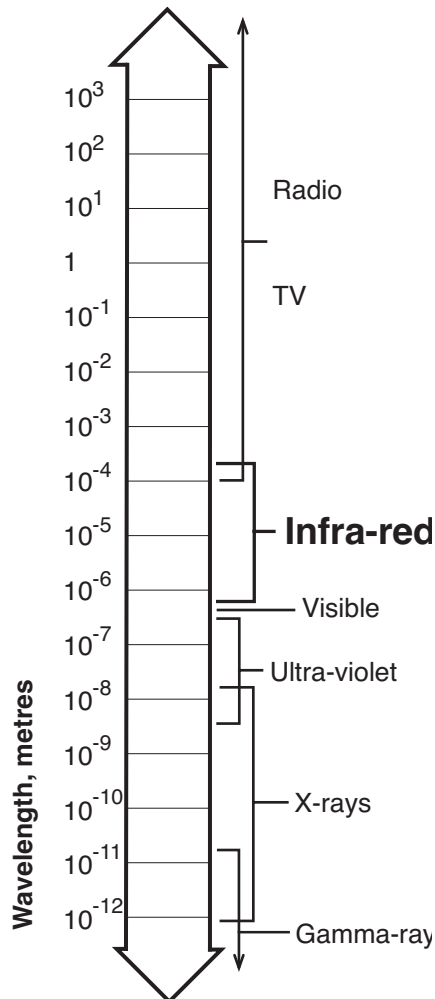


THE INFRA-RED SPECTRUM

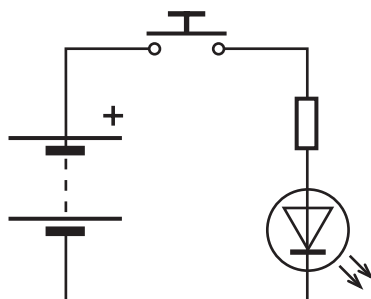
BASIC PRINCIPLES

Most short range remote control links use signals transmitted by one of three methods: radio; sound (in the ultrasonic region: 25kHz plus); or infra-red radiation. Infra-red is the most popular medium because it does not interfere with existing radio systems, causes no discomfort to animals (as ultrasound can), and is relatively cheap.

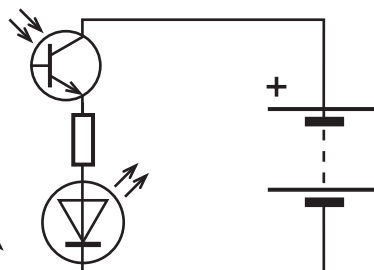
Infra-red radiation is just outside the visible part of the spectrum but can also be focussed and reflected. For most control purposes, it is produced by infra-red light emitting diodes (LEDs) which look like ordinary LEDs - and require a series protection resistor in the same way.



A very simple infra-red transmitter circuit is shown. An equally simple receiver consists of a phototransistor (sensitive to the infra-red region) and an LED. When infra-red radiation falls on the phototransistor, it starts to conduct and energises the LED.



Simple transmitter



Simple receiver

