



**NEW**  
**2.4GHz**  
version available.



reddot award 2019  
winner

# BOLERO WIRELESS INTERCOM

INTEGRATED / STANDALONE LINK / STANDALONE 2110 (AES67)



# BOLERO RIEDEL'S STATE-OF-THE-ART WIRELESS INTERCOM SYSTEM.

Now with Integrated, Standalone Link & Standalone 2110 (AES67) mode.

As an all-new wireless intercom system capable of supporting up to 250 beltacks and 100 antennas in a single deployment, Bolero is a true game-changer. Bolero redefines the wireless intercom category with features such as its ADR (Advanced DECT Receiver) with multi-diversity and anti-reflection technology for greater RF robustness, "Touch&Go" NFC beltack registration, and versatile operation as a wireless beltack, a wireless keypanel, or — in an industry first — a walkie-talkie.

With the addition of the newest Bolero Standalone 2110 (AES67) mode, there are now three network modes available for Bolero systems – each of them dedicated to specific applications.

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 added, coverage and network robustness are increased. Up to 250 beltacks per Bolero Net are now 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 beltacks 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 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 2110 (AES67)** 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. Up to 100 antennas and 100 beltacks can be accommodated per Bolero Net and configured via a web browser. In Standalone Link deployments, audio mixing and control functions are handled by the antennas; the optional NSA-002A provides analogue interfacing and GPIOs and fiber-connected switches or switch cascades can be used to cover long distances.



Meet the growing Bolero Family: Battery Chargers, Rack Mount Kits, Protection Kits , 4-Wire Interfaces and color-coded Beltback Covers



Bolero is available in a DECT version and in the new 2.4 GHz version. A high-clarity voice codec provides both higher speech intelligibility and more efficient use of RF spectrum supporting twice the number of belt packs per antenna for the same radio bandwidth as other systems. The Riedel-exclusive ADR technology combines a unique receiver design with multiple diversity elements specifically designed to reduce sensitivity to multipath reflections, making Bolero DECT and 2.4 GHz useable in challenging RF environments where other systems have great difficulty.

#### **BOLERO at a Glance**

- Simple NFC and Over the Air registration
- Decentralized intelligent antenna network
- Advanced DECT receiver (ADR) for multipath mitigation
- Seamless handover & roaming
- Redundant PoE+ and DC power supply antenna scheme

The belt pack itself features six intercom channels and a separate "Reply" button for a quick reply to the last caller. Bolero's sunlight readable and dimmable display can be rotated so that it is readable in any orientation. Also, in an industry first, the belt pack can be used without a headset like a walkie-talkie radio utilizing an integrated mic and speaker. Bolero DECT belt packs support Bluetooth, allowing either a Bluetooth headset or a Smartphone to be connected. When a Smartphone is connected, the belt pack can act like a car's "hands free" setup so the user can receive calls on their phone and talk and listen via their belt pack headset. Users can also inject phone calls directly into the intercom channels, providing new levels of workflow flexibility.

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





# FLEXIBLE LICENSING SCHEME

## Standalone License

The Bolero Standalone license includes both Standalone Link and Standalone 2110 (AES67) modes, so whether you're looking for a flexible and portable plug & play solution or an IP-based wireless intercom system to ride atop your backbone network, the Standalone license has you covered.

## Extended Partylines

By installing the „Extended Partylines“ license, the maximum number of Partylines in a Standalone/Link or Standalone 2110 (AES67) Bolero system can be increased from 12 to 32.

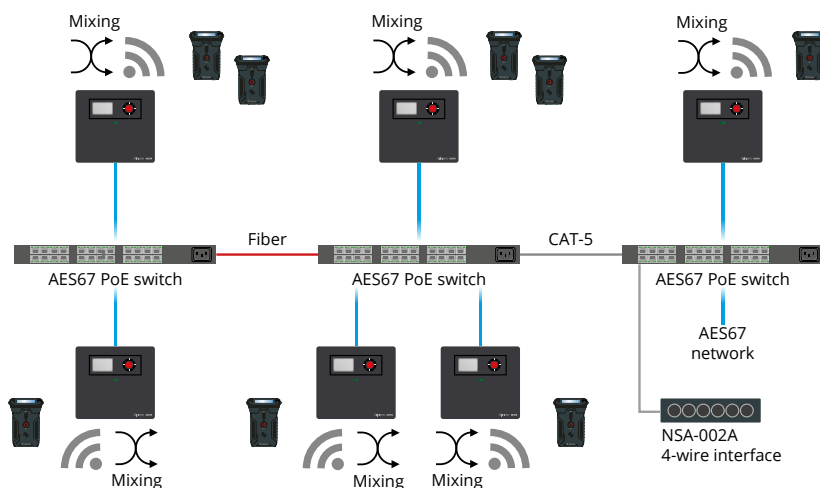
## Advanced Monitoring (DECT version only)

Bolero features RF monitoring capabilities that allow users to leverage both antennas and beltpacks to scan or monitor the radio spectrum used by DECT devices. The antenna scanner enables period measurement of time-slot usage and identification of DECT systems in the RF space. At the same time, the Bolero beltpack can be used to monitor the time-slot capacity and audio quality while staying fully operational.

## BOLERO

# STANDALONE 2110 (AES67)

- Antenna distribution via 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
- Redundant power option
- Integrated web browser for configuration (Artist not required)
- Up to 32 partylines and unlimited point-to-point connections
- 100 beltpacks, 100 antennas

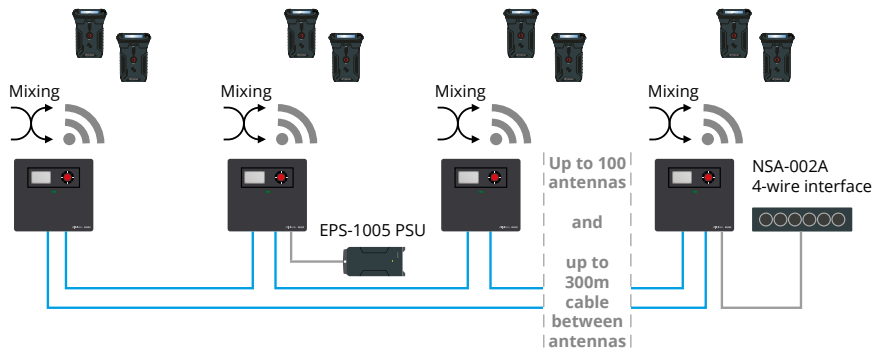




**BOLERO**

# STANDALONE LINK

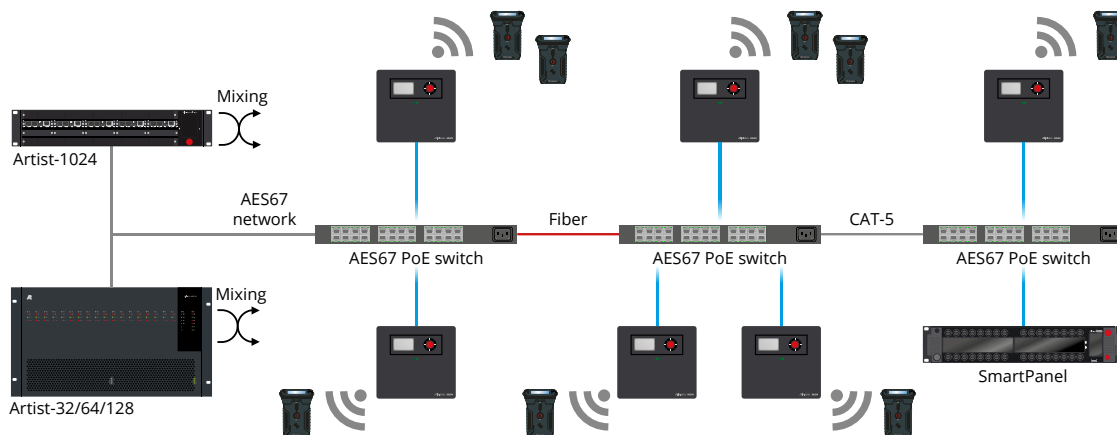
- Daisy chain or redundant ring antenna network
- Plug&Play simplicity
- EPS-1005 PSU powers up to five antennas
- Redundant power option
- Up to 300m CAT5 cable between antennas
- Analogue 4-wires and GPIOs via optional NSA-002A throwdown box
- Integrated web browser for configuration (Artist not required)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



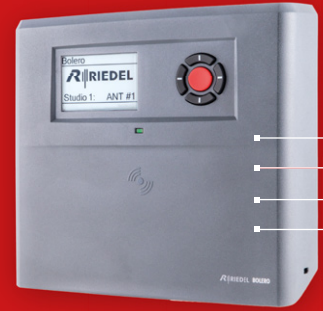
**BOLERO**

# INTEGRATED

- 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 SMPTE 2110-30 (AES67) IP network
- Redundant power supply
- 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 beltacks, 100 antennas



# THE TOUGH MULTI-TALENTED INTERCOM



Up to 250 beltacks and  
100 antennas per Bolero Net

Intelligent use of bandwidth  
results in 10 beltacks per antenna

Decentralized SMPTE 2110-30  
(AES67) IP-networked antennas

Fully re-programmable FPGA  
to handle future networks

Up to six full-duplex keys plus  
convenient REPLY button to last caller

Riedel-exclusive ADR receiver  
technology overcomes multipath issues

Modern high-clarity voice codec increases  
beltback to antenna density

Full Artist integration or standalone deployment

Next generation, digital, license  
free 1.9GHz DECT band

Integrated Bluetooth technology for wireless  
headsets or phone connection (DECT version only)



Integrated mic and speaker  
for headset-free operation

Can be used as a beltback, a portable  
desktop keypanel, or a walkie-talkie

NFC means no registration headaches!  
Touch the beltback to the antenna  
or another beltback and GO!

Tough, ergonomic beltback built to survive

Bottle opener - just in case!

<b>ANTENNA</b>		<b>Bolero Active Antenna // DECT: BL-ANT-1010-19 // 2.4GHz: BL-ANT-1008-24</b>
No of beltacks per antenna	<b>DECT: 10 // 2.4GHz: 8</b>	
Radio frequency range	<b>DECT: 1.880 - 1.930GHz (region dependent) // 2.4GHz: 2.403 - 2.479GHz (region dependent)</b>	
Antenna radio coverage (diameter)	Indoor (structure dependent): max. ~200 m; outdoor (free line of sight): ~300-500m	
Beltack to antenna range	Indoor (structure dependent): max. ~200 m; outdoor (free line of sight): ~150-250m	
Beltack registration	1 touch NFC registration (beltack to antenna, beltack to beltack), OTA registration (over the air with PIN)	
Network connection	SMPTE 2110 (AES67) IP or direct cable connection in standalone mode	
Display type	High contrast E-ink display	
Programmable transmission power	✓	
Support of Layer 3 networks	✓	
TTL Settings	Adjustable multicast TTL (1 to 255 / default 16)	
DECT Master Priority	Configurable in WebUI	
Network monitoring on antenna display	IP / daisy chain / closed ring	
Power supply	PoE+ (802.3at, type 2, class 4, 15 to 30 W) or 10 to 57 VDC, 3 A	
Power consumption	15W	
Mounting points	Mic stand threaded socket 5/8" & 3/8" inside, spigot adapter with wing screw lock, Kensington lock hole, & screw hole for a safety wire mounting	
Environmental	IP-53 protected against limited dust ingress and water falling as a spray at an angle of up to 60° from vertical	
Operational temperature	-10 to 45 °C	
Humidity	0-90%, non-condensing Ta=40 °C	
Dimensions	210mm (W) x 66mm (D) x 190mm (H); 8.3" (W) x 2.6" (D) x 7.5" (H)	
Weight	1320g	
<b>BELTPACK</b>		<b>Bolero 6-key beltack // DECT: BL-BPK-1006-19 // 2.4GHz: BL-BPK-1006-24</b>
Multi-path delay spread protection	Yes, ADR (Advanced DECT receiver)	
Audio bandwidth	200 Hz to 7 KHz (-3dB)	
Mode of operation	Full-duplex on all routes	
Encryption	AES 256 bit encryption	
Line in	40 Hz to 20 kHz, max. +12 dBu input level (local audio mix only)	
Talk controls	4 pushbuttons + reply key + 2 walkie-talkie keys (PTT, Latching & Auto mode)	
Volume / Level controls	2x rotaries + menu navigation	
Display	High contrast sunlight readable full colour TFT display	
Audio prompts	Out of range, Bluetooth connected / disconnected, battery low, volume change, Beltack registered / deregistered / not connected	
No. of full-duplex audio paths	6 with individual level control	
Handheld operation	Walkie-talkie mode	
Vibrate module	Programmable vibrate indicates incoming calls and other notifications	
Internal loudspeaker	Freq. <500Hz to >7kHz 80dB/SPL/0.5W/1m, @ <5% THD.	
Remote health monitoring	Battery charge status, via web browser	
Battery	Lithium ion removeable battery pack with user removeable clip	
USB charging	USB Type C connector for beltack charging	
Operation time	17 hours typical	
Headset connector	4-pin male XLR, user replaceable	
Microphone type	Electret (ca. 5V bias voltage) or dynamic, user selectable or automatic	
Side-tone and microphone gain	Individually adjustable for each beltack & via remote control	
Bluetooth	V4.1 (HFP - hands free profile, HSP - headset profile, A2DP - streaming profile) Bluetooth is not supported for 2.4G-Beltacks.	
Bluetooth phone call mix into intercom	✓	
Lanyard anchor points	✓	
Storage temperature	-20 to 50 °C long term; -20 to 60 °C short term	
Operational temperature	-10° ... +40°C (device operating up to 55°C)	
Humidity	0-90%, non-condensing Ta=40 °C	
Dimensions	(W) 86mm, (D) 48mm, (H) 130mm; (W) 3.4" (D) 1.9" (H) 5.1"	
Weight	420g inc. battery and clip	
<b>BATTERY CHARGER</b>		<b>5-bay drop in charger (BL-CHG-1005-R)</b>
No of beltack slots	5	
Beltack charge time	up to 3 hours	
Charge status LEDs	1 per charge slot	
Beltack display	% charged, charging time remaining, temperature, battery health	
USB type A + C	For firmware update and charging a Phone or beltack via cable	
Power socket	1x IEC	
Power supply	100-230VAC / 50 - 60 Hz	
Mounting	2x wall mounts or 19" rack drawer via optional accessory kit	



Riedel Communications GmbH & Co. KG  
Uellendahler Str. 353 | 42109 Wuppertal | Germany  
Phone +49 (0) 202 292-90 | [info@riedel.net](mailto:info@riedel.net) | [www.riedel.net](http://www.riedel.net)

#09/2024