

2 x GI- 7B PA

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PA with two Russian tubes GI-7B does linear amplification CW and SSB. PA implemented on the circuit with grounded grid. (see page 54, drawing by author)

PA requires a PSU with following parameters:

DC: + 1500 V/1.5 A

DC: + 27 V/ 0.3 A

AC: 13.5 / 4.5 A

Operation: RF through contact K1-1-1 of the relay K1 moves into cathodes of the tubes. Due the grids are grounded the transistor stabilizer connected in serial with cathodes provides bias voltage. Bias voltage is adjustable from 11 to 18 V (depended on mode- AB (standing current 0.1 A), C (standing current 0 A)). To match antenna with tubes a Pi- circuit is used.

Design: The design of the PA is clear from the pictures. Tubes are sitting at metal plate which is screened anode part from cathode ones. Bypass capacitors may be in the limits of 2000- 10,000 pF. These ones sitting in anode circuit must have voltage no less the 2000 V, another may have voltage not less the 50 V. Cathode choke (ДP1, ДP2) coiled by twisted wires (1.5 mm or 15 AWG) on a ferrite rod that has 8 mm diameter and length in 15 cm (used from "magnetic antenna" from old transistor radio) and has 25 turns. Anode choke coiled at first (ДP3) on a ceramic form in diameter 20 mm and contains 5 turns of a Nichrome wire 0.8 mm in diameter (20 AWG). Then 150 turns of wire in 0.5 mm diameter (24 AWG) are coiled on a ceramic form in 20 mm diameter and 15 cm length.

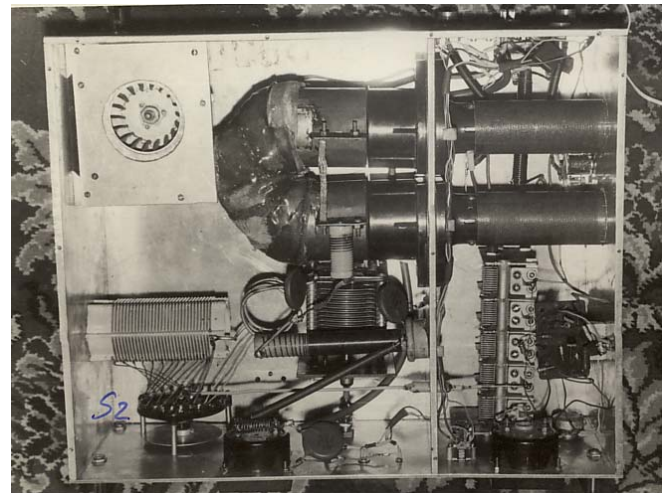
First 20 turns (near anode) are coiled in progressive gap. C7 should be had gap between plates not less than 1.5 millimeters. C10 contains from two up to five sections, gap may be near 0.5 millimeters.

L1- has diameter of 50 mm, coiled by a copper tube in diameter of 5 mm, gap between coils is 8- 10 mm. Tap for the 10 meters from 1.5 coil for the 15 meters from 3.5 coil.

L2 - 30 coils by a silver plate wire in diameter of 1,5 mm (15 AWG), on a form in diameter of 50 mm. Gap between turns is 1 mm. Tap for the 20 meters from 2 coil (from anode), for the 40 meters from 5 coil, for the 80 meters from 12 coil, at the 160 meters all coil is used.

Adjustment: Transistor stabilizer does not require any adjustment. Only check voltage across the stabilizer at opened contacts of K3. It should be no more the 70 V. T3 is mounted on the aluminum case for cooling.

<http://www.antentop.org/>



Ventilation: The tubes are blown by the fan (taken from an old tape recorder). Airways are home made- a medical bandage sodden with epoxy. Tubes from medical bandage put on cathodes vent hot air outside the case.

Exiting Power: 15- 30 W is enough for the PA. More power may damage the GI- 7B.

Parts List

VD1: Consists of 3 Zener on 9V

VD2: Zener on 9V

VT1: 10 W switch silicone transistor

VT2: 3W switch silicone transistor

VT3: 10 W switch silicone transistor

73!

Принципиальная схема РА 2 x GI-7B

