all available Beltpack profiles of the active network space.

Profiles are a collection of Beltpack parameters. To achieve a fast and easy configuration, profiles can be applied to multiple Beltpacks without setting parameters manually in each Beltpack.

Change of a profile parameter will immediately update this parameter in all Beltpacks assigned to this profile. Allowing the admin to decide if a Beltpack user has the ability to change certain parameters, the profiles also implement user rights.

The **Profiles** window features the following functions:

- List of all available Profiles
- Creation of Profiles
- Changing of Profile settings
- Defining of user rights

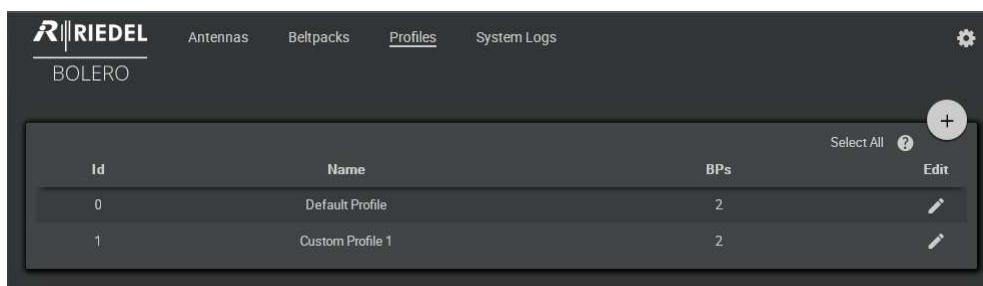


Figure 79: Web-Interface – Profiles

<b>Id</b>	Shows unique ID of the Profile.
<b>Name</b>	Name of the Profile.
<b>BP</b>	Amount of Beltpacks using this Profile.
<b>Edit</b>	Button to edit the Profile. 

#### 2.3.5.1 Action Button (Profiles)

Clicking the  action button offers functions to manage Beltpack profiles.

The dialog can be closed by pressing the ESC key.

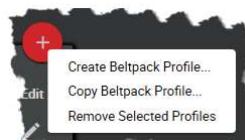


Figure 80: Action Button (Profiles)

##### Create Beltpack Profile

This function allows creating a new Beltpack profile. All parameters are the same as editing in the Beltpack.  
(⇒ [Edit \(Beltpacks\)](#))

##### Copy Beltpack Profile

This function allows creating a new Beltpack Profile by using the selected Beltpack Profile as template.

##### Remove Selected Profiles

This function deletes the selected Profile after confirmation.

### 2.3.5.2 Edit (Profile)

Clicking the  Edit symbol opens a dialog to edit profiles on several pages. The selected page is underlined. The dialog can be closed by pressing the ESC key without saving any changes. In the drop-down list at the top, it is possible to directly switch to the 'Edit Profiles' view of another Profile.

<b>Cancel</b>	Discards all changes.
<b>Apply</b>	Stores all changes.
<b>Apply &amp; Close</b>	Stores all changes and closes dialog.



Figure 81: Edit (Profiles)

The parameters are the same as those available when editing Beltpack settings.

(⇒'Features in Detail > Web Interface > Beltpacks > Edit (Beltpacks)')



Changes to a profile in the web interface are immediately applied to all Beltpacks that use the edited profile, regardless of the previous setting on the Beltpack. Only the changed profile settings (highlighted in blue) are applied, while all other settings remain unaffected. Some settings are grouped (e.g. Keys, Always-On, Rotaries, etc.), meaning they can only be edited together.

The following entries are an exception:

#### General

<b>Profil Name</b>	Name of the Profile.
<b>Profil Id</b>	Unique ID of the Profile.

#### Name

<b>Name</b>	Name of the Beltpacks.
<b>New in 3.1</b>	If this function is activated, the entered <b>Name</b> is set for all Beltpacks using this profile.
<b>Update Name</b>	
<b>Append ID</b>	If this function is activated, an incremental ID of the Beltpack is appended to the name.

Furthermore the user rights can be edit for parameters. Click the symbol to toggle the status:

 <b>Change Profile</b>	The Beltpack user has the user right to use this function.
 <b>Quick Mute</b>	The Beltpack user has <i>no</i> right to use this function. This function is hidden in the Beltpack.

In the **User Rights** view, access to additional menu items can be restricted.

#### General

<b>Change Profile</b>	User right to access the menu ' <b>General Settings &gt; Profile</b> '.
<b>Quick Mute</b>	User right to allow quick mute in the Volume Change menu.
<b>Reset</b>	User right to access the menu ' <b>Service &gt; Reset</b> '.
<b>info</b>	User right to access the menu ' <b>Service &gt; Information</b> '.

#### System

<b>Registration</b>	User right to access the menu ' <b>Registration</b> '.
<b>System Settings</b>	User right to access all sub-menus in the menu ' <b>Admin</b> ' (except <b>Registration Mode</b> ).
<b>Test</b>	User right to access the menu ' <b>Service &gt; Test</b> '.

#### Menu

<b>Main Menu</b>	User right to access the main menu. (The message <b>Menu locked</b> is displayed.)
<b>Quick Menu</b>	User right to access the Quick Menu.
<b>Volume Menu</b>	User right to access the volume adjustment.

### 2.3.6 Partylines

The **Partyline** view lists all available Partylines of the active network space.

This view is only available in the system modes '**Standalone/AES67**' and '**Standalone/Link**'.

This view allows creating and editing up to 12 Partylines in the active network space.

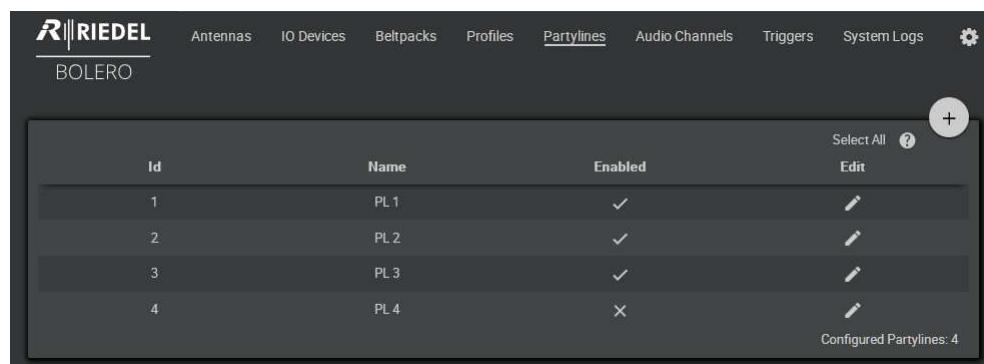


Figure 82: Web-Interface – Partylines

<b>Id</b>	Shows unique ID of the Partyline.
<b>Name</b>	Name of the Partyline.
<b>Enabled</b>	Displays the activity status of the Partyline. Disabled Partylines are not shown on the Beltpacks.
<b>Edit</b>	Button to edit the Partyline.

### 2.3.6.1 Action Button (Partylines)

Clicking the  action button offers functions to manage Partylines.  
The dialog can be closed by pressing the ESC key.



Figure 83: Action Button (Partylines)

#### Create Partyline

This function allows adding a new Partyline to the list.  
A name and an ID are required for the creation. (The next available ID is displayed by default.)

#### Remove selected Partylines

This function allows removing the selected Partyline(s) from the list.  
A dialog is opened to confirm the action.

### 2.3.6.2 Edit (Partylines)

Clicking the  Edit symbol opens a dialog to edit Partylines.  
The dialog can be closed by pressing the ESC key without saving any changes.  
In the drop-down list at the top, it is possible to directly switch to the 'Edit Partylines' view of another Partyline.

<b>Cancel</b>	Discards all changes.
<b>Apply</b>	Stores all changes.

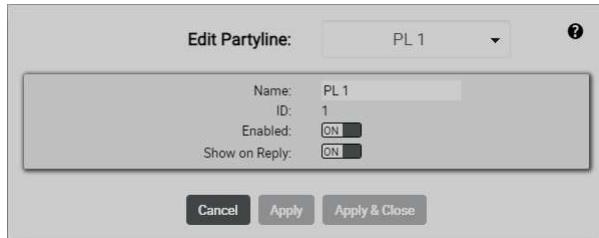


Figure 84: Edit (Partylines)

<b>Name</b>	Name of the Partyline.
<b>Id</b>	Displays the unique ID of the Partyline. (fixed, read only)
<b>Enabled</b>	Switch to enable (ON) the Partyline.
<b>New in 3.1</b>	
<b>Show on Reply</b>	Switch to enable (ON) the Partyline for the Reply function. (When the Beltpack's Reply key is pressed, the Beltpack speaks into the Partyline that spoke last).

### 2.3.7 Audio Channels

The **Audio Channels** view lists all available audio channels of the active network space. This view is only available in the system modes 'Standalone/AES67' and 'Standalone/Link'. **Audio Channels** need to be enabled in the **IO Devices** view first.

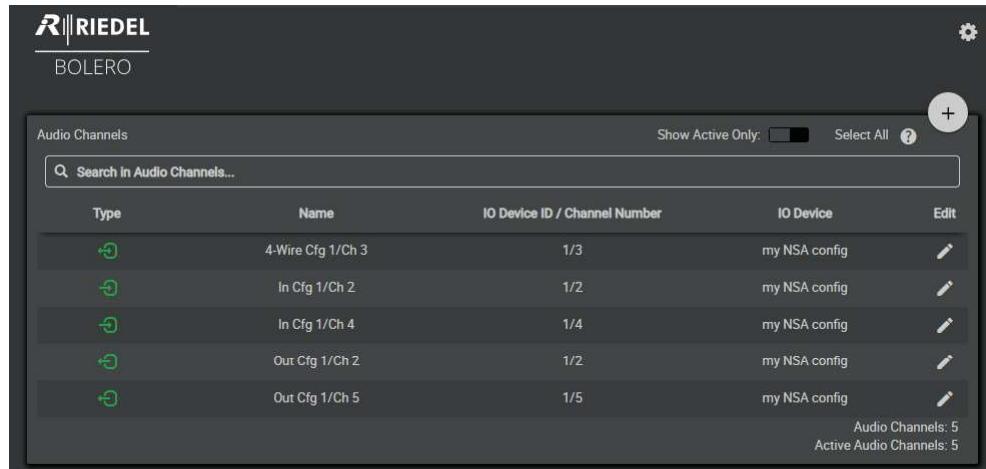


Figure 85: Web-Interface – Audio Channels

<b>Show Active Only:</b> <input checked="" type="checkbox"/>	If the switch is enabled (On), deactivated elements will be hidden.
<b>Search in Audio Channels...</b>	Only Audio-Channels that contain the search text in the Name, IO-Device-ID/Channel-Number or IO-Device field are displayed (case sensitivity is ignored).
<b>Type</b>	Indicates the type of the Audio Channel. If green, the channel is active.
	<b>Input</b> 
	<b>Output</b> 
	<b>4-Wire</b> 
<b>Name</b>	Name of the Audio Channel.
<b>IO Device ID / Channel Number</b>	ID of the IO Device / Number of the Audio Channel.
<b>IO Device</b>	Name of the IO Device.
<b>Edit</b>	Button to edit the Partyline. 

### 2.3.7.1 Action Button (Audio Channels)

Clicking the  action button offers functions to manage audio channels. The dialog can be closed by pressing the ESC key.



Figure 86: Action Button (Audio Channels)

#### Copy AudioChannels Config

This function allows copying the configuration of the selected audio channel to another audio channel.

#### Reset to Defaults

This function allows resetting the values of the selected audio channels to the configurations default values.

### 2.3.7.2 Edit (Audio Channels)

Clicking the  Edit symbol opens a dialog to edit audio channels on several pages. The selected page is underlined. The dialog can be closed by pressing the ESC key without saving any changes. In the drop-down list at the top, it is possible to directly switch to the 'Edit Audio Channels' view of another Audio Channel.

<b>Cancel</b>	Discards all changes.
<b>Apply</b>	Stores all changes.
<b>Apply &amp; Close</b>	Stores all changes and closes dialog.

## General

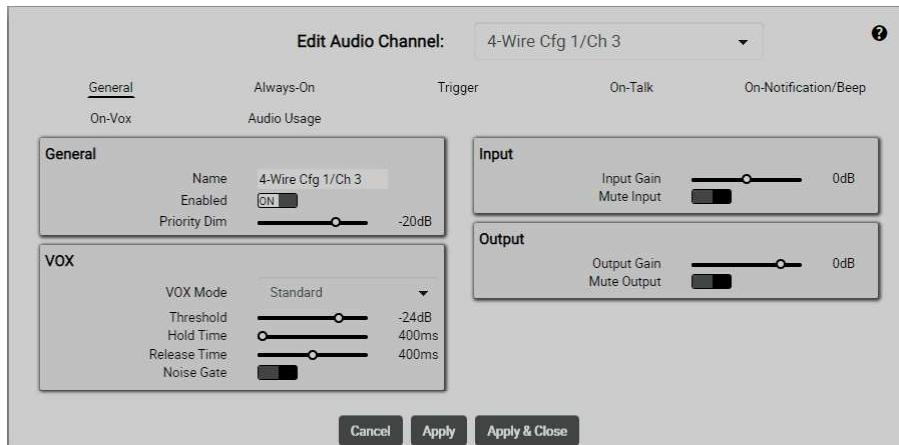


Figure 87: Edit (Audio Channels) – General

<b>General</b>	<b>Name</b>	User configurable name of the audio channel.
	<b>Enabled</b>	Slider to enable/disable the audio channel.
	<b>Priority Dim *2</b>	Slider to adjust the dim level of priority calls: Mute, -72 ... <u>-20</u> ... 0 dB
<b>VOX *1</b>	The VOX or voice activation function is one of the most useful features. The VOX is a switch that operates when a sound is detected at the audio inputs and 4-wire and exceeds the defined threshold.	
	<b>VOX Mode</b>	<b>Off:</b> The VOX functionality is turned off. The audio signal is always going through. <b>Standard:</b> The VOX functionality is turned on. The audio signal is switched through depending on the configurable parameters <b>Threshold</b> , <b>Hold Time</b> and <b>Release Time</b> .
	<b>Threshold</b>	Slider to define the audio level that triggers the VOX. The Off threshold is fix 3dB below this adjusted threshold.
	<b>Hold Time</b>	Slider to define the amount of time the VOX remains engaged during brief speech pauses. This also means the last several seconds of each audio transmission is always silence.
	<b>Release Time</b>	Slider to set the time period for the microphone to change from open to fully closed.
	<b>New in 3.1</b>	The audio is only <u>forwarded</u> to the system when the VOX switch is active.
	<b>Noise Gate</b>	
<b>Input *1</b>	<b>Input Gain</b>	Slider to adjust the input gain: -12 ... <u>0</u> ... +12 dB
	<b>Mute Input</b>	Slider to mute the input signal.
<b>Output *2</b>	<b>Output Gain</b>	Slider to adjust the output gain: Mute: -60 ... <u>0</u> ... +12 dB
	<b>Mute Output</b>	Slider to mute the output signal.

\*1 audio inputs and 4-wire only

\*2 audio outputs and 4-wire only

## Always-On

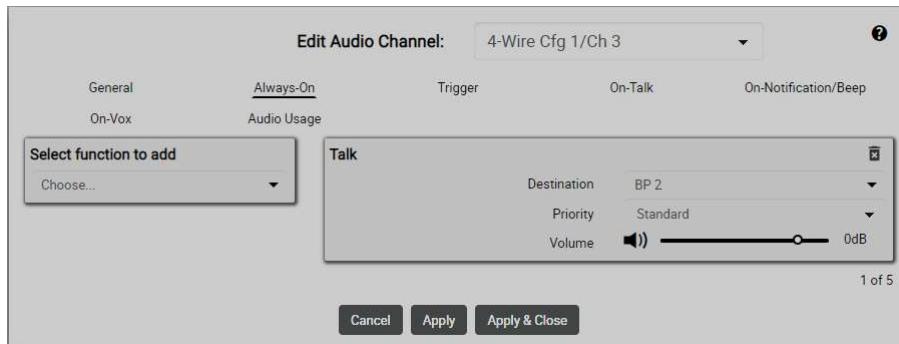


Figure 88: Edit (Audio Channels) – Always On

<b>Function to add</b>	Up to 5 functions can be configured, that are permanently activated.
<b>Talk *1</b>	Call to the selected destination.
<b>Talk - Always Listen *1, *2</b>	Call to the selected destination and permanently listen to the selected source.
<b>Talk &amp; Listen *1, *2</b>	Call to the selected destination and listen to the selected source.
<b>Listen *2</b>	Forces the selected source microphone to open and listen to the source.
<b>Monitor *2</b>	Listens to the selected source only if it has its own microphone open.
<b>Set Trigger</b>	Switching of (physical/virtual) GPIO outputs.
<b>Destination /Source</b>	Defines the destination (or source) depending on the selected function: <ul style="list-style-type: none"> <li><b>Talk</b> Destination (or source) of calls: <ul style="list-style-type: none"> <li>present Partylines</li> <li>present Beltpacks</li> <li>present Audio Channels</li> </ul> </li> <li><b>Talk - Always Listen</b> Destination and source of calls: <ul style="list-style-type: none"> <li>present Partylines</li> </ul> </li> <li><b>Talk &amp; Listen</b></li> </ul>
<b>Priority *3</b>	Defines the priority of the function and the resulting dimming of the audio signal: <b>High:</b> All <u>other</u> audio signals with lower priorities (Standard or Low) are dimmed at the sink when the audio signal with high priority is active. <b>Low:</b> <u>This</u> audio signal is dimmed when the sink receives an active audio signal with higher priority (Standard or High).
<b>Volume *3,*4</b>	Volume adjustment.  A function can be deleted by clicking the trash button.

\*1 not at audio outputs

\*2 not at audio inputs

\*3 not if Function = Set Trigger

\*4 not if Function = Talk and Destination = Audio Channels > Ouput Audio Channels

## Trigger



Figure 89: Edit (Audio Channels) – Trigger

<b>Function to add</b>	Up to 5 functions can be configured, that are activated when and as long as the selected Trigger is in "high" state.
<b>Talk *1</b>	Call to the selected destination.
<b>Talk - Always Listen *1, *2</b>	Call to the selected destination and permanently listen to the selected source.
<b>Talk &amp; Listen *1, *2</b>	Call to the selected destination and listen to the selected source.
<b>Listen *2</b>	Forces the selected source microphone to open and listen to the source.
<b>Monitor *2</b>	Listens to the selected source only if it has its own microphone open.
<b>Set Trigger</b>	Switching of (physical/virtual) GPIO outputs.
<b>Notification/Beep</b>	Triggering a notification / beep.
<b>Trigger</b>	Defines the trigger (input/output/virtual) that causes activating the respective function.
<b>Destination /Source</b>	Defines the destination (or source) depending on the selected function: <ul style="list-style-type: none"> <li><b>Talk</b> Destination (or source) of calls:               <ul style="list-style-type: none"> <li>present Partylines</li> <li>present Beltpacks</li> <li>present Audio Channels</li> </ul> </li> <li><b>Talk - Always Listen</b> Destination and source of calls:               <ul style="list-style-type: none"> <li>present Partylines</li> </ul> </li> <li><b>Talk &amp; Listen</b></li> <li><b>Set Trigger</b> GPIO outputs to be switched (physically/virtual):               <ul style="list-style-type: none"> <li>Define Output/Virtual Trigger</li> <li>Create Virtual Trigger</li> </ul> </li> <li><b>Notification/ Beep</b> Destination of beep-tones / voice-notifications:               <ul style="list-style-type: none"> <li>present Partylines</li> <li>present Beltpacks</li> <li>present Audio Channels</li> </ul> </li> </ul>
<b>Priority *3</b>	Defines the priority of the function and the resulting dimming of the audio signal: <b>High:</b> All <u>other</u> audio signals with lower priorities (Standard or Low) are dimmed at the sink when the audio signal with high priority is active. <b>Low:</b> <u>This</u> audio signal is dimmed when the sink receives an active audio signal with higher priority (Standard or High).
<b>Volume *3,*4</b>	Volume adjustment.
	 A function can be deleted by clicking the trash button.

\*1 not at audio outputs

\*2 not at audio inputs

\*3 not if Function = Set Trigger

\*4 not if Function = Talk and Destination = Audio Channels > Ouput Audio Channels

## On-Talk

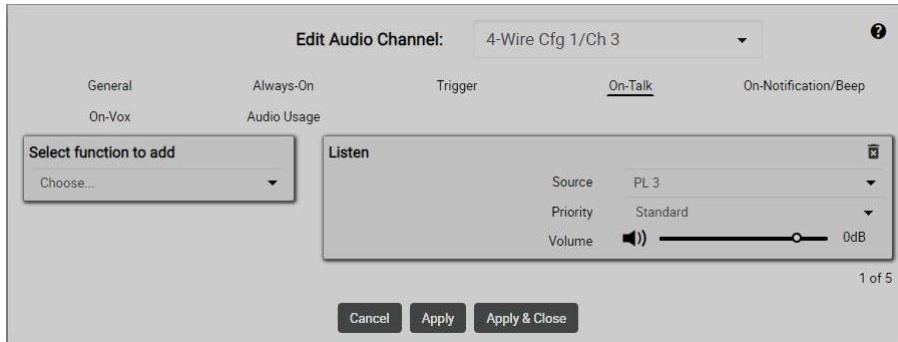


Figure 90: Edit (Audio Channels) – On-Talk

<b>Function to add</b>	Up to 5 functions can be configured, that are automatically activated when and as long as someone is talking to the Beltpack or Audio Channel (output and 4-wire channels only).
<b>Talk *1</b>	Call to the selected destination.
<b>Talk - Always Listen *1, *2</b>	Call to the selected destination and permanently listen to the selected source.
<b>Talk &amp; Listen *1, *2</b>	Call to the selected destination and listen to the selected source.
<b>Listen *2</b>	Forces the selected source microphone to open and listen to the source.
<b>Monitor *2</b>	Listens to the selected source only if it has its own microphone open.
<b>Set Trigger</b>	Switching of (physical/virtual) GPIO outputs.
<b>Notification/Beep</b>	Triggering a notification / beep.
<b>Destination /Source</b>	Defines the destination (or source) depending on the selected function: <ul style="list-style-type: none"> <li><b>Talk</b> Destination (or source) of calls: <ul style="list-style-type: none"> <li>present Partylines</li> <li>present Beltpacks</li> <li>present Audio Channels</li> </ul> </li> <li><b>Talk - Always Listen</b> Destination and source of calls: <ul style="list-style-type: none"> <li>present Partylines</li> </ul> </li> <li><b>Talk &amp; Listen</b></li> <li><b>Set Trigger</b> GPIO outputs to be switched (physically/virtual): <ul style="list-style-type: none"> <li>Define Output/Virtual Trigger</li> <li>Create Virtual Trigger</li> </ul> </li> <li><b>Notification/Beep</b> Destination of beep-tones / voice-notifications: <ul style="list-style-type: none"> <li>present Partylines</li> <li>present Beltpacks</li> <li>present Audio Channels</li> </ul> </li> </ul>
<b>Priority *3</b>	Defines the priority of the function and the resulting dimming of the audio signal: <b>High:</b> All <u>other</u> audio signals with lower priorities (Standard or Low) are dimmed at the sink when the audio signal with high priority is active. <b>Low:</b> <u>This</u> audio signal is dimmed when the sink receives an active audio signal with higher priority (Standard or High).
<b>Volume *3,*4</b>	Volume adjustment.
	A function can be deleted by clicking the trash button.

\*1 not at audio outputs

\*2 not at audio inputs

\*3 not if Function = Set Trigger

\*4 not if Function = Talk and Destination = Audio Channels > Ouput Audio Channels

## On-Notification/Beep

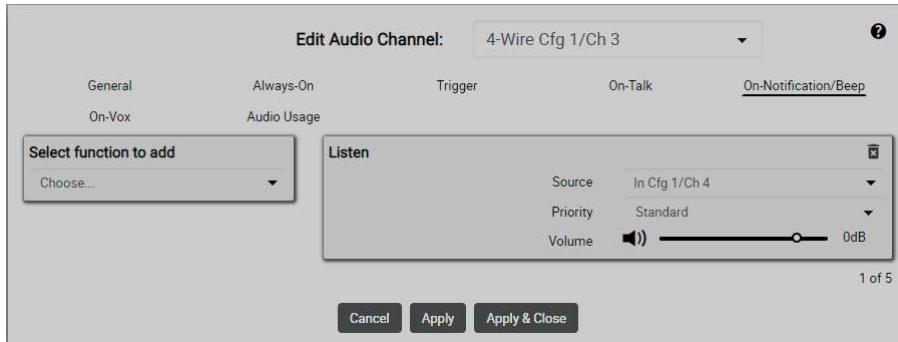


Figure 91: Edit (Audio Channels) – On-Notification/Beep

<b>Function to add</b>	Up to 5 functions can be configured, that are automatically activated when and as long as someone is "beeping" the Beltpack or Audio Channel (output and 4-wire channels only).
<b>Talk *1</b>	Call to the selected destination.
<b>Talk - Always Listen *1, *2</b>	Call to the selected destination and permanently listen to the selected source.
<b>Talk &amp; Listen *1, *2</b>	Call to the selected destination and listen to the selected source.
<b>Listen *2</b>	Forces the selected source microphone to open and listen to the source.
<b>Monitor *2</b>	Listens to the selected source only if it has its own microphone open.
<b>Set Trigger</b>	Switching of (physical/virtual) GPIO outputs.
<b>Notification/Beep</b>	Triggering a notification / beep.
<b>Destination /Source</b>	Defines the destination (or source) depending on the selected function: <ul style="list-style-type: none"> <li><b>Talk</b> Destination (or source) of calls:               <ul style="list-style-type: none"> <li>present Partylines</li> <li>present Beltpacks</li> <li>present Audio Channels</li> </ul> </li> <li><b>Talk - Always Listen</b> Destination and source of calls:               <ul style="list-style-type: none"> <li>present Partylines</li> </ul> </li> <li><b>Talk &amp; Listen</b></li> <li><b>Set Trigger</b> GPIO outputs to be switched (physically/virtual):               <ul style="list-style-type: none"> <li>Define Output/Virtual Trigger</li> <li>Create Virtual Trigger</li> </ul> </li> <li><b>Notification/Beep</b> Destination of beep-tones / voice-notifications:               <ul style="list-style-type: none"> <li>present Partylines</li> <li>present Beltpacks</li> <li>present Audio Channels</li> </ul> </li> </ul>
<b>Priority *3</b>	Defines the priority of the function and the resulting dimming of the audio signal: <p><b>High:</b> All <u>other</u> audio signals with lower priorities (Standard or Low) are dimmed at the sink when the audio signal with high priority is active.</p> <p><b>Low:</b> <u>This</u> audio signal is dimmed when the sink receives an active audio signal with higher priority (Standard or High).</p>
<b>Volume *3,*4</b>	Volume adjustment.
	 A function can be deleted by clicking the trash button.

\*1 not at audio outputs

\*2 not at audio inputs

\*3 not if Function = Set Trigger

\*4 not if Function = Talk and Destination = Audio Channels > Ouput Audio Channels

## On-Vox

In this section, functions can be configured that are automatically activated when and as long as the [VOX](#) is triggered. The VOX is a switch that operates when a sound is detected and exceeds the defined threshold.

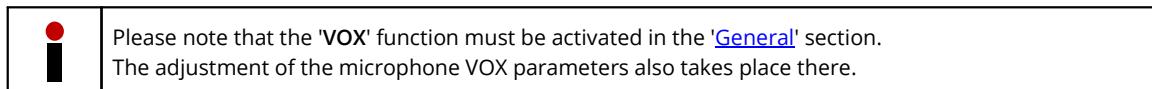


Figure 92: Edit (Audio Channels) – On-Vox

<b>Function to add</b>	Up to 5 functions can be configured, that are triggered by VOX.
<b>Talk *1</b>	Call to the selected destination.
<b>Talk - Always Listen *1, *2</b>	Call to the selected destination and permanently listen to the selected source.
<b>Talk &amp; Listen *1, *2</b>	Call to the selected destination and listen to the selected source.
<b>Listen *2</b>	Forces the selected source microphone to open and listen to the source.
<b>Monitor *2</b>	Listens to the selected source only if it has its own microphone open.
<b>Set Trigger</b>	Switching of (physical/virtual) GPIO outputs.
<b>Notification/Beep</b>	Triggering a notification / beep.
<b>Destination /Source</b>	Defines the destination (or source) depending on the selected function: <ul style="list-style-type: none"> <li><b>Talk</b> Destination (or source) of calls:                             <ul style="list-style-type: none"> <li>present Partylines</li> <li>present Beltpacks</li> <li>present Audio Channels</li> </ul> </li> <li><b>Talk - Always Listen</b> Destination and source of calls:                             <ul style="list-style-type: none"> <li>present Partylines</li> </ul> </li> <li><b>Talk &amp; Listen</b> Destination and source of calls:                             <ul style="list-style-type: none"> <li>present Partylines</li> </ul> </li> <li><b>Set Trigger</b> GPIO outputs to be switched (physically/virtual):                             <ul style="list-style-type: none"> <li>Define Output/Virtual Trigger</li> <li>Create Virtual Trigger</li> </ul> </li> <li><b>Notification/Beep</b> Destination of beep-tones / voice-notifications:                             <ul style="list-style-type: none"> <li>present Partylines</li> <li>present Beltpacks</li> <li>present Audio Channels</li> </ul> </li> </ul>

<b>Priority *<sup>3</sup></b>	Defines the priority of the function and the resulting dimming of the audio signal: <b>High:</b> All <u>other</u> audio signals with lower priorities (Standard or Low) are dimmed at the sink when the audio signal with high priority is active. <b>Low:</b> <u>This</u> audio signal is dimmed when the sink receives an active audio signal with higher priority (Standard or High).
<b>Volume *<sup>3,*4</sup></b>	Volume adjustment.   A function can be deleted by clicking the trash button.

\*<sup>1</sup> not at audio outputs

\*<sup>2</sup> not at audio inputs

\*<sup>3</sup> not if Function = **Set Trigger**

\*<sup>4</sup> not if Function = **Talk** and Destination = **Audio Channels > Ouput Audio Channels**

## Audio Usage

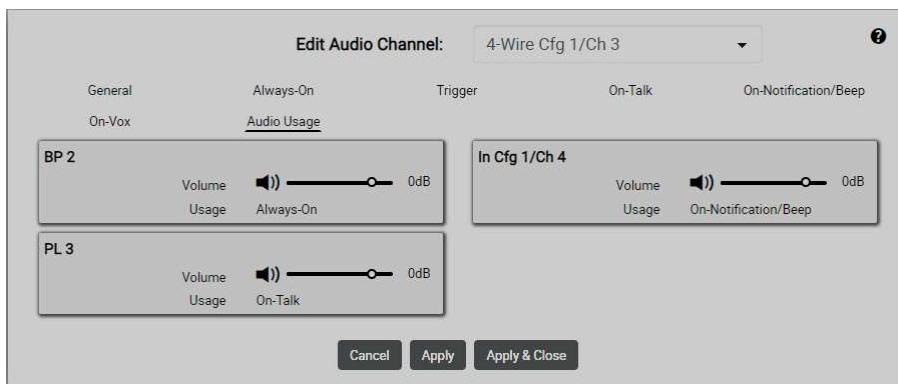


Figure 93: Edit (Audio Channels) – Audio Usage

Listing of all audio channels that can be received by the audio channel.

With the Volume slider and the Mute button, the volume can be adjusted or muted.

## 2.3.8 Triggers

The **Triggers** view lists all available (GPIO) triggers of the active network space.  
This view is only available in the system modes '**Standalone/AES67**' and '**Standalone/Link**'.

Virtual Triggers are 'logical' GPIOs which are not associated with a physical device.

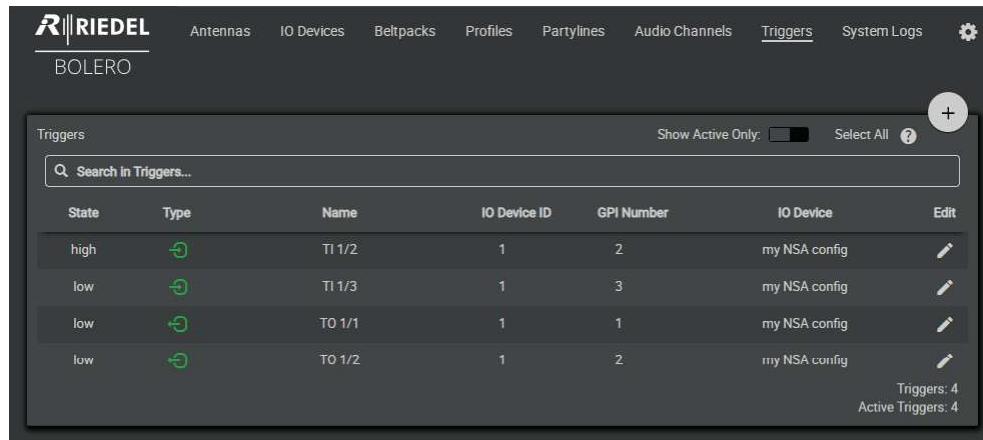


Figure 94: Web-Interface - Triggers

<input checked="" type="checkbox"/> Show Active Only	If the switch is enabled (On), deactivated elements will be hidden.
<input type="text"/> Search in Triggers...	Only Triggers that contain the search text in the Name, IO-Device-ID, GPI-Number or IO-Device field are displayed (case sensitivity is ignored).
<b>State</b>	Indicates the state of the trigger.
	not set (0) <span style="color: grey;">low</span>
	set (1) <span style="color: green;">high</span>
	deactivated <span style="color: grey;">-</span>
<b>Type</b>	Indicates the type of the trigger. If green, the trigger is active.
	input <span style="color: green;">↳</span> <span style="color: green;">↳</span>
	output <span style="color: green;">↳</span> <span style="color: green;">↳</span>
	virtual <span style="color: green;">VV</span>
<b>Name</b>	Name of the trigger.
<b>IO Device ID</b>	ID of the IO device at which the GPI interface is present.
<b>GPI Number</b>	Number of the trigger at the respective IO device.
<b>IO Device</b>	Name of the IO device at which the GPI interface is present.
<b>Edit</b>	

### 2.3.8.1 Action Button (Triggers)

Clicking the  action button offers functions to manage virtual triggers or triggers of IO devices. The dialog can be closed by pressing the ESC key.



Figure 95: Action Button (Triggers)

#### Create Virtual Trigger

This function allows adding a new Trigger to the list.

<b>Id</b>	Unique ID of the Trigger. The next available ID is displayed by default.
<b>Name</b>	Name of the Trigger.
<b>Enabled</b>	Slider to activate the virtual Trigger.
<b>Mode</b>	<b>Normal</b> Usual Trigger that state is controlled by conditions. <b>Force On</b> The state of the Trigger is forced on (1, high). <b>Force Off</b> The state of the Trigger is forced off (0, low).

#### Remove Virtual Trigger

This function allows removing the selected Trigger(s) from the list.  
A dialog is opened to confirm the action.

### 2.3.8.2 Edit (Triggers)

Clicking the  Edit symbol opens a dialog to edit triggers.

The dialog can be closed by pressing the ESC key without saving any changes.

In the drop-down list at the top, it is possible to directly switch to the 'Edit Trigger' view of another Trigger.

<b>Apply</b>	Stores all changes.
<b>Apply &amp; Close</b>	Stores all changes and closes dialog.
<b>Cancel</b>	Discards all changes.

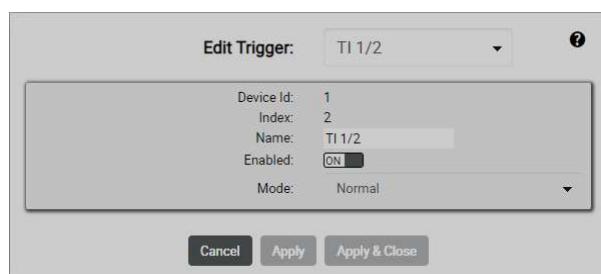


Figure 96: Edit (Triggers)

<b>Device Id</b>	Displays the unique ID of the IO device. (fixed, read only)
<b>Index</b>	Displays the unique ID of the Trigger of the respective IO device. (fixed, read only)
<b>Name</b>	Field to edit the name of the Trigger.
<b>Enabled</b>	Switch to enable (on) or disable (off) the Trigger.
<b>Mode</b>	<b>Normal</b> Normal trigger operation. <b>Force On</b> Forces the trigger to static high. <b>Force Off</b> Forces the trigger to static low.

### 2.3.9 System Logs

The **System Logs** contains errors and events from all network space components, giving a first indication in case of unstable system behavior.

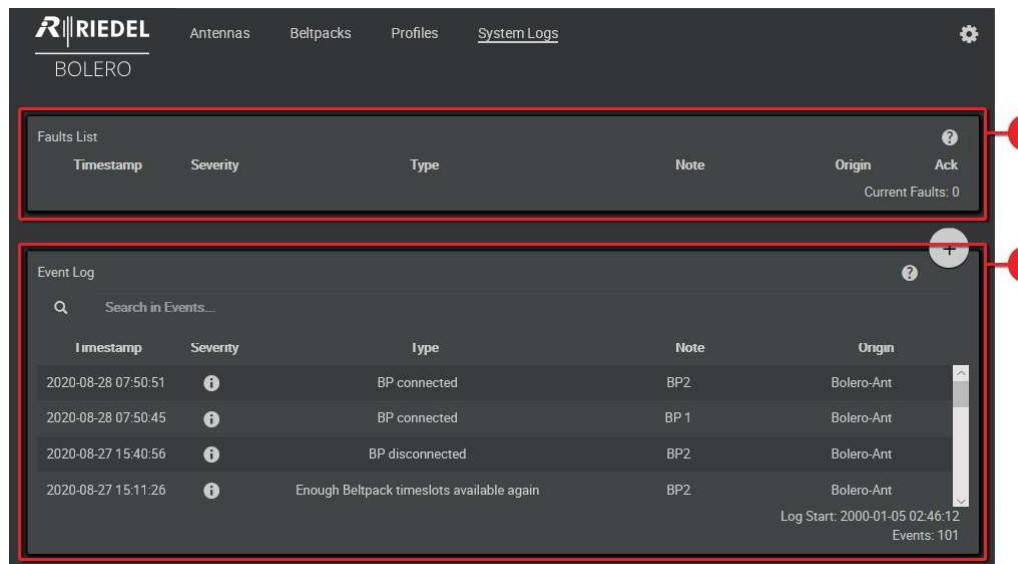


Figure 97: Web-Interface – System Logs

#### 1 Fault List

This list contains all currently active errors.

Errors in the **Fault List** can be confirmed and hidden by clicking on **Acknowledge**.

<b>Timestamp</b>	Date and time of the failure.
<b>Severity</b>	Severity of the failure.
<b>Type</b>	Description of the failure.
<b>Note</b>	Affected audio port.
<b>Origin</b>	Affected device.
<b>Ack</b>	The respective message will be removed from the fault list by clicking the 'Acknowledge' button
<b>Current Faults:</b>	Numbers of entries in the <b>Fault List</b> .

#### 2 Event Log

This list contains general activities. This can be e.g. information about status changes of devices (e.g. radio on/off, reboot, ...) or the connection status of Beltpacks.

<b>Search in Events</b>	Text search in the <b>Event Log</b> .
<b>Timestamp</b>	Date and time of the failure.
<b>Severity</b>	Severity of the failure.
<b>Type</b>	Description of the failure.
<b>Note</b>	Affected audio port.
<b>Origin</b>	Affected device.
<b>Log Start</b>	Date and start time of logging.
<b>Events</b>	Numbers of entries in the <b>Event Log</b> .

### 2.3.9.1 Action Button (System Logs)

Clicking the  action button offers functions to export or clear the log data. The dialog can be closed by pressing the ESC key.



Figure 98: Action Button (System Logs)

#### Export Events to CSV

This function allows exporting the logged data to a file in CSV format. The file is saved in the default download folder of your browser.

#### Clear Logs

This function will delete all events in the Event Log without confirmation.

## 2.3.10 Settings

The basic settings are accessed via the settings symbol (⚙️) in the top right-hand corner.

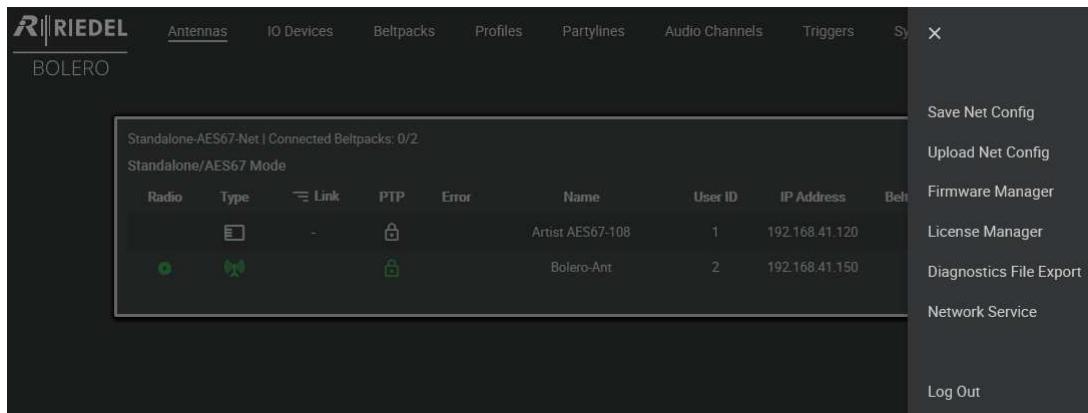


Figure 99: Web-Interface – Settings

<b>Save Net Config *1</b>	Function to backup the configuration of the complete Net.
<b>Upload Net Config *1</b>	Function to recall a previous stored configuration.
<b>Firmware Manager</b>	Function to update the firmware of the devices.
<b>License Manager</b>	Function to upload licenses to the Antennas.
<b>Diagnostics File Export</b>	The diagnostics view allows exporting internal diagnostic information. This data is used by Riedel service to analyze the system.
<b>Network Service</b>	Function to change the DECT-frequencies. Only valid for Riedel service.
<b>Factory Reset *1</b>	Function to reset all devices within the Bolero-Net.
<b>Logout *2</b>	Log off the current user.

\*1 if no user is logged in

\*2 if a user is logged in

### 2.3.10.1 Save Net Config

This function allows storing the current Net configuration into a file.

After executing this function the configuration is saved in the default download folder of the used browser. The filename is generated out of the Net name, the current date and time and the suffix "NetConfig.bol".

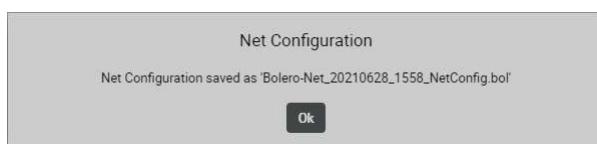


Figure 100: Web-Interface – Save Net Config

### 2.3.10.2 Upload Net Config

This function allows loading a previous stored Net configuration into the system. After executing this function a dialog is opened to select the desired ".bol" file. The configuration is applied to the Net without confirmation.

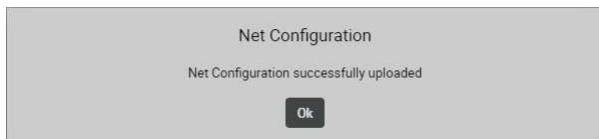


Figure 101: Web-Interface – Upload Net Config

### 2.3.10.3 Firmware Manager

The Firmware of devices can be updated in this tab.

The firmware manager shows current firmware versions of all network space devices along with additional information. (The country can only be set by Riedel service department.)

To guarantee a stable system, all components must run the same version.

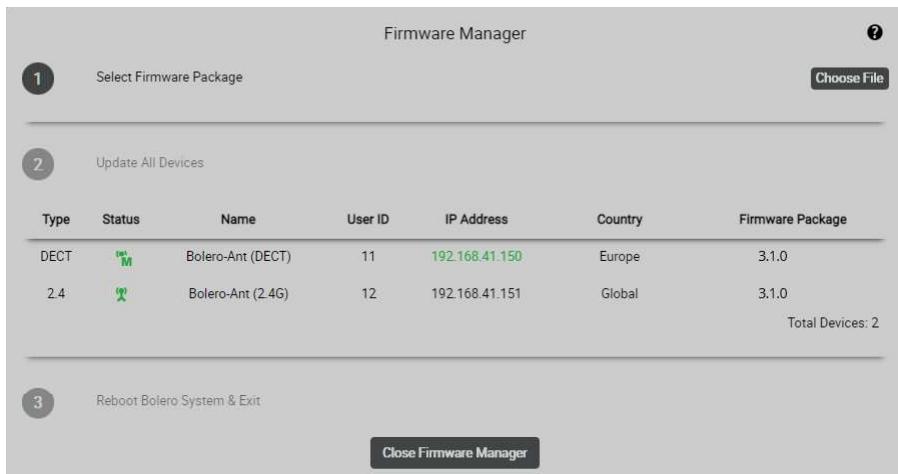


Figure 102: Web-Interface – Firmware

Proceed following steps to update one or multiple devices:

1. Click 'Select Firmware Image' and select the desired firmware file (*.package*).
2. Click 'Update All Devices' to start the update procedure.
3. Click 'Finish & Reboot System' to restart the devices.

See also chapter [Firmware Update](#).

### 2.3.10.4 License Manager

The license manager shows the licenses installed on all network space devices and allows creating a license info file with all necessary information to generate new licenses and provides the functionality to install these new licenses on all devices in the system.

License Manager						
Create License Info File		Install License				
Type	Status	Name	User ID	IP Address	Serial	Licenses
DECT		Bolero-Ant (DECT)	11	192.168.41.150	3301006170085	Standalone Mode Extended Partylines Advanced Monitoring
2.4		Bolero-Ant (2.4G)	12	192.168.41.151	3305015210121	Standalone Mode Extended Partylines Advanced Monitoring

Figure 103: Web-Interface – License Manager

Steps to get a license:

1. Create a **License Info File** and send it to your local distributor with the information which license shall be created and for which device.
2. You can also do this manually by copying the serial number of the device.
3. Riedel will create a license file for you. This new file will include the licenses for the requested devices. You can use this file several times on different Bolero networks, if not all devices are installed at one site.
4. Click 'Install License' and select the new license file.
5. Licenses from the file will be activated on all devices found on the network.

	Antennas with standalone license show a
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### 2.3.10.5 Diagnostics File Export

The diagnostics view allows exporting internal diagnostic information into a ZIP-file. This data is used by Riedel service to analyze the system.

After clicking the **Export...** button the diagnostic information is saved in the default download folder of the used browser. The filename is generated out of the Net name, the current date and time and the suffix ".diag".

Diagnostics						
Type	Status	Name	User ID	IP Address	Country	State
DECT		Bolero-Ant (DECT)	11	192.168.41.150	Europe	Idle
2.4		Bolero-Ant (2.4G)	12	192.168.41.151	Global	Idle

Figure 104: Web-Interface – Diagnostics File Export

### 2.3.10.6 Network Service

In the Network-Service the DECT region can be set.  
These functions are reserved for use by Riedel service personnel only!

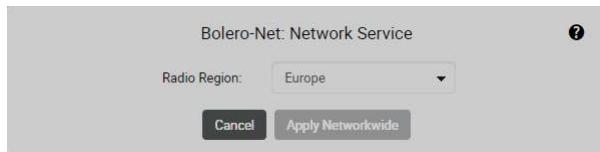


Figure 105: Web-Interface - Network Service

### 2.3.10.7 Logout

A dialog is opened. Click on **OK** to log out of the system.

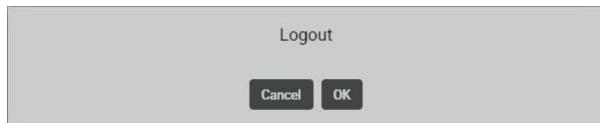


Figure 106: Logout confirmation

## 2.4 NSA-002A Integration

This chapter describes the required steps to integrate IO devices (NSA-002A) into a Bolero Standalone system.

The following devices are required:

- ✓ Bolero Antenna (with standalone license)
- ✓ preconfigured Network-Space in **Standalone/Link** or **Standalone/AES67 mode**
- ✓ Bolero Beltpack
- ✓ IO devices (NSA-002A, up to 10 per Network-Space)
- ✓ Gbps Network Switch (optionally with PoE+ functionality)



The **NSA-002A** must be operated in Bolero-Mode to be integrated in the Bolero network space. The mode is indicated by the upper device mode LED (blue: Bolero, violet: Manual). The system modes can be toggled by pushing the mode button for more than 5 seconds. Further information can be found in the separate NSA-002A user manual.



Up to 10 IO devices and 128 audio channels can be managed in one Network-Space. If 10 NSA-002A with 6 audio channels each are used, 68 audio channels are left for Beltpacks (128 -10 x 6).

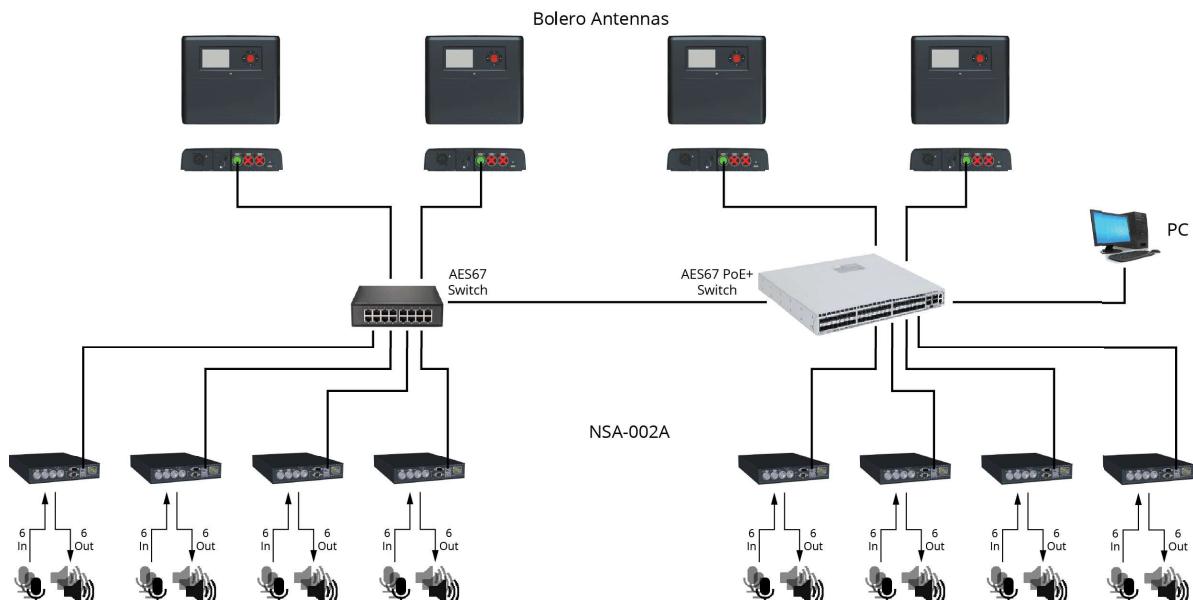


Figure 107: IO devices - setup diagram - **Standalone/AES67 mode**

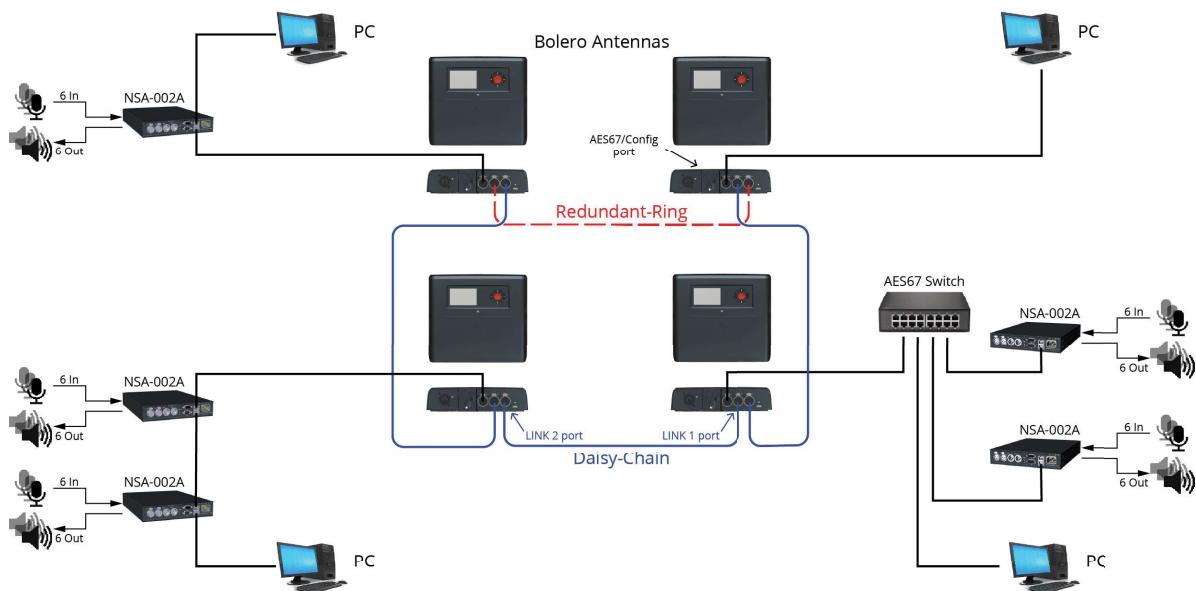


Figure 108: IO devices - setup diagram - Standalone/Link mode



One Bolero Antenna can handle up to two NSA-002A.  
For ten NSA-002A five Bolero Antennas in the network space are required.

#### Standalone/AES67 mode:

- Connect the PC to the network switch.
- Connect the **ETH1/2** ports of the IO devices to the network switch.
  - If a PoE+ switch is used, the NSA-002A is also supplied with power.
  - Alternatively (or for additional redundancy), attach a separate DC power supply to the NSA-002A.

#### Standalone/Link mode:

- Connect the PC to the **AES67/Config** port of any Bolero Antenna.
- Connect up to two IO devices at the Bolero Antenna:
  - Connect the first IO device (**ETH1/2** port) directly to the Antenna (**AES67/Config** port).
  - Connect the second IO device (**ETH1/2** port) at the unused **ETH1/2** port of the first IO device.
- If the NSA-002A is routed through a switch, maximal two NSA-002A can be connected to the switch.

- Determine the IP address of an antenna with standalone license.

The IP address of the Antenna is shown in the bottom right of the display (e.g. 192.168.41.150). The e-ink display shows the current IP also when the Antenna is not powered.



Figure 109: Antenna Display

Open the web interface of the Antenna to access the configuration:

- Enter the IP address of a Bolero Antenna in the web browser (e.g. 192.168.41.150).

The PC must have an IP address within the same subnet.



Figure 110: Web interface of the Antenna

- Open the page **IO Devices**.
- Select the unassigned IO devices by left clicking.

Selected elements will be highlighted.

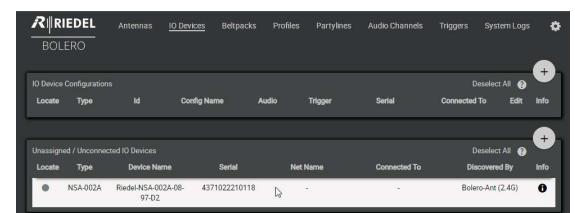


Figure 111: Selected IO devices

- Click on the plus symbol and select the entry **Add IO Devices**.

A dialog is opened to enter the device configuration.

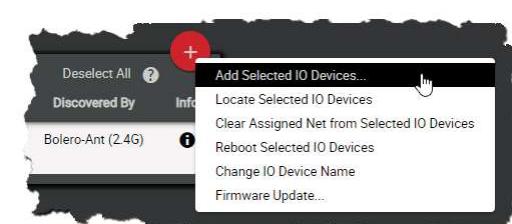


Figure 112: Add IO Devices

- Select **New Configuration**.
- Click **Proceed**.

A dialog is opened to create the device configuration.

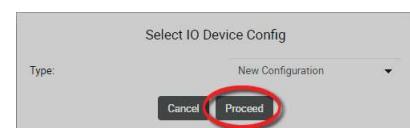


Figure 113: Dialog - Select IO Device Config

- Enter a name for the device configuration in the field **Name** (e.g. my NSA config).
- Enable/disable the desired GPIO-ports (**Trigger**) of the IO device and select the Pin-Mode (**Normal, Latching, Toggle, Auto**).
- Select the mode of the desired audio channels.
- If necessary, modify the names of the single Triggers and Audio Channels.
- Apply** the changes.



Figure 114: Dialog – Create IO Device Config

This example shows the new created device configuration called **my NSA config** and the corresponding NSA-002A.



Figure 115: new created device configuration with NSA-002A

The configured audio channels are listed on the page **Audio Channels**.

- Click on the  button to configure the respective audio channel.

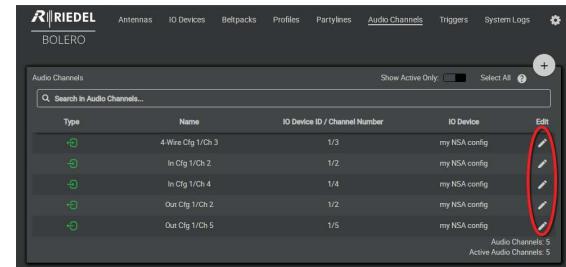


Figure 116: Audio Channels

The views **Always-On**, **Trigger**, **On-Talk**, **On-Notification/Beep** and **On-Vox** allows configuring up to five functions:

- Talk** to a destination.
- Talk** to a destination and **Always Listen** a source.
- Talk** to a destination & **Listen** a source.
- Listen** a source.
- Monitor** a source.
- Set Trigger** – switching a (physical/virtual) GPIO output.
- Notification/Beep** – sending a beep-tone / voice-notification.

The function is triggered depending on the view where it is configured.

Functions in the view...

- **Always-On** are permanently activated.
- **Trigger** are switched by a trigger.
- **On-Talk** are automatically activated if it is talked in the respective channel.
- **On-Notification/Beep** are automatically activated if the respective channel receives a notification/beep.
- **On-Vox** are activated when and as long as the VOX is triggered.

(The parameters for VOX activation are configurable on the page '[General](#)!').

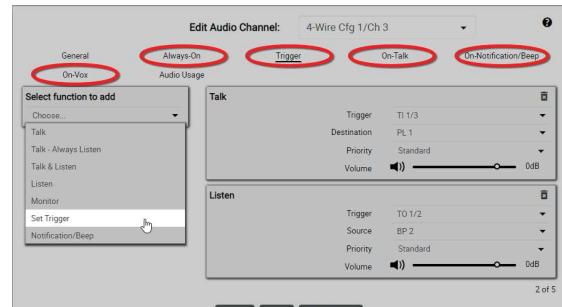


Figure 117: edit audio channel - Trigger

The page **Beltpacks** allows programming the Beltpacks key functions individually.

- Click the  button to configure the respective Beltpack.

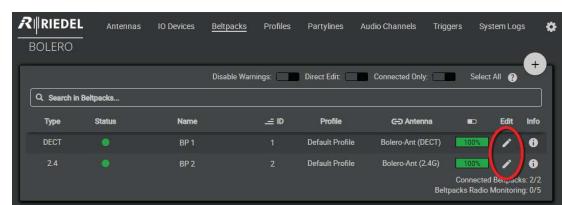


Figure 118: Registered Beltpacks

In the **Keys** section the keys of the Beltpack can be configured and functions can be assigned.

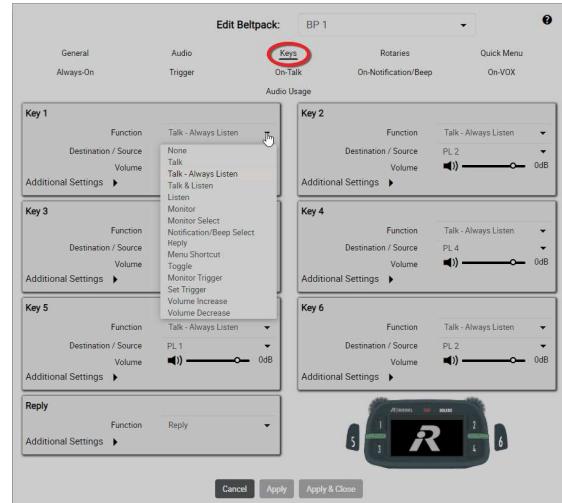


Figure 119: edit Beltpacks - Keys

After this configuration the Beltpacks are able to communicate to other Beltpacks as well as to the audio channels of the IO devices.