

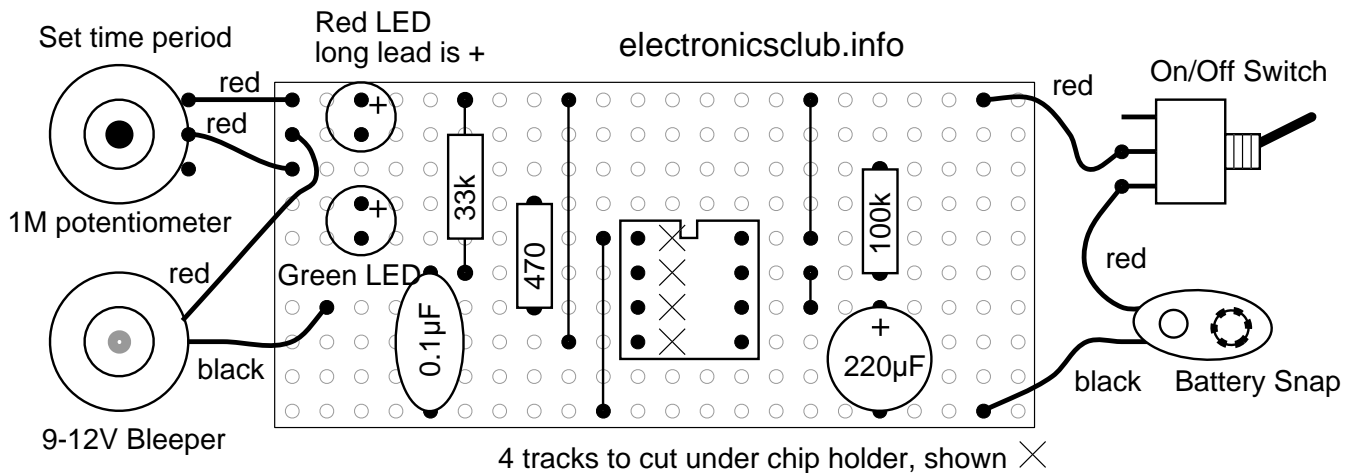
# 1-10 Minute Timer Project

The circuit starts timing when switched on. The green LED lights to show that timing is in progress. When the time period is over the green LED turns off, the red LED turns on and the bleeper sounds. The time period is set by adjusting the variable resistor and it can be adjusted from 1 to about 10 minutes. Please note that the range of time periods is only approximate. With perfect components the maximum time period should be 4½ minutes, but this is typically extended to about 10 minutes because the 220µF timing capacitor slowly leaks charge. This is a problem with all electrolytic capacitors, but some leak more than others. In addition the actual value of electrolytic capacitors can vary by as much as ±30% of their rated value.

## Parts Required

- resistors: 470, 33k, 100k
- variable resistor: 1M
- capacitors: 0.1µF, 220µF 16V radial
- LEDs: red, green
- bleeper 9-12V
- 555 timer IC
- 8-pin DIL socket for IC
- on/off switch
- battery clip for 9V PP3
- stripboard 10 rows × 22 holes

## Stripboard Layout



## Circuit diagram

