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Bang & Olufsen High-Resolution Audio Products use Fraunhofer IIS LC3plus Audio Codec

Erlangen/Struer: In order to meet the quality expectations of their users, high-end consumer electronics manufacturer Bang & Olufsen decided on the new open standard LC3plus codec from Fraunhofer IIS for their wireless streaming devices. LC3plus is currently the most advanced solution that combines high-resolution audio with low delay.

The new Fraunhofer LC3plus codec excels in two fields, each challenging in their own right. It can deliver unmatched sound clarity on the one hand, while keeping latency very low on the other. This means that highest fidelity content can be transmitted without any noticeable lag between individual devices. Adding the fact that it is an open standard, it becomes clear that LC3plus is the solution for the future of wireless entertainment systems.

High-end codec for critical ears

Bang & Olufsen was looking for a codec to power their new line of high-resolution streaming systems, which comprises several products for domestic use such as the newly released Beolab 28. As a high-end manufacturer aiming to provide the best experience to their customers, neither a degradation of the sound quality nor unwanted echoes between the speakers were acceptable. LC3plus from Fraunhofer IIS was the perfect solution: its quality exceeded the expectations of even the most critical sound experts in Bang & Olufsen's laboratories.

"We were impressed by the quality LC3plus delivered even when we put it through its paces by tinkering with the bitrate. It brings definition and clarity to streaming devices and ensures that our customers can enjoy high-end audio quality with the convenience of wireless transmission. We are proud to be at the forefront of innovation by being the first to bring this state-of-the-art technology to our customers," says Julien Bergere, Product Category Director at Bang & Olufsen.

Open standard for a wide range of applications

While Bang & Olufsen is the first manufacturer to incorporate LC3plus into high-resolution streaming systems, they certainly are not going to be the last: "We expect LC3plus to establish in the consumer entertainment systems market from smart TVs to wireless

Head of Corporate Communications

Thoralf Dietz | Phone +49 9131 776-1630 | thoralf.dietz@iis.fraunhofer.de | Fraunhofer Institute for Integrated Circuits IIS | Am Wolfsmantel 33 | 91058 Erlangen, Germany | www.iis.fraunhofer.de

Editorial notes

Mandy Garcia | Phone +49 9131 776-6178 | mandy.garcia@iis.fraunhofer.de | Fraunhofer Institute for Integrated Circuits IIS | www.iis.fraunhofer.de/audio

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smartphone headsets. It brings new possibilities of interoperability and compatibility across devices and vendors,” says Manfred Lutzky, head of Audio for Communications department at Fraunhofer IIS.

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In fact, LC3plus is the only open-standard audio codec for wireless high-resolution and high-quality gaming headsets to date. In the communications field, LC3plus is already widely used as it is part of the 2019 DECT standard. In addition to the low latency, it works with a low memory footprint, making it the perfect choice for small devices like wireless earbuds. The high audio quality of the codec is highly resistant against interference and performs flawlessly even at low data rates. Compared to older technologies, an LC3plus stream can be limited to half the bitrate – making it possible to extend battery life and to create smaller devices.

The partnership with Bang & Olufsen shows that LC3plus is far more than just a communications profile, but that it also opens up new worlds of audiophile entertainment even for the most demanding listeners with its high-resolution audio mode. While just numbers for some, these figures will be music in the ears of audiophiles: With LC3plus, a 24-bit signal at 96kHz sampling rate can be transmitted with as little as 2.5 milliseconds delay.

Experience makes for excellence

Fraunhofer IIS as well as Bang & Olufsen are no strangers to the cutting edge of audio technology. While the success story of Fraunhofer IIS gained momentum with the revolutionary invention of the mp3 format in 1992, Bang & Olufsen has nearly a century of experience in the field of sound reproduction.

When two innovation drivers collaborate, great results are to be expected and Bang & Olufsen’s new LC3plus-empowered speaker systems live up to the promise of uncompromised quality, paired with comfort and robustness enabled by the latest open standard transmission technology from Fraunhofer IIS.

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Bang & Olufsen is a luxury audio brand founded in 1925 in Struer, Denmark, by Peter Bang and Svend Olufsen whose devotion and vision remain the foundation for the company. For nearly a century, Bang & Olufsen has been pushing the boundaries of audio technology and the company continues to sit at the forefront of acoustic innovation.

Today, every Bang & Olufsen product is still characterized by the unique combination of beautiful sound, timeless design, and unrivalled craftsmanship. The company's innovative and progressive products are sold worldwide in Bang & Olufsen stores, on bang-olufsen.com and in select retailers. The company employs approximately 900 people and operates in more than 70 markets. Bang & Olufsen's shares are listed on NASDAQ Copenhagen A/S.

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About Fraunhofer IIS

Fraunhofer IIS, based in Erlangen, Germany, is the largest institute within Fraunhofer-Gesellschaft, Europe's leading application-oriented research organization. For over 30 years, the institute's Audio and Media Technologies division has been shaping the globally deployed standards and technologies in the fields of audio coding and moving picture production. Fraunhofer IIS systems and tools help create, transmit and provide excellent audio and video content as well as enable high-quality real-time communication. Today, almost all computers, mobile phones and consumer electronic devices are equipped with technologies from Erlangen and are used by billions of people around the world every day. It all started with the creation of mp3, then evolved with the co-development of AAC and HE-AAC. Now the fourth generation of best-in-class audio technologies – MPEG-H Audio, EVS, LC3/LC3plus and xHE-AAC – elevates the media experience to new heights. In terms of audio signal processing, Symphoria and the Sonamic product family provide enveloping and enhanced sound in cars, while the upHear product family dramatically improves 3D audio playback or recording quality of professional and consumer devices. Fraunhofer technologies also power digital radio: first and foremost in the form of the ContentServer, combining audio encoding, multimedia data management and multiplexing. In the field of moving picture technologies, establishing the Digital Cinema Initiative test plan boosted the creation of professional tools for digital film and media production, such as easyDCP, Realception and JPEG XS. The interdisciplinary team transforms science into best-in-class applications with new functionalities for end users as well as optimum efficiency, reducing transmission costs while increasing reliability. Always taking into account the demands of the market, Fraunhofer IIS develops technology that makes memorable moments.