

METHOD AND SYSTEM FOR REPLICATING HEADPHONE SOUND USING FRONTAL AND SUPPLEMENTARY SPEAKERS

ABSTRACT

A method for replicating headphone sound using frontal and supplementary speakers in an audio system. The method includes positioning a pair of frontal stereo speakers and a pair of supplementary speakers near a user's ears in a predetermined configuration, adding delay to either the pair of frontal speakers or the pair of supplementary speakers, playing test audio signals through the pair of frontal stereo speakers and supplementary speakers, measuring interaural level differences (ILD) at the user's ears across a frequency range of about 1 kHz to about 10 kHz to obtain a measured ILD, comparing the measured ILD to a generic ILD that represents a headphone-like spatial audio effect, deriving a set of equalization (EQ) settings for the pair of supplementary speakers to reduce differences between the measured ILD and the generic ILD, and storing the set of EQ settings for use in the audio system.

FIG. 1