PRESS RELEASE

Fraunhofer IIS and Analog Devices showcase MPEG-H Audio and Fraunhofer upHear® Immersive Soundbar Virtualizer at CEDIA 2017

Erlangen, Germany/San Diego, California: Fraunhofer Institute for Integrated Circuits IIS and Analog Devices, Inc., today unveiled software technology at CEDIA 2017 designed to significantly improve the immersive sound reproduction capabilities of consumer playback devices. The new offering is a reference implementation of Fraunhofer upHear® soundbar processing with MPEG-H decoding and rendering on an Analog Devices' digital signal processor (DSP). It is the first commercial implementation of this software, which is fully integrated into the Analog Devices' audio framework.

The Fraunhofer upHear Immersive Audio Virtualizer enables the delivery of high-quality immersive sound via soundbars – offering authentic spatial audio reproduction that works simply out-of-the-box, without the hassle of installing numerous loudspeakers. The software is optimized for use with the MPEG-H audio codec and includes an upmix of legacy stereo and surround sound.

The advanced capabilities of MPEG-H provide a range of features, including:
- Immersive Sound: MPEG-H adds 3D audio components for an immersive audio experience.
- Interactive Audio: Consumers have the ability to adjust the sound mix to their preferences.
- Universal Delivery: MPEG-H tailors playback to sound best on any device and in any environment.

The next-generation audio codec is already on the air in South Korea and the immersive and interactive features of MPEG-H will transform viewers' audio experience during the 2018 Winter Olympics in Pyeongchang. MPEG-H is part of the ATSC 3.0 and DVB-UHD television standards, and is also suitable for Over-the-top (OTT) content.

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Analog Devices' SHARC® processor series is a leader in the floating-point DSP market with exceptional core and memory performance and outstanding I/O throughput. SHARC brings real-time floating-point processing performance to many applications where dynamic range is key. The latest products provide leading performance/power efficiency and advanced DSP accelerators (FFT, FIR, IIR). The ADSP-21584 processor, used in the implementation announced today, is designed for applications where a DSP co-processor is exclusively needed and includes two SHARC+ cores and a peripheral set matched to a DSP core.

The software developer kit for the ADSP-21584-based Melody-6 platform is an excellent platform to evaluate and develop soundbars and speakers with the latest multi-channel object-based decoders, including MPEG-H.

"Playing back immersive audio traditionally calls for sophisticated loudspeaker setups, which require specialized knowledge and effort," said Jan Nordmann, Senior Director, New Media at Fraunhofer USA Digital Media Technologies. "Our Fraunhofer upHear Immersive Audio Virtualizer turns every type of content into an immersive audio experience without the need of numerous loudspeakers in the room. We are happy to team up with Analog Devices in offering this new audio processing technology and MPEG-H decoding on the ADI ADSP-21584."

"The synergistic collaboration with Fraunhofer IIS has helped bring MPEG-H standards onto ADI silicon in an efficient way," said Mark Cox, General Manager, Consumer Business Unit, Analog Devices. "We expect to see our first commercial products with MPEG-H on the market soon."

MPEG-H and Fraunhofer upHear Immersive Audio Virtualizer software implementations are available for licensing to audio video receiver (AVR) and soundbar manufacturers and are fully integrated into Analog Devices' audio framework.

At CEDIA in San Diego, California, from 5-9 September 2017, visitors can experience the MPEG-H Immersive Audio Soundbar with the Fraunhofer upHear Immersive Audio Virtualizer implmentation at Analog Devices' suite at the Marriott Hotel.

Learn more about Fraunhofer's upHear® range of immersive audio innovations at www.uphear.com/.

About Fraunhofer IIS

The Audio and Media Technologies division of Fraunhofer IIS has been an authority in its field for more than 25 years, starting with the creation of mp3 and co-development of AAC formats. Today, there are more than 10 billion licensed products worldwide with Fraunhofer's media technologies, and over one billion new products added every year. Besides the global successes mp3 and AAC, the Fraunhofer portfolio of technologies that improve consumers' audio experiences includes Cingo® (spatial VR audio), Symphoria® (automotive 3D audio), EVS (crystal clear telephone calls), and the interactive and immersive MPEG-H TV Audio System.

With the test plan for the Digital Cinema Initiative and the recognized software suite easyDCP, Fraunhofer IIS significantly pushed the digitization of cinema. The most recent technological achievement for moving pictures is Realception®, a tool for light-field data processing.

Fraunhofer IIS, based in Erlangen, Germany, is one of 69 divisions of Fraunhofer-Gesellschaft, Europe's largest application-oriented research organization.

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