Digital Audio Watermarking using Frequency Masking Technique

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Abstract

There is a need of an effective watermarking technique for copyright protection and authentication of intellectual Property [12]. In this work we propose a digital watermarking technique which makes use of simultaneous frequency masking to hide the watermark information into host. The algorithm is based on Psychoacoustic Auditory Model and Spread Spectrum theory [2]. It generates a watermark signal using spread spectrum theory and embeds it into the signal by measuring the masking threshold using Modified Psychoacoustic Auditory model and using dct transform. Since the watermark is shaped to lie below the masking threshold, the difference between the original and the watermarked copy is imperceptible. Recovery of the watermark is performed without the knowledge of the original signal. The software system is implemented using MATLAB and the characteristics studied.

References


Index Terms

Computer Science  
Security

Keywords

Frequency Masking, Watermarking, Embed, MATLAB.