

ABSTRACT

Nowadays, the most popular audio format is *mp3*. It is proved by the increase of audio player which support *mp3*. It has very small compression ratio, however, *mp3* is a *lossy* compression. *Lossy* mean there is lost information, so when decompression is done, it is no the same file again. Therefore, *lossless* compression become an interesting topic, because *lossless* compression means there is no lost information and the output exactly same as the input.

Lossless audio compression commonly has the following stages: *blocking*, *inter-channel decorrelation*, and *entropy coding*. In *blocking* stage, audio file divided into many contiguous frames. In *inter-channel decorrelation* stage, the correlation between signals is removed at every frame. Then in *entropy coding*, the repetitiousness data is removed.

This final project explain the using of *polynomial LPC* and *Rice Coding* at *lossless* audio compression. *Polynomial LPC* used at *inter-channel decorrelation*, while *Rice Coding* is used at *entropy coding*. After compared to FLAC and Winzip, it is shown that LAC has smallest compression ratio among them.

Keywords : Compression. Lossless, Polynomial LPC, Rice Coding.

STTELKOM