

Measure Noise level

Abstract:

The research aims to know the noise level by using the Arduino Uno as data processing input from sensors and called as Sound Noise Level (SNL). The working principle of the instrument is as noise detector with the show notifications the noise level on the LCD indicator and in the audio-visual form. Noise detection using the sensor is a condenser microphone and LM 567 as IC op-amps, which are assembled so that it can detect the noise, which sounds are captured by the sensor will turn the tide of sinusoidal voice became sine wave energy electricity (altering sinusoidal electric current) that is able to responded to complaints by the Arduino Uno. The tool is equipped with a detector consists of a set indicator LED and sound well as the notification from the text on LCD 16*2. Work setting indicators on the condition that, if the measured noise > 75 dB then sound will beep, the red LED will light up indicating the status of the danger. If the measured value on the LCD is higher than 56 dB, sound indicator will be beep and yellow LED will be on indicating noisy. If the noise measured value < 55 dB, sound indicator will be quiet indicating peaceful from noisy. From the result of the research can be explained that the SNL is capable to detecting and displaying noise level with a measuring range 50-100 dB and capable to delivering the notification noise in audio-visual.

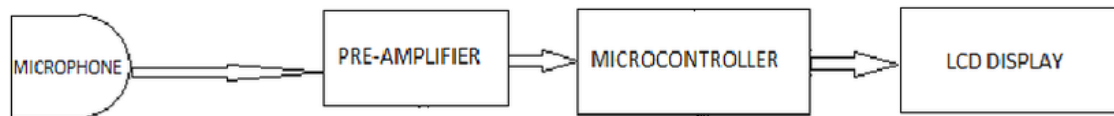
Introduction:

One of the undesirable condition every individual is a situation which can interfere with the comfort, e.g.hearing comfort. Condition that may interfere with the comfort of hearing is the noise. Government regulation of the Minister of the environment (1996) States, "noise is unwanted sound from the venture or activity within a certain time and levels that can cause human health problems and environmental comfort."

Health problems that can be caused by noise surely will have impact, both in terms of psychological, physiological, communications and hearing. Suyatno (2010) States, "in daily life, especially the activities of work, a lot of things often spoken about comfort in the work, one of which was the disruption caused by the comfort noise that accepted. "

Humans in daily life surely hear many type of voices, like conversation, the sound of music, vehicles, and machinery, which unrealize can cause problems. Sound frequency that is too high can interfere with comfort and human hearing. Many of the diseases and disorders can be caused by noise both in terms of psychological, communication and hearing. In one room, the sound is not needed will make human beings that exist within disturbed and unable to concentrate. At industry events, the sound of machine work with the frequency of the vibration exceeds the threshold of hearing will have an impact on the health of worker.

Block Diagram:



Conclusion:

Based on the research that could be taken conclusions noise detection tool-based arduino uno using sensors with tone decoder LM 567 designed worked well the percentage of errors of measurement noise of 0.7 %. With the capabilities of the tool can measure the range of the value of the 50-100 dB accompanied by notification in three conditions, that is safety, noise and danger.