WELCOME

AHMEDNAGAR JILHA MARATHA VIDYA PRASARAK SAMAJ'S

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A

PROJECT REPORT

ON

"Fire Alarm system"

Guided by

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Submitted to

SAVITRIBAI PHULE PUNE UNIVERSITY

FOR THE DEGREE OF BACHELOR OF SCIENCE IN PHYSICS

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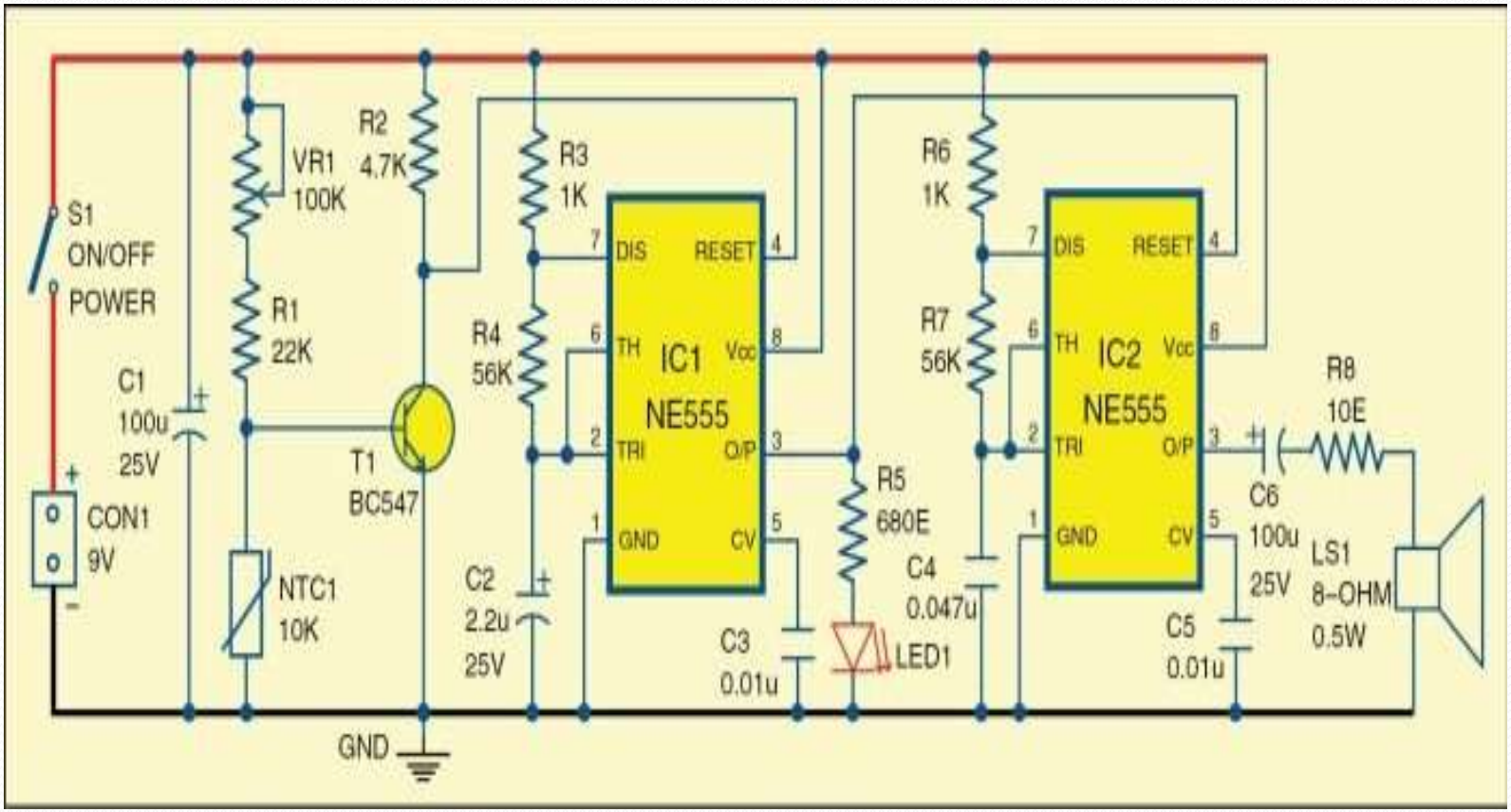
INTRODUCTION

- Fire alarm circuit is a device to detect fire at an early stage and warns people about the fire.
- Here we use thermistor to sense the temperature and NE 555 timer IC to process the thermistor output.
- It is built around NTC thermistor (NTC1), Transistor bc547 (T1), popular NE555 timers (Ic1&Ic2), speaker and few resistor and capacitor and their component.
- In this circuit NE555 timer are wired astable multivariable IC1 is wired as low frequency generator and IC2 as a high frequency generator.

Components

- **Resister(R1,R2,R3,R4,R5,R6)**
- **Thermistor(NTC 10 K)**
- **IC 555**
- **Capacitor(c1,c2)**
- **LED(Green, Red)**
- **Transistor (BC 547)**
- **Switch**
- **Speaker**
- **Battery (9v)**
- **PCB BOARD**

CIRCUIT DIAGRAM



WORKING

At a room temperature transistor T1 conducts and keeps reset pin4 of IC1 at ground level. As a result, both timer ICs are disabled. But when temperature of the sensor goes above 70 c (depending on the thermistor constant k) transistor T1 stops conducting both NE555 timers oscillate and a beeping sound is heard from the speakers Potmeter VR1 is used to set the cut-off saturation condition of transistor T1 which is related to NTC1 at different temperature at room temperature voltage at pin4 of IC1 remains low with heating of NTC1 voltage at pin4 of IC1 becomes high. This enables both the timer ICs to oscillate and produce sound through and produce sound through the speaker also LED, starts flashing.

The circuit works on 9V regulated power supply.

APPLICATIONS

- It detect fire at an early stage and warns people about the fire.
- Hence, it can be used at buildings, Offices, banks, gas stations and other properties to avoid fire accidents.

ADVANTAGES

This circuit is low cost but high efficient.

Easy to construct the circuit.

Small and portable circuit.

REFERENCE

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THANK YOU