

Lipan
Country of origin:
Czechoslovakia

DATA SUMMARY

Organisation: ŠTB - Štátna bezpečnosť (Secret State Police) and Správa 1 - rozviedka (Government, Department 1, espionage).

Design/Manufacturer: Správa 6 - spojovacia technika (Government, Department 6, communication technics).

Year of Introduction: Possibly 1970s

Purpose: Agents, possibly diplomatic service.

Transmitter:

Circuit Features: CO, VFO (1750-1950kHz), mixer, drivers, RF power amplifier. (FSK keying).
F output = F crystal - F vfo.

Frequency Coverage: 2-9MHz.

RF output: 3W.

Transistor types: 2N3906 / 2N3904, BFY 66, KS 500, BFY 185, MM1943, 2N2950, 3TX004 (PA)

Power Supply: 12V DC.

Size (cm): Height 3.6, Length 16.4, Width 10.6.

Weight: 0.8kg

Accessories: Receiver, Elbug type 'Pivoňka' (Peony), aerial wire, crystals, power lead.

REMARKS

The Lipan was a miniature fully transistorised transmitter for agents and probably other users. It was developed and produced (estimated in the 1970s) as project number TI-603 in Czechoslovakia by Správa 6 - spojovacia technika 1.

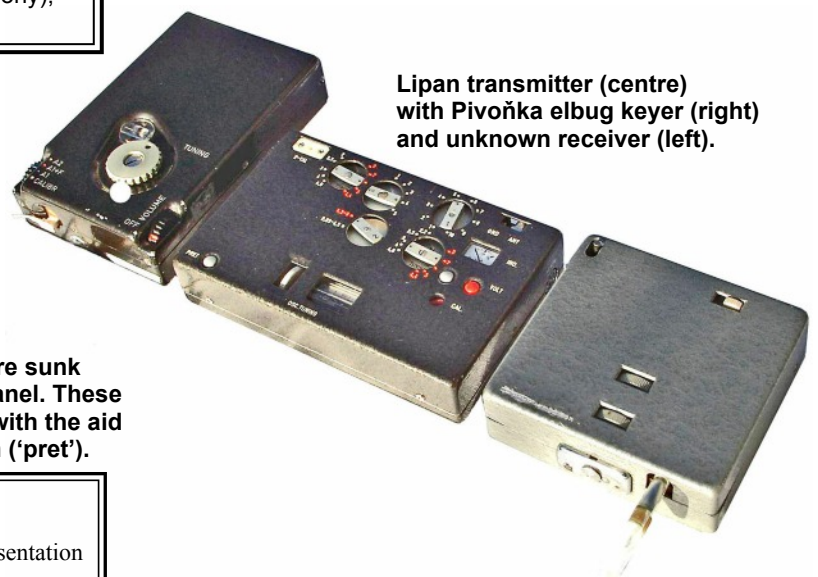
The transmitter was based on a crystal oscillator, mixed with a variable oscillator (vfo) operating from 1750-1950kHz, resulting in an output of the crystal-frequency minus the vfo-frequency. This arrangement allowed a keying frequency shift of 500Hz, in addition to moving to a different operating frequency (± 100 kHz) if interference was experienced.

Course tuning was by a pre-tune button, a tiny meter was used as indicator for tuning the RF output and aerial matching.

Fine tuning of the vfo was by means of a small thumb wheel, indicated on a hand calibrated scale, providing an accuracy of 1kHz.



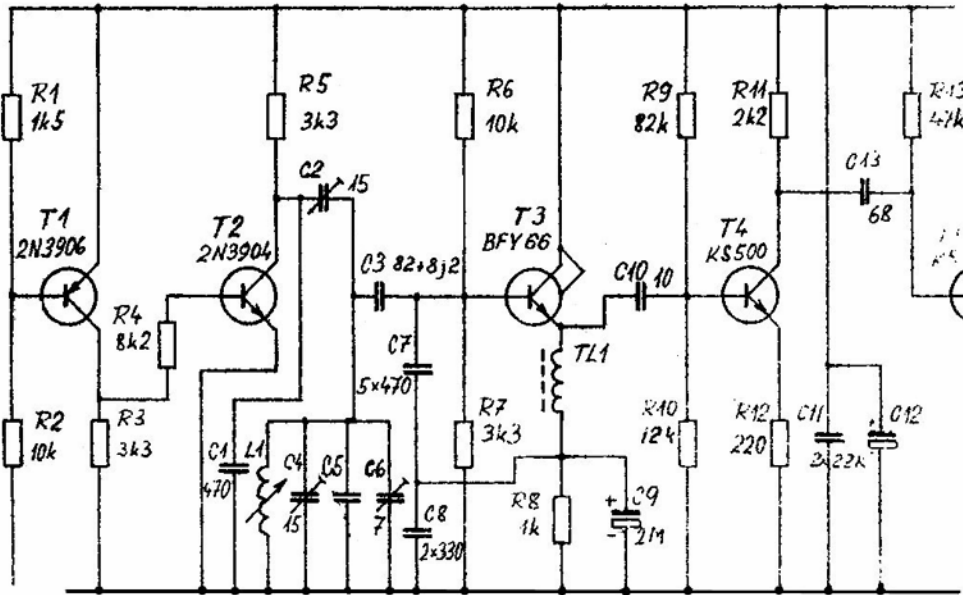
The controls were sunk down into the front panel. These were coarsely tuned with the aid of a pre-tuning button ('pret').



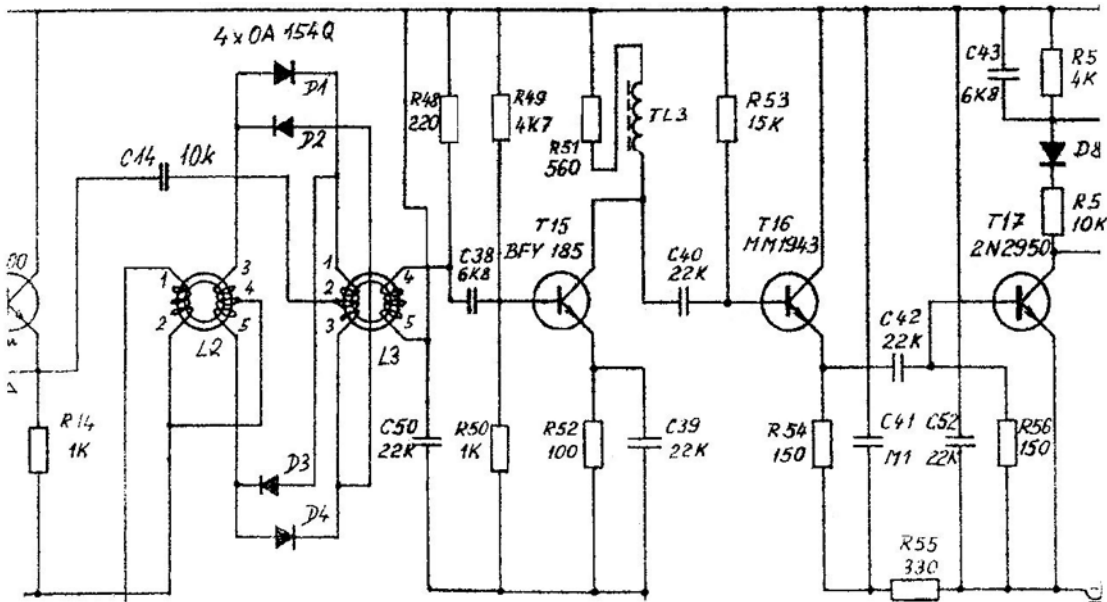
Lipan transmitter (centre) with Pivoňka elbug keyer (right) and unknown receiver (left).

References:

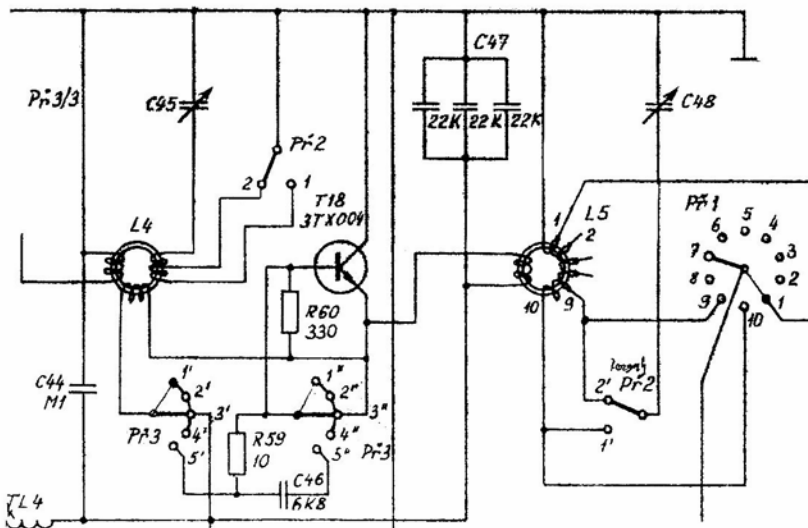
- 'Tschechisches Agenten-Funkgerät', Power Point presentation by Manfred Bauriedel, DK4NQ, Germany.
- Photographs and info: Walter Zemann, OE1WZB, Austria and Detlev Vreisleben, Germany.



Circuit diagram of Lipan VFO and buffer circuit, inductive tuning was a by L1. 500Hz FSK was accomplished via T1 and T1 by C2.



Circuit diagram of Lipan mixer circuit and drivers. The balanced mixer had four selected (OA154Q) diodes.



Circuit diagram of Lipan RF output amplifier and aerial matching.