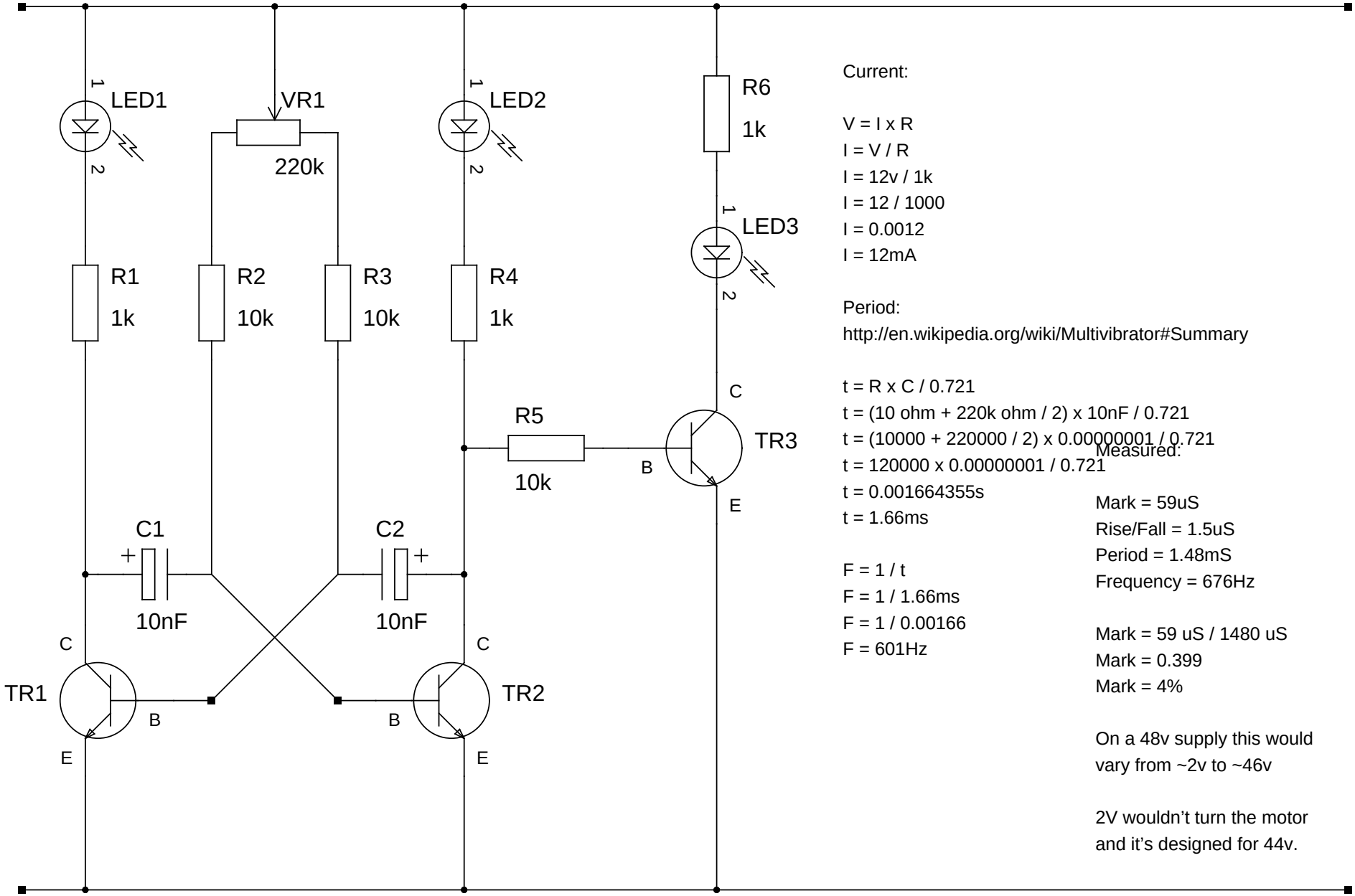

Current:

V = I x R
I = V / R
I = 12v / 1k
I = 12 / 1000
I = 0.0012
I = 12mA

Period:
http://en.wikipedia.org/wiki/Multivibrator#Summary

t = R x C / 0.721
t = (10 ohm + 220k ohm / 2) x 10nF / 0.721
t = (10000 + 220000 / 2) x 0.00000001 / 0.721
t = 120000 x 0.00000001 / 0.721
t = 0.001664355s
t = 1.66ms

F = 1 / t
F = 1 / 1.66ms
F = 1 / 0.00166
F = 601Hz

Measured:

Mark = 59uS
Rise/Fall = 1.5uS
Period = 1.48mS
Frequency = 676Hz

Mark = 59 uS / 1480 uS
Mark = 0.399
Mark = 4%

On a 48v supply this would vary from ~2v to ~46v

2V wouldn't turn the motor and it's designed for 44v.

TITLE: Astable AUTHOR: Graham North CREATED: 29th March 2013 NOTES: A4