

ABSTRACT

The range of human hearing is greatly impressive. They were able to differ an approaching sound direction by using their both ears but in this digital world, this idea was hardly implemented by only using an ordinary microfon. To digitalize this phenomenon, it is usually used *binaural recording*, a method use *KEMAR* or *Knowles Electronics Manikin for Accoustic Research*. This method could not effectively be implemented in practice because the tool was in size with human head. Therefore, it is needed a system which has smaller size and effectively gives a result as *KEMAR*, then it could be implemented directly in reality.

Method that will be used, applicate *HRTF* or *Head-related Transfer Function*. However, this method can be used for the necessary data about the angle the direction of the sound. To get the data direction of the voice used method of Interaural time difference (ITD). To obtain information on the direction of the voice used 3 separate microphones at a certain distance for each microphone there is a difference in the arrival of sound. Then, given the effect of 3-dimensional sound using HRTF data obtained from the MIT media laboratory.

For the future are expected to do development on this device, especially in filtering and also the use of better microphones. And we hopes that audience can enjoy the audio which can give the impression of 3 dimensions.

Keyword : *KEMAR, HRTF, ILD, ITD, Binaural Recording, TMS320C6455, microphone*