

ABSTRACS

The eye care massager based on micro controller is a therapy tool that has function to decrease exhaustion in consequence eye contraction an eye muscle that over do. By the eye working always forces on focusing eye muscle, will cause eye fatigue, it is caused by tightening of blood vessel at eye muscle. This condition can cause the oxygen supply and nutrition in eye muscle is retarded that cause eye fatigue. Tired eye condition can marked with the accomodation of eye is getting weaker, glitter eye and eyeball feeling poignant. One of the way to overcome conditon with take a rest an eye for a moment while massaging part around eye skin with soft massage for minute to accelerate the return blood circulation.

By seeing this troubleshoot, so the author tries to do an effort by designing tool entitled "Alat Terapi Pemijat Mata Berbasis Mikrokontroller AT89s51". This tool functions to decrease eye muscle strains and stimulate to accelerate blood circulation around the eye.

This tool equiped with therapy time choice to choose therapy process during 3 minutes, 4 minutes and 5 minutes. Besides, there is massaging vibration frequency arrangement as big as 38 Hz, 49 Hz and 63 Hz. In eye care masasager tool use PWM series that are organized duty cycle and the frequency. These PWM series are built from one ic LM 324.

Based on measurement result in multimeter to every frequency election 38 hz, 49 hz, and 63 hz got the average of error (%error) as big as 0,313%. While from therapy time counting with measurement data from 3 minutes, 4 minutes, and 5 minutes got error (error %) average as big as 0,0593 %.

After being done the making process and literature study, planning, effort, tool testing and data collection got that tool operation easy for operator. From the analysis result, so the conclusion is therapy tool has been effective in use.

Keyword : Eye Fatigue, Accupressure, PWM
