ABSTRACT

Ultrasonic waves are waves that have frequencies above 20 KHz. In some aspects of ultrasonic waves many of the benefits in the field of military, health and agriculture. Ultrasonic waves used have a frequency of 40 KHz to 60 KHz.

In this thesis, the author intends to design an ultrasonic generator amplifier from the frequency of 40 KHz to 60 Khz. And testing this time using mice and crickets as a measurement tool, the components used in the manufacture of signal amplifiers include, the PLL series negative feedback system, will automatically adjust the phase of a signal generated. VCO (Voltage Controlled Oscillator) an oscillator that functions in the control system, and the voltage is an electronic oscillator and is widely used at the input tunning voltage which determines the oscillation frequency. LPF (Low Pass Filter) is a high signal barrier or filter. And the oscillator is a series that forms periodic waves such as sinusoidal, squares and triangles.

The purpose in making this is to realize an ultrasonic generator with a frequency of 40 KHz to 60 KHz. And how will the cricket and mouse react if it hears the signal whether it will move away or come closer and how it reacts and uses for daily life. The result of the measurement of spefication indicates that the output of the signal form that can be from the output is sinusoidal form. For PLL researchers use IC CMOS 4046 and for op-amp boosters using IC lm386. And it was concluded that the rat strongly disliked the ultrasonic waves with high frequency karna he will feel disturbed and will be away from the wave source while for crickets he will be silent and not reaction like falling asleep

Keywords : *Generator Ultrasonik*, PLL, VCO, *Low Phase Filter*,Osilator