

ABSTRACT

Heart disease is one of the diseases with the highest mortality cases in the world. With the development of technological advances there have been many tools to determine heart disease. This inspired the writer to evaluate the Electrocardiogram (ECG) signal. EKG is a measure of electrical activity in the heart. ECG produces parameters that are used as a reference for measuring a normal heart or experiencing problems. QRS parameter is one of the parameters that can be used to detect abnormalities based on signal width. Many methods that can be used to determine heart failure include image reading, Pan Tomkins, and so on. This makes the writer apply QRS interval detection using AD8232 module based peak analysis using simulation signals. Peak analysis is a method for detecting a point in a signal. Then the AD8232 module is a converter from the probe to an ECG signal. The simulation signal is read using AD8232, then the QRS signal is detected by the peak analysis method which will produce an interval and an indication of cardiac failure based on the QRS. The detection of QRS intervals is based on simulation signals generated by the ECG generator with a database from MIT-BIH as a reference. In the signal reading results, the interval obtained has an error of less than 5% and an error reading of the PQRST amplitude of less than 3%.

Keywords: Heart, ECG, AD8232, QRS Interval, Simulation Signals, Peak Analysis