

FRAUNHOFER INSTITUTE FOR INTEGRATED CIRCUITS IIS

PRESS RELEASE

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Fraunhofer Cingo® Delivers Immersive Sound Experience on Samsung Gear VR

Samsung Gear VR, the first Cingo-enabled device to deliver 3D spatial sound, creates the ultimate mobile virtual reality experience

ERLANGEN, Germany (November 17, 2014) – The Samsung Gear VR headset is the first Samsung device using Fraunhofer Cingo surround sound technology. The new 3D sound capabilities of Cingo enable Samsung Gear VR users to fully immerse themselves in a mobile virtual reality environment.

Thanks to Fraunhofer Cingo, the users of the Samsung Gear VR headset can perceive sound elements in front, behind, from above or below and be truly immersed in a movie with a stunning level of reality that creates the experience of "being there".



Fraunhofer Cingo delivers immersive sound experience on Samsung Gear VR. © Samsung | Picture in color and print quality: www.iis.fraunhofer.de/en/pr

"Owners of the Samsung Gear VR will be pleased with the fully immersive experience powered by Galaxy Note 4. With the advancements of Fraunhofer Cingo that add a height dimension to sound, various elements can be placed anywhere in a virtual space around the listener," said Harald Popp, head of the Business department at the Audio and Multimedia division of Fraunhofer IIS.

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Fraunhofer IIS, the world renowned experts in audio and multimedia technologies, developed Cingo to achieve significantly enhanced playback of stereo, surround and 3D sound on mobile devices. Cingo dramatically improves the entertainment experience on mobile devices, delivering natural and clear sound in any given environment. The Samsung Gear VR is the first Cingo enabled device that supports rendering of 3D audio content with tracking of head movements.

Cingo is available from Fraunhofer as a product-ready software implementation for mobile device manufacturers, chip set vendors and providers of multimedia services.

For more information about Fraunhofer Cingo, please visit <u>www.fraunhofer-cingo.com</u>.

About Cingo

Fraunhofer Cingo creates a realistic immersive sound impression when listening to surround or 3D content over stereo speakers or headphones. Based on the latest developments in audio technology, Fraunhofer Cingo contains a complete set of tools to deliver an exceptional level of audio guality, unmatched on mobile devices.

With the virtual sound mode each audio channel is presented as a virtual sound source in such a way that it is heard from a specific location and distance, for example a loudspeaker of a 5.1 or 11.1 speaker setup in a living room. This enables the playback of stereo, surround or 3D sound over the built-in speakers or any type of headphones.

The loudness optimization feature of Cingo delivers a natural and clear sound even in the most challenging situations. Together with the equalizing algorithm, which compensates for the common audio quality deficiencies often encountered with smartphones and tablets, Fraunhofer Cingo ensures significantly improved audio quality in any listening situation.

About Fraunhofer

When it comes to innovative audio technologies for the rapidly evolving media world, Fraunhofer IIS stands alone. For more than 25 years, digital audio technology has been the principal focus of the Audio and Multimedia division of the Fraunhofer Institute for Integrated Circuits IIS. From the creation of mp3 and the co-development of the AAC to the future of audio entertainment for broadcast, Fraunhofer IIS brings innovations in sound to reality.

Today, technologies such as Fraunhofer Cingo for virtual surround sound, Fraunhofer Symphoria for automotive 3D audio, AAC-ELD for telephone calls with CD-like audio quality, and Dialogue Enhancement that allows television viewers to adjust dialogue volume to suit their personal preferences are among the division's most compelling new developments.

Fraunhofer IIS technologies enable more than 7 billion devices worldwide. The audio codec software and application-specific customizations are licensed to more than 1,000 companies. The division's mp3 and AAC audio codecs are now ubiquitous in mobile multimedia systems.

Fraunhofer IIS is based in Erlangen, Germany and is a division of Fraunhofer-Gesellschaft. With more than 23,000 employees worldwide, Fraunhofer-Gesellschaft is comprised of 67 institutes and research units making it Europe's largest application-oriented research organization.

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