

ABSTRACT

Maximum heart rate detector is a device for measuring the pulse maximum using the equations and test the heart's ability to use the treadmill. By knowing the pulse, then an athlete should take time out of the sport when his pulse has exceeded DNM (Maximum Pulse). Therefore, the authors plan and want to design tools with the title, "Detection Tool Maximal Heart Rate When Exercising". Where the results of the measurements will be shown on the LCD Character.

In the process of collecting data on the parameters of BPM using the sensor transducer finger sensor, where the reading process utilizing pulse or blood flow in blood vessels in the index and retrieval process for 1 minute accumulated data is then displayed on the LCD character. In processing the data to be displayed on the LCD character as the author uses a micro controller IC AT89s51.

Based on the results of measurements of the output through simulation and testing of the patient as much as 5 times the test is obtained that the average% error on the parameters of BPM at rest = 0,96%, while pedaling BPM parameter = 0,74%. Once the module manufacturing process, the planning literature studies, experiments, testing tools, and data collection can be generally concluded that the "Device Detector Maximal Heart Rate When exercising" can be used.

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Keywords: LCD, BPM, AT89s51.