



TF-B tx (2A)
 AC Mains bugs 3
 (GDR line bugs V)
 Country of origin: GDR

OTS - NOZ TF-B tx (2A) transmitter primarily intended for covert fitting in an AC mains wall socket. Factory preset to channel III.

(To be read in conjunction with Chapter 163.)

DATA SUMMARY

Organisation: MfS, Abt. 26.

Design/manufacturer: OTS Czechoslovakia.

Year of Introduction: Late 1970s.

Purpose: Covert room overhearing using the existing AC mains wiring for routing the superposed output of an OTS NOZ bug at an Operational Object to an Operational Support Point. This was a stand alone system with local or remote recording and remote on/off switching.

Transmitter: PLL VCO, modulated by the microphone.

Receiver: Single conversion superheterodyne with an IF of 455kHz.

FM carrier Frequency: Ch.1 70.5kHz, Ch.2 93.75kHz or Ch. 3 117kHz $\pm\frac{1}{2}$ kHz.

Carrier frequency on-off switching: 'On' Ch.1 7.5kHz, Ch.2 9.75kHz or 12.6kHz; 'Off': 18.2kHz.

Modulation frequency deviation F3: Max. ± 8 kHz.

Frequency response: 0.3-3.5kHz.

Output level: 150mV @ 12 Ω .

Associated receiver: OTS OOO.

Power supply: Derived from 220V AC mains.

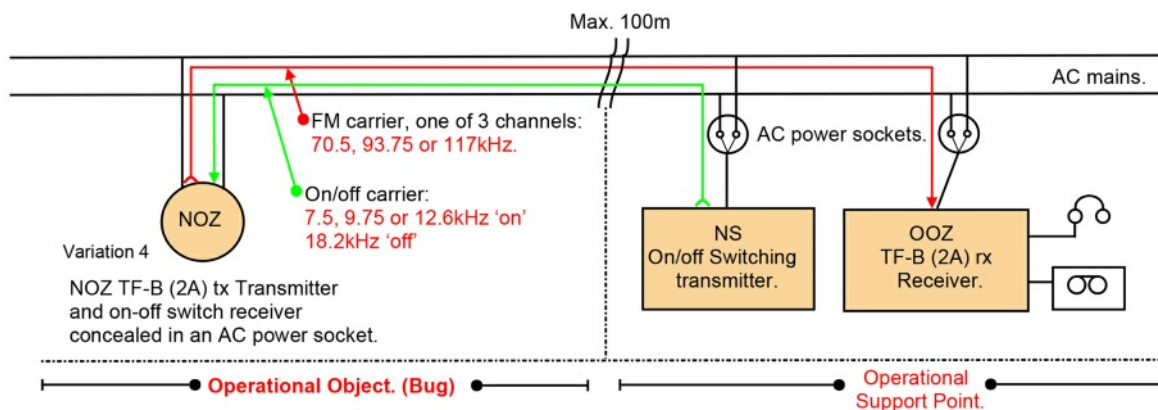
REMARKS

220 V AC mains (phase/neutral or phase/earth) in a building or apartment complex was used as transmission medium between a concealed bug (Operational Object) and Operational Support Point. Known as 'System OTS ZDAL' (imported from OTS in Czechoslovakia) it was principally similar to the system described in the previous chapters. It comprised TF-B tx (2A) bug type OTS NOZ (incorporating an on/off Switching Receiver), TF-B rx (2A) OTS OOO and remote switching transmitter OTS NS. The latter had a push button for activating and switching on-off the TF-B tx (2A). The range of this system was limited to the local 220V AC mains group (up to about 100m) provided the same phase was used. Three different bugs, set to three different channels, could be used simultaneous on the same 220V AC mains phase.

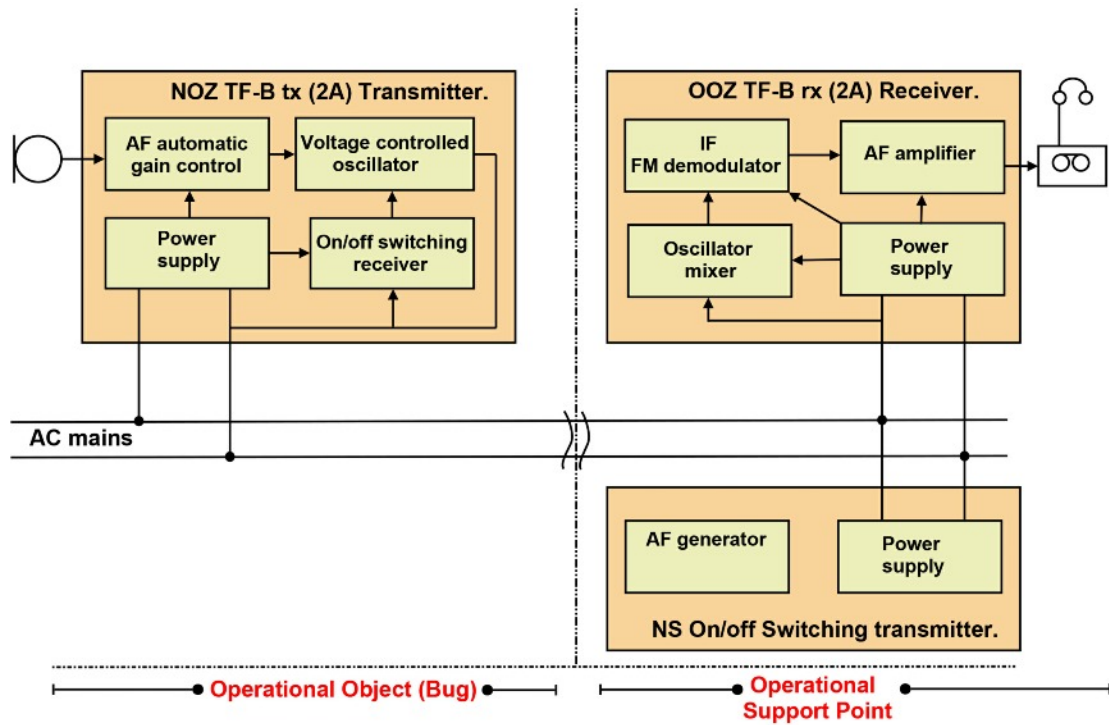
System OTS ZDAL was principally stand alone, an early system, exclusively used in the GDR with no line connection to the CEKO central recording.

Monitoring and recording was done at the Operational Support Point or via a lease line of max 10km length.

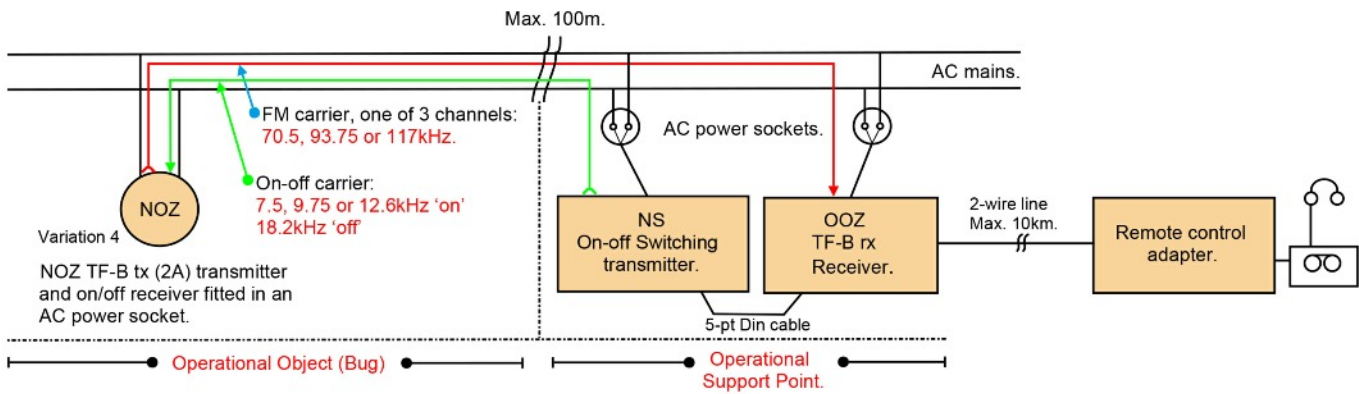
The name of the Czech ZDAL system was believed to be an abbreviation of Z DÁLKY - in the distance = remote control.



Block diagram of OTS ZDAL system with local on-off switching.



Detailed block diagram of OSA ZDAL system.



Block diagram of OSA ZDAL system with remote control adapter.

References:

- With many thanks to Detlev Vreisleben, DC7KG, Germany for taking excellent photographs and scans, and providing all the technical and historical information for this chapter.
- Gerätesystem OSA ZDAL, 26-03-1979, MfS description.