

Sputnik Transmitter

First soviet space apparatus "Sputnik" was launched into an elliptical low Earth orbit on 4 October 1957. It was a 58 cm (23 in) diameter polished metal sphere, with four external radio antennas. The antennas (two antennas were belonged to each transmitter) were connected to two transmitters. One transmitter was working on 20- MHz another one on 40-MHz. Transmitters turn on and off with help of an relay and transmitted just CW pulses. However the transmission was received across all planet Earth and may be detectable even by simple HF receivers. Lots of radio amateurs were heard Sputnik. The First Sputnik did not contained any scientific equipment just transmitter that send radio signals and help detect the space apparatus in the Earth orbit.

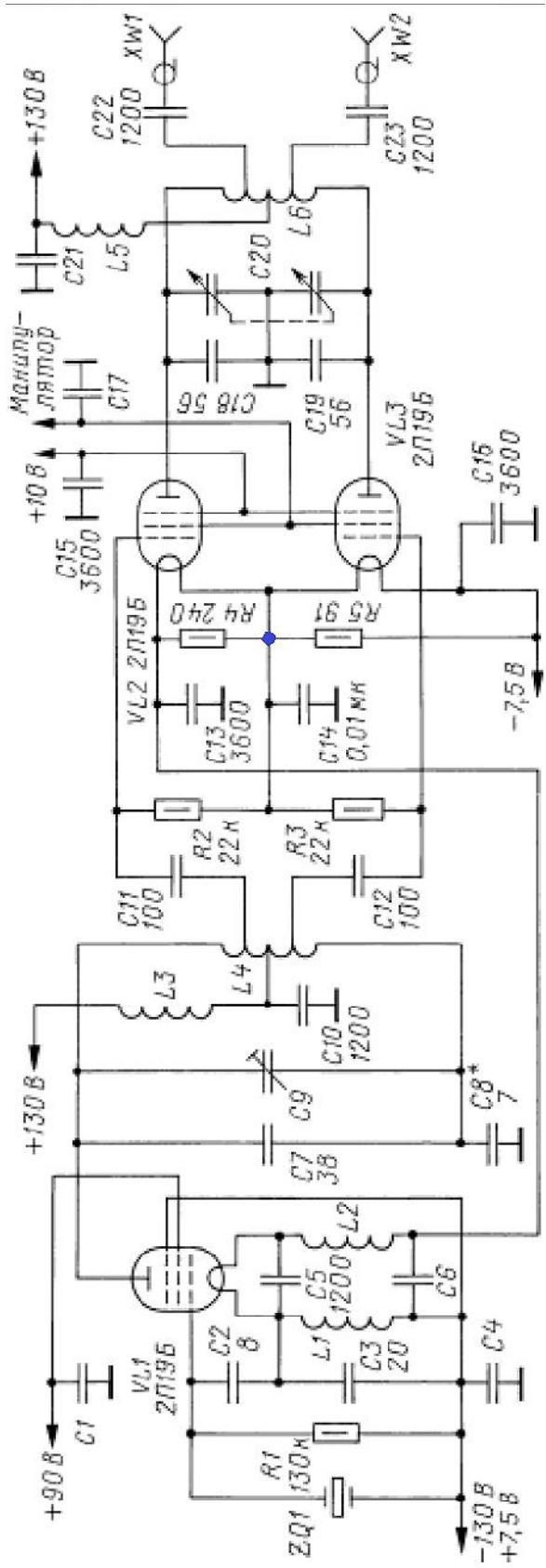
Schematic of the transmitter for 20 – MHz is shown by right on this page. It was a very simple transmitter. It contained three the same 2P19B tubes. (I was lucky I made several QRP transmitters and regenerative receivers with those tubes. I had two boxes that tubes that is why I experimented with the tubes. However I have no any idea that the tubes were used in the First Sputnik) One tube was used in Local Quartz Generator two tubes were used in the power amplifier. Heaters of the tubes were connected to series that prevent useless losses of battery power if one of the tubes went of operation because of break in the heater. At the times it was usual fail for vacuum tubes.

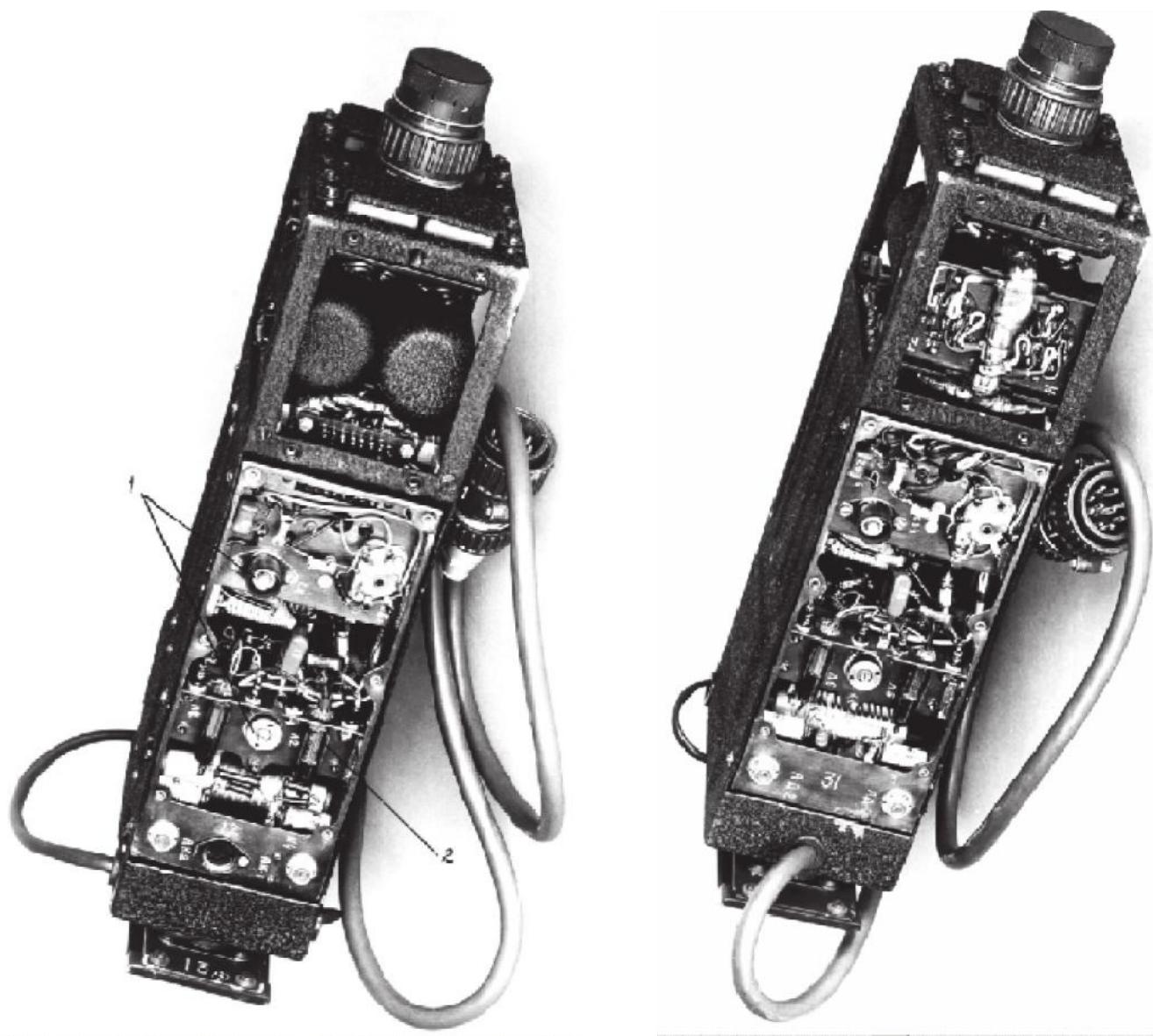
Schematic of the 40- MHz transmitter was the similar to the 20- MHz prototype above the values of inductors and capacitors. Circuit for connecting with antennas also had some differences. Both transmitters radiated of 1-W RF power.

Battery 130V 30A/H fed plate circuit and battery 7.5V 130A/H fed the heater. The both battery had weight in 50 kg (100 pounds). It was almost half weight from the whole Sputnik weight (a little more the 100 kg or 230 pound).



Assembling of the First Sputnik
www.antentop.org





Sputnik Transmitter 20 MHz Side

Sputnik Transmitter 40 MHz Side



Tube 2P19B

73! VA3ZNW