

ABSTRACT

Stethoscope is a medical equipment commonly used to observe the heart sound or the lung sound. The heart sound is considered as a noise for lung. Therefore, in observing the lung, produced sounds overlays. In order to avoid miss-information, separation between the heart sound and lung sound is needed.

There are several applicable methods to separate mixed sounds signal, one of the methods used in this final project is Independent Component Analysis (ICA). ICA is a source separation method based on many order statistic.

This final project, will design a system that is able to measure the ICA performance in separating the two sounds source, heart sound and lung in human by using FastICA algorithm.

From the test result of the heart and lung sound signals, it is gained that ICA performance in separating the mixed signal is excellent. The output of heart and lung sound produced through the FastICA process is better than the previous signals.