

Accelerometer Based Motional Feedback Integrated in a 2 3/4" Loudspeaker - DTU Orbit (09/11/2017)

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It is a well known fact that loudspeakers produce distortion when they are driven into large diaphragm displacements. Various methods exist to reduce distortion using forward compensation and feedback methods. Acceleration based motional feedback is one of these methods and was already thoroughly described in the 1960s showing good results at low frequencies. In spite of this, the technique has mainly been used for closed box subwoofers to a limited extent. In this paper, design and experimental results for a 2 3/4" acceleration based motional feedback loudspeaker are shown to extend this feedback method to a small full range loudspeaker. Furthermore, the audio quality from the system with feedback is discussed based on measurements of harmonic distortion, intermodulation distortion and subjective evaluation.

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