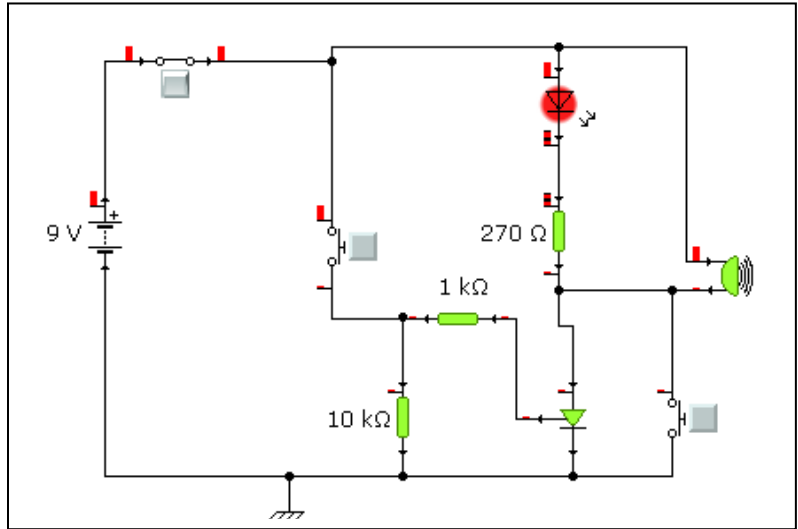


## Circuit Construction – Thyristor/SCR Steady Hand Game

The circuit diagram on the right is the circuit for your project, it is called a thyristor latch circuit, it is called a latching circuit as once it is triggered it remains on or latched until the power is removed or it is reset.

On the example on the right the circuit indicates it is latched when the LED and buzzer are both on. The circuit is triggered by pressing the switch on the right hand side and reset by pressing the switch on the left hand side.

A thyristor can also be called an SCR – silicon controlled rectifier



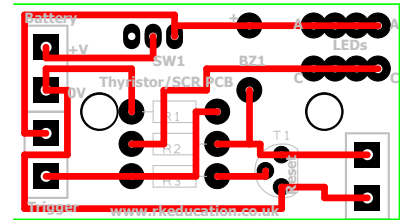
Circuit example, see below for a schematic

### Construction of circuit

You will need to collect the following equipment before you start soldering your circuit:

- Soldering iron and stand
- Damp sponge
- Solder wire
- Side cutters
- Pliers
- Components:

T1 – 2N5060 thyristor  
 R1 – 10k resistor (brown, black, orange)  
 R2 – 470R resistor (yellow, violet, brown)  
 R3 – 1K resistor (brown, black, red)  
 SW1 – Power switch  
 Battery – Battery clip  
 BZ1 – Optional buzzer  
 LEDs – The LEDs used will depend on your project outcome  
 Trigger – The connection for the handle and course  
 Reset – Optional push to make switch for resetting



### Procedure for construction

1. Solder the resistors into your PCB, take care to insert the correct resistor into the correct place, if in doubt ask your teacher. When soldering be sure to heat the area sufficiently but not too much as it will damage the PCB.
2. Solder your power switch in place
3. Solder the thyristor in place, be careful as the thyristor legs are close together, be sure not to connect the legs together as this will stop the product working. When inserting it do not force it down too far.
4. Solder your battery clip in place
5. Solder your LEDs into the PCB, if you have attached flying leads insert these, be sure to get the LED the correct way around, remember the long and short legs...

6. Solder a length of multicore wire to the handle and cover with heat shrink
7. Solder a length of multicore wire to one end of the course and cover with heat shrink
8. Solder the handle wire and course wire into the trigger holes of your PCB
9. Add buzzer and reset if required

Test your circuit

