Electronic project kits

Order code	Manufacturer code	Description
13-0475	n/a	INFRA RED TRANS/RECEIVER KIT

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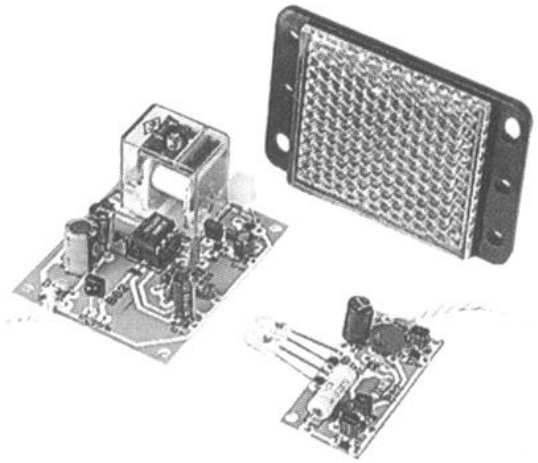
CE



Infrared Receiver/Transmitter

Range of over 18m

Light barrier with invisible infrared light beam.
Transmitter and receiver included.
Operating voltages: Transmitter = 9V, receiver = 12V

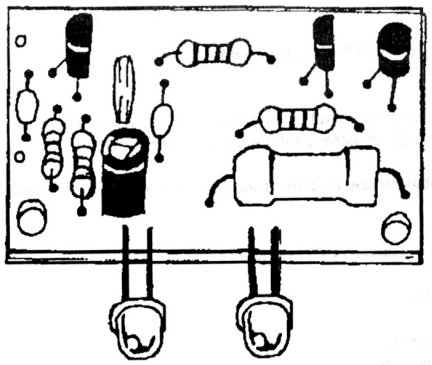
Ideal for alarm systems, automated wildlife photography, remote control for garage doors etc.…

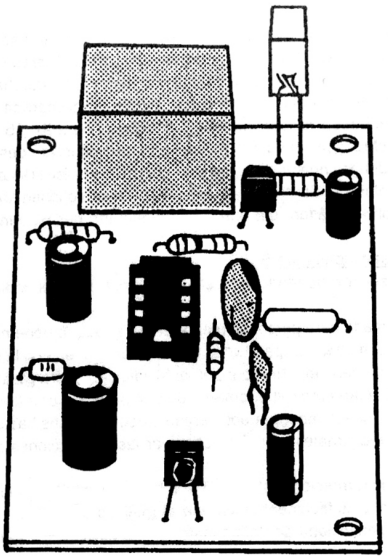
With Infrared filter for daylight operation.

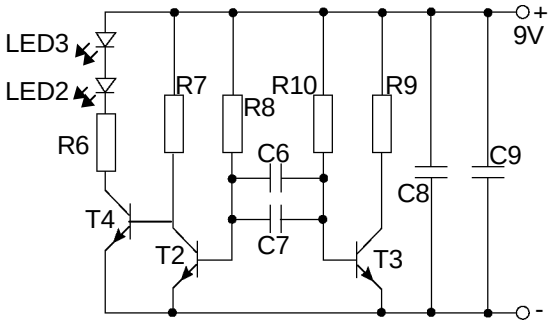
Instructions:

Assemble the printed circuit boards using the enclosed wiring diagrams. The receiver PCB has to be fixed to ensure that the infrared diode I_F is in sight of the transmitter PCB. The receiver needs a well-regulated DC voltage of 12V approx. at 100mA (either a regulated power supply or battery) and the transmitter needs a DC supply voltage of 9V at 50 to 80mA. Batteries need to have sufficient output to supply these current levels. The infrared emitter LEDs need to be adjusted to align with the receiver LED I_F. The larger the gap between the receiver and transmitter, the more accurate the alignment will need to be between the two modules.

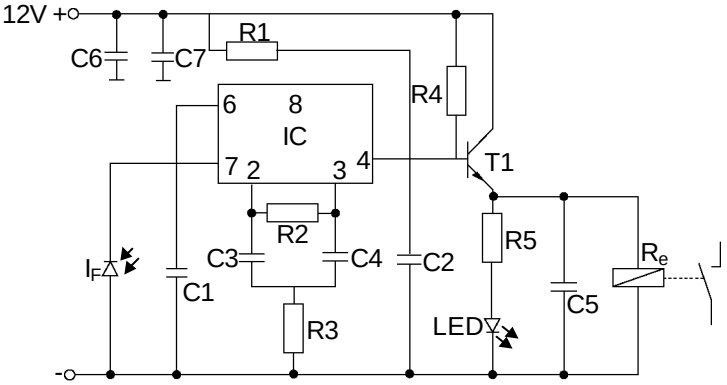
Whenever the transmitter emits in the direction of the receiver, the LED of the receiver will light up and the relay pulls up. Using optical or focus lenses in front of the transmitter LEDs may extend the range of the light barrier considerably. If the receiver is exposed to strong solar radiation, we recommend protection of the IR receiver diode I_F from behind and laterally with a tube to prevent light scatter. The opening of the tube must point to the direction of the transmitter. The inside of the tube should be matt black.



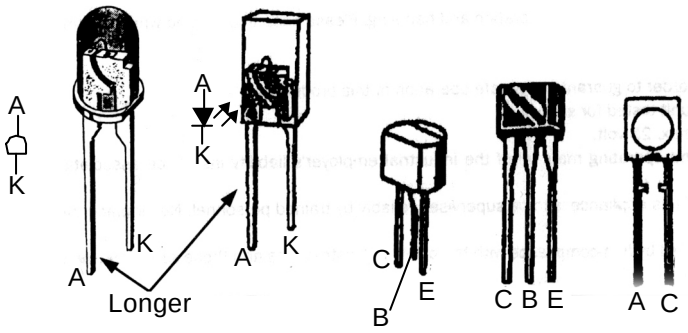




Transmitter



Receiver



Transmitter Parts List:

T2, T3	2 transistor SS216 or BC547
T4	1 transistor SF829 or BC337
LED2, LED3	2 infrared light diodes TSHA 5201
C6, C9	2 capacitors 100nF (104)
C7	1 capacitor 4.7nF (4n7)
C8	1 electrolytic capacitors 4.7µF
R6	1 12 or 15Ω 3W resistor
R7	1 1K1 resistor (1K1)
R8, R10	2 10KΩ res. (brown-black-orange..)
R9	1 22KΩ resistor (red-red-black-red..)
1 gold plated PCB (Approx. 23 x 45mm)	

Receiver Parts List:

IC	1 IC 2531B
	1 8 pin DIL socket
I_F	1 Infrared receiver diode with filter S288P
T1	1 transistor SC238 or BC237 or BC547
LED	1 LED (yellow)
C1	1 electrolytic capacitor 10µF
C2, C6	2 electrolytic capacitors 100µF (25V)
C3	1 capacitor 4.7nF (4n7)
C4	1 capacitor 39pF (marked 39K or 39P)
C5	1 electrolytic capacitor 4.7µF
C7	1 capacitor 100nF (104)
RE	1 12V 1 x ON
R1	1 309Ω or 374Ω resistor
R2	1 150KΩ (brown-green-black-orange..)
R3	1 1.1KΩ (1K1)
R4	1 5K6 resistor (green-blue-red..)
R5	1 432Ω (yellow-orange-red-black..)
1 gold plated PCB (Approx. 55 x 44mm)	