

## **Automatic Noise Level Monitor & Warning System**

Noise pollution is another major form of pollution that is often neglected. Noise pollution however affects over a million people on an every day basis. The most common health issues occurring because of noise pollution include Hearing loss, high blood pressure, Heart diseases, sleep problems, stress, headaches and more. The problem with controlling noise pollution is first detecting it and then trying to silence the noise source each time.

Well this task is not possible manually so we here propose an automatic noise pollution measurement and silencing system. This system can be used in schools, college, libraries, offices to identify if noise levels rise above certain levels and automatically sound alert to notify about noise level so it can be silenced.

The system will provide following advantages:

- Automatic detection of Noise Level
- Display current noise level
- Auto alert if noise level exceeds set amount
- Ability to set allowed noise level as per facility

The system makes use of a set of microphones to accurately measure noise levels in 3 directions. We here use an Arduino based controller to develop this system. The arduino processes noise levels from all microphone sensors constantly.

The user may use the display and buttons on the device to set the max allowed noise levels for the area. The system status is green as long as noise levels are below set mark. As soon as noise levels cross the set level the system sounds a buzzer alert and waits for noise level to go down.

If noise level doesn't go down system again sounds an alert and displays a message indicating the noise level is too high. As soon as the people realize noise is high and maintain silence the system again goes back to green mode. Thus the system allows for a smart automatic noise pollution controller system.

### **Components:**

- Arduino Uno
- Microphone Sensors
- LED Indicators
- Buzzer
- LCD Display
- Power Port & DC power Adapter
- Resistors Capacitors
- Diodes & transistors
- Buttons & Switches

- Electrical & Wirings
- PCB Board
- Base frame
- Supporting Rods
- Connectors
- Screws and Fittings

**Applications:**

- Libraries
- Schools
- Colleges
- Offices

**Advantages:**

- Fully Automatic Working
- All Direction Noise Detection
- Auto High Noise Alert Buzzer until Noise Goes Down

**Disadvantages:**

- It is not battery powered