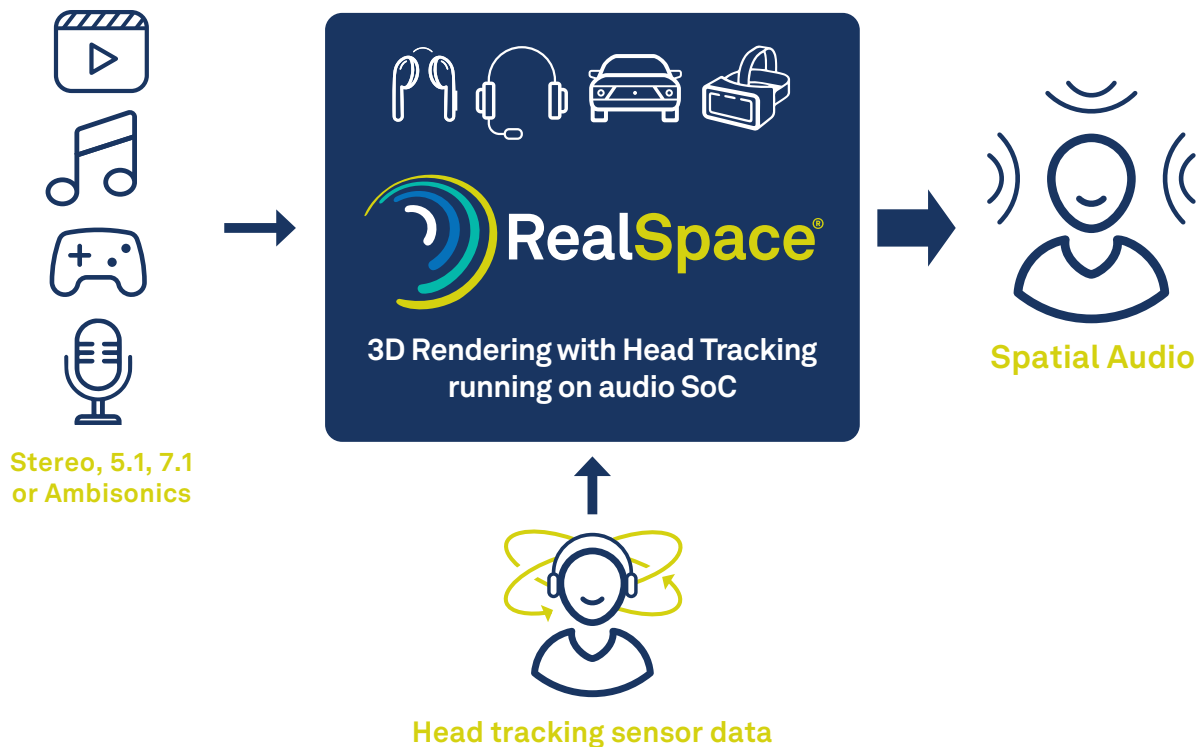


## CEVA RealSpace® – Complete Spatial Audio Software Solution

CEVA's RealSpace® is a fully embedded solution supporting multiple system architectures, whether you want to render spatial audio on a TWS earbud, headphone, mobile phone, gaming system, PC, or a car. This means a great experience isn't tied to a particular device ecosystem, content provider, or codec.

RealSpace®-powered earbuds and headphones can render any content in exceptional 3D. RealSpace® is pre-integrated on some of the top audio SoCs in the industry, letting you bring cutting-edge products to market faster and with less risk.



### Key Benefits

- > Fully immersive experience with precise head tracking and realistic 3D rendering in one solution
- > Lowest latency with the full solution running embedded on the TWS/headphone audio SoC
- > Agnostic to codec, content provider, or device ecosystem with rendering done right on the ear
- > Supports stereo, 5.1, 7.1, and ambisonics audio content
- > Give your customers the best audio experience with available THX tuning
- > Eliminate drift with multiple auto-recentering modes
- > Tuned presets available for Movies, Games, Music, and Speech
- > Reduced fatigue with spatialized video calls thanks to Bluetooth Hands Free Profile support
- > Longer battery life and more features thanks to RealSpace's small memory and compute requirements
- > Pre-integrated with the full audio pathway on top Audio SoC's from BEStechnic and Beken for fast time to market with lower risk
- > Available for CEVA-BX DSPs or Arm Cortex-M CPUs and Windows APO implementations

As consumers demand more immersive and seamless experiences, Spatial Audio has become a key technology in a broad range of applications.

## Overview

When we listen to sound through headphones or TWS earbuds, our brains are denied much of the key information they use to interpret the world. As a result, sound, even surround sound, seems to come from inside the head. Spatial audio recreates the missing information – like the exact position of the sound source or the design of the listening room – in order to create a more realistic, immersive experience.

3D rendering on its own externalizes your perception of where audio is coming from, bringing it out of your head and into the world around you. But the brain is a very sensitive instrument and interprets subtle differences between reflections, reverberations, and how it all interacts with your ears. That's why, for a truly realistic experience, you need to track head motion and know where the ears are located relative to the source of the sound.

### Stereo/Surround Sound

Sound comes directionally, but from a limited number of sources.

The brain interprets sounds as coming from inside the head.

The guitarist is inside your left ear.



### Spatial Audio

The brain interprets the sound as coming from outside the head.

Soundfield is externalized and fixed to the head.

The guitarist is always at 10 o'clock.



### Spatial Audio + Head Tracking

Soundfield is externalized and fixed in place as you move.

The guitarist stays at the left of the virtual stage even as you dance and move.



CEVA's RealSpace® is a complete spatial audio solution, combining proven best-in-class 3D rendering with precise head tracking to bring total immersion to any audio content in an easy-to-integrate package. Get out of your head and into the action with RealSpace®.

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