Press Release

Visit us at IBC 2010 in Amsterdam: September 10 – 14, 2010 at Fraunhofer IIS booth 8.C81

Fraunhofer Institute for Integrated Circuits IIS

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* Fraunhofer USA Digital Media Technologies, a division of Fraunhofer USA, Inc., promotes and supports the products of Fraunhofer IIS in the U.S.

Fraunhofer IIS Delivers True End-to-End Internet Radio and Mobile Audio Streaming Solutions

Fraunhofer IIS is a driving force in Internet radio standardization and provides technology products for an enhanced customer experience

Fraunhofer IIS, the world's authoritative source for audio and multimedia technologies, is showcasing high-quality Internet radio solutions at IBC 2010. Based on its expertise, Fraunhofer develops and delivers all necessary components for true end-to-end Internet radio and mobile audio streaming services for Internet radio providers, broadcasters, chip vendors and device makers.

Fraunhofer's end-to-end Internet radio solutions include its industry standard audio codecs, such as mp3, HE-AACv2 and MPEG Surround, as well as Internet radio components on the server and receiver side that enable error robust IP distribution and high service reliability. In addition, Fraunhofer's solutions for mobile audio streaming, Internet radio and digital broadcasting are optimized for various platforms and operating systems.

"As the authoritative source for Internet radio and mobile audio streaming solutions, Fraunhofer's know-how and commitment to innovation is unsurpassed in supplying exactly what providers and manufacturers need to stay competitive and interoperable in this rapidly changing market," said Harald Popp, head of the Multimedia Realtime Systems department at Fraunhofer IIS. "Proving our expertise, Fraunhofer is a driving force and actively involved in standardization activities, such as the Internet Media Device Alliance (IMDA) and 3GPP. In addition, our high-quality encoder

implementations of ISO standards and the power-saving decoders are playing an integral role in many Internet radio and streaming systems."

Worldwide, many digital broadcasting stations are using Fraunhofer's technologies for digital radio or Internet radio. For example, Antenne Bayern, Germany's largest private radio station, launched an Internet radio service in 5.1 surround sound based on mp3 Surround.

"We decided to use Fraunhofer technologies for our popular Internet radio service, as Fraunhofer not only provides reliable software but also really sets the standards for high-quality audio codecs," said Michael Kerscher, technical director of Antenne Bayern. "And, with new technologies for Internet and DAB radio, such as surround sound, we were able to enhance our listeners' experience over our broadcast and Internet channels."

Fraunhofer will showcase its Internet radio and mobile audio streaming solutions at IBC 2010 in Amsterdam at the Fraunhofer IIS booth 8.C81.

Fraunhofer's Internet radio and streaming solutions:

Industry standard codecs:
With mp3 and the AAC family of audio codecs, Fraunhofer developed the industry standards that are the core of the majority of successful Internet radio stations and over 90 percent of mobile 3G streaming services. Advancing even further beyond, upcoming consumer facing services will offer an enhanced experience by adding 5.1 surround sound. The ISO standard MPEG Surround and the mp3 Surround extension for the popular mp3 format deliver high-quality surround sound at stereo bit rates, allowing playback over loudspeakers or headphones in best 5.1 quality backward compatible to stereo players. Since mp3, the AAC-family of audio codecs and MPEG Surround are also used in many digital radio broadcast systems, Hybrid radios can

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offer great sound quality to the consumer over all distribution channels in a cost-saving manner for manufacturers.

End-to-end Internet radio solutions:

Fraunhofer's Shoutcast server products deliver high-quality low bitrate Internet radio streams in stereo or stunning 5.1 surround quality. They enable bandwidth efficient real-time encoding of HE-AACv2, MPEG Surround and mp3Surround and output Shoutcast server compatible bit streams. On the receiver side, Fraunhofer offers optimized audio decoders for PC and various embedded platforms, such as ARM powered devices. The decoder implementations are available for a broad selection of operating systems including Android and Apple iOS 4.

Optimized mobile audio streaming:

Mobile audio streaming for various platforms is enhanced using Fraunhofer's real-time encoder for 3GP/PSS server. This high-quality and efficient encoding software allows for delivering 3G audio streams to popular smartphones including Android devices and iPhones. Features include boosting the audio quality of mobile multi-media applications, minimizing bandwidth requirements, enhancing service stability, lowering the costs per stream and enabling a more satisfying user experience.

About Fraunhofer IIS

Fraunhofer IIS, based in Erlangen, Germany, has been working in compressed audio and digital broadcasting technology for more than 20 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 AAC (Advanced Audio Coding) as well as technologies for the media world of tomorrow, including MPEG Surround and data services like Journaline. In addition Fraunhofer IIS is active in the area of standardization, overall broadcast system design, receiver core development, and OEM broadcast server equipment. The technologies developed at Fraunhofer IIS have established themselves globally in satellite-based and terrestrial broadcasting systems, such as Digital Radio Mondiale DRM, DAB Digital Radio, Digital Video Broadcasting DVB, WorldSpace and Sirius XM Radio.

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 1 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 nearly 17,000 employees worldwide, Fraunhofer-Gesellschaft is composed of 59 Institutes conducting research in a broad range of research areas.
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