

Title (en)

APPARATUS AND METHOD FOR AMBISONIC BINAURAL AUDIO RENDERING

Title (de)

VORRICHTUNG UND VERFAHREN ZUR AMBISONIC-BINAURALEN AUDIOWIEDERGABE

Title (fr)

APPAREIL ET PROCÉDÉ DE RESTITUTION AUDIO BINAURALE AMBIOPHONIQUE

Publication

EP 4393168 A1 20240703 (EN)

Application

EP 21765935 A 20210825

Priority

EP 2021073440 W 20210825

Abstract (en)

[origin: WO2023025376A1] An apparatus (100) for Ambisonic binaural rendering of an input signal. The apparatus (100) comprises a left ear transducer (101a) configured to generate a left ear audio signal based on a left ear transducer driver signal, a right ear transducer (101b) configured to generate a right ear audio signal based on a right ear transducer driver signal and a processing circuitry (110) configured to generate the left ear transducer driver signal and the right ear transducer driver signal using Ambisonic binaural rendering of the input signal based on a plurality of virtual loudspeakers. Each virtual loudspeaker is associated with a left ear and a right ear reference head-related transfer function, HRTF, and a left ear and a right ear Ambisonic HRTF. The processing circuitry (110) is further configured to adjust the left ear and the right ear Ambisonic HRTF by adjusting an interaural time difference, ITD, of the left ear and the right ear HRTF for each virtual loudspeaker based on a comparison of the Ambisonic HRTF with a reference ITD of the left ear and the right ear reference HRTF. Moreover, the processing circuitry (110) is configured to generate the left ear transducer driver signal and the right ear transducer driver signal based on the input signal and the plurality of adjusted left ear and right ear Ambisonic HRTFs of the plurality of virtual loudspeakers using Ambisonic binaural rendering. Thus, an easy and runtime-efficient calibration routine for a user (103) of the apparatus (100) is provided.

IPC 8 full level

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CPC (source: EP)

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