

## ***Abstract***

*Reverberation (multiple echo) is the acoustic noise signals that appear in an enclosed space due to a superposition of multiple reflections and diffraction from walls and objects in the room. Reverberated signal is a complex problem that hard to find a solution, because the original voice signal is correlated with reverberation effects.*

*Reverberation effect will cause signal degradation and also the original voice spectrum characteristics. This will greatly disturb the audience's perception of the information presented, so that required a system of tools that can reduce the effects of these reverberation.*

*In this Final Project will be implemented dereverberation process research using analytical methods of synthesis Overlap and Add Short Time Fourier Transform (STFT) using multimicrophones system (two microphones) in a variety of room sizes (small, medium, and large). This system uses multimicrophone because it is suitable for recording application coupled audio conferencing.*

*Multimicrophone system will produce two sounds that have spectral characteristics that correlate to each other. Performance of this system is to compare 2 reverberated signals, where the original signal has a level of high spectral correlation, and signal level reverberation have low spectral correlation.*

*From this research can be concluded that the system is capable to use in small room, with large gain and overlap 75%, where in this state system can get small MSE and reverberation value.*

*Keyword: spectral sound, reverberation, correlation, multimicrophones, STFT.*