

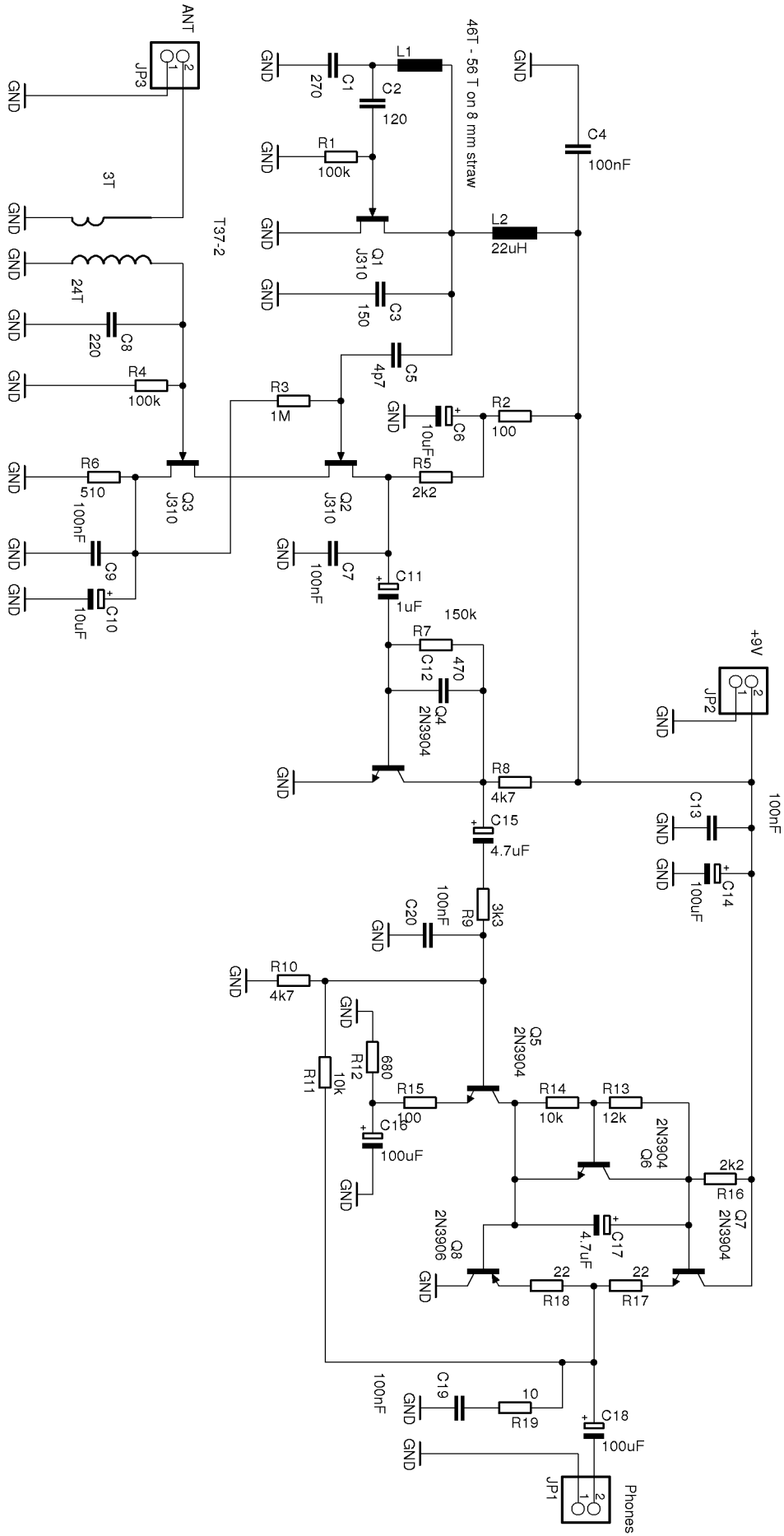
## Přijímač pro pásmo 40 laděný PTO

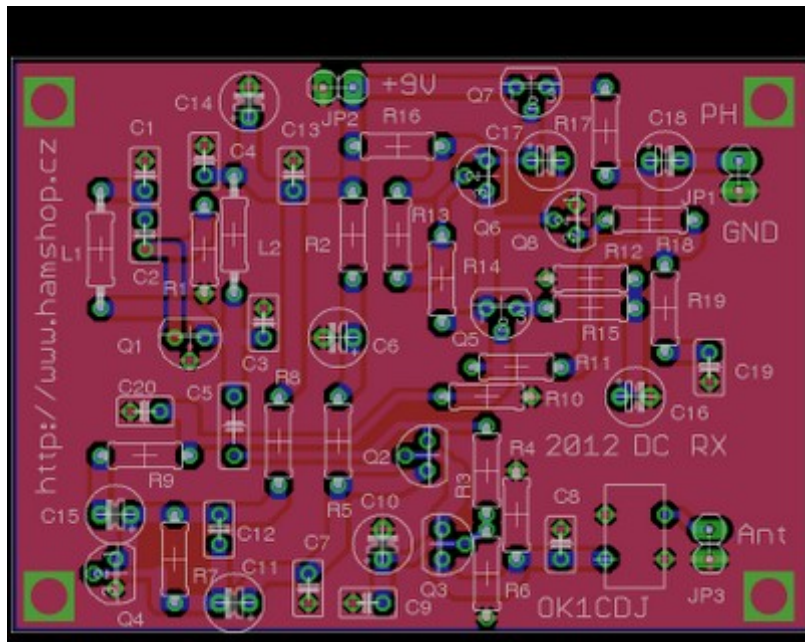


The receiver is built from discrete components. It does not contain any integrated circuit, and individual blocks are very simple and can easily demonstrate to them their functions. Another interesting thing is the PTO - permeability tuned oscillator. Tuning is done by screwing the brass screw into the coil. Tuning range is whole 40 m band. Building of PTO is not mechanically difficult. The coil is wound on a plastic straws with 8mm diameter. The diameter is very important, otherwise we will not tune oscillator in the band. The coil has 46 turns 0.4 mm wire. I recommend reel them a few more and check where is oscillator frequency by counter. The tuning screw has 4mm diameter and is 30 mm long.

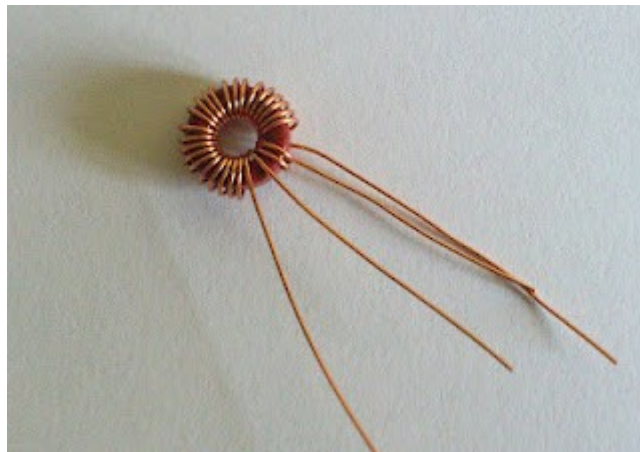
The piece of cuprexit is drilled with 5mm drill and there is soldered M4 nut. This part is screwed with two screws M3 to the front panel of the box. Straw with coil is by epoxy glue bonded to it. The input transformer is wound on Amidon T37-2 core with 0.4 mm wire. The receiver has no volume control. It is recommended to add 10k potentiometer to the input as an attenuator. We can use standard headphones from portable player. The receiver is powered by a 9V battery.

Unfortunately, the first series of PCBs have a bug with connection of resistors R11 and R10. One terminal of R10 must be directly connected with the resistor R11. See the picture.

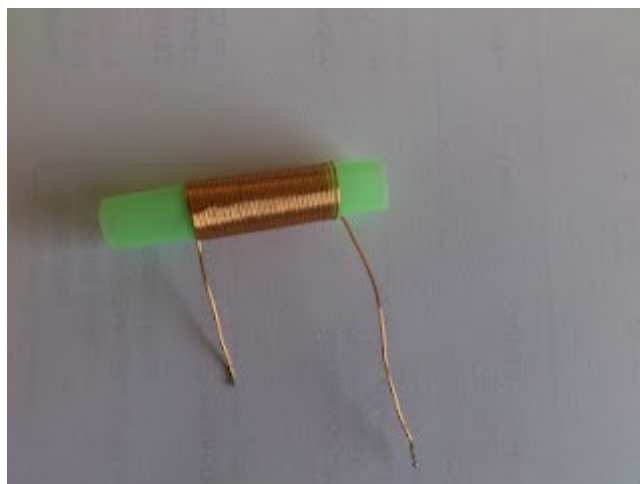




Component placement



Input transformer TR1



Coil L1



Bug on PCB



readyPTO



Receiver in boc

<b>Part name</b>	<b>Value</b>
C1	270pF
C2	120pF
C3	150pF
C4	100nF
C5	4p7
C6	10uF
C7	100nF
C8	220pF
C9	100nF
C10	10uF
C11	1uF
C12	470pF
C13	100nF
C14	100uF
C15	4.7uF
C16	100uF
C17	4.7uF
C18	100uF
C19	100nF
C20	100nF
L1	46 turns 0,4mm wire
L2	22uH
Q1	J310
Q2	J310
Q3	J310
Q4	2N3904
Q5	2N3904
Q6	2N3904
Q7	2N3904
Q8	2N3906
R1	100k
R2	100R
R3	1M
R4	100k
R5	2k2
R6	510R
R7	150k
R8	4k7
R9	3k3
R10	4k7
R11	10k
R12	680R

R13	12k
R14	10k
R15	100
R16	2k2
R17	22R
R18	22R
R19	10R
TR1	T37-2 24/3 turns 0,4mm wire

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