



Press Release

Erlangen,
October 4, 2006



Fraunhofer IIS Introduces SX Pro Technology for Automatic Conversion of Stereo Material into 5.1 Surround Sound

Erlangen, Germany – At the AES Convention in San Francisco, the Fraunhofer Institute for Integrated Circuits IIS is previewing SX Pro, a technology to create 5.1 surround sound from existing stereo content. At booth 232, Fraunhofer IIS will demonstrate the high audio quality and high degree of creative control offered by the new SX Pro processing, which will be available for integration in software, consumer electronics, and professional hardware by the end of 2006.

To create surround sound from regular stereo music, SX Pro analyses the audio signal and identifies characteristic sound elements. An intelligent algorithm redistributes these elements to create a natural surround sound listening experience without adding artificial reverberation.

The center channel is smoothly integrated without altering the original stereo sound stage, providing a stable front image even for off-sweet-spot listening. The surround channels consist of the ambience-like sound components of the stereo material, greatly enhancing the user envelopment, similar to a discrete multichannel surround sound listening experience – with only two channels as source material.

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Bernhard Grill, head of the audio department at Fraunhofer IIS, says: "SX Pro offers exciting new possibilities when it comes to playing back stereo content over surround setups as its intelligent algorithm provides a high degree of control over the resulting sound image."

SX Pro is the best choice for any application where two-channel legacy content is transmitted to or played in a multi-channel environment. For example, consumers may enjoy high quality playback of their existing stereo music on multi-channel receivers and car audio systems that have integrated SX Pro processing.

The incorporation of SX Pro processing into professional media production and audio editing tools will allow surround versions of existing stereo source material to be produced using the creative control over the upmix process offered by SX Pro. Radio broadcasters offering new surround services may also convert their existing content to surround sound automatically, to match the presentation of new surround tracks.

Unlike prior approaches, the SX Pro technology offers a stable sound field during fast changes in content, and consistent, distinct positioning of audio sources, offering a realistic substitute for true 5.1 mixes when they are not available.

At the AES Convention, SX Pro will be demonstrated as PC software and as a DSP hardware implementation. The PC software allows users to switch between different optimized

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presets to change the spatial sound image. The DSP hardware implementation accepts any two-channel PCM audio stream and performs a real-time stereo to 5.1 upmix.

Founded in 1985 the Fraunhofer Institute for Integrated Circuits IIS in Erlangen, today with 470 staff members, ranks first among the Fraunhofer Institutes concerning headcount and revenues. With the development of the audio coding method MP3, Fraunhofer IIS has reached worldwide recognition.

It provides research services on contract basis and technology licensing.

The research topics are: Audio and video source coding, multimedia realtime systems, digital radio broadcasting and digital cinema systems, integrated circuits and sensor systems, design automation, wireless, wired and optical networks, localization and navigation, imaging systems and nanofocus X-ray technology, high-speed cameras, medical sensor solutions and communications technology in transport and logistics.

The budget of 58 million Euro is mainly financed by projects from industry, the service sector and public authorities. Less than 20 percent of the budget is subsidized by federal and state funds.

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