

## ABSTRACT

Storage of video data requires large capacity and high bitrate for transmission. Because of these problems, comes the idea of making a Final Project to address the burden of high bit by performing a data compression, the data to be stored or transmitted is compressed by a certain method, thus requiring fewer number of bits.

There are two methods used for video compression. They are intraframe and interframe. Intraframe method uses the data in the same frame to be predicted using mode 0, 1, 2 and 3. Interframe compression uses motion compensation method, which calculates the difference value of each pixel between current frame and reference frame. Output from intraframe and interframe process becomes the input of Discrete Cosine Transform (DCT) which transforms data from space domain to the frequency domain.

Test results show that the DCT and motion compensation are able to reduce the number of bits of the original video. For the quantization parameter value / QP = (12,15,15) and GOP = 8 obtained a compression ratio by 61% and 24.579 dB of PSNR for balok video and compression ratio of 31.70% with 19.063 dB of PSNR for daun video. Compression ratio is increased if the value of QP and the Group of Picture enlarged. The increment of QP enlarges compression ratio with a very small decrease in PSNR.

**Keywords:** Streaming video, compression, Discrete Cosine Transform (DCT), motion compensation.