

## **The effect of motif length in reverberation-time listening tests using the ABX test method.**

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Subjective listening tests are often conducted to determine the relationship between an objective parameter and human perception. These tests can consist of auralizing measured or predicted room impulse responses (RIRs) that have been convolved with anechoic recordings. However, no previous research exists that provide guidelines in terms of how auditory memory affects the chosen length of the musical motif convolved with the RIR. Research in the field of auditory memory suggests there is both short auditory memory of approximately 200 ms and long auditory memory lasting several seconds (Cowan 1984 Psych. Bul. 96:341-370). A study was carried out using two motifs with three different lengths: 5s, 7s and 10s, where the successively longer motifs contained the same passages as the shorter ones. A relatively straightforward parameter of reverberation time was the independent variable, and signals were created with reverberation times between 1.0-1.5s. The subjects were presented three signals, A, B and X, where the difference in reverberation time ranged between 0.3-0.5s. The subjects were required to identify which signal A or B matched the test signal X. The effect of motif length on the percent correct will be discussed. [Work is supported by the Paul S. Veneklasen Research Foundation.]

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