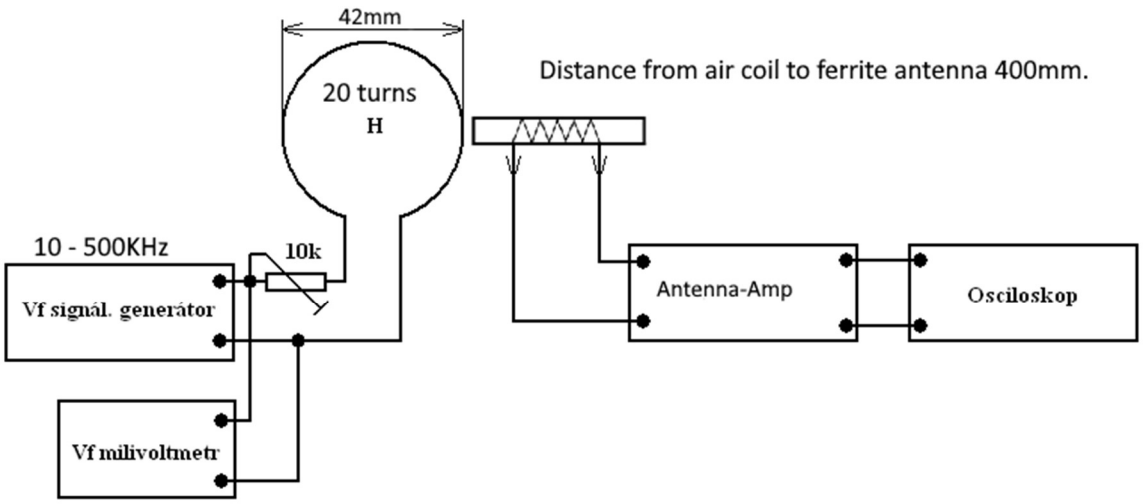
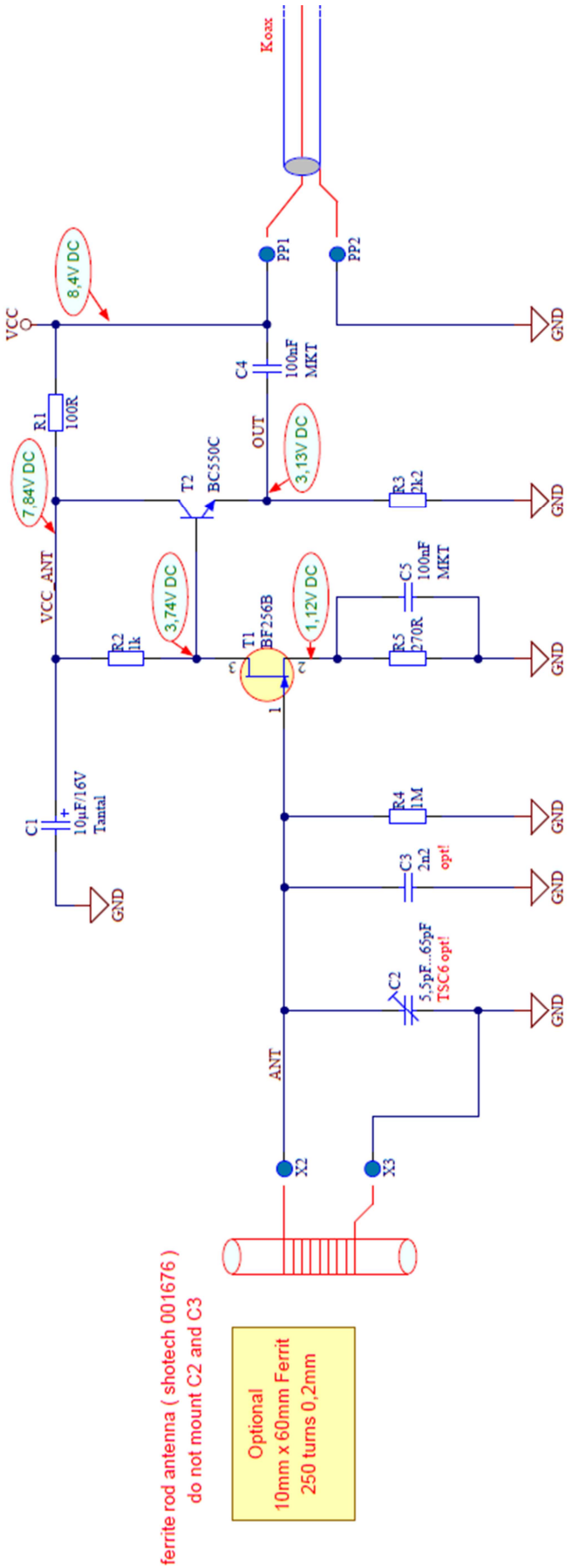
Adjustment instructions for active antenna DCF77-SHO (001701)



Set up as shown in the diagram above. Unsolder R1 on the output side and apply +9V operating voltage to that end. Set the 10k adjustable resistor on the signal generator to the center and adjust the signal generator to approximately 1Vpp output voltage. Connect the oscilloscope to PP1 and PP2 of the active antenna. You should now be able to measure a sine wave at the output. Repeatedly change the frequency between 40kHz and 100kHz, ensuring a maximum is measured at 77.5kHz. If the level overloads, reduce the level of the function generator or increase the 10k adjustable resistor.

For a self-wound ferrite antenna (250 turns, 0.2mm enameled copper wire on a 10mm x 60mm ferrite rod), proceed in the same way, setting the frequency precisely to 77.5 kHz. C3 and C2 must be installed on the circuit board. Mount the winding on a sleeve so that the resonant frequency can be determined by sliding it back and forth. Fine adjustment is done with C2. After successful adjustment, secure the winding to the ferrite rod.

The set levels should be noted for later calibration or testing of the receiver. Solder R1 back on at the other end of the circuit board.


Koax
PP1
PP2
8,4V DC
VCC
GND
C4
100nF
MKT
OUT
3,13V DC
R1
100R
7,84V DC
T2
BC550C
R3
2k2
VCC_ANT
3,74V DC
1,12V DC
C5
100nF
MKT
R2
1k
T1
BF256B
R5
270R
C1
10µF/16V
Tantal
R4
1M
C3
2n2
opt!
C2
5,5pF...65pF
TSC6 opt!
ANT
X2
X3
ferrite rod antenna (shotech 001676)
do not mount C2 and C3
Optional
10mm x 60mm Ferrit
250 turns 0,2mm