

# TESTED ON OCTOBER 25-2013 FINAL

Multi-use HV Board Model: SPARKY-1  
4.6 to 18 Volts  
\*Circuit is disabled @4.1 volts\*

For 5 volt operation use a coil like the Zenoah Grey Coil.

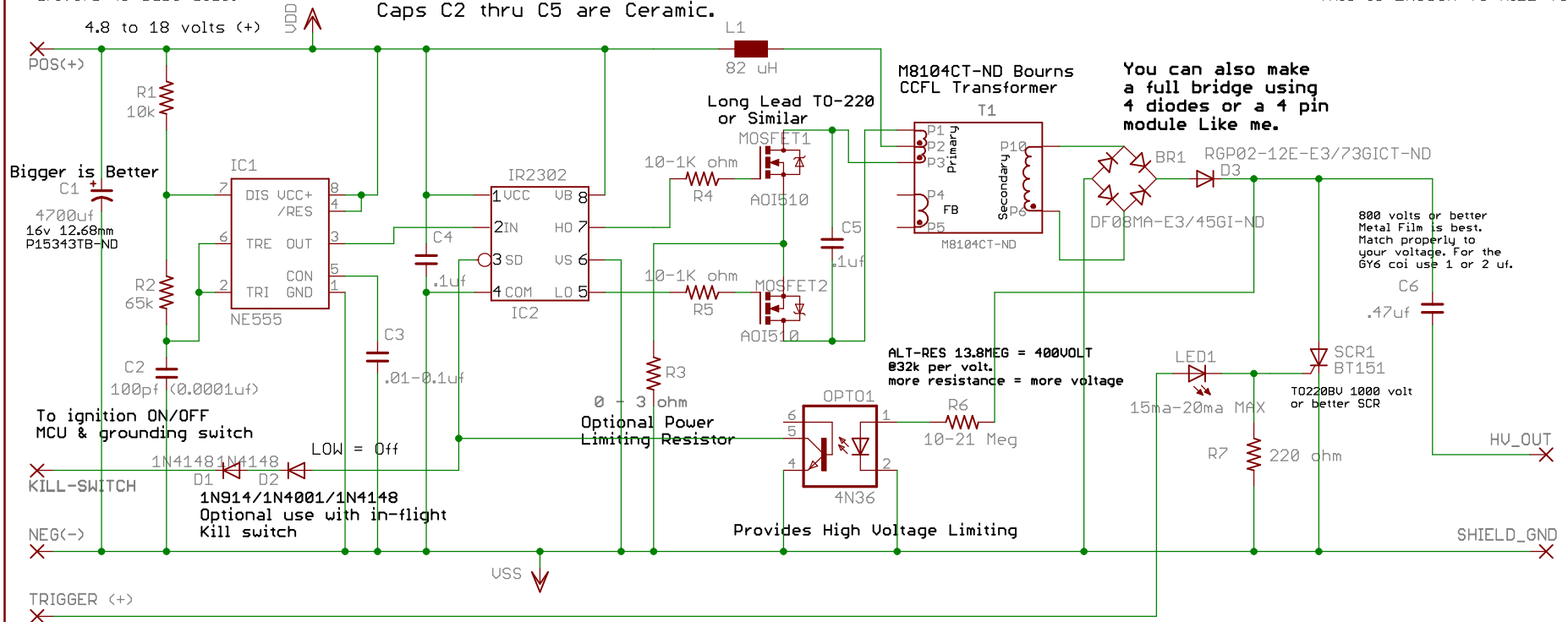
For 12 volt operation use a coil like the GY6 and heat-sink Trxfmr drivers to case side.

Designed for 5 volts, tested at 5 & 11.8 volts.  
Caps C2 thru C5 are Ceramic.

**WARNING!**

600 volts running with up to 500 ma or more at this point.

THIS IS ENOUGH TO KILL YOU



The operating frequency of the system is determined by the inverter  
Coiltronics recommends 40khz - 80khz so I used 68khz R2 should be 100K ohm.

When using the PM61300-5-RC / M8104CT-ND Bourns CCFL transformer R2 should be 65K ohm.

I use MOSFET's for the Push-Pull drivers and with as low on resistance that I can afford (Rds).  
You can use MOSFETs, IGBTs, and Transistors so long as it can take a 5v or less signal.  
D1 & D2 is optional if you use the MCU to turn off the ignition.

R4 & R5 develop the Gate voltage, so the higher the resistance, the more they are driven.  
If you go to high of resistance there will not be enough current to drive the Gate.  
The resistors also limit the gate current or they develop the base BIAS and limit current.  
The IR2302 HO pin is in sync with the IN pin, so use a 50% duty cycle from the 555.

Designed by Ray C. Richter  
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Sparky-1E CDI HV Schematic External Ignition Coil

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Multi-use HV Board - Model: Sparky-1

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