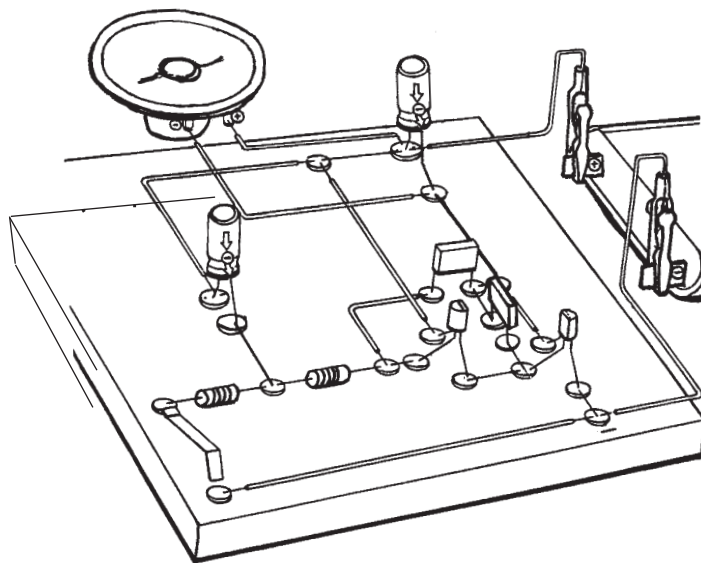


OPITEC

1 1 0 . 0 6 2 S i r e n



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!

MOVEMENT DETECTOR CIRCUIT

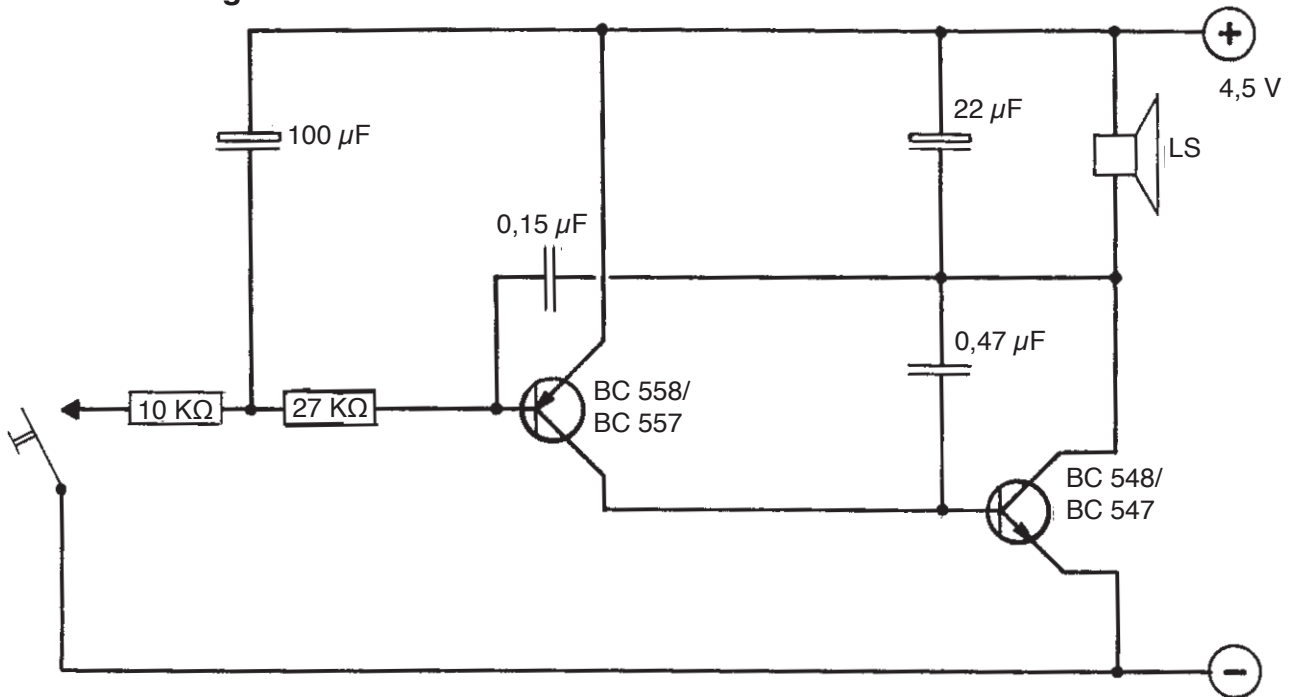
Function

This is a sensitive circuit which will detect movement and can be used to guard doors and rooms etc. The circuit works using a light detector which must be opposite a white wall or light source, The advantage is that it does not matter how strong this light source is. The sensitivity can be adjusted by using the 1 M Ohm potentiometer. Any difference in the light falling on the sensor alters the current in the circuit and transfers this change via the tantalum capacitor 2.2uF to the transistors which act as a Schmitt Trigger. This can either activate a light emitting diode or a Piezo buzzer.

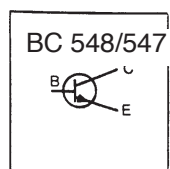
This circuit can be made in the following ways

1 Mounted on plywood 2 Mounted on strip board 3 A.P.C.B. designed on photo sensitive board.

Schematic diagram



Explanation:



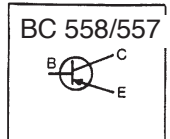
Transistor NPN

Arrangement of leads E, B und C:



E = Emitter
B = Base
C = Collector

Warning: Wrong connection can lead to component damage

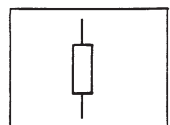


Transistor PNP

Arrangement of leads E, B und C:

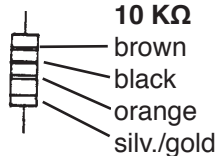


E = Emitter
B = Base
C = Collector



Resistor

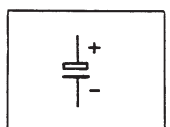
Determination of resistors



10 KΩ

27 KΩ

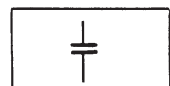
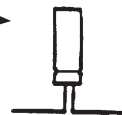
red
violet
orange
silv.r/gold



Electrol. capacitors



both forms are possible
marked as 22 μF, 100 μF.
the polarity (don't mix up plus and minus) is
shown with a minus-symbol at the side of the
condensor



Condenserr

marked as 0,15 μF, 0,47 μF



Speaker

look for plus and minus



Switch

simple switch
which you have to make yourself from the enclosed spring



wire

wire with joint (connection)
crossed wires (no connection)