

## Abstrack

Physician experts who monitor a body organs are not on a biomedical technology, one example of which can be on the monitoring by a doctor is an expert jantungng, muscle, respiratory system, etc. The heart is the most important organ in the body that functions to pump and received the blood throughout the body that works continuously. The movement of the heart can be in monitoring with Elektrokardiograf. Muscle is a layer of the bone serves as an activator.

Sensors that support biomedical tools to help any more, but a tool that can read a sensor it's mostly made for reading 1 sensor only, therefore the author makes a tool to read many of the sensors used in biomedical sensors namely smart-health. Smart-health is a tool that can read sensor-sensor such as the biomedical Elektrodiagraphy (ECG), Electromyography (EMG), Elektrooculograpy (EOG), body temperature, respiration. Smart-health is as a signal amplifier and mengfilter signal noise in biomedical sensors. Smart-health can be connected directly on the arduino and can direct coding with arduino. A tranducer embedded electrodes on the sensors can be connected on the smart-health and linked on the arduino to give program, the output of the arduino in the form data will be linked on the oscilloscope to view the data into a data signal.

The result of the design almost as expected, but there are still discrepancies on some parts of the sensor, one of them on the design of the filter and amplifier. ECG sensor voltage generated is in compliance with the expected i.e. 0-4 volts, is experiencing a bit of panning 0.2 volt sehinggga gained 4.2 volts. EOG sensor voltage is generated that is 3.6 volt experience panning 0.6 volts. At EMG sensor voltage is generated that is 5 volts. On respiration sensor voltage generated is 2.3 volt experience pergerseran 0.3 volts. On each sensor voltage shift due to experiencing electronic component there is fault tolerance that lead to results that are expected to experience a shift in voltage

**Key: sensor ECG, EMG, EOG, Respirasi, Smart-health.**