

Regenerative HF- Receiver of the Beginner Radio Amateur

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ПРИЕМНИК НАТОНАЛОУЧЕГО КОРОТКОВОЛНОВИКА

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Header of the Article

Below there are description of a simple HF- Regenerative HF- Receiver for the Beginner Radio Amateur. **Figure 1** shows the schematic of the receiver, **Figure 2** shows the view of the receiver.

The receiver has three the same (Russian) tubes 6K4P. Western analog for the tube is: EF93, EF89,

6F31, 6BA6. First tube is aperiodic RF amplifier, the second one is a regenerative detector and the third tube is Audio amplifier.

The receiver is built with two aluminum plates. One plate is the chassis the second one is the front panel. **Figure 3** shows sketch of the plates.

RF choke at the RF amplifier is wound by insulated wire in diameter of 0.1- 0.12-mm (37- AWG). Diameter of the form is 10- 15- mm, length of the winding is 25- 30- mm. It is coiled turn to turn. It may be used another one RF- choke or just resistor in 10- 25- kOhm.



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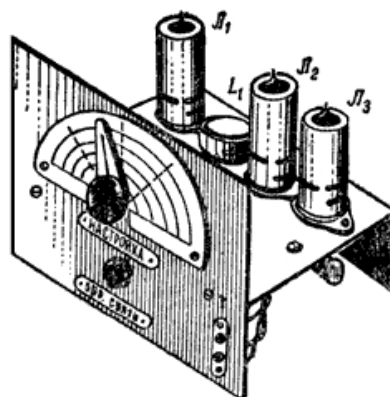


Figure 2 View of the Receiver

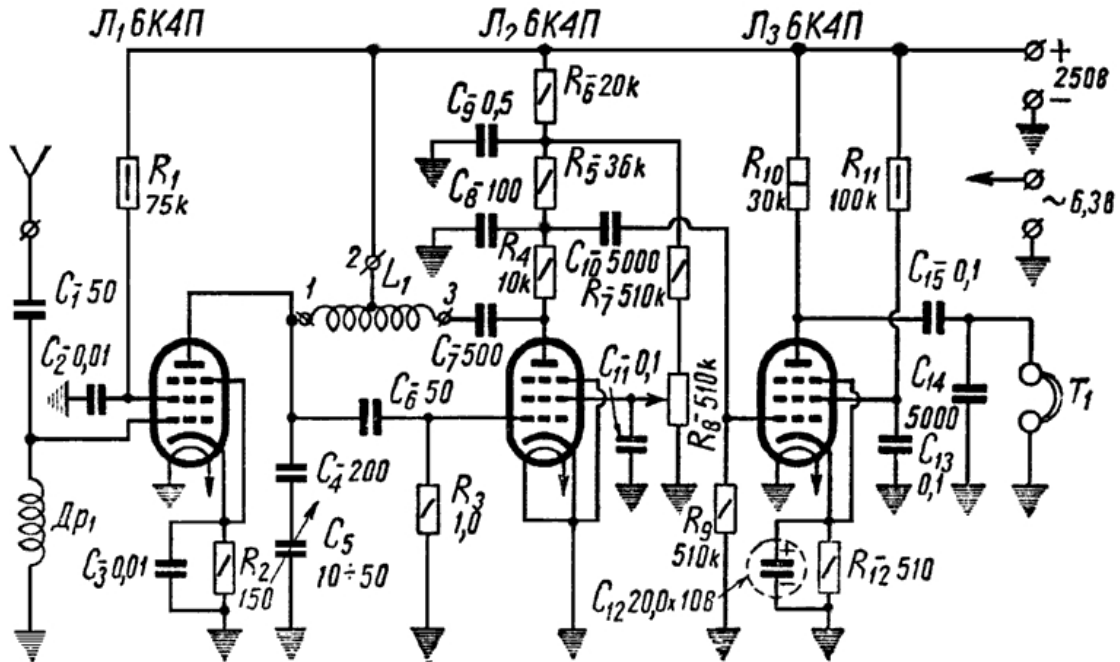


Figure 1 Circuit Diagram of the Regenerative Receiver

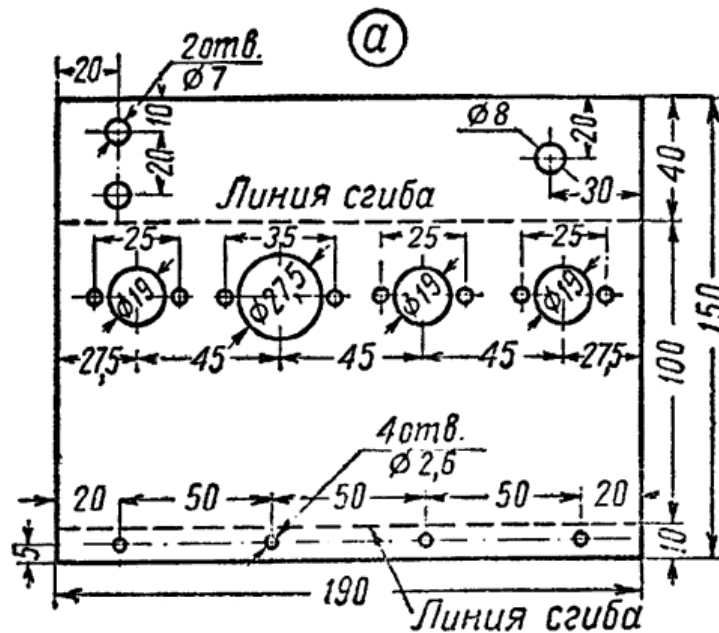


Figure 3 Mounting Plates of the Receiver

A: Chassis

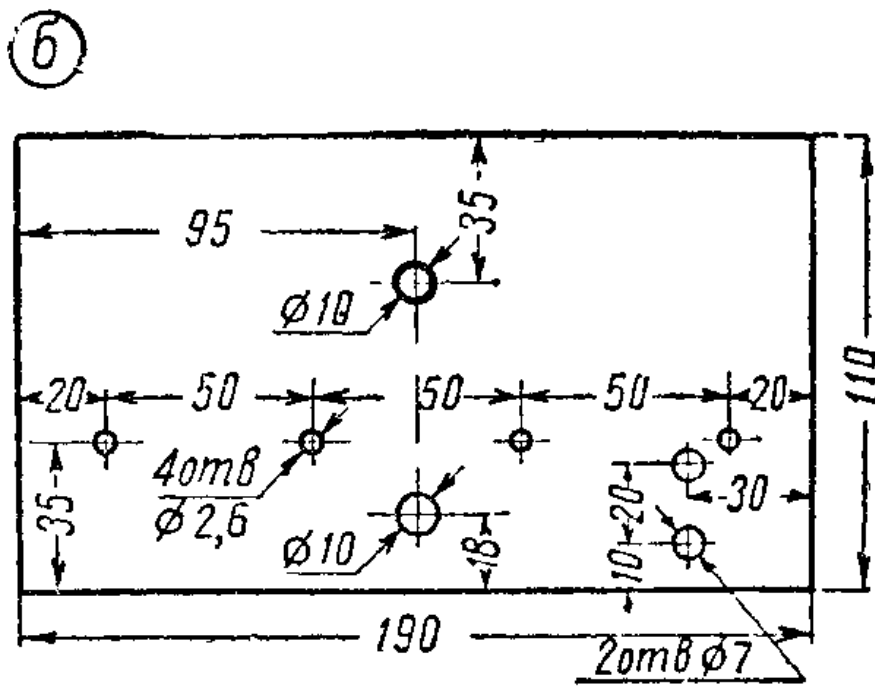


Figure 3 Mounting Plates of the Receiver
B: Front Panel

It is used pluggable inductors at the receiver. The inductors are mounted on the lamp base from the old octal tubes. On the receivers plate is mounted a socket. The needed inductor is inserted to the socket. **Table 1** shows data for the inductors.

To feed the receiver it possible to use any power supply that can provide 250-V DC (with current more the 15- mA) for plate and 6.3-V AC (with current near the 2.0- A) for the heater.

Power supply could be made according to schematic from the **Figure 4**.

Transformer has cross-section 16x 20. Winding I has 1390 (for 127- V, main) +1000 (overall for 220- V, main) turns of the wire in 0.3- mm diameter (29- AWG).

Winding II has 3400 turns (250- V, plate) of the wire in 0.1- mm diameter (38- AWG). Winding III has 74 turns (6.3- V, heater) of the wire in 0.8- mm diameter (20- AWG).

The receiver works straight away when it mounted in the right way and the good part are used. It needs only to tune the inductors to the amateurs' bands. If inductor (L1) is not provide the right bands add turns to part 1-2 (if the receiving frequencies are higher) or remove turns (if the receiving frequencies are lower) from part 1-2. Then it needs to get soft turning on the regeneration. It provides the right numbers of the turns in part 2- 3 of the L1.



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Table 1 Data for the Inductors for the HF Receiver

Band, MHz	Part L1: 1-2		Part L1: 2-3		Form Diameter, mm	Wiring	Note
	Numbers of turns	Wire Diameter	Numbers of turns	Wire Diameter			
28...30	6	0,31- mm 28- AWG	3	0,09- mm 38-AWG	22	Turn to turn	
21...22	7	0,31- mm 28- AWG	3	0,09- mm 38-AWG	22	Turn to turn	
14...14,4	10	0,20- mm 35-AWG	4	0,09- mm 38-AWG	22	Turn to turn	
7,0...7,1	19	0,09- mm 38-AWG	3	0,1- mm 38-AWG	22	Turn to turn	
3,5...3,6	45	0,20- mm 32- AWG	4	0,20- mm 32- AWG	14	Pile winding, wide of the winding 6 mm	At first is coiled part 1-2 of the L1, above the inductor is coiled part 2-3.

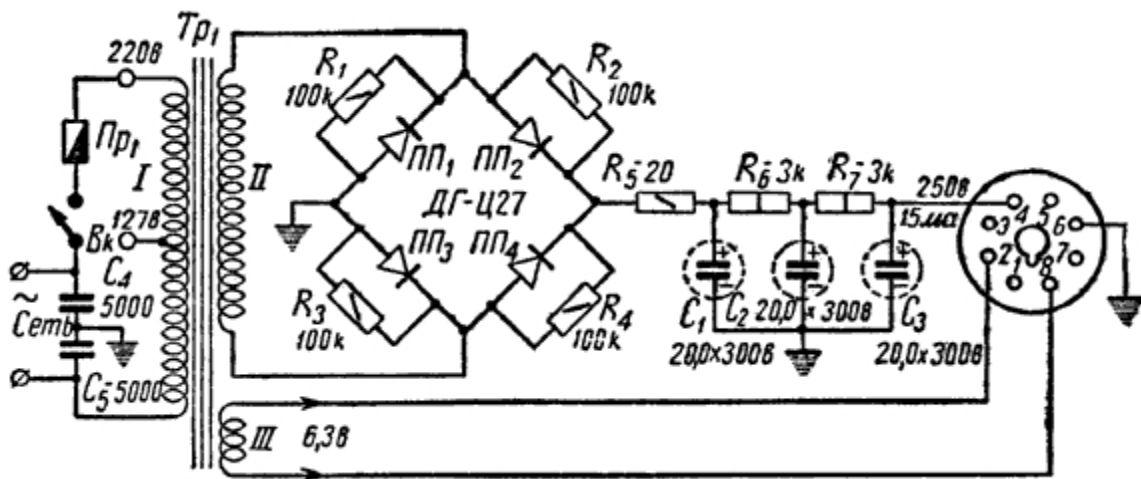


Figure 4 Power Supply for the Regenerative Receiver

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