ABSTRACT

These days, communication technology is becoming more advanced. Network security is the most important issue in any communication. Hence, comes a method of securing data known as audio steganography. There are also many algorithms developed for it. Meanwhile, This thesis discusses the implementation of Double Audio steganography using Spread Spectrum method with Data Encryption Stan-dard (DES) cryptography. Spread Spectrum method is used to send a hidden mes-sage through radio waves and modulate the hidden messages with a pseudo-random signal. DES cryptography method is used to randomizing the messages for protect-ing the file that wanted to be sent to one receiver. The WAV file is used as an audio file. This thesis discusses the implementation of the method in audio data to hide text message. The embedding processes are carried out twice according to the title is double audio steganography.

Combining the Double Audio Steganography using Spread Spectrum (SS) technique with the Data Encryption Standard (DES) method provides a good level of security without being detected and unattached the audio quality. Additive White Gaussian Noise (AWGN) is used to attack the audio. The imperceptibility, security, and accuracy of the proposed system have been evaluated using Signal to Noise Ratio and Bit Error Rate. The expected SNR is higher than 30 dB. From the results obtained, this system has a pretty good performance seen from the value Stego audio SNR that is worth 64.27 to 86.08 dB. However, the system has endurance which is low against AWGN.

Keywords: *Cryptography, Double Audio Steganography, DES algorithm, Spread Spectrum(SS) algorithm.*