RIEDEL
The Communications People

ACROBAT

Digital Wireless Intercom Unlimited (EN)

Introduction

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Digital Wireless Intercom Unlimited

The Riedel Acrobat Digital Wireless Intercom system is an easy to use full-duplex communications solution for broadcast, security, industrial and theatre applications as well as sports and cultural events. Acrobat takes a completely new approach to wireless communications, pushing it beyond the limits of existing wireless intercom solutions.

Riedel Communications' Acrobat Digital Wireless Intercom solution utilises the benefits of the Digital Enhanced Cordless Telecommunications (DECT) standard's base layer. This provides a license-free, cellular architecture with seamless hand-over between cells, allowing each Acrobat Wireless Beltpack to continuously monitor and automatically select the best connection to the Acrobat Cell Controller. Utilising the DECT platform, Riedel has advanced the technology to deliver a highly flexible wireless intercom solution that really reflects the market's needs.

Instead of only focussing on point-to-point communications – which previously made wireless communications very complex – the Acrobat Digital Wireless Intercom also realizes the benefits of partyline intercom in the wireless world. As a consequence Acrobat delivers a unique combination of improved user performance and optimised use of resources.

Riedel's Enhanced Sync Automation (ESA) optimizes the system performance when used in environments with other DECT-based systems (e.g. telephones) by detecting them and managing the Acrobat system frequencies accordingly. The Enhanced Channel Agility (ECA) allows Acrobat to make use of the complete DECT frequency and channel spectrum by dynamically allocating calls to any free RX or TX time-slot. This innovative use of technology removes the previous limit to the number of beltpacks in a DECT-based system.

As a result, the new Acrobat Digital Wireless Intercom provides a full-duplex, licence-free intercom solution with unlimited users. The system features both partyline and point-to-point communications, digital audio quality and no interference with radio microphones or IEMs.

Features:

- Unlimited number of users
- Wireless partyline and point-to-point communications
- 1,870 – 1,930 MHz VoIP-over-DECT technology (worldwide license-free)
- Cellular architecture with seamless hand-over
- Enhanced Channel Agility (ECA)
- Enhanced Sync Automation (ESA)
- No interference with radio microphones, In Ear Monitoring (IEM) or other wireless intercom systems

Designed To Communicate

Acrobat WB-2
Wireless Beltpack / Headset Station

The Acrobat Wireless Beltpack is a light and compact, digital headset station with two individually configurable channels for intercom and IFB use. Operation is intuitive and follows the concept of Riedel's Performer C3 Digital Partyline Beltpack. Two large rotary level controls on top of the beltpack combine talk-key and volume-control for each channel. Turning the controls adjusts the listen volume, pushing the controls toggles talk on/off with momentary or latching operation. Activation is indicated by a talk-LED, a bright call light indicates an incoming call. The beltpack features an OLED display which by default shows the labels for both talk-keys and two user-definable function keys. In addition, the display gives the user access to the intuitive configuration menu. The Acrobat wireless beltpack has an XLR connector for headset and a RJ45-port for firmware updates. A fully charged RB-2300 Rechargeable Battery allows for 8 hours of operation. The rugged housing with rubber protectors includes the internal antenna.

Acrobat CC-8
Cell Controller / Base Station

The Acrobat Cell Controller serves as the heart of any Acrobat Digital Wireless Intercom installation. The device handles the VoIP-over-DECT cell management incl. cell synchronization, channel coordination, seamless hand-over and the audio coding and IP transfer. The 19"/2RU unit connects to any partyline or matrix intercom via eight analog 4-wire ports and 12 GPIOs.
For Riedel Artist digital matrix intercoms the device provides an intelligent connection via digital AES3 ports. Two RJ45 Ethernet ports to link multiple Cell Controllers and four powered RJ45 Ethernet connectors for direct connection of up to four Acrobat Cell Antennas complete the Cell Controller's interfacing. For further coverage up to 80 additional Cell Antennas can be connected via Ethernet network switches. The configuration of the Cell Controller is achieved via a web interface.

Acrobat CA-6
Cell Antenna

The Acrobat Cell Antenna is connected to the Acrobat Cell Controller via Ethernet, allowing the use of existing standard structured cabling and providing a wide area between Cell Controller and Antennas. The Cell Antenna is powered via Power-over-Ethernet (PoE), simplifying installations by eliminating local power-supplies. The Acrobat Cell Antenna has a range of 275 meters under line-of-sight conditions or 75 meters indoors.

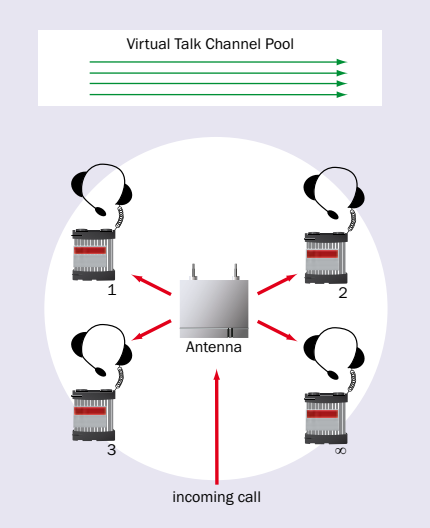
Acrobat RB-2300
Rechargeable Battery

The light and powerful rechargeable Lithium-Ion battery Acrobat RB-2300 allows the Acrobat Digital Wireless Beltpack 8 hours of operation.

Acrobat BC-100
Battery Charger

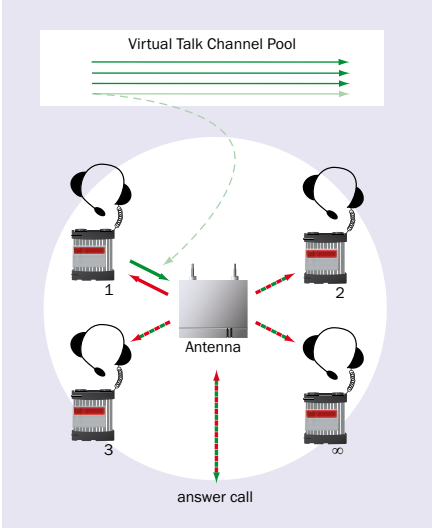
The Acrobat BC-100 Battery charger allows for safe and quick charging of RB-2300 Batteries.

Mode of Operation



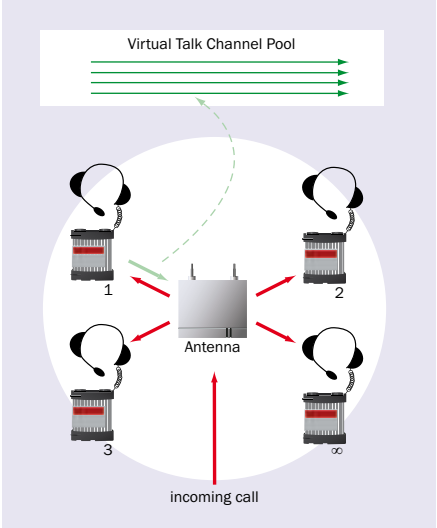
1. Listen to Partyline

The Riedel Acrobat Digital Wireless Intercom is extremely easy to use. For the user it's just a press of a button, as with any cable-based partyline intercom. All processes are automatically handled in the background by the Acrobat Cell Controller. The system sets certain channels into permanent broadcast. These channels carry a specific partyline signal, which can be received by an unlimited number of beltpacks. It can be used like an IEM and permanent listen to a partyline, just like in a wired partyline intercom. Each Acrobat Cell Controller is capable of establishing up to 8 individual partyline broadcast channels.



2. Answer a Call

To answer a call the user just needs to push the talk button. The Acrobat Wireless Beltpack automatically selects a talk channel out of the talk channel pool. If set into partyline mode, this signal will be mixed to the permanent broadcast channel and be heard by all members of the specific partyline. If set to point-to-point mode, this signal will only reach the specific user.

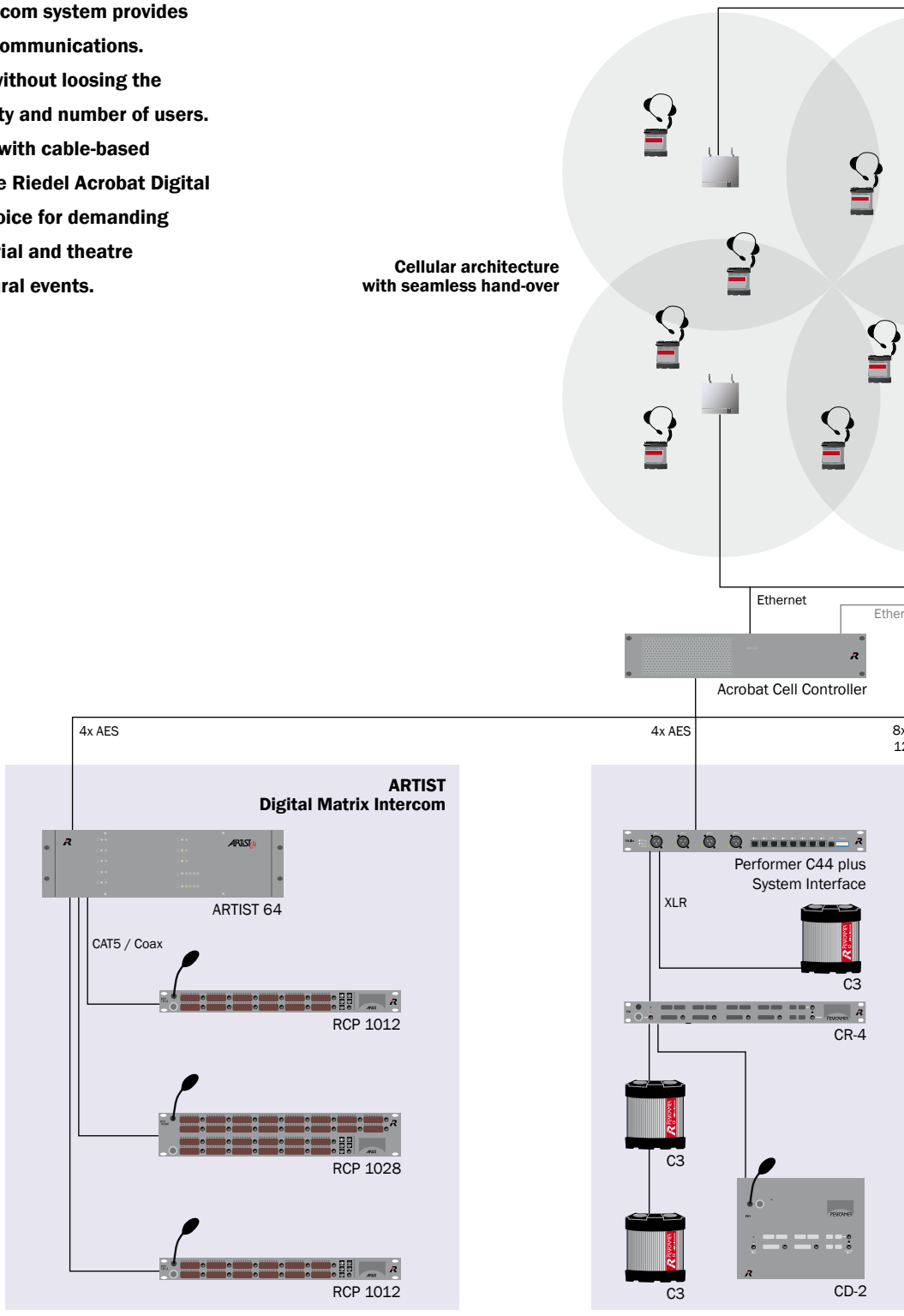


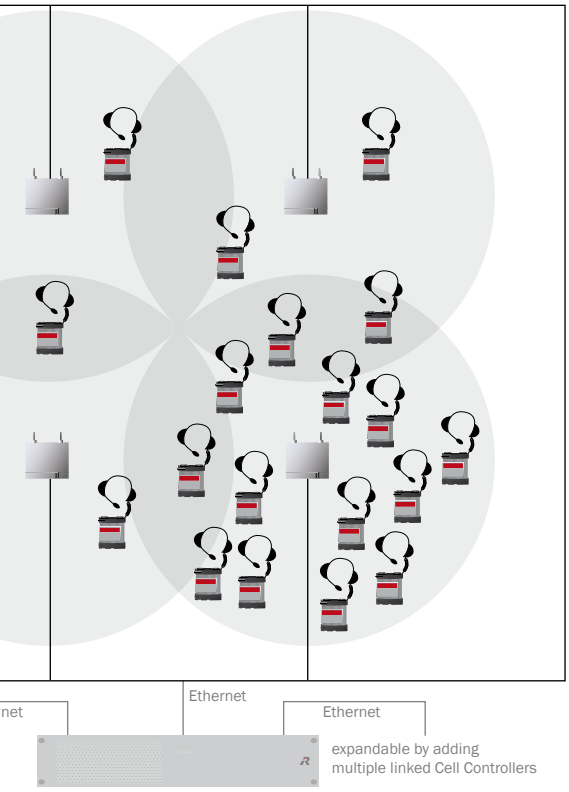
3. End a Call

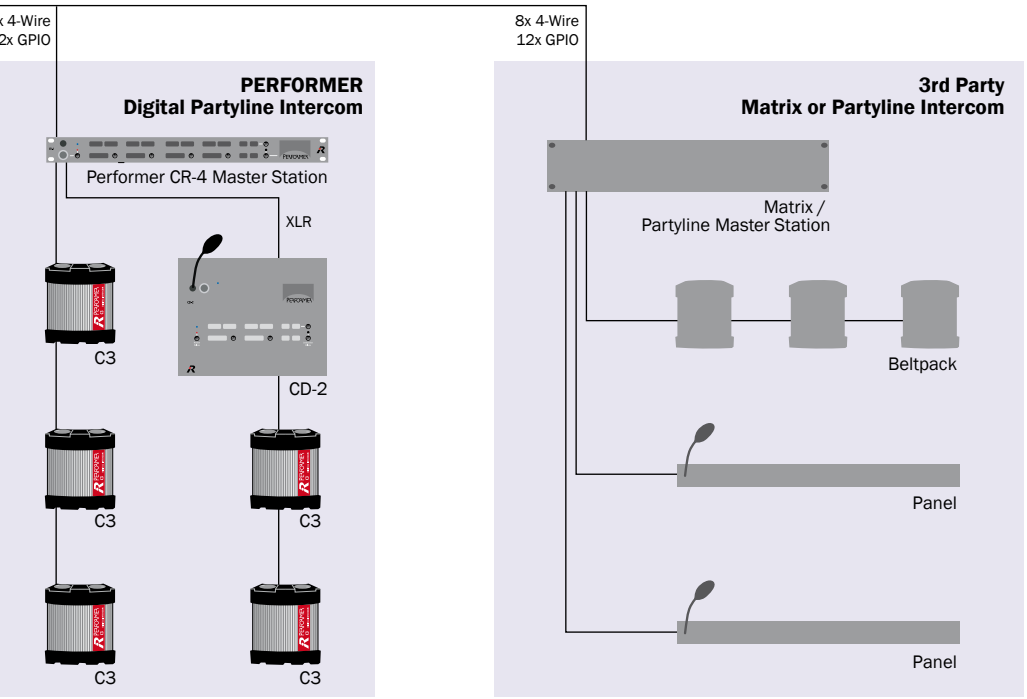
After the return call is finished, this channel returns into the talk channel pool and is available again to all users.

The Riedel Acrobat Digital Wireless Intercom system provides a completely new approach to wireless communications. It unleashes partyline communications without loosing the partyline intercom's ease of use, flexibility and number of users. Whether used stand-alone or integrated with cable-based partyline or matrix intercom systems: The Riedel Acrobat Digital Wireless Intercom is always the ideal choice for demanding customers in broadcast, security, industrial and theatre environments as well as sports and cultural events.

Cellular architecture with seamless hand-over




Ethernet
Ethernet
expandable by adding
multiple linked Cell Controllers


8x 4-Wire
12x GPIO
PERFORMER
Digital Partyline Intercom
Performer CR-4 Master Station
XLR
C3
CD-2
C3
C3
C3
C3
3rd Party
Matrix or Partyline Intercom
Matrix /
Partyline Master Station
Beltpack
Panel
Panel

Specifications

	Acrobat WB-2 Wireless Beltpack	Acrobat CC-8 Cell Controller / Base Station	Acrobat CA-6 Cell Antenna
Overall			
Operation frequency	1,870 – 1,930 MHz DECT (license-free)		1,870 – 1,930 MHz DECT (license-free)
Number of Beltpacks per Base Station		unlimited	
Number of Cell Antennas per Acrobat Cell Controller / Base Station		4x (max. 80 via external Ethernet switches)	
Number of partylines		8 per cell controller	6 per cell antenna
Beltpack-to-Beltpack / Beltpack-to-Base Station frequency response	100 Hz – 7.1 kHz	100 Hz – 7.1 kHz	100 Hz – 7.1 kHz
Single antenna range	275m line-of-sight / 75m indoor		275m line-of-sight / 75m indoor
Talkback channel establish time	20 – 120 ms		
Microphone Preamp:			
Mic input impedance	1 kOhm		
Dynamic mic input level	> -52 dBu @ 1 kHz		
Electret mic input level	> -38 dBu @ 1 kHz		
Headphone Amplifier:			
Load impedance	32 – 600 Ohms		
Max. output power	255 mW / 600 Ohms		
Signal-to-noise-ratio	> 70 dB (A)		
Headset connector	1x XLR4F or 1x XLR5M (SE version)		
Connections			
Digital AES3		4x	
Analog 4-Wire		8x	
GPIO		12x	
Ethernet		6x (4x PoE)	1x
Power:			
Power requirements	7.2 V DC	85 – 265 V AC / 47 – 63 Hz	48 V DC Power-over-Ethernet (PoE)
Power consumption	2.2 W (approx. 8 hours per battery)	120 VA	6.2 W
Battery type	LiON		
Dimensions:			
H x W x D	126 x 105 x 39 mm	88 (2 RU) x 483 x 230 mm	170 x 205 x 35 mm
Mass	580 g (1.27 lb / incl. battery)	2400 g (5.29 lb)	420 g

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