

3D Audio Conversion Kit Model A301-150K-[]



**Model A301-150-()
3D Audio Module
With Digital Interface**

3D Audio offers proven advantages in situational awareness, intelligibility, and reduced fatigue, but traditional monaural headset systems are locked out of these benefits.

The 3D Audio Conversion Kit allows an existing ICS station that uses a legacy monaural 8 ohm headset to be modernized and upgraded with 3D spatialized sound compatible with a wide selection of the latest stereo, high impedance headsets, including those with cutting edge ANR.

3D AUDIO MODULE

The 3D Audio Module converts monaural audio input from multiple channels into summed stereo audio output with each channel spatially located. Andrea Systems offers a proprietary 3D audio solution licensed from VisiSonics Corporation which achieves high resolution through object-based audio processing. Their object-based processing technique uses proprietary adjustments to accommodate the complex interplay between positional and environmental cues. This advanced spatial audio engine, developed by the research team at the University of Maryland, has been licensed to industry-leading commercial virtual reality companies around the world.

As an option, the 3D Audio Module can include a customizable Digital Interface with stored Voice Messages and Warning Signals. Stored audio can be triggered by discrete inputs or digital signals. The Interface also allows head trackers to be connected to the system so the sound locations can be fixed relative to the Earth or relative to the aircraft.



C46-5472 Rev 3



MONO TO STEREO

In order to match the ergonomics of the existing installation, the 3D Audio Conversion Kit includes a small stereo amplifier designed to mount close to the existing headset connection. This unit provides a new connection point for the stereo headset PTT cable.

In addition to amplifying right and left audio channels, this unit converts from an 8 ohm headset with a dynamic mic to a high impedance headset with an electret mic. New headset designs are not being offered in the 8 ohm configuration due to poor energy efficiency and electromagnetic noise sensitivity. As a result, the best new ANR technology will be found in high impedance headsets.

OPTIONS AND FEATURES

The 3D Audio Conversion Kit is designed to upgrade existing Intercommunication Systems with stereo and 3D Audio with minimal aircraft modifications. Deployed as a system, the 3D Audio Module and the Stereo Amplifier can supply recorded and spatialized warnings incorporating head tracking data. Use of the existing monaural headset connection eliminates the need to rewire the aircraft for stereo. Triggers for the various warnings need to be supplied to the system, but a wide range of cue types can be accommodated. This part of the 3D Audio system, as well as the warnings, can be customized to the application.

Increased benefit can be achieved by moving Direct Audio lines to the 3D Module instead of connecting them to the ICS unit. These audio inputs can be spatialized using live coordinate data from the aircraft or stored fixed positions.

Both the 3D Module and the Stereo Amplifier are offered as stand-alone products in addition to the system kit shown here. The 3D Module without the digital interface provides exceptional audio spatialization for 12 channels, requiring only the input of mono audio and the desired coordinate locations. Addition of the Digital Interface allows a range of coordinate input protocols and adds head tracking capabilities. The Stereo Amplifier can be used as a stand-alone unit to provide conversion to a high impedance headset with the same audio on right and left channels, facilitating upgrade to headsets with better noise performance.

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