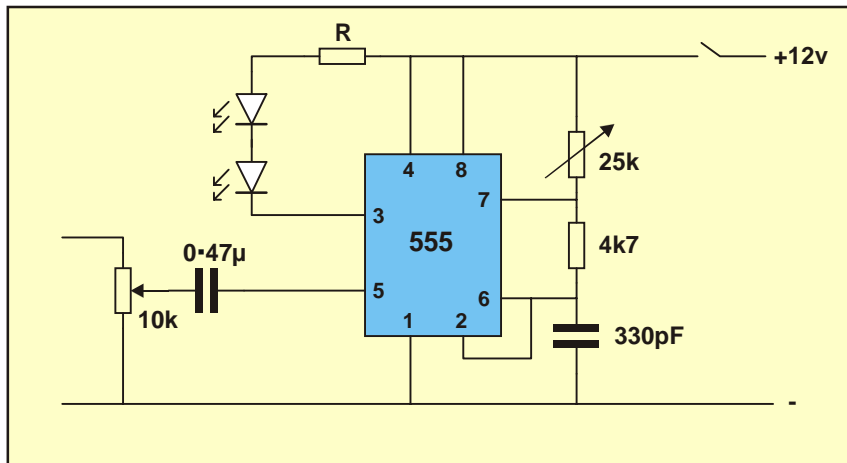
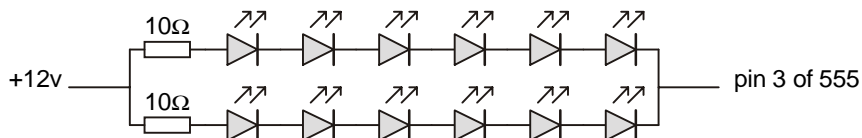


I.R Headphone System (Transmitter)

The 555 forms an oscillator generating pulses at a frequency of about 100kHz. Pin 5 on the 555 is the “control voltage” pin. A voltage applied to this pin will vary the frequency of the oscillations. If the input is an audio frequency alternating voltage, it will *modulate* the frequency of the oscillator. We therefore have a frequency modulated (f.m.) infra-red beam.



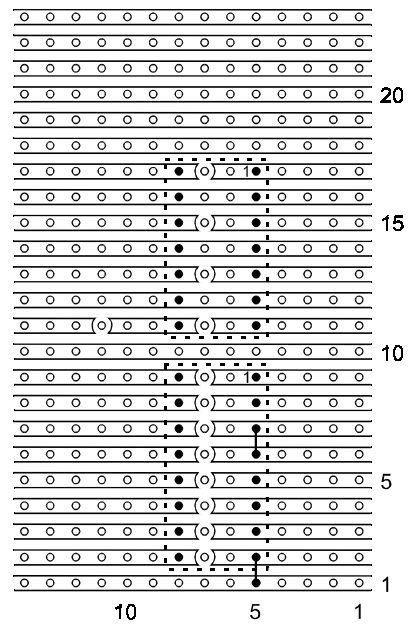
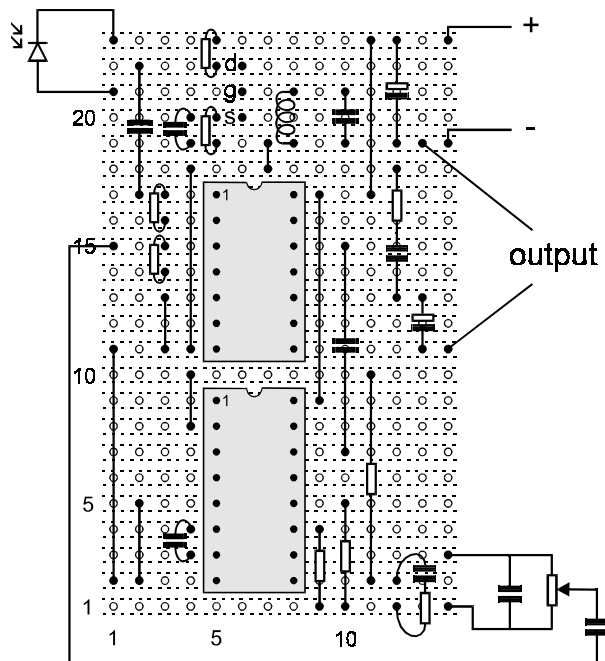
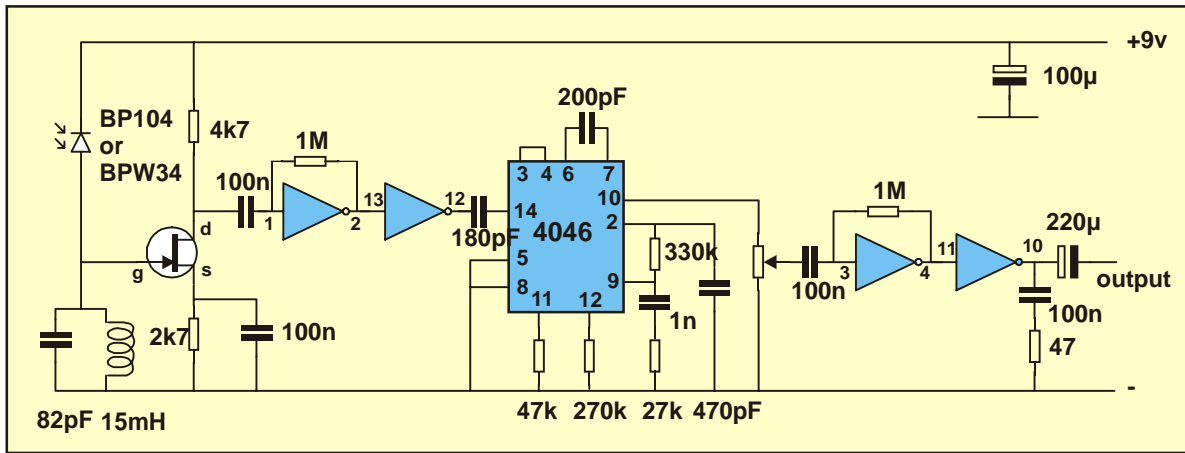
The value of R depends on the number of transmitter diodes used; for two diodes, as shown in the diagram, try $R = 82\Omega$. If a higher transmitted power is needed, try the arrangement shown below:



The vero for the transmitter can be *almost* the same as the vero for the transmitter for the “I.R. switch”.

I.R Headphone System (Receiver)

Transistor: 2N3819 (f.e.t.) Integrated circuits: 4046 phase-locked loop used as an f.m. demodulator; 4069UB hex inverter.



© David Hoult 2001