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The importance of bass clarity in pop and rock venues

Niels W. Adelman-Larsen^a and Eric Thompson^b

^aFlex Acoustics, Diplomvej 377, 2800 Lyngby, Denmark

^bCentre for applied hearing research, Technical University of Denmark, DTU, Bygn. 352, 2800 Lyngby, Denmark

High levels of bass sound have been shown to stimulate the part of the brain that controls such basic instincts as sexual desire and hunger [Todd, 2000]. In rock and pop music, the bass frequencies from 40-125 Hz get amplified to very loud levels. Easily half of the electrical power of the PA and monitor system goes to these 1.5 octaves. A recent survey [Adelman-Larsen et al., 2007] showed that the most important subjective parameter for a rock and pop music hall to score a high rating was 'bass clarity' which correlated with a coefficient of 0.74 to 'overall impression'. Informal discussions with audio engineers and bass players give the perspective that artificial reverberation is rarely, if ever, added to bass-frequencies. In fact the ideal hall should be as dry as possible at low-frequencies. In the mid-treble frequency range, sound absorption, and thereby 'clarity', is easily obtained through the presence of the audience that absorbs 4-6 times more mid/high frequency sound energy than bass sound energy. In the low-frequency range 'clarity' is not so easily obtained. This paper discusses the challenge in depth and proposes design solutions.