

# PRESS RELEASE

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## Television audio of the future - customizable and in 3D

**The next generation of Ultra High Definition televisions (UHDTV) offers not only crystal-clear images, but also perfect sound. At the IBC trade show (September 11-15 in Amsterdam), Fraunhofer researchers are presenting a TV audio system based on the recently published MPEG-H 3D Audio standard, which lays the groundwork for the television audio of the future. Besides offering immersive audio capability, this new technology allows viewers to customize the audio playback of the television or other devices.**

Imagine you are watching your favorite sports team in your home theater system: Not only are you right in the middle of the action thanks to 3D sound, you can even choose to listen to the commentator of the home or away team, or to engulf yourself completely in the stadium atmosphere with its cheering fan crowds. Thanks to the new MPEG-H 3D Audio standard, viewers will be able to individually adjust volume settings for elements such as different commentators without affecting the volume of other elements, such as the stadium atmosphere.

“Users themselves are able to customize the audio playback on their home TV as they desire, whereas previously such changes could be made only by the TV station itself. This technology is known as object-based audio transmission,” says Matthias Rose of the Fraunhofer Institute for Integrated Circuits IIS in Erlangen, Germany, which led the development of this technology. When equipped with the right speaker configuration, this new technology also allows for a true 3D listening experience at home. “This really makes the viewer feel a lot more like they’re a part of the action,” says Rose.

The MPEG-H 3D Audio standard offers a number of ways to transmit audio content. One way is to transmit the individual audio channels directly, as is currently commonplace, and another is to deliver them as scene-based audio signals (Higher-Order Ambisonics). Additionally, the individual elements of the audio signal can be transmitted as audio objects. “In practice, we expect audio signals in the future to be comprised of a channel- or scene-based description of music and effects, the sound bed, and several audio objects that contain primarily speech elements,” says Rose.

This technology isn’t expected to be available to consumers for a few more years. It will first be standardized for general broadcast use before it can be used by television stations and installed in devices by manufacturers.

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**Head of Corporate Communications**

**Thoralf Dietz** | Phone +49 9131 776-1630 | [thoralf.dietz@iis.fraunhofer.de](mailto:thoralf.dietz@iis.fraunhofer.de) | Fraunhofer Institute for Integrated Circuits IIS | Am Wolfsmantel 33 | 91058 Erlangen, Germany | [www.iis.fraunhofer.de](http://www.iis.fraunhofer.de)

**Editorial notes**

**Matthias Rose** | Phone +49 9131 776-6175 | [matthias.rose@iis.fraunhofer.de](mailto:matthias.rose@iis.fraunhofer.de) | Fraunhofer Institute for Integrated Circuits IIS | [www.iis.fraunhofer.de](http://www.iis.fraunhofer.de)



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The MPEG-H 3D Audio standard will allow television viewers to individually customize their TV audio by changing the volume of dialog and background noise elements independently of one another. © Fraunhofer IIS/Boxler/Schilling | Picture in color and printing quality: [www.fraunhofer.de/en/press](http://www.fraunhofer.de/en/press)

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The **Fraunhofer Institute for Integrated Circuits IIS** is one of the world's leading application-oriented research institutions for microelectronic and IT system solutions and services. It ranks first among all Fraunhofer Institutes. With the creation of mp3 and the co-development of AAC, Fraunhofer IIS has reached worldwide recognition. In close cooperation with partners and clients the Institute provides research and development services in the following areas: Audio & Multimedia, Imaging Systems, Energy Management, IC Design and Design Automation, Communication Systems, Positioning, Medical Technology, Sensor Systems, Safety and Security Technology, Supply Chain Management and Non-destructive Testing. About 880 employees conduct contract research for industry, the service sector and public authorities. Founded in 1985 in Erlangen, Fraunhofer IIS has now 13 locations in 10 cities: Erlangen (headquarters), Nuremberg, Fürth, Dresden, further in Bamberg, Weischenfeld, Coburg, Würzburg, Ilmenau and Deggendorf. The budget of 120 million euros is mainly financed by projects. 23 percent of the budget is subsidized by federal and state funds.

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