Title (en)

Using a loudspeaker as a vibration sensor

Title (de)

Verwendung eines Lautsprechers als Schwingungssensor

Title (fr)

Utilisation de haut-parleur en tant que capteur de vibrations

Publication

EP 2384023 A1 20111102 (EN)

Application

EP 10161313 A 20100428

Priority

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Abstract (en)

The invention relates to a communication system having a first operational mode and a second operational mode, at least one of which is used for communication purposes. The system comprises: i) an incoming signal terminal (IN) for receiving an incoming signal (Rx) that is representative for incoming communication or sound that needs to be reproduced by the system; ii) a first terminal (T1) for receiving an acoustic signal (ACS); iii) a second terminal (T2) for receiving a noise reference signal (NR) in the second operational mode; iv) a noise-cancellation unit (AEC/NS) coupled to the first terminal (T1) and the second terminal (T2) for reducing a noise level of the acoustic signal (ACS) to obtain an enhanced acoustic signal for outgoing communication (Tx), and v) a plurality of loudspeakers (LSP1, LSP2, LSP3, LSP4), wherein at least part of the plurality of loudspeakers is coupled to the incoming signal terminal (IN) for producing sound that is representative for the incoming signal (Rx). The communication system is further configured for i) producing the sound with a first respective one (LSP4) of the plurality of loudspeakers in the first operational mode, the communication system being further configured for ii) sensing back-ground noise with the first respective one (LSP4) of the plurality of loudspeakers in the second operational mode to obtain the noise reference signal (NR) that is coupled to the second terminal (T2). The advantage of the proposed invention is to have the benefits of a vibration sensor for acoustic echo cancellation and/or noise suppression, without having to actually integrate such a vibration sensor into the system, but to use hardware (a loudspeaker) that is already available in many cases.

IPC 8 full level

H04R 3/00 (2006.01)

CPC (source: EP)

H04R 3/00 (2013.01); H04R 2410/05 (2013.01); H04R 2499/13 (2013.01)

Citation (applicant)

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