ABSTRACT

Optimal heart rate for each individual is different, depending on the time when calculating your heart rate and body condition also affects the calculation of heart rate. heart rate is an important sign in the medical field that is useful to evaluate the general health of a person. (Sarjanaku.com/2011).

The simplest measure heart rate by using your fingers, but sometimes using your fingers requires high concentration. With improved technology, the heart rate can be calculated using a simple electronic device that uses a finger sensor.

On this occasion the author has made a tool to calculate the heart rate to be easier to use, as well as a small form that is easy to carry (portable). This tool calculates heart rate per unit time is generally represented as the BPM (Beats Per Menute) by using a finger sensor, then the IC ATtiny 2313 AVR microcontroller type as a regulator and manager of data to be displayed on Seven Segment.

Of the 10 patients, and each patient was measured as much as 5x the results 1BPM average difference between the compare with a comparator with the module. Measurement error% while using 5x as much function generator with a frequency ranging from 2Hz-0, 6HZ by 0,7%. Therefore we can conclude calculate the heart rate tool worth using as % error is less than ± 5% and below the standards set 5BPM. As well as up to 11 hours of battery life, enabled by continuous testing using input Fuction Generator.

Key Word: Heart Rate, BPM, ATtiny2313, Portable