ABSTRACT

Audio watermarking is a kind of data hiding technique in digital audio file without changing its perspectual quality significantly. This technique is usually used to protect the copyright of an digital audio files such as a music recording, song, and speech dialoge recording. This technique operates by embedding external information, like image or text, into the host audio by altering the parameters of the host audio. The embedded watermark signal is designed to robust against digital signal processing attack, such as resampling, noise, filtering, and etc.

In this research, an audio watermarking scheme using reduced arc MPSK as the watermark signal embedding methods into the host audio has been designed. This scheme is then optimized using genetic algorithm to find the most optimal parameters for good watermarking quality. The genetic algorithm will evaluate the parameters in system output along the process.

Output of this research is an audio watermarking program based on reduced arc MPSK (BPSK and 256-PSK) technique using MatLab programming language. From the experimental result, this sistem has been proven to have high watermarking capacity (21 Kbps for BPSK and 171 Kbps for 256-PSK). The reported ODG is ranging from -0.05 to -0.8.

***Keywords**:audio watermarking, MPSK, genetic algorihm, reduced arc*