



# Model 362 Listen-Only Beltpack Two Channels, Dante™ Technology

## Key Features

- Dante Audio-over-Ethernet technology
- Configurable audio channel routing
- Dual level controls
- Excellent audio quality
- 1/4-inch and 3.5 mm output jacks
- Power-over-Ethernet (PoE) powered

## Introduction

The Model 362 Listen-Only Beltpack is a self-contained 2-channel user device that supports headphone monitoring of two audio channels associated with the Dante audio-over-Ethernet media networking technology. Each Model 362 is intended to be used by one user, providing them with the form factor, reliability, and features needed to be effective in a variety of applications. It's expected that most applications will use multiple Model 362 units to support the individual audio monitoring needs of a group of users.

The Model 362 offers the Dante connectivity, configuration flexibility, and essential user controls in a compact, portable package. Built tough for both studio and field deployment the unit is optimized for use in broadcast sports and live entertainment events, news-gathering, and streaming broadcast applications. Leveraging the capabilities of Dante with Studio Technologies' expertise in creating excellent professional audio and broadcast

products, the Model 362 allows simple deployment, application-tailored configuration choices, and reliable operation, while maintaining "pro" audio quality and an intuitive user experience. With only a Power-over-Ethernet (PoE) connection and a pair of headphones or an earpiece, a complete broadcast talent cue ("IFB") or audio monitoring location can be created.

## Applications

A wide range audio-monitoring applications can be supported, including sports and entertainment TV and radio events, web streaming broadcasts, corporate and government AV installations, and post-production facilities. The Model 362 can be used with other high-performance Dante-enabled products from Studio Technologies. These include a range of broadcast-oriented products that include party-line intercom and IFB interfaces, 2- and 4-channel intercom beltpacks, on-air beltpacks, and announcer's consoles. And, of course, the Model 362 is interoperable with products from literally hundreds of other manufacturers.

## Setup and Operation

Setup and operation of the Model 362 is fast and simple. An etherCON® RJ45 jack is used to interconnect with a standard twisted-pair Ethernet cable associated with a port on a PoE-enabled network switch. This connection provides both power and bidirectional digital audio. Both 1/4-inch and 3.5 mm 3-conductor ("stereo") headphone jacks allow connection of a wide range of stereo



headphones, single- or dual-ear broadcast headsets, and stereo or monaural earpieces or earbuds. As a final step the Dante Controller personal computer application will be used to select (route) two audio sources to the Model 362's inputs.

Two "push-in/push-out" rotary potentiometers ("pots") make it easy for the user to set and maintain the desired level on the 2-channel headphone output. Four LEDs provide a clear and complete indication of the unit's operating status. The Model 362's enclosure is made from an aluminum alloy which offers both ruggedness and light weight. A stainless steel "belt clip," located on the back of the unit, allows direct attachment to a user's clothing.

### **Dante Audio-over-Ethernet**

Audio data is sent to the Model 362 using the Dante audio-over-Ethernet media networking technology. As a Dante-compliant device, the Model 362's two input (Dante receiver) audio channels can be assigned (routed) from source devices using the Dante Controller software application. The Model 362 is compatible with Dante digital audio sources that have a sampling rate of 44.1, 48, 88.2, or 96 kHz and a bit depth of up to 24. Two bi-color LEDs provide an indication of the Dante connection status.

### **Audio Quality**

The Model 362's performance is completely "pro" with audio quality that's more typical of high-end studio equipment. Audio input signals arrive via the Dante receiver channels and pass into the Model 362's processor which allows signal routing and headphone level control to be performed within the digital domain. This provides flexibility, allows precise control, and keeps the two level potentiometers from directly handling analog audio signals. The audio channels destined for the two headphone output channels are sent to a high-performance digital-to-analog converter and then on to robust output driver circuitry. High signal levels can be provided to a variety of headphones, headsets, and earpieces.



### **Configuration Flexibility**

Several configuration choices are available, allowing the Model 362 to meet the needs of specific applications and user preferences. Four DIP switches, located under the belt clip, facilitate selection of key parameters. Two of the switches are used to select the headphone output mode and another switch selects the headphone output minimum level. The headphone output mode can be configured from among four choices. The level/level mode is provided for broadcast applications where two channels of talent cueing ("IFB") need to be independently sent to the left and right headphone output channels. In on-air sports events it's typical for program audio with director interrupt to be sent to the left headphone output while program-only audio is sent to the right headphone output. Independent channel level control is provided by the two potentiometers. The level/balance mode is intended for applications where a stereo signal is being routed to the Model 362's Dante inputs. In this mode the user is provided with one potentiometer to control the overall level of both headphone output channels and a second potentiometer to control the left/right level balance.

The dual-channel monaural mode allows the two Dante input audio channels to be summed (mixed together) and

sent to both the left and right headphone output channels. And lastly, a unique single-channel monaural mode is provided for on-air talent cue applications where a single-channel earpiece or earbud is being used. The two Dante audio input channels are mixed and sent only to the left channel of the headphone output. No audio signal is present on the headphone output's right channel.

### **Ethernet Data and PoE**

The Model 362 connects to an Ethernet data network using a standard 100 Mb/s twisted-pair Ethernet interface. The physical interconnection is made by way of a Neutrik® etherCON RJ45 connector. While compatible with standard RJ45 plugs, etherCON allows a ruggedized and locking interconnection for harsh or high-reliability environments. An LED displays the status of the network connection.

The Model 362's operating power is provided by way of the Ethernet interface using the 802.3af Power-over-Ethernet (PoE) standard. This allows fast and efficient interconnection with the associated data network. To support PoE power management, the Model 362's PoE interface reports to the power sourcing equipment (PSE) that it's a class 1 (very low power) device. If a PoE-enabled Ethernet port can't be provided by the associated Ethernet switch a low-cost PoE midspan power injector can be utilized.

### **Future Capabilities and Firmware Updating**

The Model 362 uses Audinate's Ultimo™ integrated circuit to implement the Dante interface. The firmware in this integrated circuit can be updated via the Ethernet connection, helping to ensure that its capabilities remain up to date.

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## **Model 362 Specifications**

### **Power Source:**

Power-over-Ethernet (PoE): class 1 (very low power, ≤3.84 watts)

### **Network Audio Technology:**

Type: Dante audio-over-Ethernet

Bit Depth: up to 24

Sample Rate: 44.1, 48, 88.2 and 96 kHz

Number of Receiver (Input) Channels: 2

Dante Audio Flows: 2 receiver

### **Network Interface:**

Type: twisted-pair Ethernet, Power-over-Ethernet (PoE) supported

Data Rate: 100 Mb/s (10 Mb/s and 1000 Mb/s "GigE" Ethernet not supported)

### **Headphone Output:**

Type: Dual-channel

Compatibility: intended for connection to mono or stereo headsets or earpieces with nominal impedance of 50 ohms or greater

Maximum Output Voltage: 3.8 Vrms, 1 kHz, 150 ohm load

Frequency Response: 20 Hz to 20 kHz, -2 dB

Distortion (THD+N): <0.002%

Dynamic Range: >100 dB

### **Connectors:**

Headphone Output: ¼-inch and 3.5 mm 3-conductor jacks

Ethernet: Neutrik etherCON RJ45

### **Dimensions (Overall):**

3.1 inches wide (7.9 cm)

1.6 inches high (4.0 cm)

4.0 inches deep (10.2 cm)

**Mounting:** intended for portable applications; contains integral belt clip

**Weight:** 0.5 pounds (0.2 kg)

Specifications subject to change without notice.

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