Abstract

Ultrasonic Nebulizer is one health instrument used to provide therapeutic treatment for patients afflicted by diseases or disorders of the respiratory tract disorders by utilizing fluid vapor is mixed with the drug, wherein the liquid vapor through the process of solving the liquid medication into a very fine mist, so that when inhaled through the mouth and nose of drugs will go directly to the lungs to relieve complaints of cough and other asthma symptoms.

Principle on this tool works is to set a thick fog and set the required time. The instrument was used pizoelektrik that lead to a break frequency for the liquid medication into mist. On the data plane before modification ultrasoniknya 1.7 MHz wave frequency and the output transformer incoming 55VAC unit control board, because of thick fog setting based on the amplitude of the voltage output from the control board that goes on pizzoelektrik.

Based on the existing conditions the design of this tool should be adapted to these conditions. So the authors designed a re-board the instrument control by utilizing the existing transformer. Also modify the electrical timer to AT89S51 Microcontroller based timer with the seven segment display uses.

According to the data presented a new modification of the control board output produced measurable ultrasonic frequency 1.67 MHz and the amplitude of the voltage at 70V pizzoelektrik. The average level of fault / error in the timer 0013 After making the process of planning and literature studies, experiments, testing and data collection tools, the authors can conclude that the modification of the control board on this tool has been successful and fit for use with the fogging <3ml/menit. And setting time of 0 to 60 minutes.

Key words: Ultrasonic Nebulizer, Microcontroller AT89S51, Seven Segment