

ABSTRACT

Seismograph is an instrument used to detect and record the vibrations that occur in the earth as a result of the earthquake. Some countries seismograph is used to detect the earthquake is analog seismograph in the manufacturing process requires a relatively large costs as well as the precision and accuracy of the mathematical calculation based on the laws of physics. At the end of the project is a seismograph that uses a microcontroller and seismic data processing software that has been there. The main purpose of this final project is made seismograph simpler and cheaper. The seismograph system consists of sensors, microcontroller 8535, and the earthquake data processing software. Vibration sensor, used to detect mechanical motion. Microcontroller, using ATMEGA8535 microcontroller, which is used to process data from the sensors and send the results to a computer via RS232 serial communication port.

In this final project will be monitoring seismic vibration measurement using 8535 microcontroller and using vibration sensor. Then the sensor readings of the tool will be compared with readings from seismographs.

Based on the results of tests performed, vibration sensor that is integrated with the microcontroller can read the earthquake activity is then recorded and displayed in Matlab. From the comparison, it can be concluded that the results are the same as the analog seismograph with a value of 16 for 48 seconds event shocks.

Keywords: seismograph, microcontroller 8535, vibration sensors, matlab.