

LISTENER-ADAPTIVE 3D AUDIO WITH CROSSTALK CANCELLATION

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ABSTRACT

Crosstalk cancellation is a technology that allows the delivery of binaural audio over loudspeakers using loudspeaker beamforming, without the need for headphones. It enables spatial audio to be reproduced using practical loudspeaker distributions, for example a soundbar of loudspeakers positioned in front of the user only. Crosstalk cancellation requires the user to be positioned at a specific location in space, the 'sweet-spot'. However, by using a built-in camera or sensor, the listener's ear position relative to the audio device can be tracked in real time, enabling a mobile sweet-spot through precise beamforming and effective crosstalk cancellation no matter where the listener is positioned. This demo allows users to experience listener-adaptive crosstalk cancellation developed by Audioscenic, on a multi-loudspeaker gaming soundbar. Audioscenic develops advanced crosstalk cancellation solutions for home audio, gaming, automotive, and public space applications. Founded in 2017 by Dr Marcos Simón and Professor Filippo Fazi, the company emerged from their collaborative research at the Institute of Sound and Vibration Research, University of Southampton.