

## **ABSTRACT**

*The filtering process of noise signal is important in communication system. Speech signal quality will decrease when speech signal is corrupted by noise signal. When someone communicates using communication device and the same time there is noise that disturb then received speech signal is not clear. Therefore, a required system that can eliminate noise from speech signal is noise cancellation using dual microphone system (DMS). DMS using adaptive filter scheme whose characteristics can adapt or adjust automatically according to definite algorithm. The research on this final assignment using Discrete Cosine Transform Least Mean Square (DCTLMS) adaptive algorithm. DCTLMS algorithm is one of development of Least Mean Square Algorithm (LMS) to improve convergence time and signal to noise ratio (SNR) from LMS algorithm. This noise cancellation system obtains optimum stepsize value in 0.02. In addition , minimum MSE is 0.001383 and optimal SNR is 16.1906 dB.*

**Keywords :** *DCTLMS, DMS, Adaptive Filter*