

Tuning of the “shniaga” (*) by Sergey Alexeev

[https://www.youtube.com/watch?v=Z-](https://www.youtube.com/watch?v=Z-UaulS9EUA&list=PLK7gxeQv5qT44ZM5TVnBW534ogPJnrXjg&index=7)

[UaulS9EUA&list=PLK7gxeQv5qT44ZM5TVnBW534ogPJnrXjg&index=7](https://www.youtube.com/watch?v=Z-UaulS9EUA&list=PLK7gxeQv5qT44ZM5TVnBW534ogPJnrXjg&index=7)

0:00

hello Oleg German, hello Cyril,

I want show why this shniaga needed and how it is tuned

we have here generator 16.6khz

and 1.66mhz, generator gives burst of 5 pulses

and duty factor about...I tuned something like 30%

0:30

which going to Tesla coil

I will take ferrite out and show you what you see usually

ok, let's turn it on

we have slowly fading ringing

that is what you usually see

here we have antenna

one scope channel connected to inductor for synchronization

now let's put ferrite back

I already tuned it before

1:01

it is not symmetrical

different number of turns here and here

now let's switch it on and see

here what we get, no ringing

it is, but it is very small now

if you tune Tesla coil inductor, I got 2.2nF

it I connect it

two capacitors like this (1000pf each)

they get very hot because I have 100v supply voltage for the Tesla coil

1:38

HV amplitude get even higher

and so now only left to make nanoseconds pulse generator from this Tesla

it is simple

I got old diodes burned out

I bought new 26 pcs of HER108 (**)

2:04

will make a chain of them and also will put a resistor in parallel

to each diode 330-470k

and so I will get one directional (uni-polar) pulse

so, like this

BTW here resonance is stable

so that you can connect loads even before diode bridge

to make it stable you need tune the coil in a special way

here inductor 20m, gradient coil 40m

for example, here are 3 different resonances

resonance inside resonance (***)

2:48

Tesla coil tuned to gradient coil ringing

only 3 pulses needed, I made 5 here, otherwise it's not working

ok, so I switched to another topic

3:03

so if you want make resonance stable, so it will work good without PLL
you need tune one coil to 16 khz
and second coil to 8khz
and so to make it stable you need connect load to the coil
which tuned to lower frequency
in this case frequency and even phase will be stable
it will be hard stable
no mater what load you connected

3:39

I have here 3 resonances
one on the inductor
on big (gradient) coil
on the Tesla coil, it should work on gradient coil ringing
this is mandatory
we make one directional pulse

3:59

and tune it to be at the top of sine, only there

4:20

here the sine top (bottom)
and here our Tesla coil's burst

* шняга spoken language word, can be translated as "thing"

** later he use hv1x3 diodes

*** famous Kapanadze's phrase