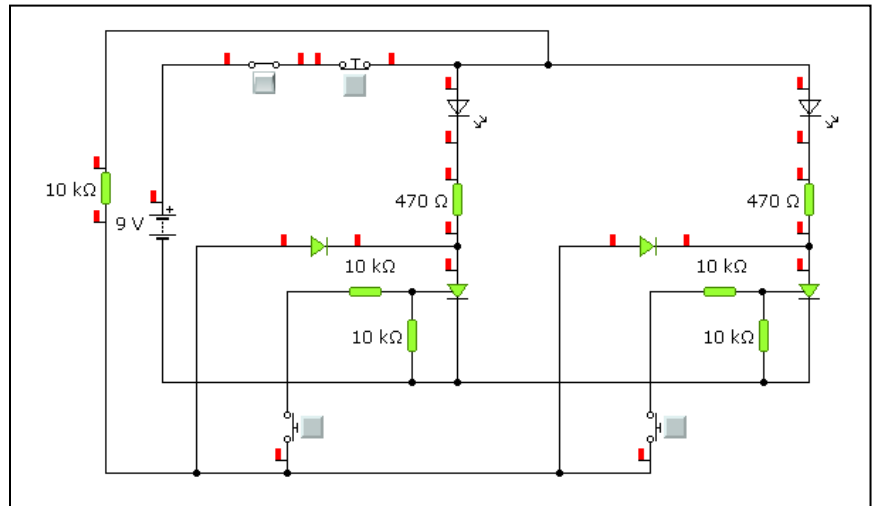


## Circuit Construction – Dual Thyristor Quiz Project

The circuit diagram on the right is the circuit for your project, it is called a dual 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.

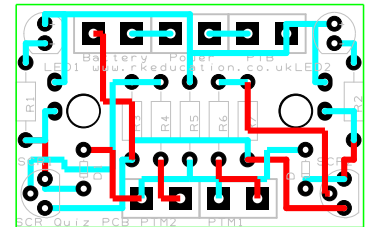
On the example on the right the circuit indicates it is latched when the LED is on. The circuit is triggered by pressing one of the switches on the bottom and reset by pressing the switch above. Once a switch is pressed the other has no effect on the circuit.



### 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:
  - SCR1, SCR2 – 2N5060 thyristor
  - R1, R2 – 470R resistor (yellow, violet, brown)
  - R3 ~ R7 – 10k resistor (brown, black, orange)
  - Power – Power switch
  - PTB – Push to break reset switch
  - Battery – Battery clip
  - LEDs – The LEDs used will depend on your project outcome
  - PT1, PTM2 – Push to make trigger switches



### 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 thyristors 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 your push to make switches in place
7. Add buzzers if required
8. Test your circuit

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