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Dante® Network Intercom

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BEATRICE R4
Four Channel Rackmount Intercom

Highlights

- 4 Channel 1RU Rackmount
- Simple To Use
- Intelligible Loudspeaker
- 48kHz Crystal Clear Digital Audio
- Mains/ PoE Powered
- Low Noise Microphone Amp

Overview

This device uses Audinate's Ultimo Chipset, which can receive 4 incoming audio channels, each at 48kHz. However, this chipset can only receive these 4 audio channels from a maximum of 2 network locations (2 different devices). This is common with any manufacturer that uses this chipset.

The Glensound BEATRICE R4 is a versatile, 4 channel rackmount intercom with crystal clear audio designed for broadcast, theatre and professional audio applications.

It is part of our Beatrice intercom system that utilises the reliable and proven Dante network audio transmission protocol to allow real time distribution of uncompressed audio across standard networks. As such the BEATRICE R4 is also fully compatible with other manufacturers' equipment using the Dante / AES67 protocol.

This 1RU rackmount intercom was designed to be very easy to use for the operator and simple to set up for the technician. It includes all the basic functionality required for small intercom systems and none of the overly complex installation requirements normally associated with large systems.

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Features

- **4 Channels**
  One single user connected to the unit can listen to and communicate with 4 separate locations on the network. Depending upon how the Dante network has been routed the incoming audio circuits and outgoing circuits can be different locations.

- **Dante Routing & Partyline**
  Audio routing to/ from other devices is set up using Dante controller which allows for point to multipoint routing on outgoing circuits (but only 1 single incoming circuit for each of the 4 channels).
  An inbuilt partyline facility allows any of the 4 incoming circuits to be routed to any of the 4 output circuits making both simple partyline and more complex group circuits easily configured.

- **Onboard Mic & External Mic Input**
  A good quality, clear sounding microphone amplifier designed for communication purposes is fitted which also has the benefit of a compressor/ limiter circuit to help keep levels and intelligibility consistent even when the operator gets overly excited. This microphone amp has two microphone sources, either the inbuilt front panel mounted electret capsule which provides good voice intelligibility from normal working distances or a balanced XLR input for connecting external gooseneck microphones. Twelve Volt Phantom power is also available and can be turned on/ off as required.

- **High Output Intelligible Loudspeaker**
  What's the point of an intercom unit if the onboard speaker is so cheap that you can't understand what is being said to you? We tried hundreds of different drive units before settling on the one used in the Beatrice R4. We chose it because it had a much cleaner sound and better frequency response for vocals than any other speaker on the market that would fit in a 1RU subrack.

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Features

- **Volume, Panning & Incoming Levels**
The front panel features an easy to use volume/ setup control. This multi-functional control provides day to day operational control of:

A) Overall volume control (just turn the knob)
B) Incoming channel level (push the speak key and turn the knob simultaneously)
C) Panning (push the speak key and push and turn the knob simultaneously)

- **Mains or PoE Powered**
An inbuilt wide range switch mode mains power supply is fitted for powering the Beatrice R4. It is terminated with a standard IEC plug, making it easy to plug in wherever you are in the World. It can also be powered via the Ethernet cable by standard PoE (Power over Ethernet), which can be supplied by an external PoE switch or a midspan power injector.

- **Headphone Output**
One of our unique headphone amplifiers is fitted to the Beatrice R4. These allow either low or high impedance headphones to be used and automatically adjust the output level to match the impedance of headphones in use. The headphone amplifier is stereo and sources can be panned to left or right ears as desired. The unique headphone amplifier can also drive mono earpieces from its stereo output without any performance issues. Headphone connection is via a standard 6.35mm TRS jack socket located conveniently on the front panel.

- **Call Function**
A simple call function is inbuilt allowing the operator of one unit to call/alert other users that they want to communicate with. To call another user the operator double taps the speak key of the channel they want to call. This then flashes a bright yellow call LED on the other user's keypanel, which continues to flash until the call is answered. As well as flashing an LED at the receiving end of the call an audible 'beep' can be set to alert the user that an incoming call has been placed to them.

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Features

- **Display for Setup**
  To make setup of the unit easy and intuitive a display is provided on the front panels. This display provides a simple menu system for setting up such items as:

  Button Configuration
  Input Type (Mic/ Line)
  Microphone Gain
  Phantom Power On/ Off
  Sidetone Level (Own voice in own headphones)
  Partyline/ Loop Through Mode
  Mixing/ Cutting of Partyline when User Speaks

- **Presence Indicator**
  Each channel has its own red LED that acts as a presence detector on the incoming audio circuit. When audio is detected the LED is lit and it stays lit for a short period after the incoming audio stops.

- **Built to Last**
  The Beatrice R4 is manufactured using lightweight but strong custom designed aluminium extrusions for the front and side panels and lightweight but strong extruded aluminium sheet for the lid and base. Front and rear panels are anodised and laser etched and side panels and lid/ base are powder coated in an aesthetically pleasing textured black powder coat.

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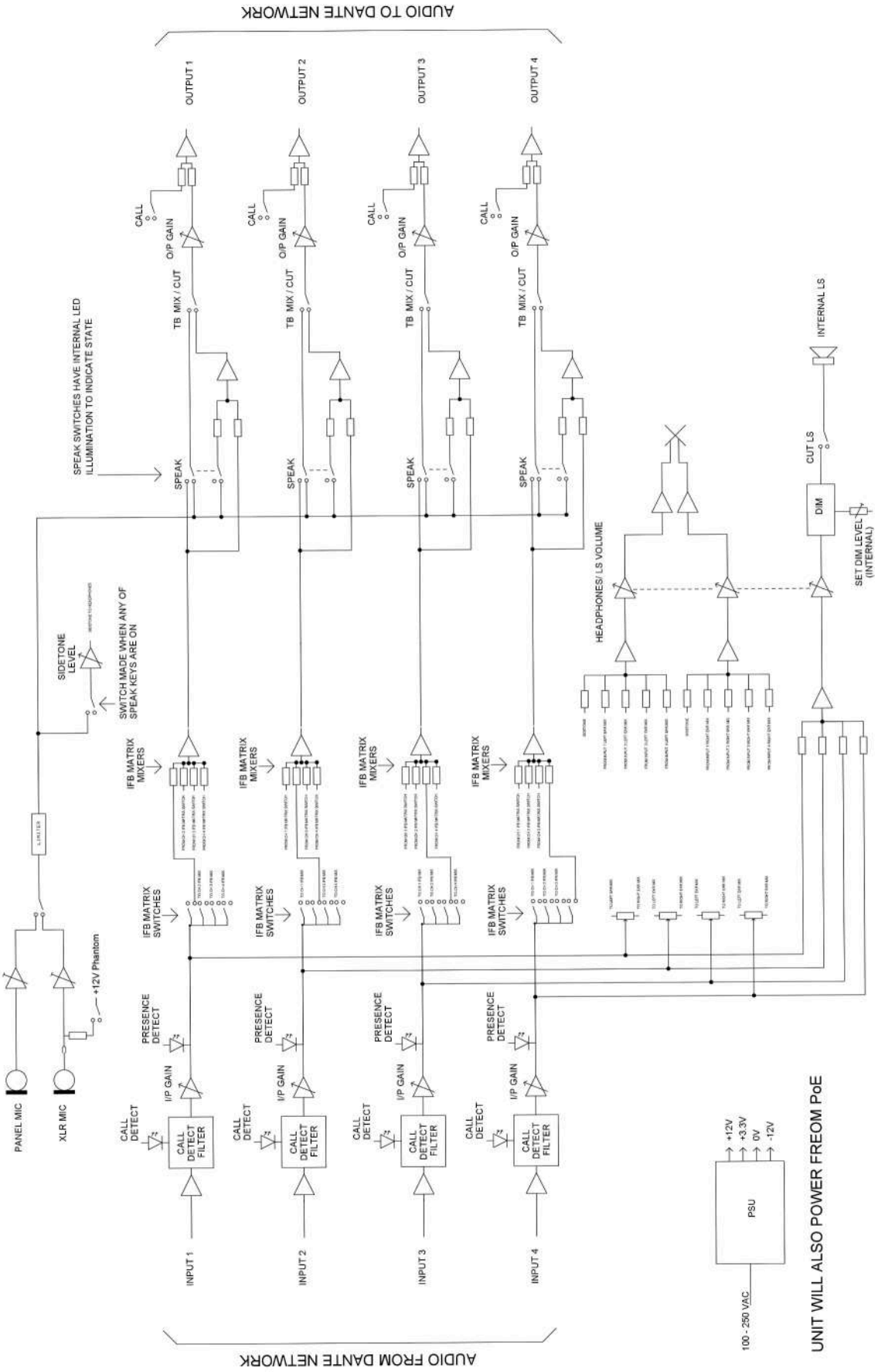
Simplified Block Diagram

The audio block diagram below shows an analogue representation of the digital audio routes within the Beatrice R4.

Block Diagram



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Specification

NETWORK/ Dante

Physical Interface
1 off RJ45 Neutrik Ethercon

Audio Sample Frequency
48kS/s

Transfer Rate
100 Mbps

Dante Chipset
Ultimo UXT-01-004
Note: Audiante recommend no more than 10 Ultimo chipsets on one network **UNLESS** another Dante device such as the Brooklyn Module (found in 8 channel Beatrice/ Dark units), is on the same network

AES67 Compliant
The Audinate Ultimo chipset is AES67 compliant

PHYSICAL

Mechanics
All aluminium with laser etched panels and light textured black powder coated lid & base

Size
19", 1RU, 164mm deep

Weight
1.5 Kg 3.3lb

Shipping Weight
3.5 Kg

Shipping Size
62 x 42 x 12 cms

Shipping Carton
Rugged export quality cardboard

POWER

Mains Voltage
100 - 240 VAC +/-10%

Mains Frequency
50 to 60 Hz

Power over Ethernet (PoE)
48V

Consumption
4 Watts

Redundancy
Mains & PoE supplies are dioded together for glitch free redundancy

AUDIO

Mic Gain Range
60 to 20dB

Line Input Gain Range
+10 to -20dB

Phantom Power
12 Volts

Equivalent Input Noise
-110dB (20-20Khz RMS A Weighted 300 Ohms)

Headphone Impedance
32 - 1000 Ohms

Max Headphone Output Level
+10dB into 600 Ohms

Headphone Connector
6.35mm (1/4") TRS socket, can be safely connected to mono TS jack plug

Band Pass Filter
50Hz to 15kHz

Call Circuit

Inband Calling Frequency
20kHz

Amplitude
-20dBFs

Duration Of Signal
2 seconds

Compatibility
All Glensound Beatrice units & Studio Technologies

INCLUDED ITEMS

Handbook
By download

RJ45 Network Cable
2 metre Cat5 RJ45plug /RJ45plug cable

ENVIRONMENTAL

Operating Temperature
0 to +50 °C (32 to 122°F)

Storage Temperature
-20 to +70 °C (-4° to 158°F)

Relative Humidity
0 to 95% non-condensing

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The name Beatrice was chosen for our intercom range as she was the love of Dante Alighieri:

'Dante had fallen in love with another, Beatrice Portinari (known as Bice), whom he first met when he was only nine.' Source Wikipedia.

We hope that you will also fall in love with Beatrice.

E & OE