

ABSTRACT

Hypertension in general do not have early symptoms. It is can be affect anyone, including in adolescence. Hypertension or high blood occur due to narrowing of blood vessels and blood vessels already experiencing stiffness. People who have high blood pressure makes heartwork becomes very heavy and his heart rate became unstable.

Sensors are used to determine the blood pressure is Photoplethysmograph (PPG). Photoplethysmography (PPG) is a technique to determine heart rate by using optics. With methods pulse wave velocity we calculate how the blood pressure in the vessels blood by knowing the speed of blood flow. This is different with digital sphygmomanometer, the digital sphygmomanometer level of accuracy still below sphygmomanometer manual, and also not portable so difficult to carry anywhere.

PPG sensor designed using infrared as a transmitter and a photodiode as the receiver. Then, as the filter and amplifier using LM324. For signal processing pulse wave velocity using Atmega32L.

Key Word : *Hypertension, Photoplethysmograph (PPG), Pulse Wave Velocity, Blood Flow, Heart Beat.*