

## **Abstract**

Digital watermarking is a part of technique that is used for data security. This watermark technique essentially is a technique for hiding some data into another host file by utilizing some weakness in human sense, such as hearing in audio processing. This research review watermarking system of audio files in MP3 formats. This system aims to produce an audio file with a watermark that can be used for a solid copyright protection and reliable and resilient from digital signal processing. Digital watermarking techniques that used in this research is a technique for engineering phase signal in audio, this technique is known as phase coding. In this research, the application is made by MATLAB. Copyright protection in audio by Watermarking-Phase Coding produces resistant audio digital to signal processing without destroying the audio and text files that have been inserted and has a small difference phase between the original signal and the signal that modified, so the difference in the sound produced is not detectable by human hearing. The signal to noise ratio (SNR) of audio with phase coding method has a not good quality, this happens because of minimum boundary of SNR in audio must be greater than 20 db. Furthermore, phase coding also generates a not good result, because the Bit Error Rate and Character Error Rate value is high enough.

*Keywords : Watermarking, Phase Coding, Audio, host file*