

Abstract

**Special Needs of Hearing Impaired Broadcast Consumers**

*(Lecture / PowerPoint presentation)*

by

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Modern audio design decisions lead to high dynamic and effectful soundscapes. But sensorineural hearing loss often results in a changed loudness perception and a smaller perceivable dynamic range. To compensate sensorineural hearing loss it is necessary to fit an individually aligned programme signal according to the listener's need, for instance a frequency dependent compressive gain, which may be realised either or both at the studio or the reception side.

The contribution firstly focuses on a possible realisation at the reception side: an individual supportive audio signal processing (iSASP) - an easy to use interactive wizard concept, that enables hearing impaired persons to adapt the dynamics of broadcast audio signals frequency dependently to their hearing loss. Accompanying user studies indicate a preference for the fitted signal, an improvement of speech intelligibility and a reduction of disturbing loudness leaps.

Secondly, some more measures to improve the audibility of audio programmes for the hearing impaired, well fitted to the international requirements on 'accessibility' (Barrierefreiheit), are discussed. Amongst these, the integrated Source and Receiver related Audio Processing system (iSRAP) based on modern broadcast transmission systems is described.

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