

QRPP/QRP Transceiver by UB5UG

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The transceiver is designed for the 10-meters Band. Schematic of this simple and reliable transceiver is shown on **Figure 1**.

Transceiver consists of the RF generator on VT1 (RX/TX), mixer on VD3 (RX) and audio amplifier on VT2 and VT3 (RX).

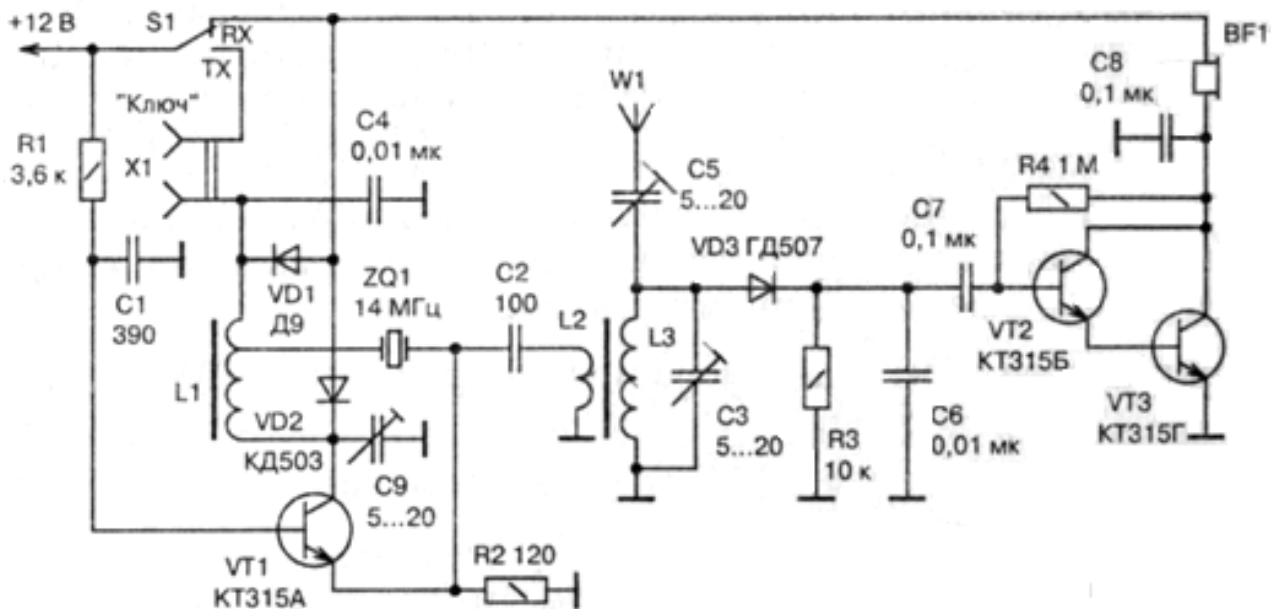


Figure 1 Transceiver by UB5UG

RX Mode: RF voltage at L1 is limited by VD1 and VD2 up to a level of 0.3-V. The level (0.3-V) is chosen by amplitude of the second harmonic (that selected with L2L3C3). The amplitude should be sufficient for good job of the mixer on VD3.

TX Mode: Diodes VD1 and VD3 are electrically unplugged from L1C9. RF voltage is maximum across L1. TX gives full power into L2L3C3 and then into antenna. Frequency of the generator differs (because VD1 and VD3) at RX/TX on several hundreds Hz, that is needed transceiver mode. One –Transistor quartz generator may provide up to 50-mWts. Simple Push-Pull PA may increase the transceiver power up to 1-Watts (and convert QRPP to QRP). **Figure 2** shows schematic for the PA. C2 and L2 do not use at the configuration.

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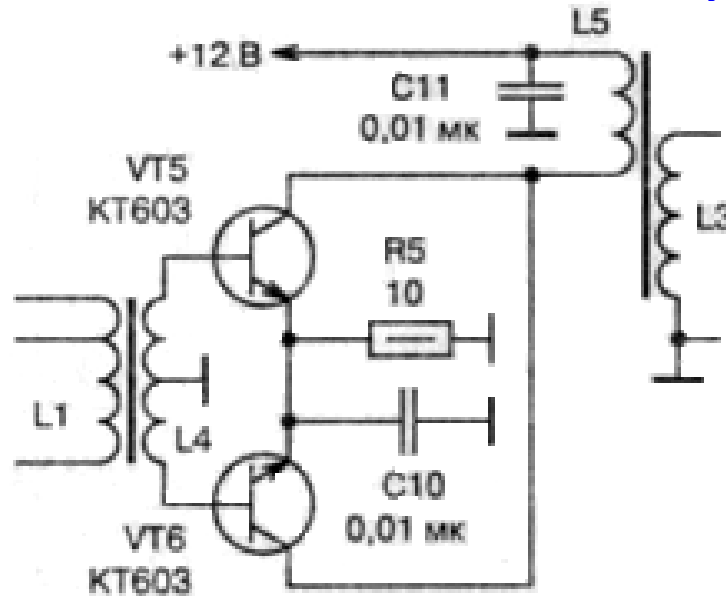


Figure 2 PA for QRPP Transceiver

All inductors were coiled on ferrite rings (permeability 30, OD- 7-mm, ID- 4-mm, H- 2-mm) by wire dia 0.27-mm (29-AWG).
 L1: 2+ 22 turns
 L2: 1 turn
 L3: 12 turns
 L4: 2x3 turns
 L5: 4 turns

VT1: Small power RF Transistor, Fmax- 250- MHz, Pmax- 250-mWtt
 VT2, VT3: Any small power high gain transistors
 VT5, VT6: Middle power RF Transistors, Fmax- 250- MHz, Pmax- 2.0-Wtt

BF1: High ohmic (more the 1000- Ohms) head-telephone

X1: Connector for straight key

VD1: Germanium small power detector diode
 VD2: Silicon small power high speed switch diode
 VD3: Germanium mixer diode

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