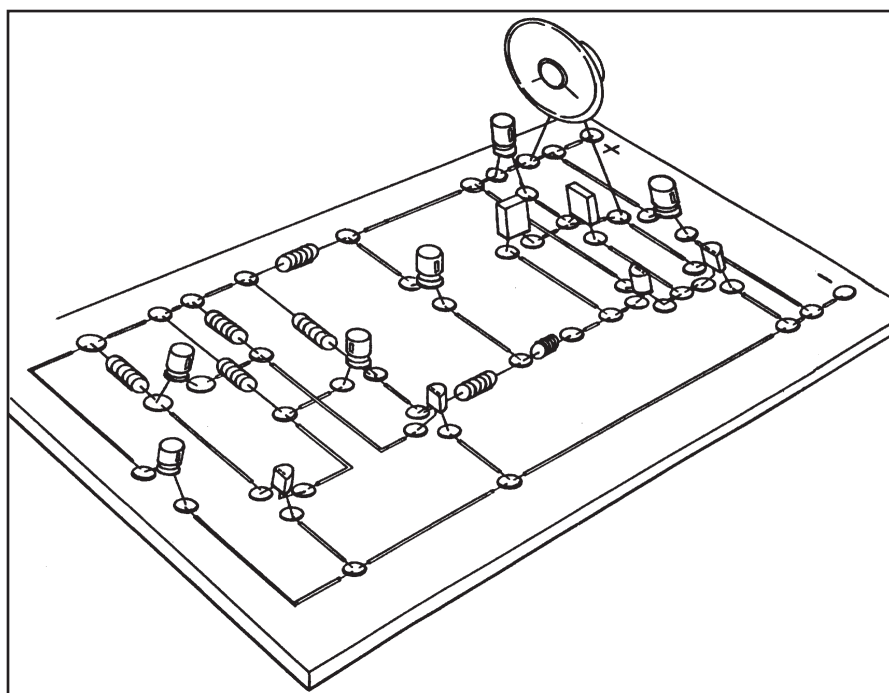


OPITEC

1 1 0 . 1 2 1 *Howling fire alarm*



Please Note

The OPITEC range of projects is not intended as play toys for young children. They are teaching aids for young people learning the skills of Craft, Design and Technology. These projects should only be undertaken and tested with the guidance of a fully qualified adult. The finished projects are not suitable to give to children under 3 years old. Some parts can be swallowed. Danger of suffocation!

General notes.

To make this circuit we suggest using any of the following methods:

1. Glue the circuit diagram on top of a 6mm thick piece of plywood and use copper coated hardboard pins as mounting points for the components.
2. Glue the circuit diagram on top of plaster board (Order No. 873017) and insert drawing pins as mounting points for the components.
3. Mount the components on to Vero board (Order No 241067)
4. Use copper coated board to manufacture your own PCB. (Order No 241207/ 241171)

All these parts are available from our the main catalogue.

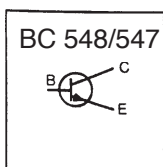
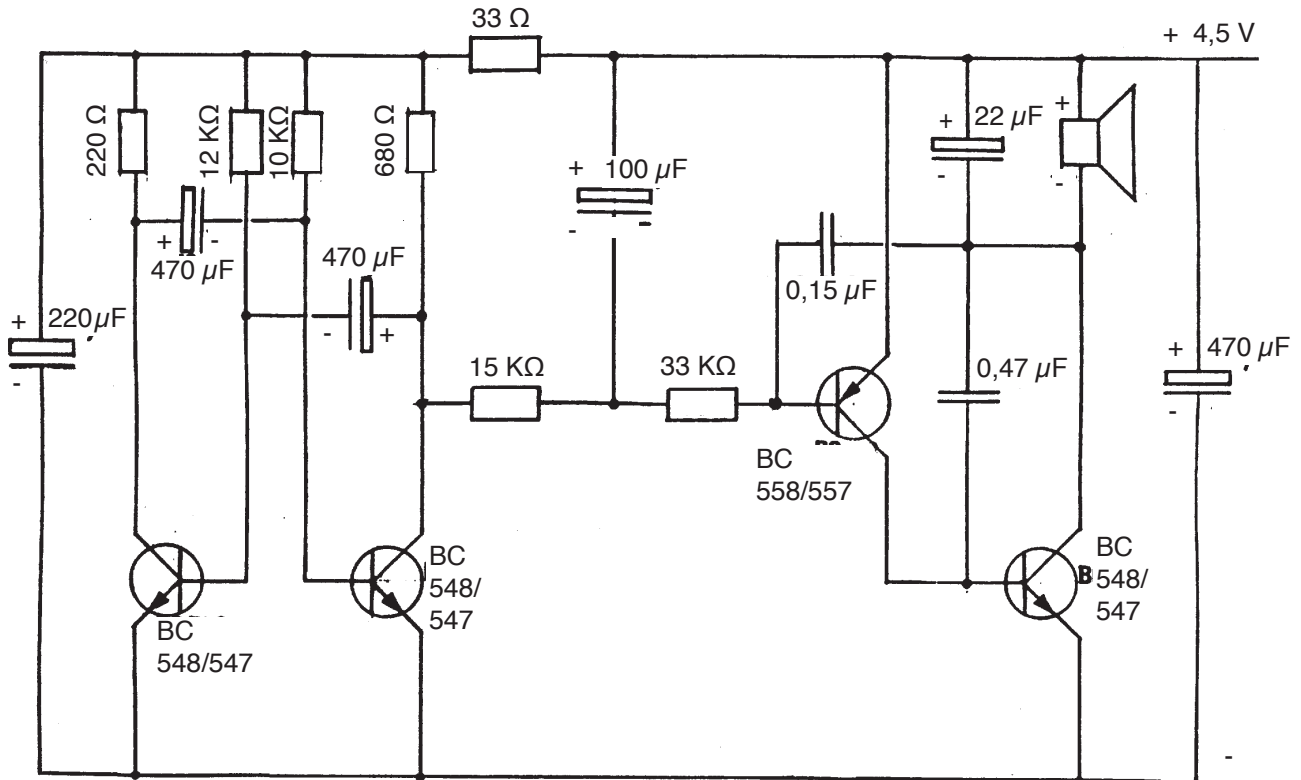
Function description

This circuit is a combination of our siren and interval horn projects.

The tone is generated by the complementary amplifiers whose output is alternated through a $0.15\mu\text{F}$ capacitor, which is coupled back to the input. The capacitors of $0.45\mu\text{F}$ and $22\mu\text{F}$ serve to enhance the impulse of the speaker and howling tone of the alarm.

The resistor at the input of the circuit is connected with the $100\mu\text{F}$, to control the rise and fall of the alarm tone. The time period of the alarm is governed by the Flip Flop effect. A combination of a $470\mu\text{F}$ capacitor in conjunction with resistors in the region of 10-12 kOhm, gives a typical output for this type of rising and falling siren noise.

Schaltbild



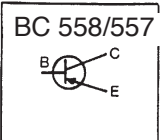
Transistor NPN

Arrangement of leads E, B, and C:



E = Emitter
B = Base
C = Collector

Warning: Wrong connection can lead to component damage.

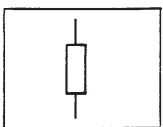


Transistor PNP

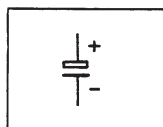
Emitter arrow is shown pointing inwards.
The arrangement of E, B and C as BC 548.

RESISTORS

Determination of resistors:



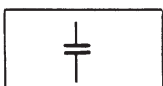
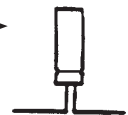
33 Ω	220 Ω	680 Ω	10 KΩ	12 KΩ	15 KΩ	33 KΩ
orange	red	blue	brown	brown	brown	orange
orange	red	grey	black	red	green	orange
black	brown	brown	orange	orange	orange	orange
silv./gold	silv./gold	silv./gold	silv./gold	silv./gold	silber/gold	silber/gold



CAPACITORS



Both types possible
Marked as 22 μF, 100 μF, 220 μF, 470 μF
Polarity is shown with minus sign.



CAPACITOR

marked as 0,15 μF, 0,47 μF
Capacitor are not poled.



LOUDSPEAKER

Note plus and minus signs.



Wire

Wire with joint (connection)

Crossed wire (no connection)