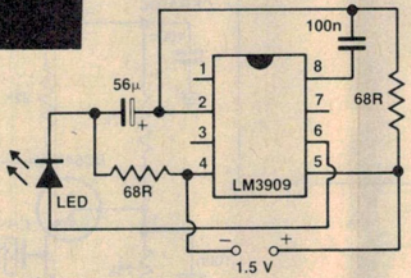
Circuit source guide '84

Here is a collection of circuits selected from the voluminous files of your Editor, Roger Harrison and some other sources. From this anthology you should be able to derive other circuits or assemble a system from a variety of 'blocks' to suit a particular application or solve a circuit problem. Applications covered range from audio to RF, timing to dc control, measurement to musical, etc. You may have seen some of these ideas before, but there are bound to be plenty you haven't.

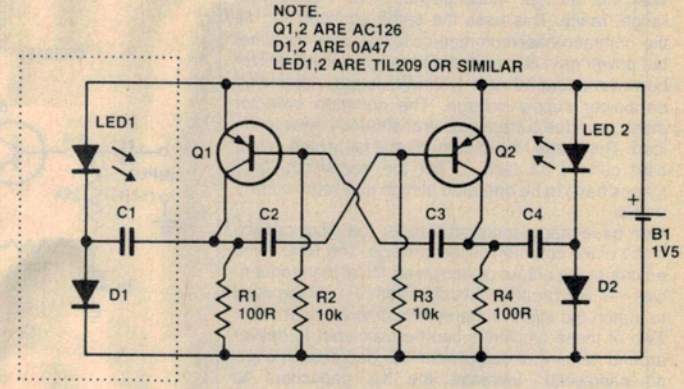
This feature is intended for the experienced experimenter, and construction details are not given. While the circuits have been checked for accuracy and feasibility, they have not necessarily been built and tested. We are unable to answer queries on individual modifications or construction techniques.

OPTO



LED Light Booster

The LM3909 LED flasher IC is well known. It can be used to boost the brightness of ordinary LEDs by providing them with high current pulses at around 20 kHz — too fast for the eye to see flashing — giving an impression of increased brightness.



LEDs on 1.5 V Battery

As most LEDs require a forward voltage between 1.6 and 2.3 volts, it's difficult to power them from a 1.5 V battery. This circuit is an astable multivibrator and voltage doubler that boosts the voltage across the LEDs. To make the LEDs appear to be on continuously, C1 and C2 should be 47n, C3-C4 10µ. To make the LEDs flash alternately, C1-C2 should be about 100µ, C3-C4 should be about 10 times that. To operate a single LED, omit LED1, D1 and C1.