NOKIA

OZO AUDIO

Unlock the next dimension of sound

OZO Audio enables consumers to capture and share the full richness of their experiences on a range of consumer devices. The key features of OZO Audio are: OZO Sound, OZO Focus, and OZO Zoom. OZO Sound captures true-to-life audio with the highest spatial accuracy, transforming moments into immersive experiences. OZO Focus makes it possible to focus on the sounds that matter by prioritizing audio from any chosen direction during capture or playback while attenuating sounds from other directions. OZO Zoom allows for dynamically adjusting audio focus during visual zooming. OZO Audio can be integrated into consumer devices of any size, shape, and design, whether it's a smartphone, camera, or video or audio recorder. Spatial sound experiences captured with OZO Audio are always playable and can be shared with virtually any device and on social media.

BENEFITS

Superior spatial sound capture

OZO Sound captures sound with the best audio quality and highest spatial precision—within one degree of accuracy.

Focus on sounds that matter

OZO Focus enables emphasizing sound from any direction, and attenuating noise and ambient sounds.

Audio zoom

Dynamically adjust audio focus to the area of a zoomed video with OZO Zoom.

Always playable, shared everywhere

OZO Audio uses widely supported standard formats, enabling playback on any device and social media, including VR experiences.

Any shape, any size, any design

Integrate spatial audio across a range of products, starting with two mics.

Integration optimization

Optimized implementation for mobile and consumer electronic devices.

Integration support

Proven reference implementation provided for prominent HW platforms.

Designed for a superb headphone experience

Immersive, binaural sound for headphone playback, and head-tracking support in VR.

Loudspeaker playback

Multichannel loudspeaker output for home theater use.

FEATURES AND FORMATS

Product Integration

Flexible microphone positioning in product mechanics that makes adaptation easy for different microphone setups.
Technology scales up for different needs with the number of microphones:

- 2 mics: spatial capture
- 3 mics: 360 spatial capture
- ≥4 mics: full 3D spatial capture (azimuth and elevation)

Proven technology integrated into mass production devices
Support for mass production microphones (MEMS)
Customer support provided from concepting phase to product integration
Cross-platform SW implementation

OZO Audio

Audio input	2 or more microphone channels 48 kHz, 16/24/32 bits Support for different device orientations
Processing	Accurate state-of-the-art spatial audio analysis Advanced audio focus control with OZO Focus and OZO Zoom
Output for playback and/or sharing	Binaural stereo, head-tracking support in VR Stereo OZO Audio format Ambisonics (FOA and HOA) Multichannel (5.1, 7.1, 5.1.2, etc.)

OZO Audio Format

Standard compliant AAC audio data
Most data-efficient spatial audio content format
Full spatial experience with OZO Audio–enabled players
High-quality stereo or binaural stereo output with any legacy player supporting AAC

Universal Playback

Input	OZO Audio format Loudspeaker signals Ambisonics
Product technology delivery and support	SW library for device integration Optimized implementation for customer HW Integration support depending on customer needs Audio quality assurance support ISO 9001 certified quality-management system

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