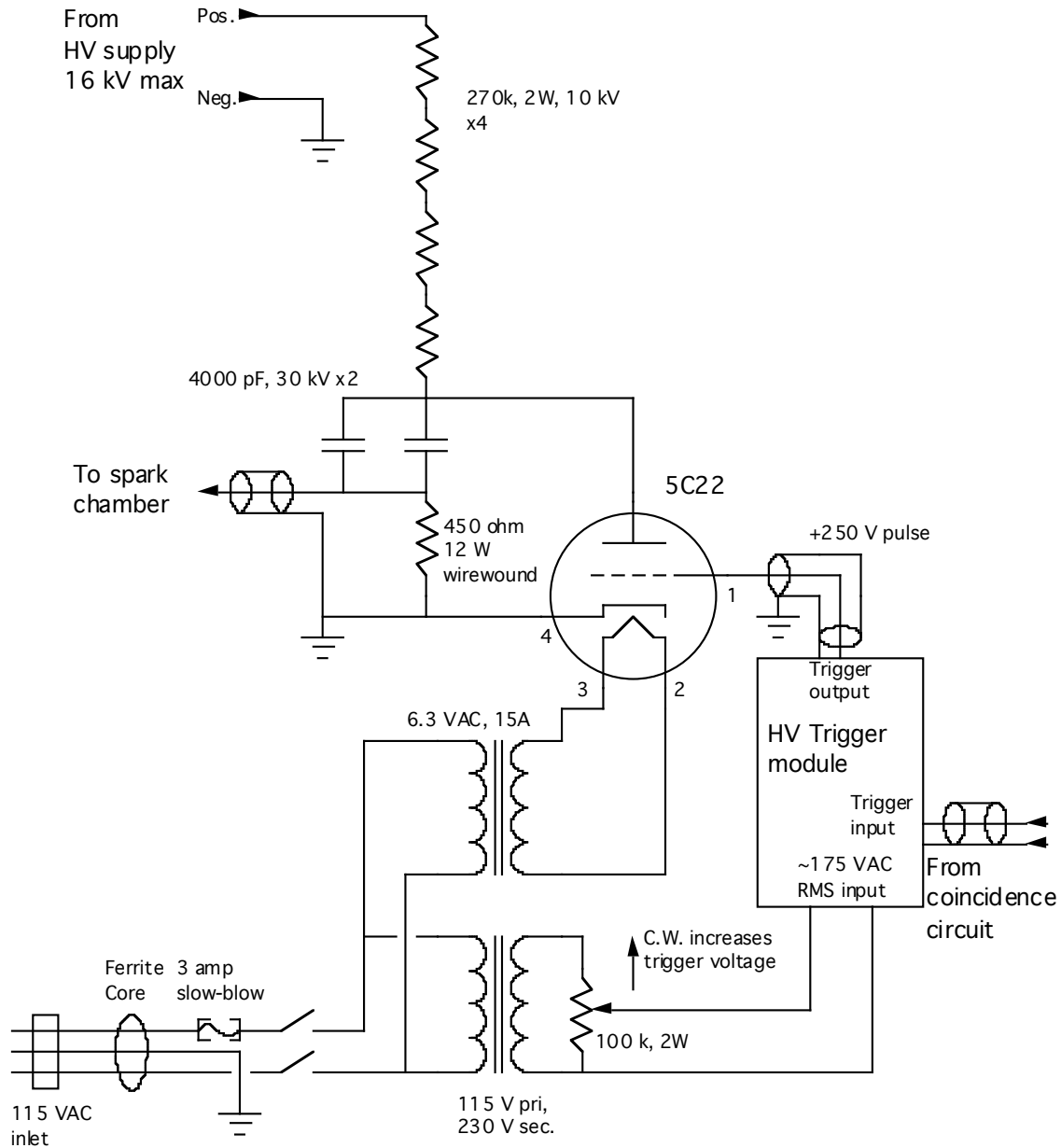


Spark Chamber HV discharge circuit.

Peter Halverson

Nov 27, 2006, modified Feb 16, 2007



High voltage discharge circuit
Griffith Observatory Cosmic Ray Spark Chamber
Peter Halverson November 27, 2006. V2: Feb 16, 2006

Part	Manufacturer, part #	Source	Catalog #	Qty	\$, each
Hydrogen thyratron	RCA 5C22			1 (have)	
Transformer, 6.3V, 15 Amp (or more)	Signal Transformers A41-130-12 http://www.belfuse.com/SignalTransformer/	Digikey	595-1276	1 (get spare)	48.81
Transformer, 230 V, 1 mA (or more)	Signal Transformers A41-25-230	Digikey	595-1303	1 (get spare)	16.92
Potentiometer, 100 k, 2 Watt	Precision Electronic Comp. RV4NAYS104A	Digikey	RV4N104C	1 (get spare)	60.03
Capacitor, 4000 pF, 30 kV	Can't find exact, see below			2 (have?)	~100
Resistor, 270k, 2 W, 10 kV	Phoenix Passive Components, 5073HV274J08AFX	Digikey	PPC1J270 KCT-ND	4 (get spares)	11.59
Resistor 450 ohm, 12W	Huntington Electric, FVTS-10-450	Digikey	FVTS-10-450-ND	1 (get spares)	2.78
Enclosure 8x17x3 inch	Bud AC-412	Mouser	563-AC-412	1 (get spare)	26.00
AC inlet, fused		Jameco	117444CG	1	1.95
Ferrite core/ RF choke		Jameco	318705CG	1 (get spares)	1.39
Power switch DPDT		Jameco	SWM126	1 (get spares)	1.75
High voltage cable	Alden 8101 (CNE) 8101SET	www.surplus-sales.com	(CNE) 8101SET	1 (get spare)	14.00

We need a capacitor with at least 25 kV rating, 8,000 pF or higher, or two units of 4000 pF, or higher. Not to exceed 15,000 pF total.

Possible sources of capacitors close to what we need:

http://www.surplussales.com/Capacitors/Trans_Coup_Caps/cap_trans.html

http://www.rfparts.com/caps_ceramicdoor.html