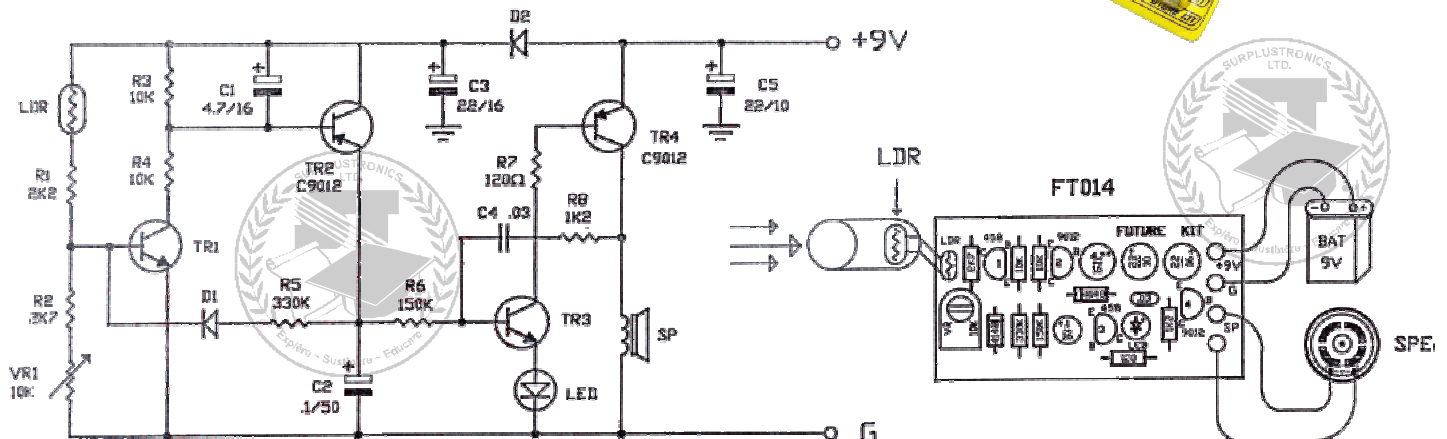
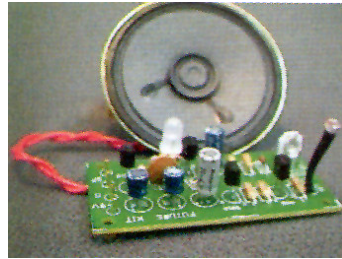


LIGHT ACTIVATED ALARM

FK245

The LDR (light dependant resistor) is sensitive to Light. When the Light increases, the resistance decreases.

The circuit uses a basic transistors to activate a frequency generator, then outputs it to a speaker. Suits **age 11+**



The LDR in this circuit, is set up with a transistor in such a way so that in light condition, it's resistance is low, allowing current to trigger the transistor TR1. when the Light is low, the resistance of the LRD is too much and the Transistor is not triggered.

The amount of Light needed (sensitivity) to switch the transistor can be adjusted by VR1, which sets the bypass level of the transistor.

Once the TR1 is triggered, it acts with TR2 as a Darlington pair. After that TR3 and TR4 oscillate a frequency. The warning sound is transmitted throughout the speaker and the as LED is lighted.

In the assembly of this kit, like most others in the "Future Kit" range, it is best to start by first checking that you have all the components. Then attach them in order of their height from the board. I.e. resistors first and so on. The last items that should be attached however should always be any semiconductors including transistors. This avoids unnecessary heat on sensitive components.

The PCB or 'printed circuit board' will be marked already for the components. If polarity is essential then this is marked also. Values of components marked are brief and because of the translation are sometimes incorrect, therefore it is best to double check before placing.

Component list:

- R1 2k2 (2,200 ohm)
- R2 2k7 (2,700 ohm)
- R3 & 4 10k ohm (10,000 ohm)
- R5 330k (33,000 ohm)]
- R6 150k (150,000 ohm)
- R7 120 ohm
- R8 1k2 (1,200 ohm)
- C1 4.7µF 16v electrolytic
- C2 0.1 µF 50v electrolytic
- C3 & 5 22 µF 16v electrolytic
- C4 0.03 µF 50v green cap (mylar)
- D1 & 2 4148 signal diodes
- TR1 - 4 9012

- LDR Light dependant resistor
- LED Light emitting diode
- SP Speaker 2" 8 ohm ¼ watt

Suits **age 13+**