PROJECT REPORT NOISE LEVEL INDICATOR (EVOLVED FROM CLAP SWITCH)

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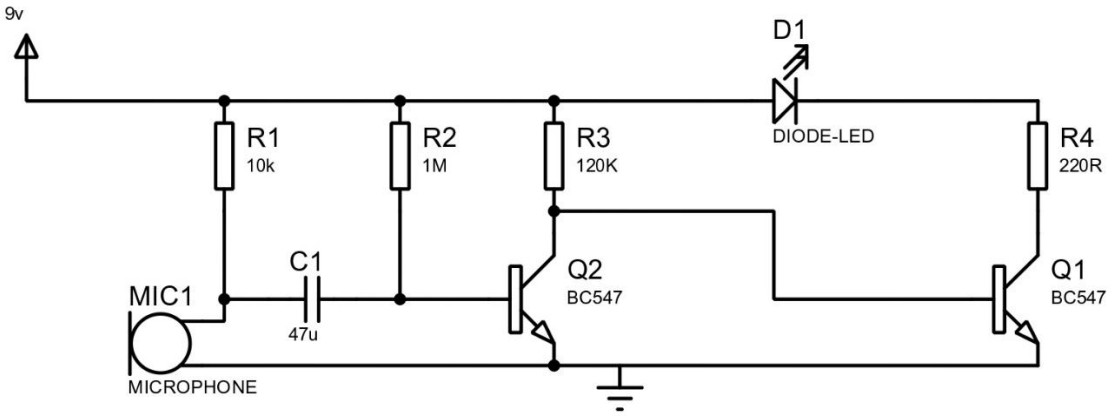
Noise Level Indicator (Evolved from Clap Switch)

Description:-

Initially designed as a clap switch, this project evolved into a noise level indicator. When sound is detected by the condenser microphone, the signal is amplified by transistors and processed through resistors and capacitors. The duration for which the LED glows is directly proportional to the intensity of the noise detected, offering a visual representation of noise levels in the environment.

Circuit Diagram:-



COMPONENTS REQUIRED :-

1. (10k, 220, 120k, 1m ohms) resistors
2. (47µF and 2 100nF) capacitors
3. Electric condenser Mic
4. Two BC547 transistors
5. LED
6. (9V) battery
7. Digital multimeter
8. Wires

WORKING PRINCIPLE :-

The project operates as a noise level indicator that responds to varying sound intensities. When the electric condenser microphone detects sound, it generates an electrical signal. This signal is amplified by two BC547 transistors and conditioned through a network of resistors and capacitors.

The duration for which the LED remains illuminated is directly proportional to the intensity of the detected noise. Louder sounds produce stronger signals, resulting in a longer LED activation time. This system provides real-time feedback on noise levels, converting sound energy into a visual output.

OBSERVATION TABLE

Sr No.	**Sound Frequency**	**Observation**
1.	Low (1 kHz)	Short
2.	Medium (2 kHz)	Medium
3.	High (5 kHz)	Long

CONCLUSION:-

We studied the noise detection circuit's diagram and working principle, evolving from a basic clap switch. The project successfully detected varying noise levels and adjusted the LED glow duration accordingly, offering practical insights into sound-based feedback systems.