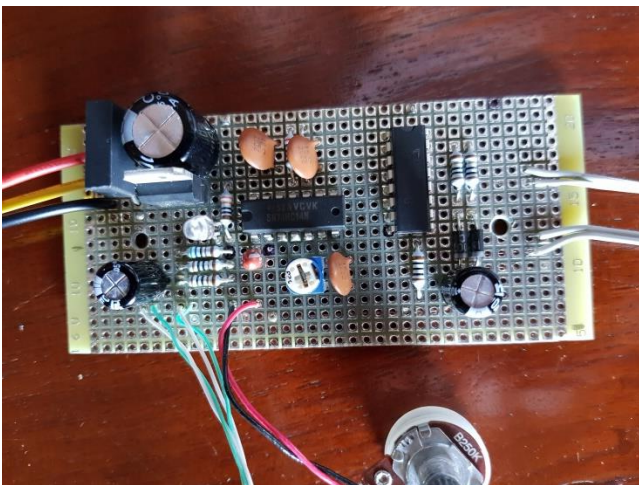
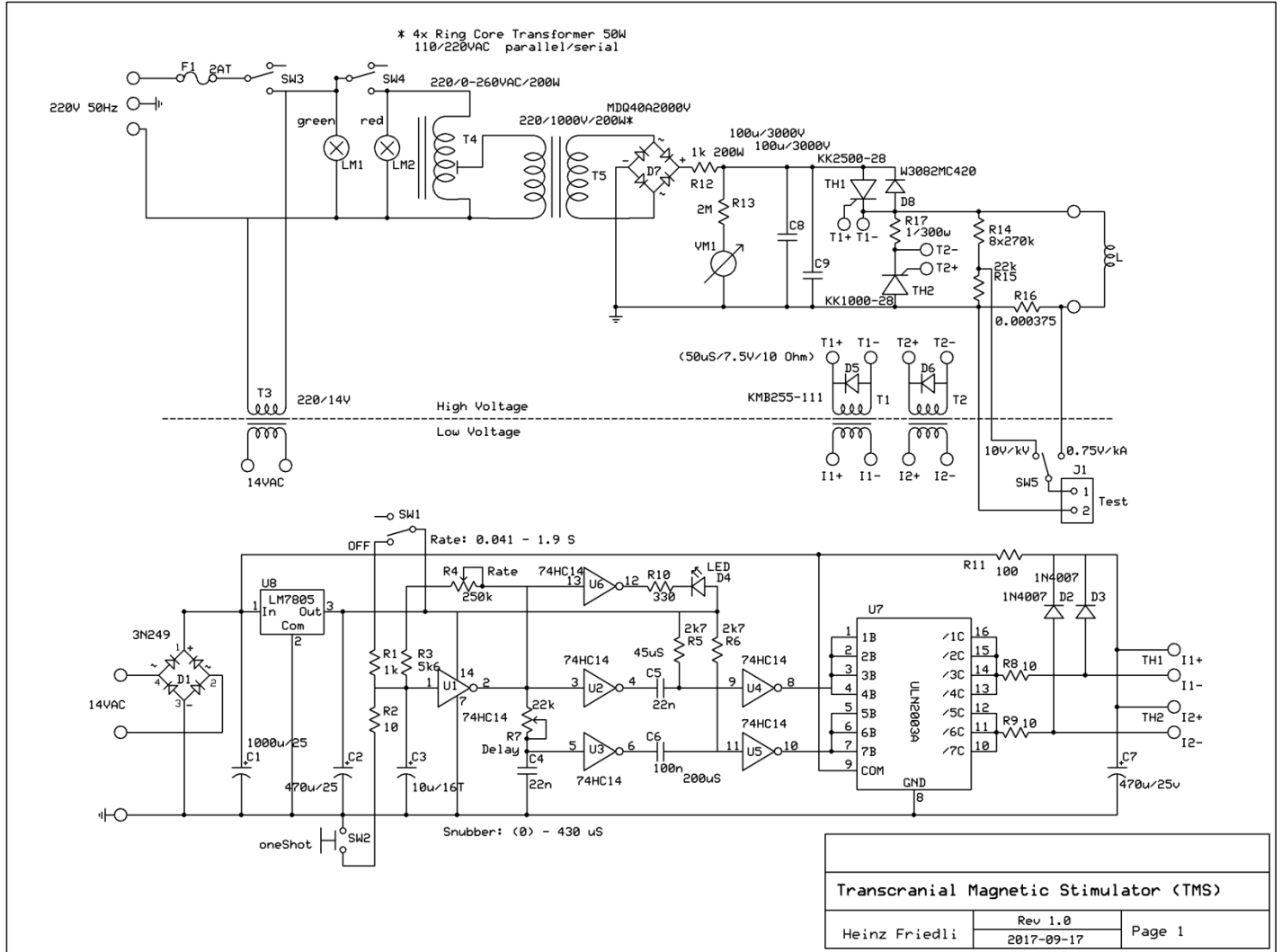
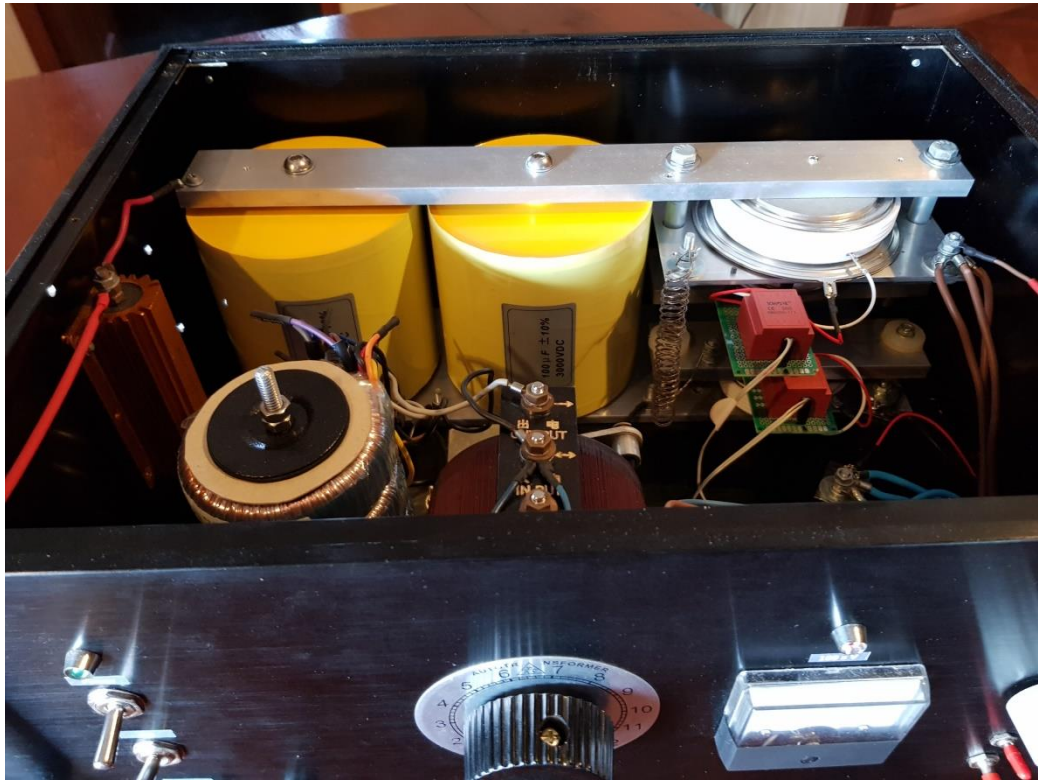
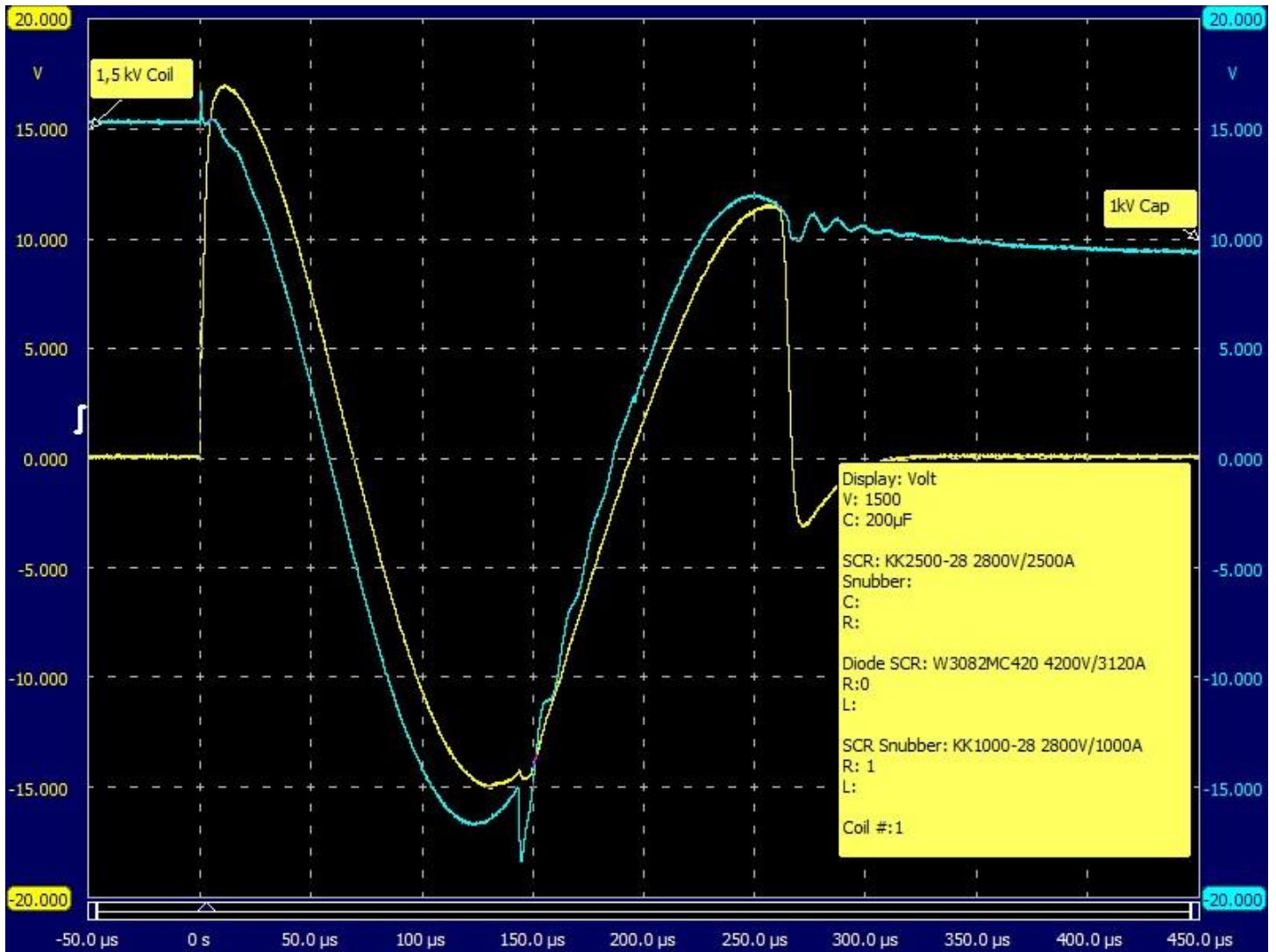


Transcranial Magnetic Stimulator

Design Target: Biphasic Pulse, Action Coil on Ground, simple electronics







Coil Design:



Coil	#	Wdg	AWG	μH	$\text{m}\Omega^4$	$\mu\text{S}/200\mu\text{F}$	Volt	kA	kW	kAt	Field ²
2x9 Wdg	1	18	9	9.03	10.00	193.90	1,500	9.00	13,500	162	2.30
2x5 Wdg	2	10	9	3.43	5.40	125.00	1,500	15.33	22,995	153	2.95
2x9 Wdg	3	18	9	4.15	6.20	140.20	1,500	12.70	19,050	229	1.70
2x10 Wdg	4	20	9	13.11	15.00	230.50	1,500	8.80	13,200	176	1.80
2x11 Wdg	5	22	10	12.44	14.30	253.00	1,500	7.60	11,400	167	1.90
2x9 Wdg	6	18	10 ³	12.2	14.50	219.30	1,500	8.80	13,200	158	2.00

² relative

³ HF Litz Wire 0,1x600

⁴ + Cable 125cm (3x 2.5mm²) 5.8m Ω

This was the first actively used coil, AWG10, 2x9 Turns.

After a while sparking flashovers occurred.

The coil was glued with high temperature silicon and wrapped with self-vulcanizing rubber.

