

PRESS RELEASE

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Fraunhofer IIS and Thomson Video Networks Showcase Live Transmission of Dialogue Enhancement at IBC

Live DVB broadcasting chain demonstrates the feasibility of Fraunhofer Dialogue Enhancement technology

ERLANGEN – September 11, 2013 – Finding the right balance between dialogue and ambient sound is a major challenge for audio engineers and a common complaint from broadcast audiences. To solve this problem, Fraunhofer IIS, the world-renowned source for audio and multimedia technologies, developed Dialogue Enhancement that puts the viewer in control. Fraunhofer IIS is partnering with Thomson Video Networks to demonstrate Dialogue Enhancement for the first time in a live DVB broadcasting chain at IBC 2013.

With Dialogue Enhancement, TV audiences can individually adjust the volume of dialogue, music, or sound effects within a single broadcast program. Fraunhofer's technology is the first of its kind to deliver this level of individual audio control at the low bit rates required by the networks for broadcasting. Recently, standardization in DVB has been started so that it can be used as an advanced Clean Audio solution in transmission systems based on DVB standards, such as DVB-T2.

At IBC, Fraunhofer IIS and Thomson Video Networks will demonstrate Dialogue Enhancement for the first time in a live DVB broadcasting chain. The Dialogue Enhancement encoder is implemented as a prototype add-on to the HE-AAC audio encoder in the Thomson's ViBE EM4000 Premium HD/SD Encoder.

"Bringing a new technology to market is always more successful when done in partnership with content creators," said Harald Popp, head of the Audio & Multimedia Business department of Fraunhofer IIS. "Thomson Video Networks is a strong partner for the encoder side and demonstrates to broadcasters that Dialogue Enhancement can be implemented in a practical manner," he added.

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The Dialogue Enhancement encoder analyses the sound engineer's mono, stereo or 5.1 surround mix of the input audio signals such as a commentator's voice and the atmosphere of a sports stadium. Based on this analysis, the encoder generates a stream of parametric side information. The transmission of the encoded mix, plus side information, is extremely bit-efficient and increases the overall bit rate only slightly. On the receiving side, the user is then able to adjust the volume of the dialogue independently from the overall volume. Devices that are not capable of decoding the parametric side information will play back the mixed audio signal.

"With Fraunhofer's Dialogue Enhancement technology, our customers can offer each viewer the freedom to control the dialogue sound levels to suit their personal preference, which has been a longstanding issue in broadcasting," said Claude Perron, chief technology officer of Thomson Video Networks. "Our live transmission chain demonstrates that this can be achieved without burden in the production or distribution infrastructure."

Dialogue Enhancement is the ideal companion to HE-AAC, the most efficient audio codec available for TV broadcasting today. HE-AAC is unmatched in efficiency, flexibility and quality. The codec is mandatory in most countries that use second generation terrestrial TV, such as the U.K. and Sweden. HE-AAC is also the standard audio codec for HbbTV.

Show attendees can see and hear the Dialogue Enhancement presentation at Fraunhofer's IBC booth 8.B80.

For more information, visit www.iis.fraunhofer.de/amm or www.thomson-networks.com



**Thomson ViBE EM4000 Premium HD/SD
Encoder ©Thomson Video Networks**

About Fraunhofer

The Audio and Multimedia division of Fraunhofer Institute for Integrated Circuits IIS, based in Erlangen, Germany, has been working in compressed audio technology for more than 25 years and remains a leading innovator of technologies for cutting-edge multimedia systems. Fraunhofer IIS is universally credited with the development of mp3 and co-development of the AAC (Advanced Audio Coding) as well as technologies for the media world of tomorrow, including Fraunhofer Cingo for virtual surround, Fraunhofer Symphoria for automotive 3D audio, AAC-ELD for telephone calls with CD-like audio quality, and Dialogue Enhancement to allow TV viewers to adjust dialogue loudness as they desire.

Through the course of more than two decades, Fraunhofer IIS has licensed its audio codec software and application-specific customizations to at least 1,000 companies. Fraunhofer estimates that it has enabled more than 6 billion commercial products worldwide using its mp3, AAC and other media technologies.

The Fraunhofer IIS organization is part of Fraunhofer-Gesellschaft, based in Munich, Germany. Fraunhofer-Gesellschaft is Europe's largest applied research organization and is partly funded by the German government. With 22,000 employees worldwide, Fraunhofer-Gesellschaft is composed of 66 Institutes conducting research in a broad range of research areas.

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About Thomson Video Networks

A global leader in advanced video compression solutions, Thomson Video Networks helps media companies, video service providers, and broadcasters deliver superior video quality at the lowest-possible bandwidth for contribution, terrestrial, satellite, cable, IPTV, and OTT services. Through Thomson Video Networks' ongoing commitment to innovation, customers are able to leverage emerging technologies, such as the new HEVC compression standard, for the efficient delivery of new video services. This includes multi-screen applications supporting every platform from small handheld devices to large TV screens. Picture the Possibilities: visit www.thomson-networks.com.

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