ABSTRACT

Health problems with disorders of the cardiovascular system still rank high, according to data from the WHO reported that about 31% of the causes of death globally are cardiovascular diseases. The purpose of this study was to develop a 12 lead electrocardiograph with 2 displays and bluetooth HC-05 as a signal data sender. In this study, the electrocardiogram signal obtained from tapping by attaching electrode cables to leads I, Lead II, Lead III, aVR, aVL, and aVF, then this study uses IC AD620, HPF filter with frequency and LPF filter and non-volatile amplifier. inverting then using Arduino UNO for further display. in the form of a signal on the Delphi 7 application. The research method is to measure the heart signal on the ECG Simulator and test the similarity of the signal on the ECG at 0.5mV, 1mV and 2 mV settings on each lead. After testing the equation at the 0.5mV setting by calculating the error rate value, the highest error value is obtained in lead I, lead aVL and aVF of 7.14% and the smallest error is 3.57% error in lead III. Then at the 1mV setting by calculating the error rate, the highest error value in lead aVL is 7.14% and the smallest error is 2.36%. at the 2mV setting by calculating the error rate, the highest error value is obtained in leads aVL and aVF 5.71% and the smallest error is the smallest error of 2.1% in lead II. there is no significant difference between the signal generated by the module and the signal on the manufacturer's ECG.

Keywords : ***Elektrocardiograph, HC-05, Delphi 7***