ABSRACT

Electrocardiograph (ECG) is a tool that commonly used to measure the performance of human within electrode to detect the impulse. But the problem occurs in the process of generating signal on cardiac activity, because of low amplitude and frequency. Therefore, amplification process is needed to amplified the output signal before it can be used by other subsystems such as monitoring a patient. Intrsumentation of amplifier in biomedical signal processing has been widely applied to amplify signals with additional components such as MOSFETs [2], adopted CMOS technology [3], or use current-balancing techniques and a pair of inputs to balance differential currents. In this final project, researcher designed an amplifier for ECG by utilizing operational amplifiers and filters as a signal amplifier of three electrodes attached to the surface of the subject's skin for the reading of its heart activity. The result of the reinforcement is used as output signal which can be post-processed into information by microcontroller. The design system is confirmed to be done quite well and effective as needed. The error rate of the system is below 5%, which can be concluded as good cause still within reasonable limits.

Keywords: ECG, Monitoring, Amplifier