

## 31218-1 (GDR bugs VII) Country of origin: GDR

### DATA SUMMARY

**Organisation:** MfS, Abt 26, GDR.

**Year of Introduction:** Around 1976.

**Manufacturer:** OTS<sup>3)</sup>, GDR.

**Purpose:** Wireless bug for covert overhearing.

**Transmitter:** Free running oscillator. External sub-miniature magnetic or electret microphone. FM without pre-emphasis.

**AF frequency response:** 200Hz to 8kHz.

(Depending on variation: Dual FM (SVM) with a sub-carrier of 22 or 24kHz and a 80Hz or 100Hz masking hum).

**Deviation:** Maximum  $\pm 75$ kHz.

**Frequency coverage:** 940-980MHz. (Band V)

**RF output:** About 100mW.

**Aerial:**  $\frac{1}{4}$  wave; 110mm long flex wire.

**Power Supply:** External 9 volt power source or a miniature AC mains supply unit 31218-20. Consumption 40mA.

**Dimensions:** 8mm high, 17.5mm wide, 53mm long.

### REMARKS

The 31218-1<sup>1)</sup> was a high power model in a series of subminiature 3<sup>rd</sup> generation wireless bugs operating in the frequency range of 940-980MHz. (Band V). Internally it comprised a slightly modified 31216-1 transmitter followed by a RF power amplifier providing an RF output of 100mW.

It was powered by an external 9V DC source. The RF oscillator was free running to keep the size of the bug small, but consequently relatively unstable and dependent on temperature and battery voltage. It was for this reason that the associated receiver (31215 or 21225, see Chapters 128 and 132) had a very wide tracking range.

The design and construction of the RF part of the 31216, 31217 and 31218 series of bugs was basically similar. The complete transmitter was fitted in a silver plated copper box with removable lid in a white PVC enclosure.

- Variations 31218-1 and 31218-11 were suitable for a magnetic microphone.

- Variation 31218-111 was designed for electret microphones.

- Variation 31218-14 was a modification of the 31218-111 without AF amplifier allowing it to be used with voice masking modules<sup>4)</sup> SVM 144 and SVM 145.

- Variation 31218-145 was a 31218-14 combined with a SVM 144.

Later developments included a 200mW model 31219-10 and variations with crystal control; a Band VI model was considered in the late 1980's but these developments were never realised.

### References:

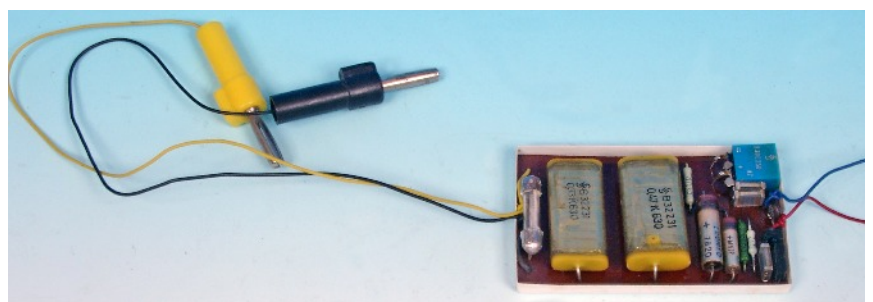
- With thanks to Detlev Vreisleben, DC7KG, Germany for taking excellent photographs and scans, and providing detailed historical and technical information.
- Vorläufiges Kennblatt Gerät 33218-20, n.d. (Provisional data sheet)
- Technik 31218-14, 7-1984. (Info sheet)
- Inventurlisten der operationellen Technik, MfS Abt. 26, Berlin, Sept. 1987.
- Deckbezeichnungen UHF-B-Technik, 10-08-1984.

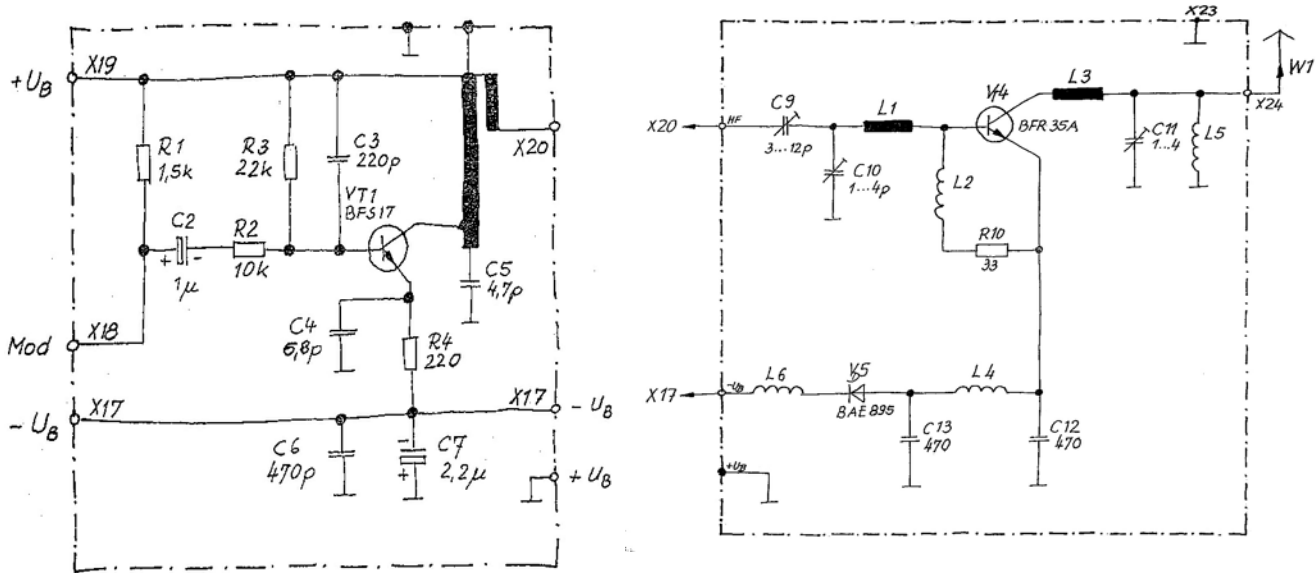
<sup>1)</sup> Known as 'Sender große Leistung Band V' (High power transmitter Band V)

<sup>3)</sup> Developed and produced at Außenstelle Beucha des ITU (Institut für Technische Untersuchungen), an OTS covert firm.

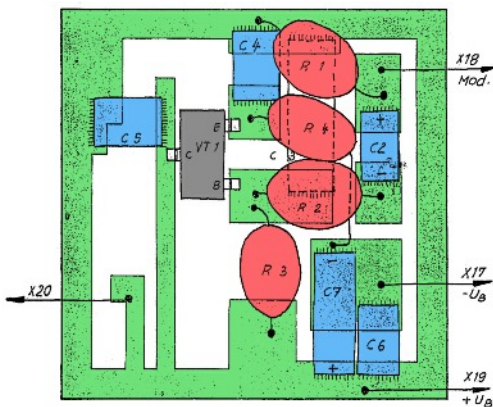
<sup>4)</sup> SV = Sprachverschleierung (speech concealment), M=(Maskerator), 80 or 100Hz masking hum; (see Chapter 122 for more details.)

AC mains power supply unit 31218-20.





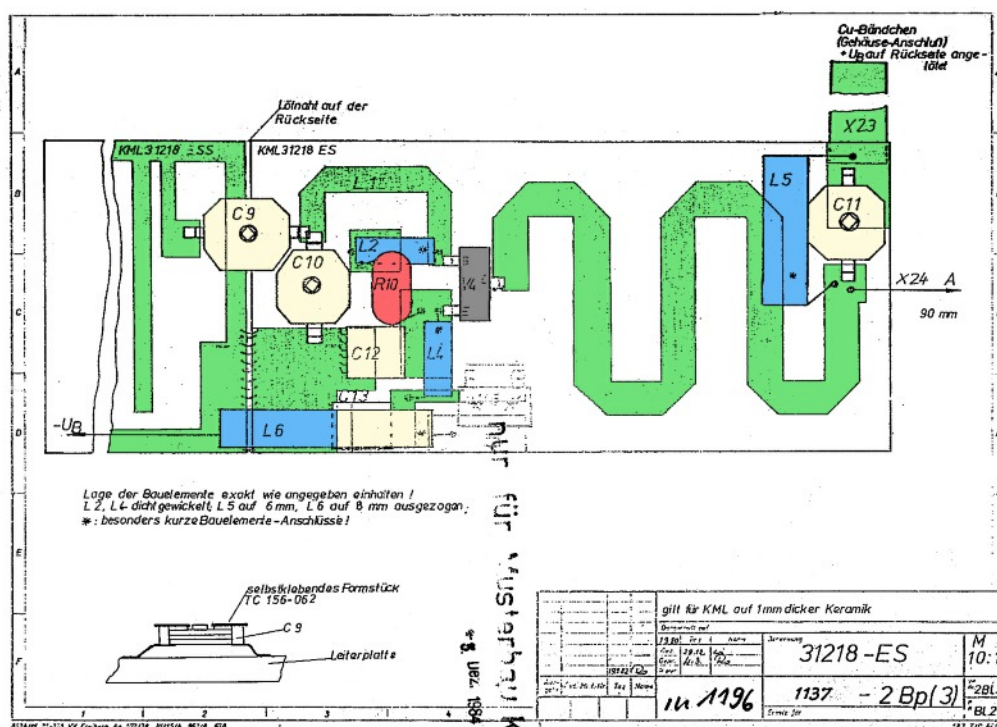
Circuit diagram of 31218-1. It comprised a slightly modified 31216-1 (left) followed by an RF power amplifier (right)



Top view enlarged drawing of the ceramic circuit plate of the RF oscillator



Each unit was issued with a certificate (See also Chapter 128). This 31218 certificate contain the type and serial number, DC input voltage and current, frequency, AF input sensitivity at  $\pm 75$ kHz deviation and RF output into 50 $\Omega$ .



Enlarged top view of the RF power amplifier ceramic circuit plate as used with the 31218-1. Part of the RF oscillator is shown left.