

## ABSTRACT

Wave audio data is the standard audio format for Windows, that can be get from digitalizing sound recorded through the computer soundcard. This data is usually stored on a .wav file extension, and it contains sound wave that is the representation of the digitalizing process.

MIDI (Musical Instrument Digital Interface) data is the song data recorded using MIDI instrument such as MIDI keyboard, MIDI guitar or the computer soundcard and stored on a .mid file extension. On the MIDI data doesn't contain the actual audio data, but it just contains MIDI commands series that commands the soundcard or other MIDI devices on how it will produce the sound.

Wave to midi system has two main blocks, they are the *wave to pitch* block as the signal processing and the *pitch to midi* block as the data processing. The input is a wave file, then its pitch/frequency detected by the *wave to pitch* block. The output is tone series and its duration, and will be being the input of the *pitch to midi* block. This block will process the input to be MIDI commands series and store them into an SMF (Standard Midi File) to be a ringtone.

The result of research indicates that the mean of error system is equal to 3,116 % and the MOS is 4,122 ( good level). This means that the wave to midi system has a good performance and mainstay.