ABSTRACT

An earthquake is one of natural disasters that can cause material or non-material losses. An earthquake on the railway can endanger train travel.

The above problems can be anticipated by the existence of an earthquake warning system on the railway. In the event of an earthquake, the sensor will detect ground vibration acceleration. The system will then send information in the form of earthquake magnitude to the central station.

In this final project, an earthquake warning system will be designed and manufactured. This system will detect ground vibration acceleration using an accelerometer sensor. The ground vibration acceleration is processed using a microcontroller and converted to earthquake magnitude. The system will send an SMS containing ground vibration acceleration and earthquake magnitude and displayed on the monitor at the main station.

The accelerometer used has an accuracy rate of 98.69% and a precision level of 99.74% on the x axis, on the y axis has an accuracy of 96.2% and a precision level of 99.75%, and on the z axis has an accuracy of 85 , 93% and a precision level of 99.79%.

Keyword : *earthquake, accelerometer, mirocontroller, SMS.*