ABSTRACT

System that combines the benefits of cryptography and steganography is needed at this time. Cryptography which provide benefits that the message became unreadable and steganography which provide benefits that existence of the message can't be known is a complementary mix. Message that will be inserted to cover image, is encrypted first using an encryption algorithm method.

This final project has designed and simulated a system of steganography in digital images by inserting a message in the form of BW images. The method used is SSB-4, bit 4^{th} replacement technique. Each bit of the message pixel values will be inserted at the bit 4^{th} in each pixel of a cover image. To enhance security, the message that will be inserted, is encrypted first using Cat Map algorithm. Cat Map algorithm transforms the image by scrambling coordination of the original pixel.

From the test results, stego image still has a good quality even if the message size equal to the size of the cover. But this system only has a resistance to noise in a certain level limit. Gaussian noise has a limited level of 10^{-7}, Speckle noise at 10^{-6} and Salt & Pepper noise at 10^{-5}. Giving noise levels above the limit will make the message image disturbed.

Key Word : Steganography, Cryptography, SSB-4, Arnold's Cat Map, robustness, cover image, stego image.