Title (en)
Adaptive feedback cancellation method and apparatus therefor

Title (de)
Verfahren zur adaptiven Rückkopplungsunterdrückung und Vorrichtung dafür

Title (fr)
Procédé de suppression adaptative de couplage acoustique et dispositif correspondant

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Application
EP 10157933 A 20100326

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Abstract (en)
The invention relates to an audio processing system for processing an input sound to an output sound. The invention further relates to a method of estimating a feedback transfer function in an audio processing system. The object of the present invention is to provide an alternative scheme for minimizing feedback in audio processing systems. The problem is solved in that the audio processing system comprises an input transducer for converting an input sound to an electric input signal and defining an input side, an output transducer for converting a processed electric output signal to an output sound and defining an output side, a forward path being defined between the input transducer and the output transducer, and comprising a signal processing unit adapted for processing an SPU-input signal originating from the electric input signal and to provide a processed SPU-output signal, and an electric feedback loop from the output side to the input side comprising a feedback path estimation unit for estimating an acoustic feedback transfer function from the output transducer to the input transducer, and a enhancement unit for estimating noise-like signal components in the electric signal of the forward path and providing a noise signal estimate output, wherein the feedback path estimation unit is adapted to use the noise signal estimate output in the estimation of the acoustic feedback transfer function. This has the advantage of providing an adaptive feedback cancellation system which is robust in situations with a high degree of correlation between the output signal and the input signal of an audio processing system, e.g. a listening device. The invention may e.g. be used in public address systems, entertainment systems, hearing aids, head sets, mobile phones, wearable/portable communication devices, etc.

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