Model 362A Listen-Only Beltpack
Two Channels, Dante® Technology

STUDIO TECHNOLOGIES INC.

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 362A 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 362A 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 362A units to support the individual audio monitoring needs of a group of users.

The Model 362A 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 362A 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 362A can be used with other high-performance Dante-enabled products from Studio Technologies. These include a range of broadcast-oriented units such as party-line (PL) intercom and IFB interfaces, 1-, 2-, and 4-channel intercom beltpacks, on-air beltpacks, and announcer's consoles. And, of course, the Model 362A is interoperable with other Dante-enabled products from literally hundreds of other manufacturers.

Setup and Operation

Setup and operation of the Model 362A is fast and simple. A Neutrik® etherCON® RJ45 jack is used to interconnect with a twisted-pair Ethernet cable associated with a port on a PoE-enabled network switch. This connection provides both power and bidirectional digital audio. Both ¼-inch and 3.5 mm 3-conductor ("stereo") headphone jacks allow connection of a wide range of

stereo headphones, single- or dual-ear broadcast head-sets, and stereo or monaural earpieces or earbuds. The Dante Controller personal computer application will be used to route (Dante subscribe) one or two digital audio sources to the Model 362A's Dante receiver (input) channels. The Studio Technologies' STcontroller software application is used to configure the Model 362A's functions to meet the needs of specific applications.

Two push-in/push-out rotary controls ("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 362A'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 362A using the Dante audio-over-Ethernet media networking technology. As a Dante-compliant device, one or two audio sources will be routed (subscribed) to the Model 362A's receiver (input) audio channels using the Dante Controller software application. The Model 362A is compatible with Dante digital audio sources that have a sample 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 status of the Dante connection.

Configuration Flexibility

Several Model 362A configuration choices are available, allowing the unit to meet the needs of specific applications and user preferences. All configuration choices are made using the STcontroller software application that communicates with the Model 362A by way of the unit's Ethernet network connection. Configurable parameters include input channel assignment, level control operation, and minimum headphone output level.

Audio Quality

The Model 362A's performance is completely "pro" with audio quality that's more typical of high-end studio equipment. Audio signals arrive via two Dante receiver (input) channels and pass into the Model 362A's processor which allows signal routing and headphone level control to be performed within the digital domain. This provides routing flexibility, allows precise level control, and keeps the two rotary controls (pots) 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 (DAC) integrated circuit and then on to a robust 2-channel output driver circuit. High audio signal levels can be provided to a variety of headphones, headsets, and earpieces.

Ethernet Data and PoE

The Model 362A connects to an Ethernet local-area-network (LAN) using a standard 100 Mb/s twisted-pair Ethernet interface. The physical interconnection is made by way of an 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 362A'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 362A's PoE interface reports to the power sourcing equipment (PSE) that it's a class 1 (very low power) device.

Future Capabilities and Firmware Updating

The Model 362A was designed such that its capabilities and performance can be easily enhanced in the future. A USB receptacle, located on the unit's main circuit board (underneath the unit's cover), allows the application firmware (embedded software) to be updated using a standard USB flash drive. The Model 362A uses an UltimoX2™ integrated circuit from Audinate to implement its Dante interface. The firmware in this integrated circuit can be updated via the unit's Ethernet connection, helping to ensure that its capabilities remain up to date.

Model 362A Specifications

Power Source:
Power-over-Ethernet (PoE): class 1 (very low power, ≤3.84 watts) per IEEE® 802.3af

Network Audio Technology:
Type: Dante audio-over-Ethernet
AES67-2018 Support: yes, selectable on/off
Dante Domain Manager (DDM) Support: yes
Bit Depth: up to 24
Sample Rates: 44.1, 48, 88.2 and 96 kHz including some pull-up/down values
Dante Receiver (Input) Channels: 2
Dante Audio Flows: 2, receiver
Receiver (Input) Nominal Level: –20 dBFS

Network Interface:
Type: 100BASE-TX, Fast Ethernet per IEEE 802.3u (10BASE-T and 1000BASE-T (GigE) not supported)
Power-over-Ethernet (PoE): Per IEEE 802.3af
Data Rate: 100 Mb/s (10 Mb/s and 1000 Mb/s 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, with 150 ohms load
Frequency Response: 20 Hz to 20 kHz, +0/–2 dB
Distortion (THD+N): <0.002%
Dynamic Range: >100 dB

Connectors:
Headphone Output: ¼-inch 3-conductor jack and 3.5 mm 3-conductor jack
Ethernet: Neutrik etherCON RJ45
USB: type A receptacle (located inside Model 362A's enclosure and used only for updating application firmware)

Configuration: uses Studio Technologies' STcontroller personal computer application

Environmental:
Operating Temperature: 0 to 50 degrees C (32 to 122 degrees F)
Storage Temperature: –40 to 70 degrees C (–40 to 158 degrees F)
Humidity: 5 to 95%, non-condensing
Altitude: not characterized

Dimensions (Overall):
3.1 inches wide (7.9 cm)
1.5 inches high (3.8 cm) without belt clip,
1.8 inches (4.6 cm) with belt clip
4.0 inches deep (10.2 cm)

Weight: 0.5 pounds (0.2 kg)

Deployment: intended for portable applications; contains integral belt clip

Specifications and information subject to change without notice.