



A10-RACK

4-Slot Wireless Enclosure

— User Guide —



Fits Most Unislot and Superslot™ Receivers

Copyright / Doc Rev History Info

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| Revision | Date | Description |
|----------|--------------|---|
| 1A | 11 Sept 2018 | Initial - Publication |
| 1B | 27 Sept 2018 | Added info to Operation and A10-RX Firmware Update sections |
| 2A | Nov 2018 | Added info on User Groups |

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Overview

The A10-RACK is a 4 slot, 8 channel, 1RU wireless microphone receiver enclosure, compatible with most Unislot and SuperSlot™ receivers. The A10-RACK accepts up to 4 dual-channel slot-in receivers, providing a total of 8 separate audio feeds. The A10-RACK provides high-quality antenna distribution, power distribution, up to 8 channels of analogue and/or AES digital audio via XLR-M connectors and an 8 channel Dante audio interface.

✎ *Slot-in receivers are sold separately.*

Key Features

- Dante audio network integration for up to four Superslot compatible wireless mic receivers (eight audio channels), such as Audio Limited's A10-RX, as well as some models by Wisycom and Lectrosonics.
- Antenna distribution with 12V power for active antennas and pass-through for a second A10-RACK (for a total of 16 audio channels)
- Powering distribution via 4-pin XLR-M socket, 10-18VDC
- Analogue or AES outputs via eight XLR-M sockets on rear panel
- Each receiver can be set to output analogue or AES individually (if supported by receiver)
- Simultaneous analogue / AES and Dante outputs
- Secondary Ethernet port for Dante redundancy or daisy-chaining second A10-RACK
- USB-B port for updating RX firmware via Mic2Wav app
- 470-694MHz front-end RF filter bandwidth
- 1RU chassis size with adjustable rack ears to set required depth

Compatible Receivers

The A10-RACK fits slot-in receivers with maximum dimensions of:

- Slot height: 18mm (0.71 inches)
- Slot width: 68.3mm (2.69 inches)
- Width between SMAs: 84.4mm (3.32 inches)

Panels: Connectors, Controls and More

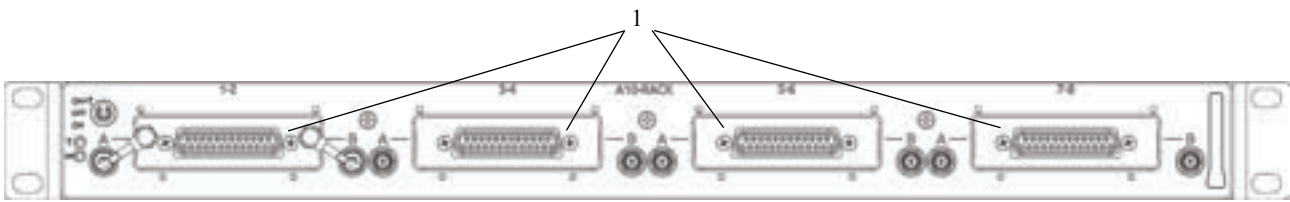


Figure 1: Full Front Panel of A10-RACK

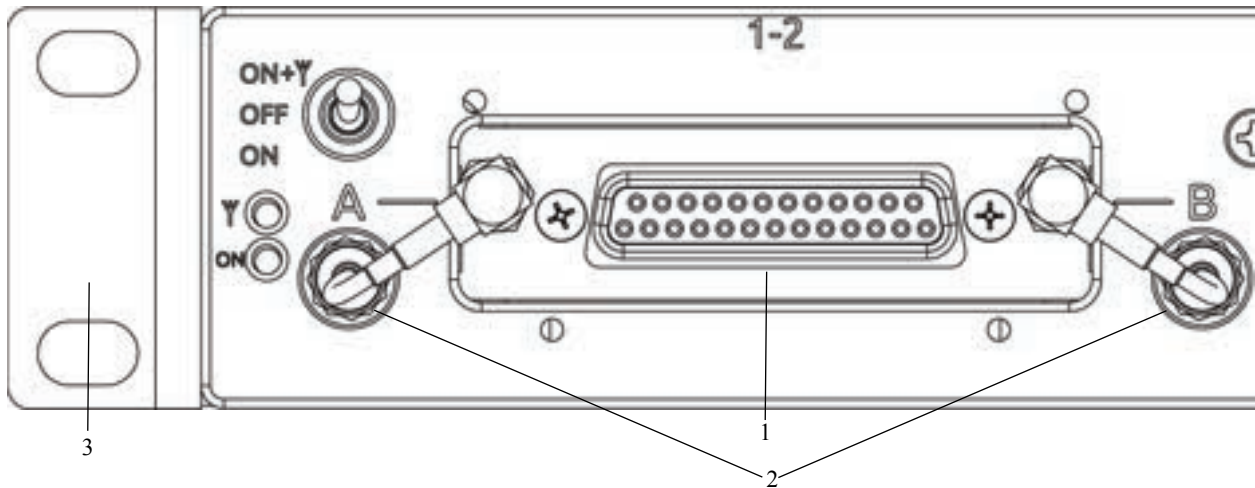


Figure 2: Closeup of Leftmost Slot on Front Panel of A10-RACK

1 -Four Receiver Slots

Each slot accepts one (single- or dual-channel) 25-pin SuperSlot or unislot receiver. The connection provides power to the receiver and connects the receiver's audio output directly to the appropriate rear panel XLR connector and to the Dante interface.

2 -Antenna Distribution Leads

SMA cables (included) are used to connect receivers to the A10-Rack antenna distribution system.

3 -Rack Ears

(One of two pictured) Used for mounting A10-Rack chassis to a 19-inch rack.

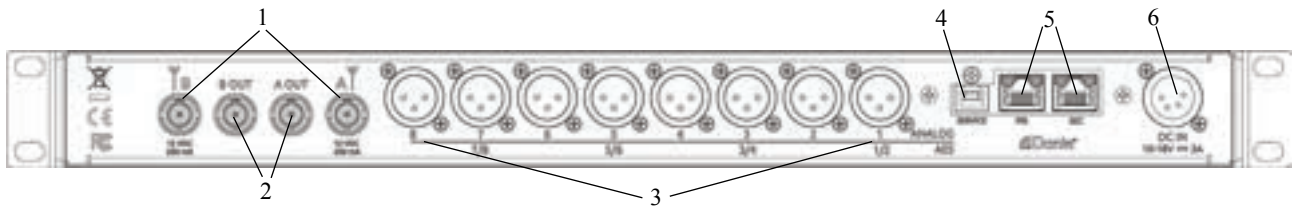


Figure 3: Full Back Panel of A10-RACK

1 -Antenna Inputs

Antenna inputs via two 50 Ohm BNC sockets. 12V DC bias supply available to power active antennas.

2 -Antenna Loop Through A/B Out

BNC connectors provide auxiliary outputs as a passive loop through to a second A10-Rack.

3 -Analogue/AES

Eight XLR-M connectors are used to transmit either analogue or AES digital audio in channel pairs, per slot according to the setting of the particular slot receiver.

Dante audio will always be present regardless of analogue or AES selection.

4 -Service

USB-B connector used for A10-RX firmware updates

5 -Dante PRI/SEC

RJ45 Dante network connections. PRI for primary non-redundant network connection, SEC for secondary redundant network connections.

6 -DC IN Connector

A10-Rack is powered with a standard 4-pin XLR-F 10-18VDC power supply.

Rack Mounting

The A10-RACK is a 1RU, 19-inch standard chassis size unit. When mounted in a rack, the rack ears, shown in Figures 1, 2 and 3 may be installed in any one of three possible positions to allow the user to set the depth of the front of the A10-RACK to accommodate a rack door or cover.

Powering

The Power switch on the front panel is a three-way switch.

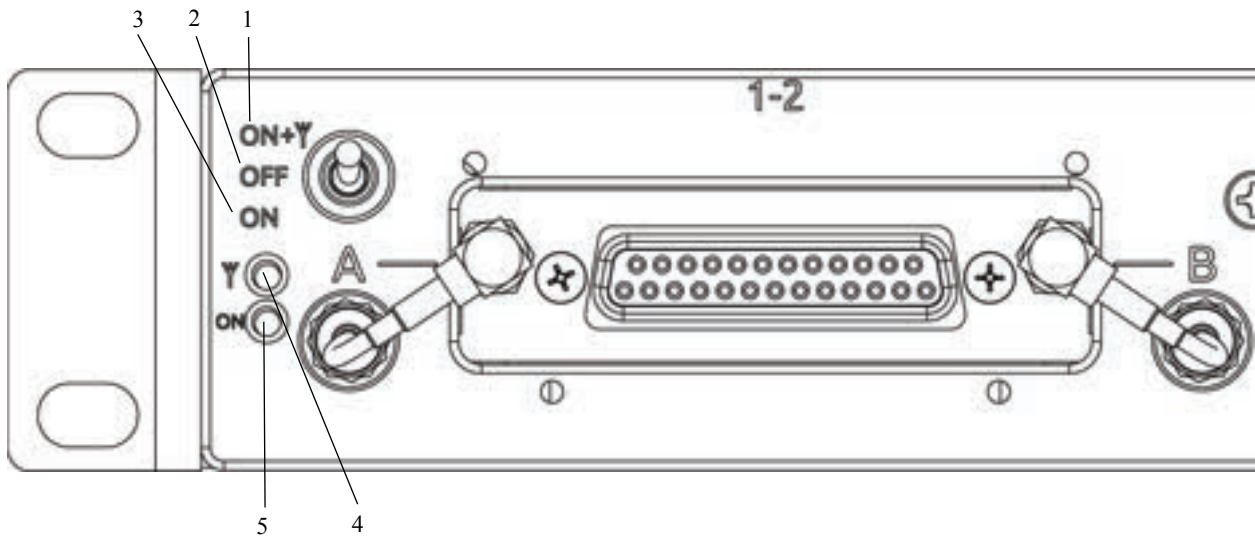


Figure 4: Closeup of Leftmost Slot on Front Panel of A10-RACK

1 -ON +

A10-Rack power on with 12V power at the A and B antenna connectors.

2 -OFF

A10-Rack power off.

3 -ON

A10-Rack power on with no bias power at the A/B antenna connectors.

4 -Antenna Power Indicator

LED illuminates yellow when bias power is being provided to A and B antennas.

If yellow LED does not illuminate when switch is in PWR+ANT position, a short-circuit fault condition is present on either A or B antenna inputs.

5 -Power Indicator

LED illuminates green when A10-Rack is powered on.

The A10-RACK is powered with a standard 4-pin F-XLR 10-18vdc power supply (sold separately), such as the Sound Devices XL-WP4. Power to A10-RACK needs to be capable of providing 3A minimum for proper powering of the A10-RACK and the slot receivers.

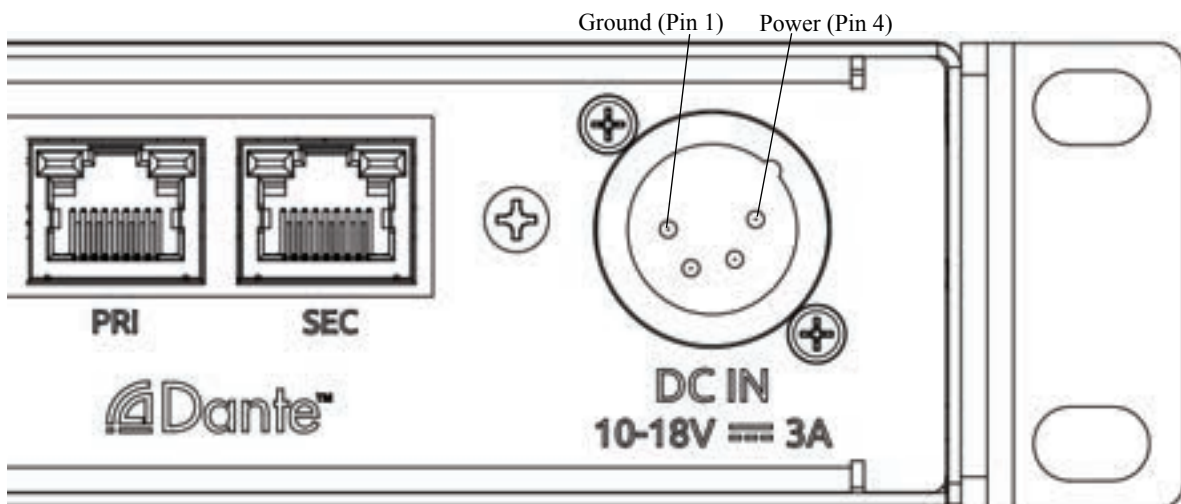


Figure 5: Closeup of Rightmost end of Back Panel of A10-RACK

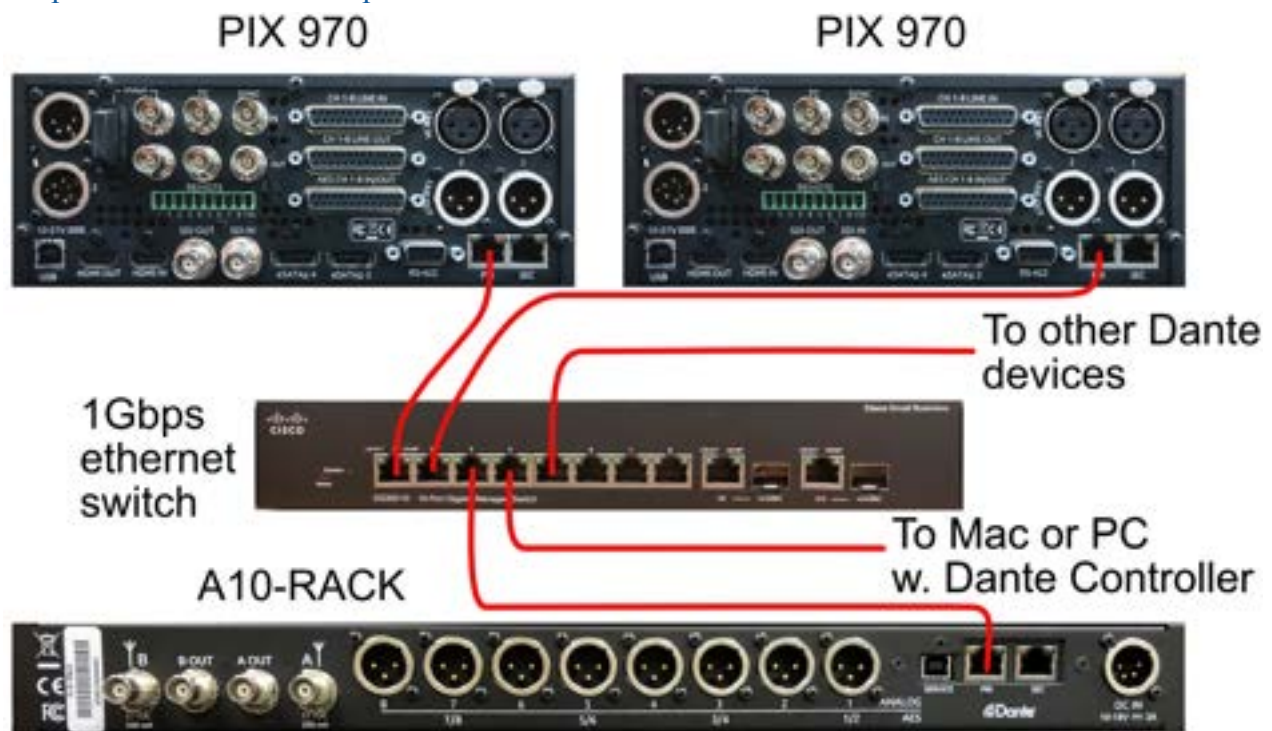
Dante

Digital Audio Network Through Ethernet, better known as Dante, is a combination of software, hardware, and network protocols that delivers uncompressed, multi-channel, low-latency digital audio over a standard Ethernet network using Layer 3 IP packets. Dante allows for many channels of high-quality audio to be transferred via basic CAT5 or CAT6 cable and standard gigabit switches and hardware to many devices simultaneously. This makes Dante especially attractive for the user of the A10-RACK because all eight channels of audio from the wireless receivers can be transported over a single CAT5 network cable.

Additionally, Dante allows for true networking where the signal can be sent to many destinations without degradation or extra hardware. The Dante network is managed by Dante Controller, a PC or MAC application that allows for routing of signals from Dante network transmitters to receivers and monitoring of the various settings of any Dante network.

For more details and to download the Dante Controller, visit Audinate's website at:

<https://www.audinate.com/products/software/dante-controller>



Installing Receivers

The A10-RACK is compatible with most unislot and Superslot receivers.

✦ See *Compatible Receivers* for more information.

To install slot receivers do the following::

1. Use specific spacer as needed to set the proper receiver depth for the A10-RACK slot.
2. Using the included M3 screws, attach the receiver's spacer to the A10-RACK.
3. Observe the DB25 connector orientation inside of the slot opening in the A10-RACK, as well as the DB25 connector orientation on the rear of the slot receiver that you want to install. You will want to ensure proper alignment as you insert the receiver.
4. Carefully slide the slot receiver into spacer and into the slot. Press until you feel the DB25 connector seat fully and the receiver is flush to the spacer.

5. Install the included M2.5 screws to hold the receiver into place.
6. Attach the antenna distribution leads from the A10-RACK to the receiver's antenna connectors


Operation

Operation of the A10-RACK is virtually the same as operating each receiver individually with the exceptions of shared power, antenna distribution and Dante networking. Each receiver can have either analogue or AES output on the XLR outputs (if the receiver supports this feature), while simultaneously sharing its output(s) on the Dante interface.

| Receiver | Settings |
|-------------------|---|
| Audio Limited A10 | Main Menu > Outputs > Max Level = +2dBu |
| Lectrosonics | Setup > Level = -6 Setup > Phase = + |
| Wisyscom MCR-42S | Menu > Advanced > Line Mode = Analog Menu > Advanced > Edit RX1/RX2 > Audio Out > Line max lev = 0dBu Menu > Advanced > Edit RX1/RX2 > Sig Phase = 0° |

⚡ *The fixed 16dB analog gain stages are very low noise - such that they maintain the full dynamic range of the receiver outputs. It is intended that the receivers' outputs are set for +2dBu output and left unchanged. There is no noise or dynamic range penalty with this topology.*

To operate the A10-RACK:

1. Connect power supply to the A10-RACK.
2. Connect antennas to the A10-RACK.
3. Connect XLR cables for analogue/AES output as needed.
4. If using a Dante network, connect the A10-RACK to the network using a shielded Cat5e cable.
5. Power on either using “ON+  ” for active antennas or using “ON” for passive.
6. If Dante is required, open the Dante Controller application on a PC or Mac connected to the same Dante network as the A10-RACK.
7. Dante Controller automatically discovers, identifies, and displays any devices including the A10-RACK connected to the Dante network. Use the routing matrix in the Dante Controller to route the A10-RACK audio channels to the desired Dante receivers.

Updating RX via A10-RACK

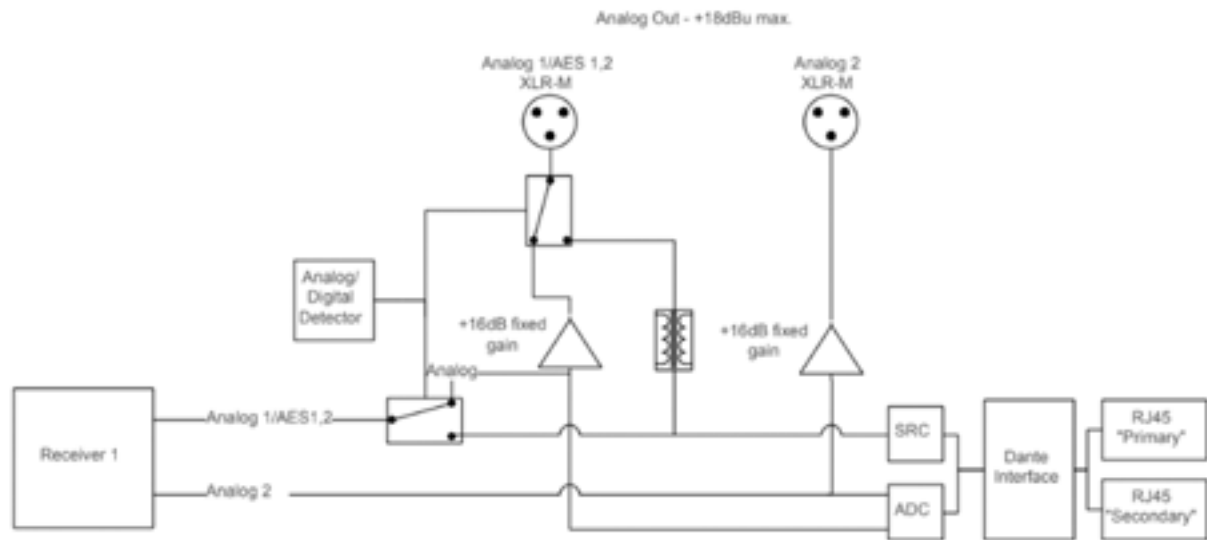
Firmware for A10-RX receivers may be updated via the A10-RACK. For more information, see the *A10-RX User Guide*.

Cascading A10-RACK Units

If two or more A10-RACKs are cascaded via ‘A/B Out’ loop through, it is recommended that the slots in the first rack with antennas connected are filled up before the slots in the 2nd (or next level) are filled - this is good RF practice and will achieve best performance.

The Dante ports may also be daisy-chained if the A10-RACK is not setup for redundant operation (set to “switched” in Dante Controller).

Operational Block Diagram



Specifications

| | |
|---|---|
| Frequency range | • 470-694 MHz |
| Maximum number of receiver slots | • 4 |
| Maximum number of channels | • 8 |
| Active distribution amplifier bandwidth | • 224 MHz, with phantom powering for active antennas – 12 V, 200 mA |
| Antenna inputs | • 2 x BNC 50 ohm |
| Aux RF outputs | • 2 x BNC 50 ohm |
| Rack powering | • 10–18 Volts DC, 3 Amps via 4 pin XLR male socket |
| Audio outputs | • 8 x 3-pin XLR-M analogue and or AES |
| Dante Output | • 2 x RJ45 to provide Dante™ primary and secondary |
| Output level | • +18 dBu maximum |
| Audio frequency response | • 20-20,000Hz ± 1 dB |
| Service port | • USB type B |
| Size | • 1RU high 19-inch frame |
| Dimensions (H x W x D) | • 442 mm x 210 mm x 45 mm (without rack ears) |
| Weight (without receivers) | • 3.6 kg |

Legal Notices

FCC Notice

This device complies with part 15 of the FCC Rules. 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.

FCC Part 15.19(a)(3)

Industry Canada Notice

This Class B digital apparatus complies with Canadian ICES-003. 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.

Declarations of Conformity

Hereby, Audio Ltd declares that the radio equipment type A10-RACK is in compliance with Low Voltage Directive 2014/35/EU, EMC Directive 2014/30/EU, and RoHS Directive 2011/65/EU.

The full text of the EU Declaration of Conformity and full text of the Supplier Declaration of Conformity for US are available at the following internet address: www.audioltd.com/DoC

WEEE Statement



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