ABSTRACT

Fetal Doppler is a device that can be used to detect fetal heartbeat at the age of 11-12 weeks, usually this tool is used in the examination site that does not have an ultrasound. Yazid Husain Satiti, 2012, made fetal doppler using electrodes affixed to the abdomen of pregnant women. The disadvantage of this study is that laying and positioning of the fetus must be appropriate so that the device can capture the fetal heart rate. So that a fetal doppler device is made that uses a funandoscope mechanic as a catcher for fetal heartbeat.

The research this time uses an analog sound sensor V2 where the input from the sensor will be analog filtered, then the results are sent to the ATMEGA 328 microcontrol on Arduino Uno, filtering signals that enter the Ardino Uno will be processed and then output to the speaker.

Based on measurement and comparison of device data with a comparison device, the biggest error in measuring the fetal heart rate in the second order digital filter is 0.02% and the biggest error in the 4th order digital filter is 0.05%. While the biggest error in the 2nd order analog filter is 0.04% and the biggest error in the 4th order analog filter is 0.03%.

Keywords: Fetal Doppler, Fetal Heart Rate, Filter, Sound Sensor V2, Arduino Uno