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Perceptual pitch compensation for low frequency bandwidth extension

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As the size of speakers decreases with miniaturization of audio devices and thickness of TV, there is increased demand to ensure low-frequency sound quality. Psychoacoustics bandwidth extension for low-frequency has been applied to recent audio devices. A perceptual pitch does not correspond with fundamental frequency of missing fundamental, because the perceptual pitch is heard higher than desirable fundamental frequency. Consequently, the algorithm compensating perceptual pitch with difference is needed. This paper describes the algorithm compensating the difference using mel scale curve, and the listening test result of sound source applying the algorithm in comparison with sound source applying conventional algorithm.