

Maxim, Rita, Sandra and 31225
Country of origin: Czechoslovakia

DATA SUMMARY

Organisation: ŠtB - Štátna bezpečnosť (Secret State Police) and 2 Správa - kontrarozviedka (Government, Department 2, counter-espionage).

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

Year of Introduction: 1984.

Purpose: Wireless bug system for covert audio surveillance.

Transmitter MAXIM

Frequency: 137.3 MHz (140MHz band). Crystal controlled.

Command tone frequencies:

F1 18.641kHz. ('On' bug 1), F2 19.200kHz. ('On' bug 2), F3 20.480kHz. ('On' bug 3), F4 16.384kHz. ('Off' common).
Tone burst length 0.3 or 3 sec. Amplitude Modulated 100%.

RF output: 18W, low power 4.5W.

Aerial: ¼ wave.

Power Supply: 12-15V DC derived from AC mains supply unit or 12V vehicle battery. Protected against false polarity.

Dimensions (mm) and weight:

Height 40, length 190, width 200; weight 900g.

Receiver/transmitter RITA:

Frequency: Receive 137.3MHz / Transmit 940-980MHz.

Subcarrier frequency: 25kHz

Power Supply: 6-12 dry battery.

Dimensions (mm): Height 10, length 55, width 18.

Receiver SANDRA:

Frequency: 137.3MHz.

Power Supply: 6-15 dry battery.

Dimensions (mm): Height 13, length 70, width 26.

REMARKS

'Maxim' transmitter, 'Rita' remote controlled bug and 'Sandra' remote control receiver were components of a wireless room audio surveillance system, used by the StB in Czechoslovakia.

It was used in combination with a DDR receiver type 31225 and a special decoder unit (See Chapter 131) for dual FM demodulation with masking hum.

3 different Rita or Sandra units could be switched on and off by means of a Maxim transmitter. Push buttons for the command tones (3x 'on' and 1x 'off') were located on the front panel, and in addition on a separate remote control unit which was connected to a socket on the front panel. The transmitter was powered by a separate AC mains unit, or a car battery.

Rita was a UHF bug with separate microphone, and a built-in remote control receiver allowing the bug to be switched on and off from a distance when required.

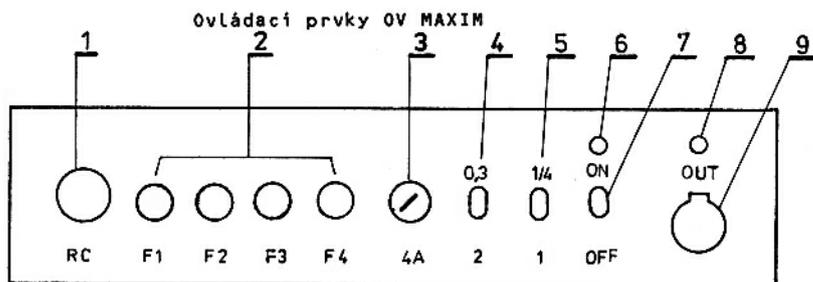
Sandra was a remote control receiver, similar in design to the receiver section of Rita. It could e.g. be used to switch on and off and power a separate bug.

Topas

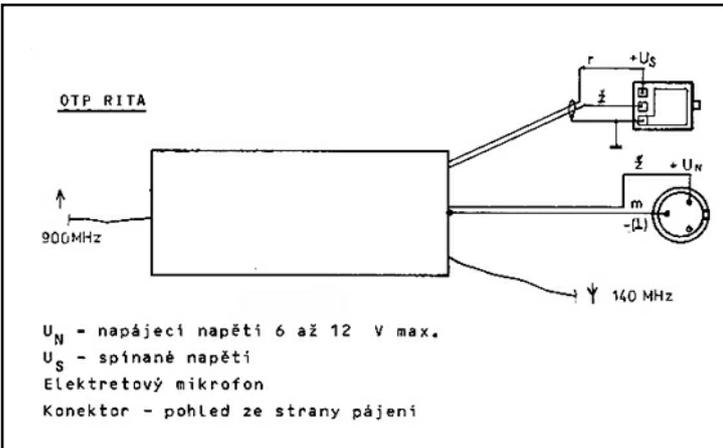
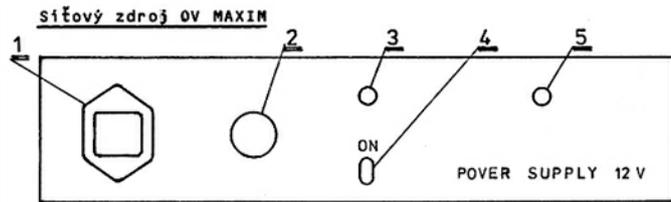
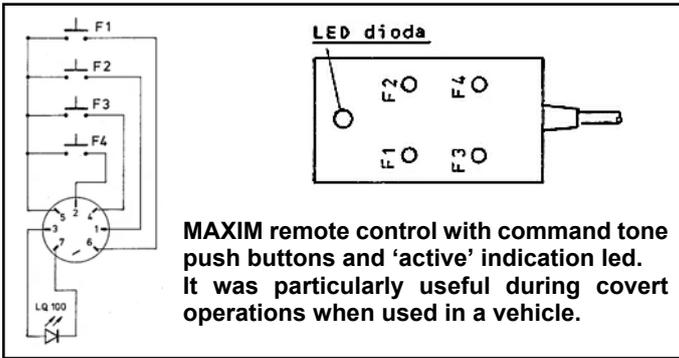
It is believed that Maxim was a follow-up of the functionally similar Topas transmitter which was used for remote control Dita, Olymp and Hugo bugs and remote control receivers. See Chapter 262.



- 1 Socket for remote control.
- 2 Command tone push buttons.
- 3 Fuse 4A.
- 4 Command tone pulse length switch.
- 5 RF output switch.
- 6 On' indicator led.
- 7 On/off switch.
- 8 RF power indicator led.
- 9 Aerial socket 50Ω.

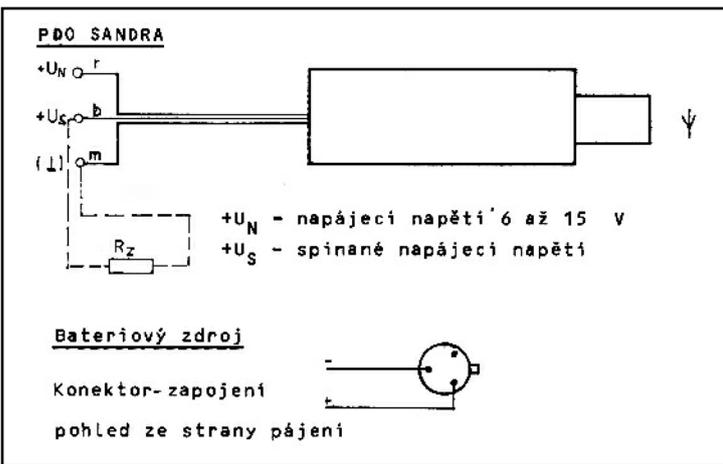


Front panel layout of Maxim transmitter and explanation of controls.



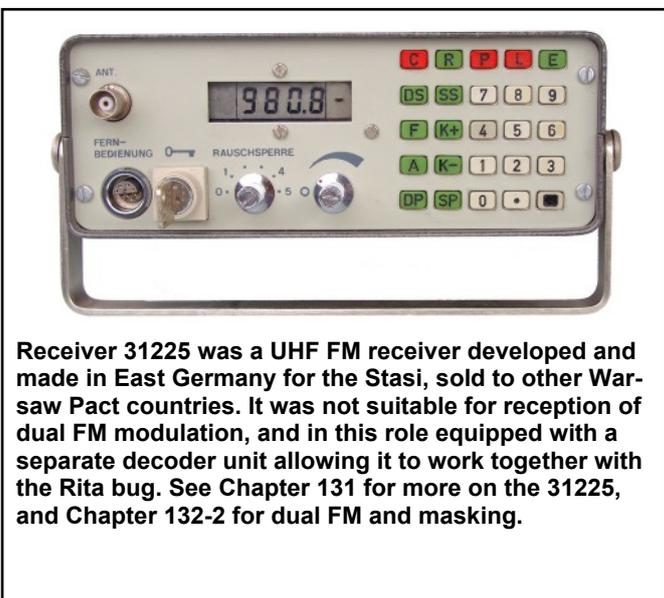
Rita

'Rita' was principally a wireless room audio surveillance bug powered by an external battery using a separate electret microphone (Rita E) or dynamic microphone (Rita D), operating in the 940-980MHz band. It was FM modulated on a 25kHz sub-carrier with masking hum, known as dual-FM modulation. An extra feature was a built-in AM receiver operating on 137.3MHz which allowed to switch the receiver on and off from a distance when required. It operated on one of the 3 'on' and the common 'off' command tone AF frequencies. The VHF receiving aerial was a 54 cm wire, and a helical aerial for the UHF bug.



Sandra

'Sandra' was a miniature battery powered remote control receiver operating on 137.3MHz. It was electrically identical to the receiver part of the Rita bug, and intended to power a separate wireless bug. Aerial length 54cm wire. Power drain idle approximately 180µA. Power drain when activated: 0.8mA. Maximum output current: 100mA.



References:

- Information and document courtesy Detlev Vreisleben, DC7KG, Germany.
- Predpis pro obsluhu zarizeni MAXIM, RITA, SANDRA, 31225 + DEKODER, 1-4-1984. (Working instructions for systems MAXIM, RITA, SANDRA, 31225+Decoder, 1-4-1984).
- WftW Volume 4, Supplement Chapter 131, 31225.
- WftW Volume 4, Supplement Chapter 132, 3317-111.
- WftW Volume 4, Supplement Chapter 262. Topas.