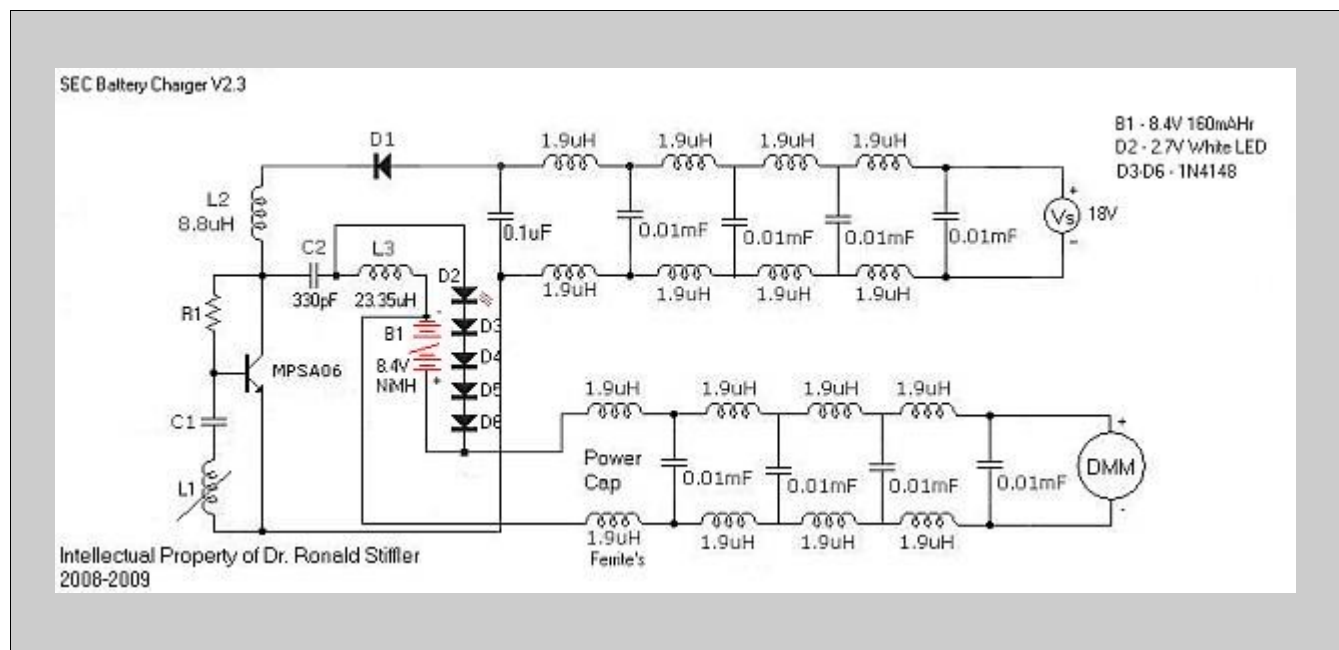
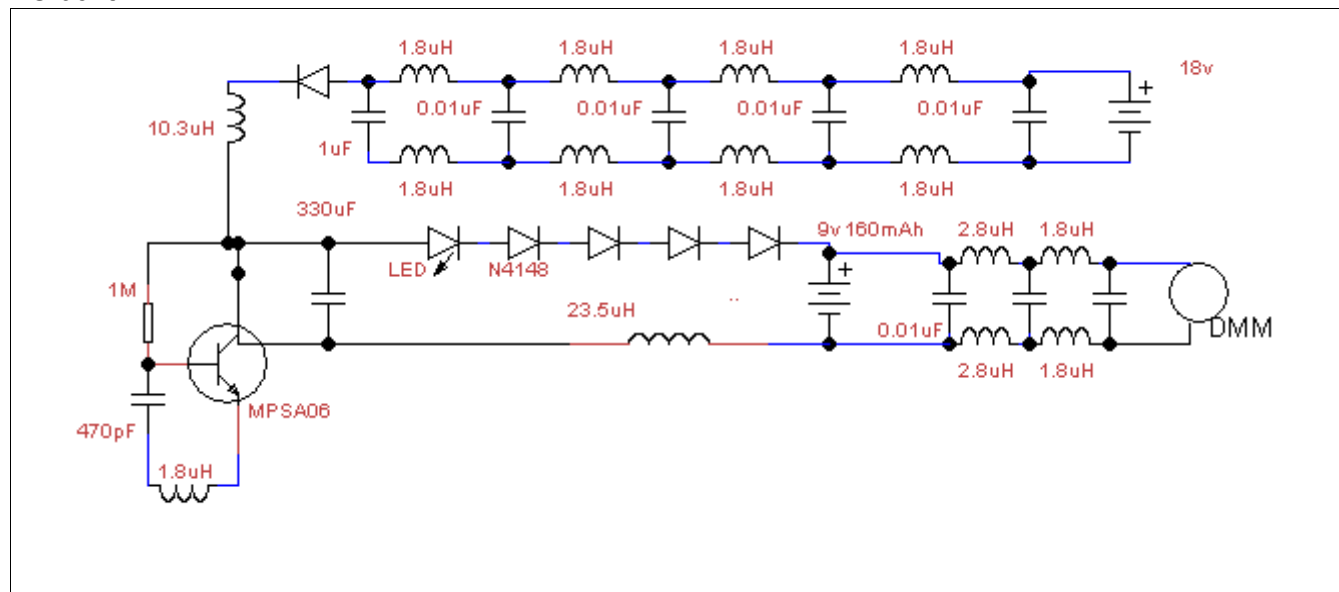
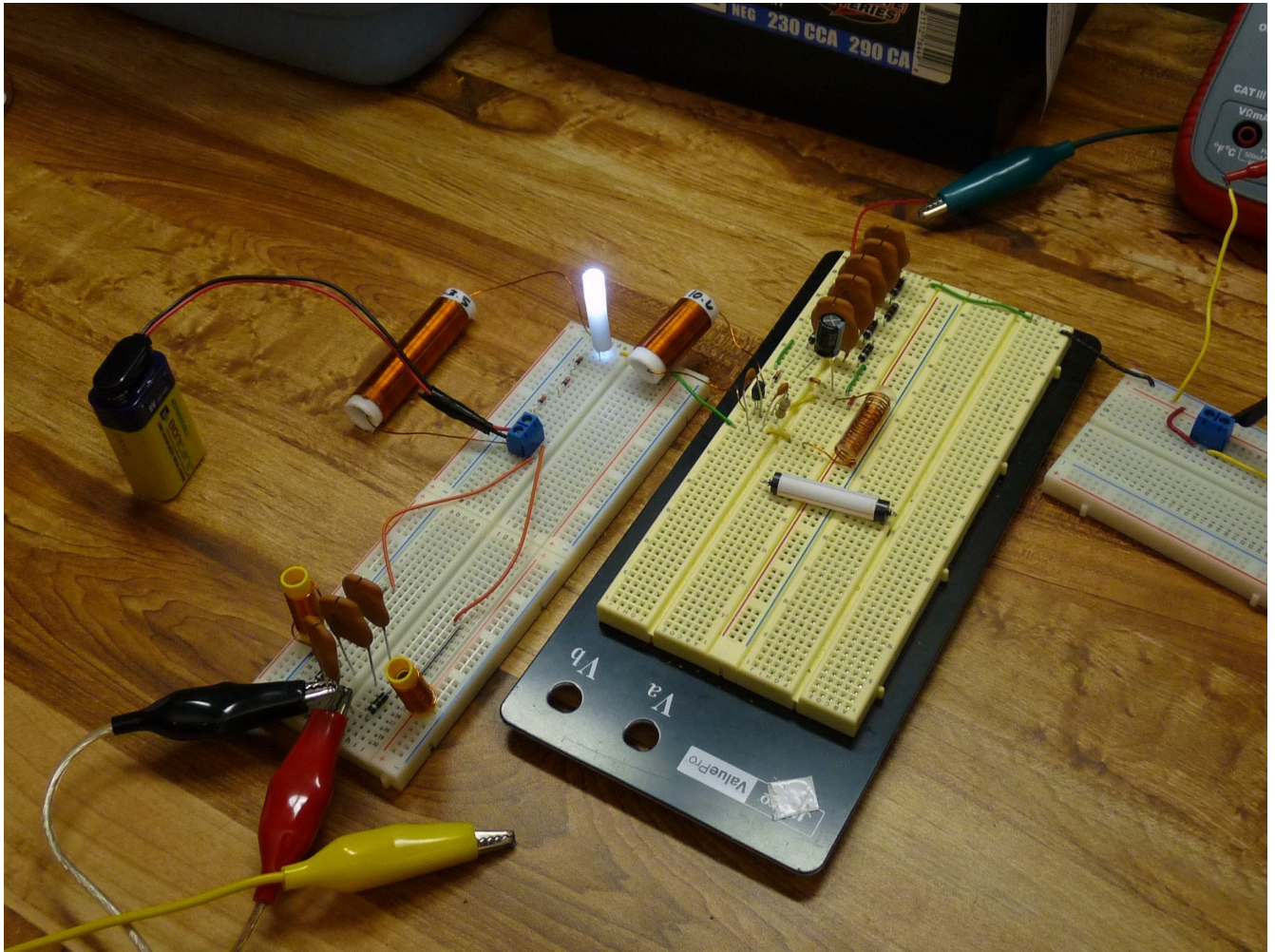


Original Design posted on Energetic Forum



As built :





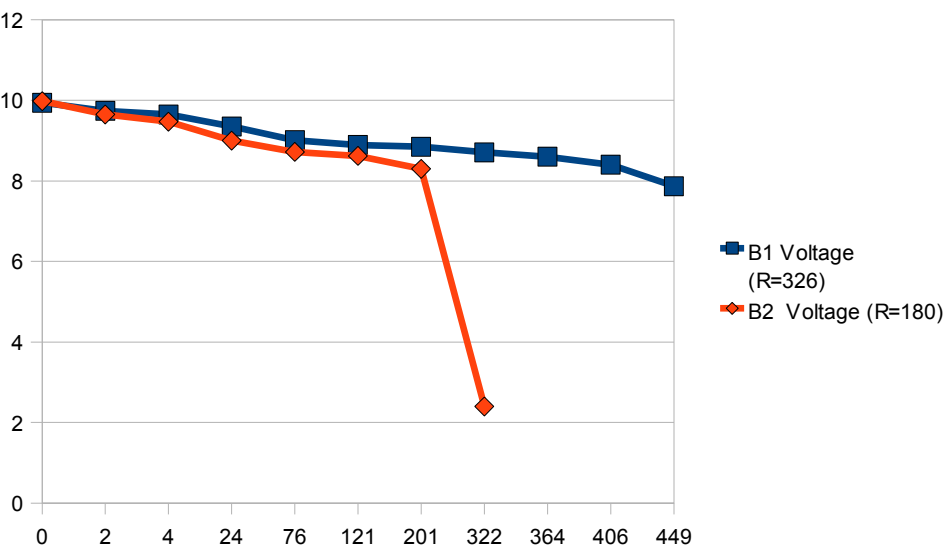
## Preparation for Input Side Batteries

Two identical 9v batteries are charged for 16 hours at 16mAh using manufacturer's wall charger.

Each battery is then discharged using a 326  $\Omega$  or 180  $\Omega$   $\frac{1}{4}$  watt carbon film resistor. The times are recorded for comparison.

| Minutes | B1 (R=326 $\Omega$ ) ~30mA | B2 (R=180 $\Omega$ ) ~50mA |
|---------|----------------------------|----------------------------|
| 0       | 9.94                       | 9.98                       |
| 2       | 9.74                       | 9.65                       |
| 4       | 6.65                       | 9.47                       |
| 24      | 9.35                       | 9                          |
| 76      | 9.01                       | 8.72                       |
| 121     | 8.89                       | 8.62                       |
| 201     | 8.85                       | 8.3                        |
| 322     | 8.71                       | 2.4                        |
| 364     | 8.6                        |                            |
| 406     | 8.4                        |                            |
| 449     | 7.87                       |                            |

Discharge Curves for 9v 160mAh Voltage x Minutes

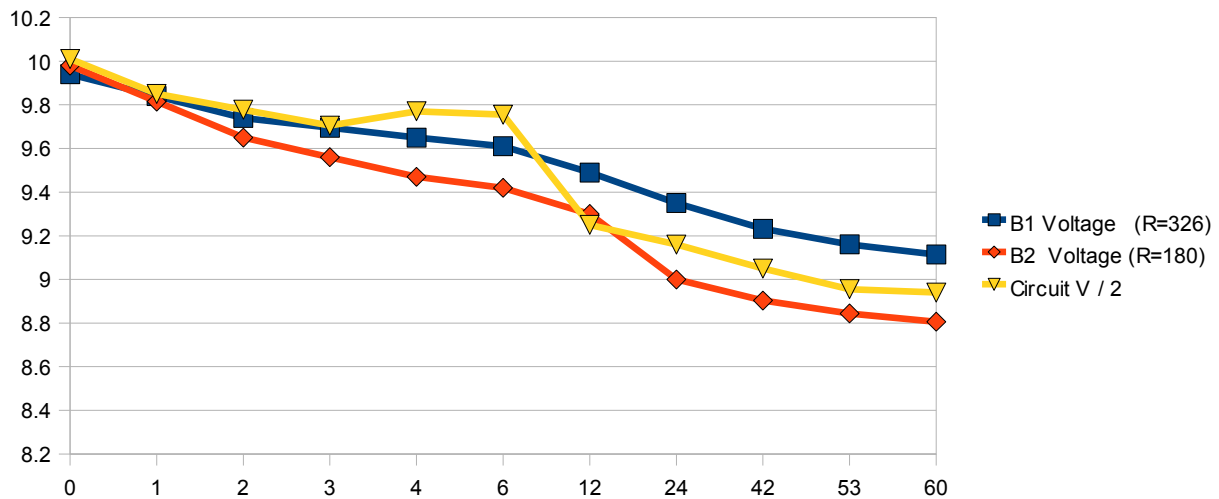


## Comparison Curves : Resistor Load vs. Discharge on the circuit

The first two lines are the individual batteries discharged through a resistor as shown in the previous graph. (Data points are interpolated to 60 minutes.)

The third line represents the voltage drop of the two input batteries connected in series and powering the circuit, voltage is divided by two for comparison purposes.

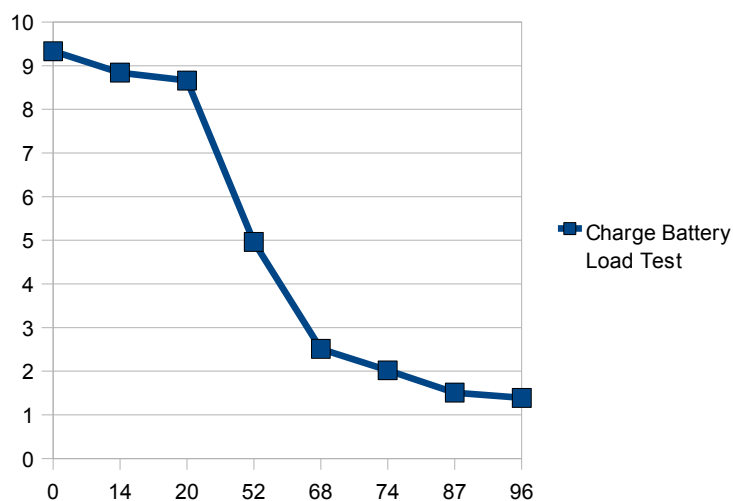
The discharge rate lies approximately between the two curves and suggests an amp draw between 40 - 45mA.



## Test 1 – Charge and Load on 9v battery

The charging battery was initially discharged through the  $326\Omega$  resistor until the loaded voltage was below 0.5v.

The battery was charged on the circuit for 60 minutes. The charging battery was next placed back on the  $326\Omega$  resistor for the load test.



**Summary:** At the peak, the battery is able to return 9v @ 28mA for approximately 20 minutes.

Taking some liberty with the graph, assume 7 volts average @ 21mA output over 60 minutes. If the remaining battery energy can be included, it might be a 30% return against the 18.5v @ 42mA input.