

## ABSTRACT

Information in telecommunication technology improvement lately, that why the information need protection and confidential because that information become precious items. Cryptograph is subdivision of mathematic science which utilizing process computation to upset information which direction for security of information and does not allow other people to modify and know that information.

For using cryptograph process have encryption and decryption. Encryption is process to change plaintext to form cipher text by using a key and decryption is process to change cipher text to form plaintext with same key. Encryption and decryption need algorithm and key.

In this final project will be made design and will be counted simulation from encryption and decryption by using .AVI format for video without compression. Encrypting video will be done by using operation bytes. Each of frame from video have 3 layer red, green, blue and the process encryption will be processed by using AES (Advance Encryption Standard) block cipher 128 bit. SHA-1 is used for key generation. Key for encryption and decryption used symmetric key. After that video encrypted then video will be decrypted. Key generation is used hash function SHA-1.

Result of experiment that AES algorithm 128 bit and SHA-1 key generation for file video are AES algorithm have relative high level security because having good avalanche effect, long time brute force attack for attacker, and SHA-1 have lower variance.

Keyword : encryption and decryption video, AES algorithm, key generation SHA-1