Simple QRP CW Transceiver for the 20 meters

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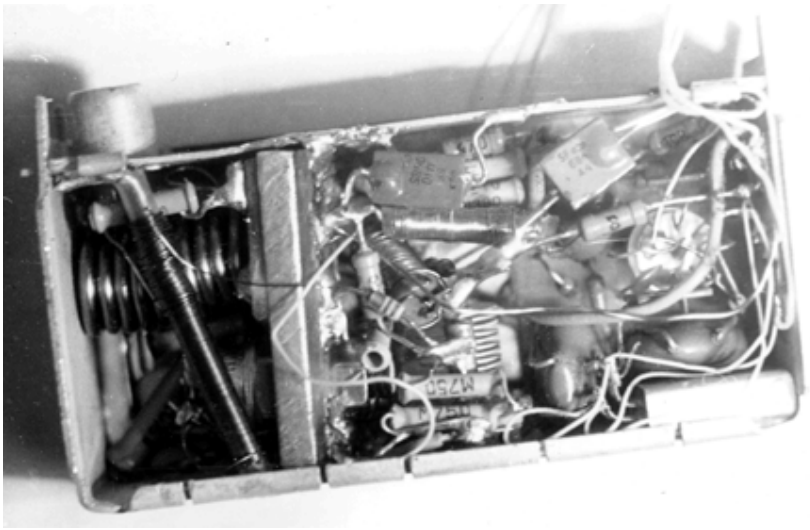
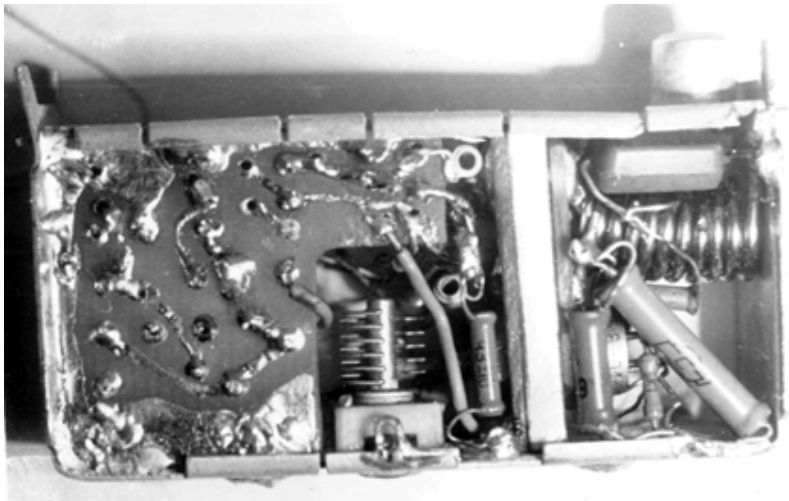
It was… Well, when it was… I guess, it was at the end 80s and in the beginning of the 90s. Perestroyka. Gorbachev. Eltcin stand on a tank… Well, it has no matter to our transceiver. At the times I was the director of the cooperative "Vibrissa." Well, it was one- man cooperative, so, I was as the director as the main worker. I did equipment for radio amateurs.

The transceiver was one of my products. I have done near 50 samples of the transceiver. It worked very well. At 1991 I sent the description of the transceiver to the magazine of the "U- QRP- C." The article is used copies of the original schematics published by "U- QRP- C. Reference Book- #3," pages 9- 10. The whole issue of the "References" is on the "***CD- Antentop- V007.01***"



QRP CW Transceiver. View on to Parts



QRP CW Transceiver. View on the PC Board

CW Transceiver 20- Meters

(See schematic on the ***page 68***. Schematic is from the original manual. Was reproduced at "U- QRP- C. Reference Book- #3)

DATA:

RF Power: near 1 watt at 24 V.
Range of Feeding Voltage: 18- 24 Volts
Antenna impedance: 75 Ohms (can be any desirable)
Quartz Stabilization Frequency.
Shift TX/RX: 400… 700 Hz.
VXO: 3… 6 kHz (depends on used quartz)

DESCRIPTION:

RX MODE: T1 is mixer. Used power RF MOS transistor, 3 Watts, 250 MHz.. T2 is oscillator, the same as 2N2222. Operational amplifier any available. Here used with gain 100,000.
TX MODE: Relay P1 turns T1 to TX mode. Parts R12, C16, D1 do frequency shift on 400… 700 Hz (depends on used quartz). It is possible to use quartz both as on 7 as on 14 MHz. T1 is installed on a small heater sink, so long duty TX mode available.

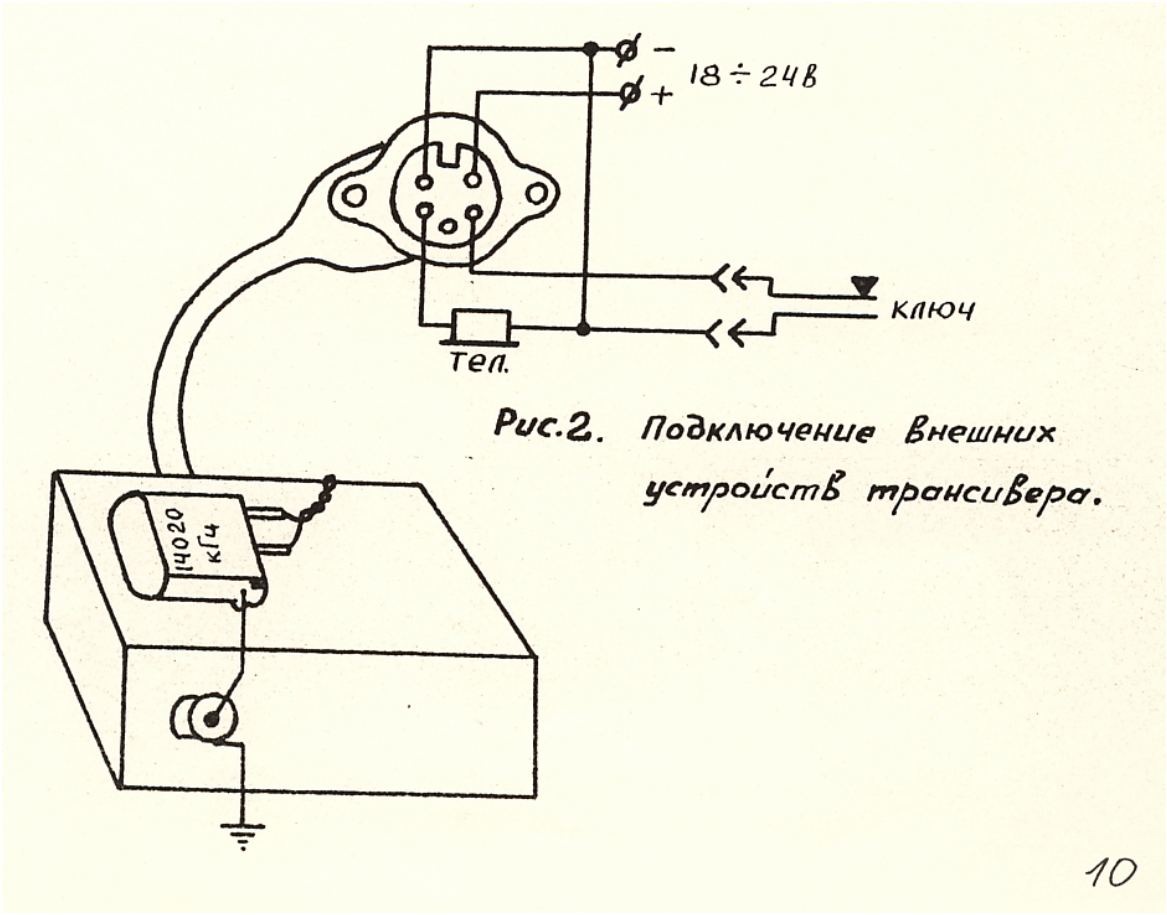
I did tuning of the L1C1C2C3 to match 75 Ohm coaxial, however, it is possible to tune this one on any load in the range of 50- 300 Ohms by C1C2C3.
Transceiver can work without a quartz if you go connections shown in dotted line. Of course, the frequency would be nonstable.

PARTS:

L1- 9 turns, wire 1 mm (18 AWG), diameter 10 mm, inductance 0.5 micro Henry.
L2-25 turns on Soviet Resistor MLT- 1, wire 0.2 mm (30 AWG), inductance 3 micro Henry;
L3-60 turns, wire 0.1 mm (38 AWG), diameter 3 mm, inductance 7 micro Henry.
RFC- inductance 10 micro Henry.

Transceiver was assembled in a box from TV tuner.

References: Polyakov V.T. : To the Ham about the DC Technique. Moscow, 1990.



Cable with Connector. Figure from the original manual.
Was reproduced at "U- QRP- C. Reference Book- #3

CW трансивер на 7 или 14 MHz