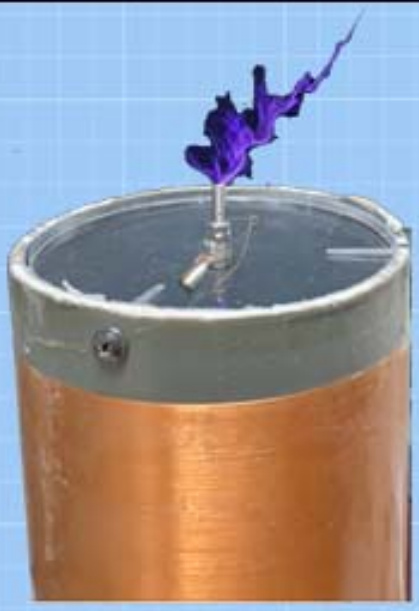
Russian Slayer Exciter
TESLA COIL



Building Manual

M.Donners Februari 9 2022

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Disclaimer short version:

This is a DIY project, use any provided information and/or materials at your own risk! I am not responsible for what you do with it!

Make sure that you know what you are doing! High voltage can kill!

Get your PCB here: https://www.tindie.com/products/25729/

This are the parts you need to assemble the PCB:

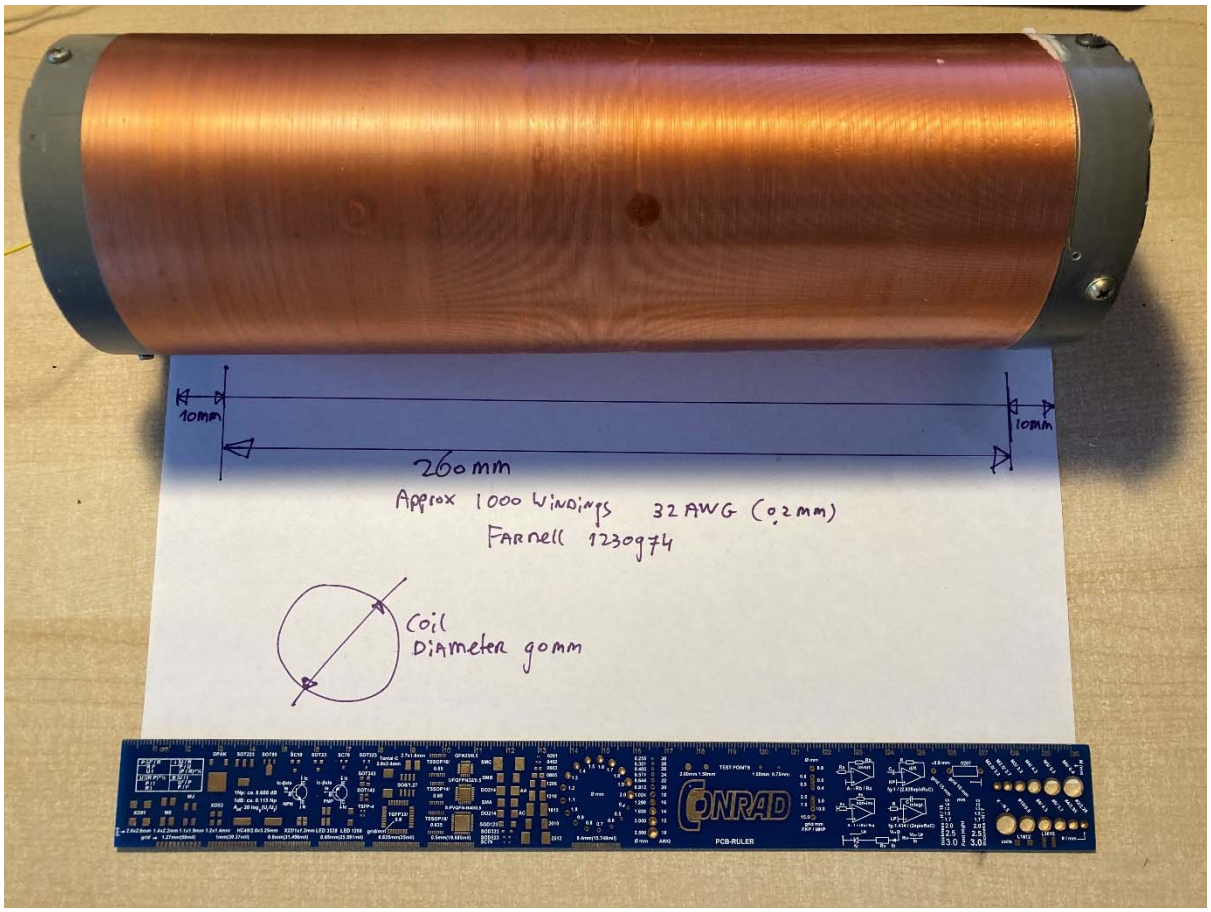
Designator	Name	Footprint	Quantity	Manufacturer Part	Manufacturer	Supplier	Supplier Part
C2,C3	1u	CAP-TH_L17.5-W7.5-P15.00-D1.2	2	C352S105K64C322	faratronic	LCSC	C497219
D1	VS-HFA08TB60-M3	TO-220AC-2_L10.0-W4.5-P5.10-L	1	VS-HFA08TB60-M3	Vishay Intertech	LCSC	C468157
F1	Fuse-5x20mm	FUSE-HOLDER-5X20MM	1				
HS2,HS3	SK104 HEAT SINK bez	SK104-PAD	2	**Optional**			
U1	BT152-800	TO-220-3_L10.0-W4.5-P2.54-L	1	BT152-800	SEMIWARE	LCSC	C696677
C1	22uF	CAP-TH_BD16.0-P7.50-D1.2-FD	1	22uF 450V 16*20	ValuePro	LCSC	C10737
Q1	IRFP460PBF	TO-247AC-3_L15.8-W5.0-P5.46-L	1	IRFP460PBF	VISHAY	LCSC	C2595
D2,D3,D4	1N5408G	DO-201_BD5.3-L9.5-P13.50-D1.4-RD	3	1N5408G	ON	LCSC	C133247
D5	1.5KE440A	DO-201_BD5.3-L9.5-P13.50-D1.4-FD	1	1.5KE440A	RUILON	LCSC	C32473
D6	1.5KE15A	DO-201AD_BD5.3-L8.4-P12.50-D1.4-FD	1	1.5KE15A	CREATEK	LCSC	C434999
HS1	Fischer_SK409	HEATSINK_FISCHER_SK409_SOLDERPINS	1	Fischer_SK409			
R3,R4,R5	10KΩ	RES-TH_BD4.5-L11.5-P15.00-D0.6	3	MOF2WS-10KΩ±5%T	华星机电	LCSC	C714419
R6	1.5K	RES-TH_BD5.5-L15.0-P19.00-D0.8	1	MFR3WSJT-73-1K5	YAGEO	LCSC	C176600
R1,R2	10	RES-TH_BD11.0-L49.5-P56.00-D1.0	2	CR-L15W10ΩJ	Chian Chia Elec	LCSC	C216391
P6,P7,P1, P4,P5,P2	MKDSN1.5/2-5.08	CONN-TH_2P-P5.08_1714984	6	MKDSN1.5/2-5.08	Phoenix Contact	LCSC	C91153
P3	MKDSN1.5/3-5.08	CONN-TH_3P-P5.08_1729131	1	MKDSN1.5/3-5.08	Phoenix Contact	LCSC	C91154

You'll also need 4 chokes (used in Tl-lights as ballast) I used Philips BTA36L31 but others will also work

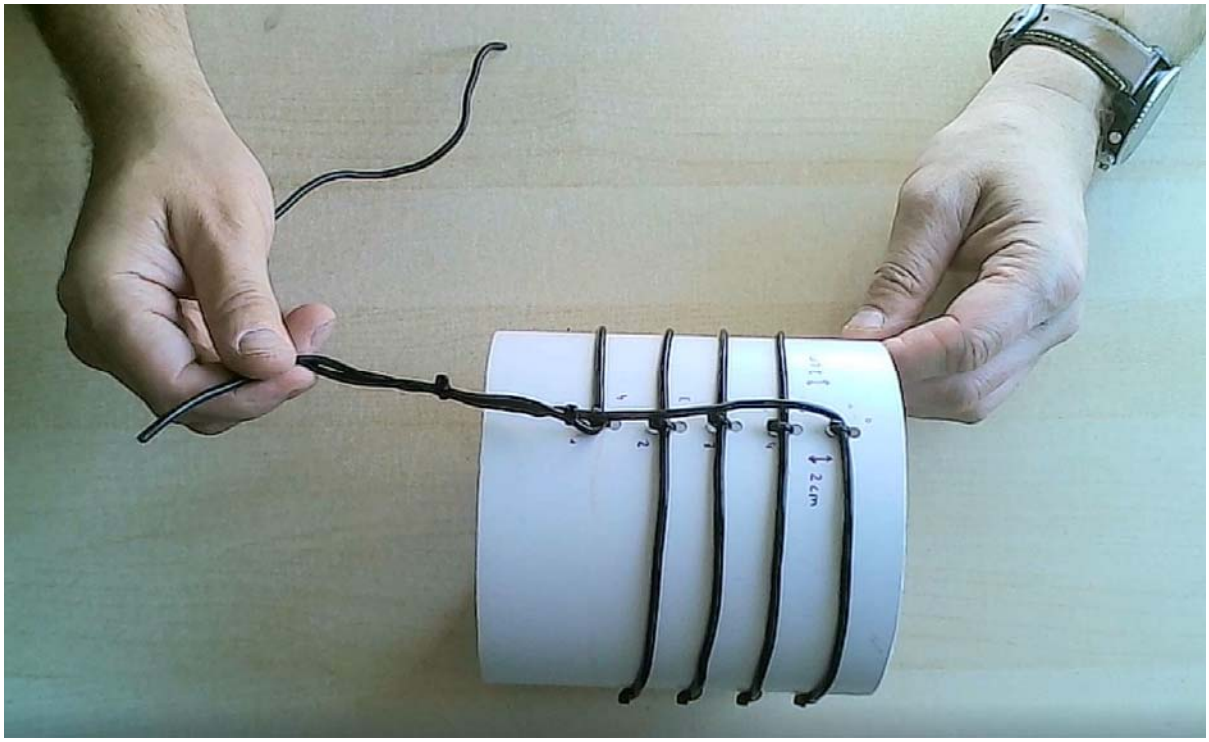
3 toggle switches to operate and a Potentiometer of 22K with a plastic dial (not metal: safety first!)

And you need to assemble a primary and secondary coil

Secondairy coil
Isolated copper wire AWG 32 (0.2 mm2)
1000 windings This is approx..25m total length
PVC Pipe 90mm diameter Length 30cm
Isolation varnish - Make sure to apply a thick layer of varnish to increase electric isolation

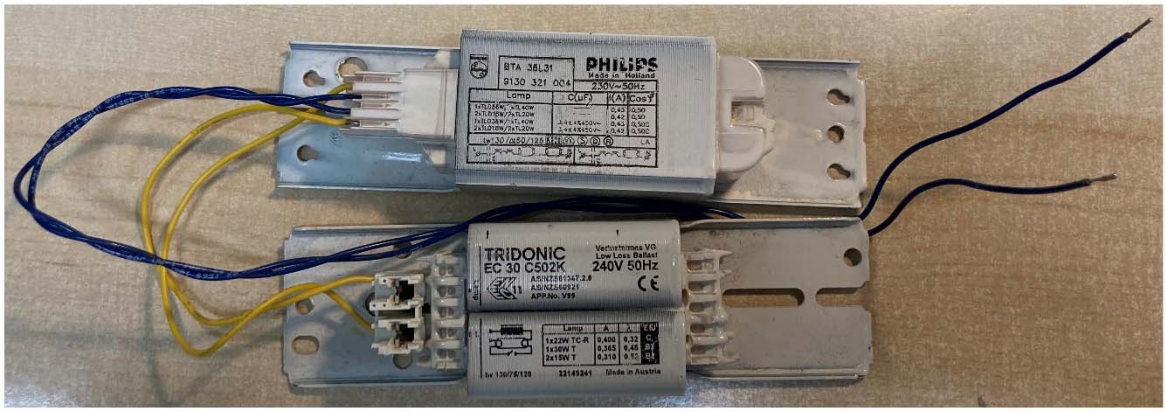


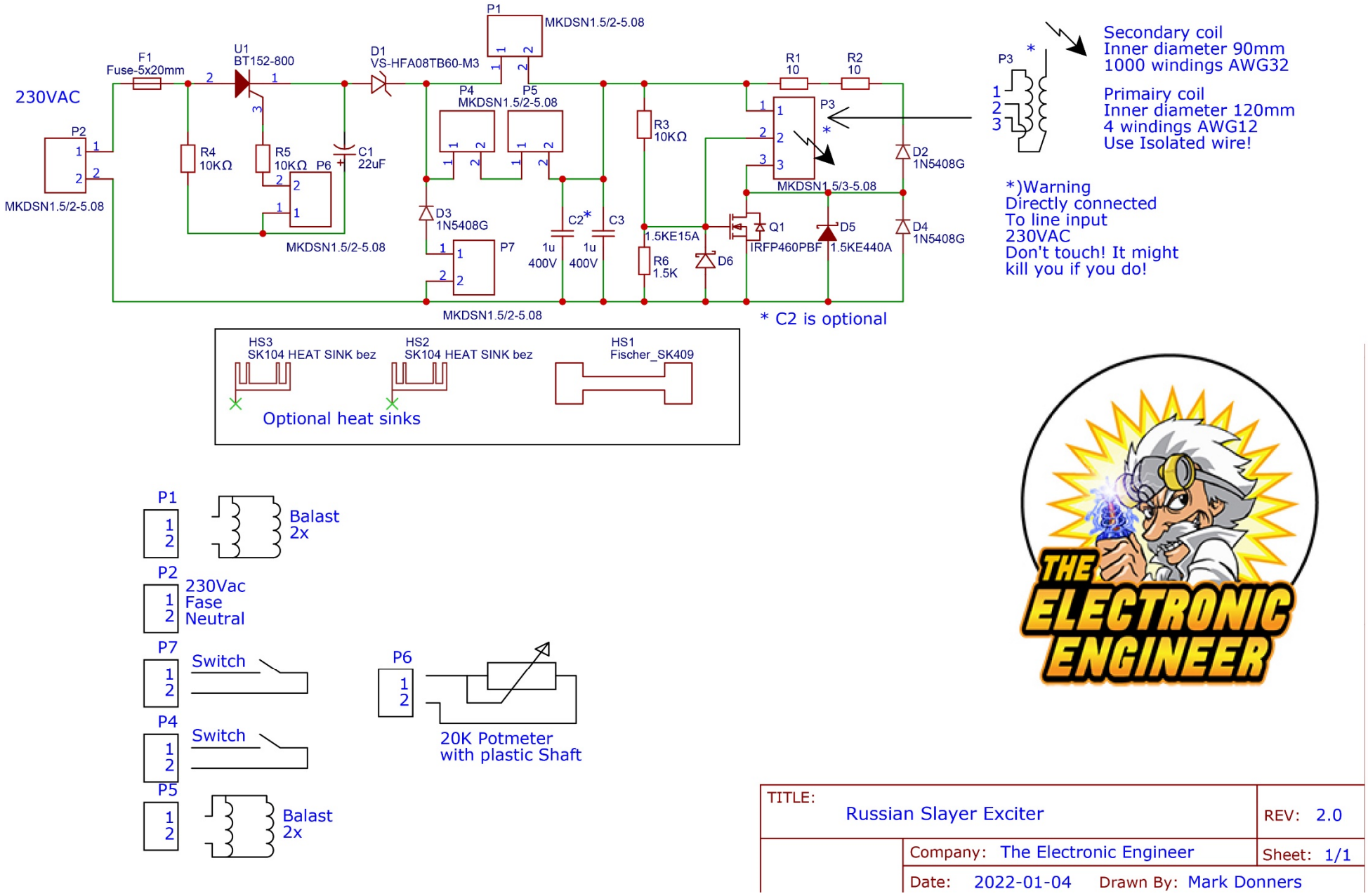
Primairy coil
Thick isolated wire AWG 14 (approx. 2 mm2) 4 windings
PVC Pipe 120mm diameter Length 30cm. This is the easy part. Just wind the wire around the pipe. Each winding 2cm apart from the other winding.



Chokes

You must make 2 sets of chokes. Each set had two chokes connected in parallel





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	Company: The Electronic Engineer	Sheet: 1/1
	Date: 2022-01-04 Drawn By: Mark Donners	

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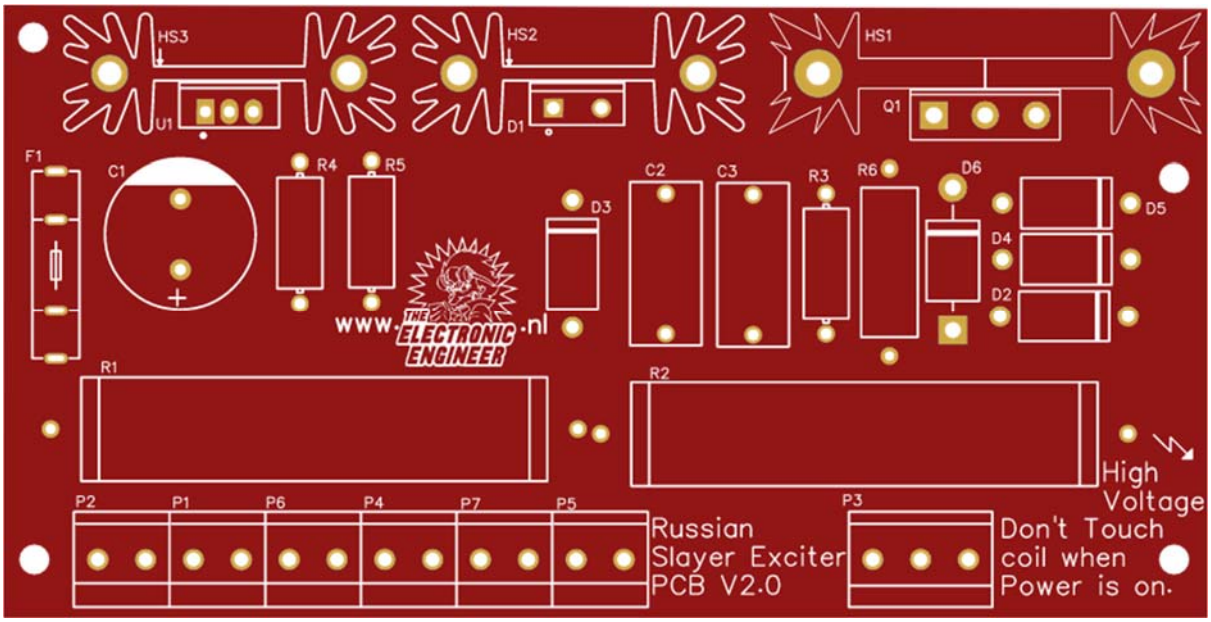
HS3
HS2
HS1
U1
D1
Q1
F1
C1
R4
R5
D3
C2
C3
R3
R6
D6
D5
D4
D2
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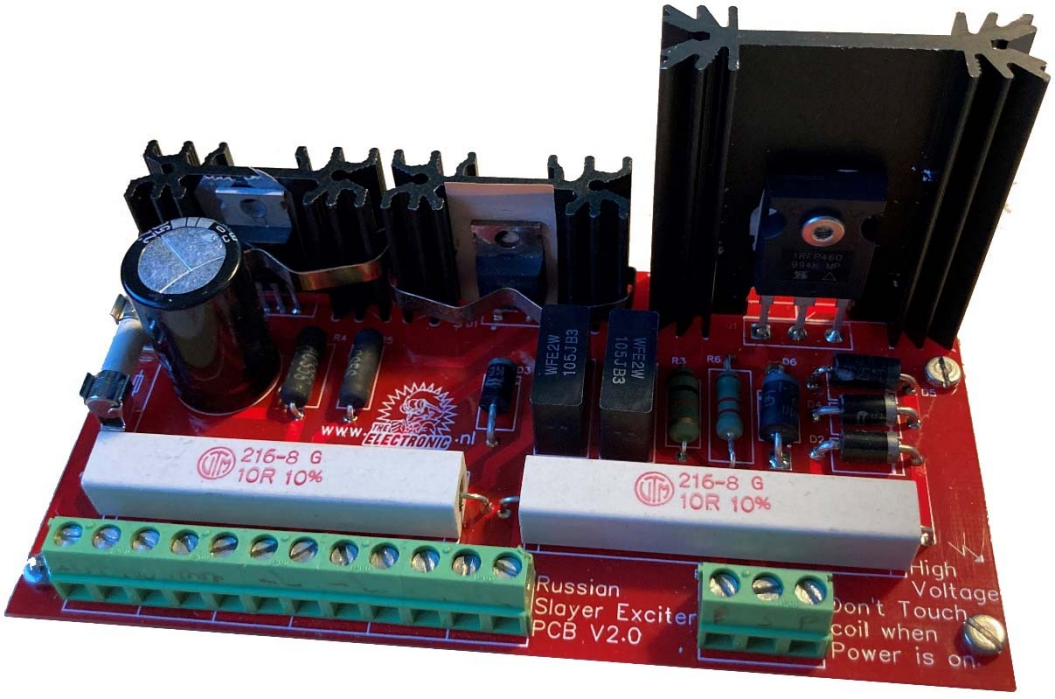
R1
R2
P2
P1
P6
P4
P7
P5
P3
Russian
Slayer Exciter
PCB V2.0
High
Voltage
Don't Touch
coil when
Power is on.


216-8 G
10R 10%
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10R 10%
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