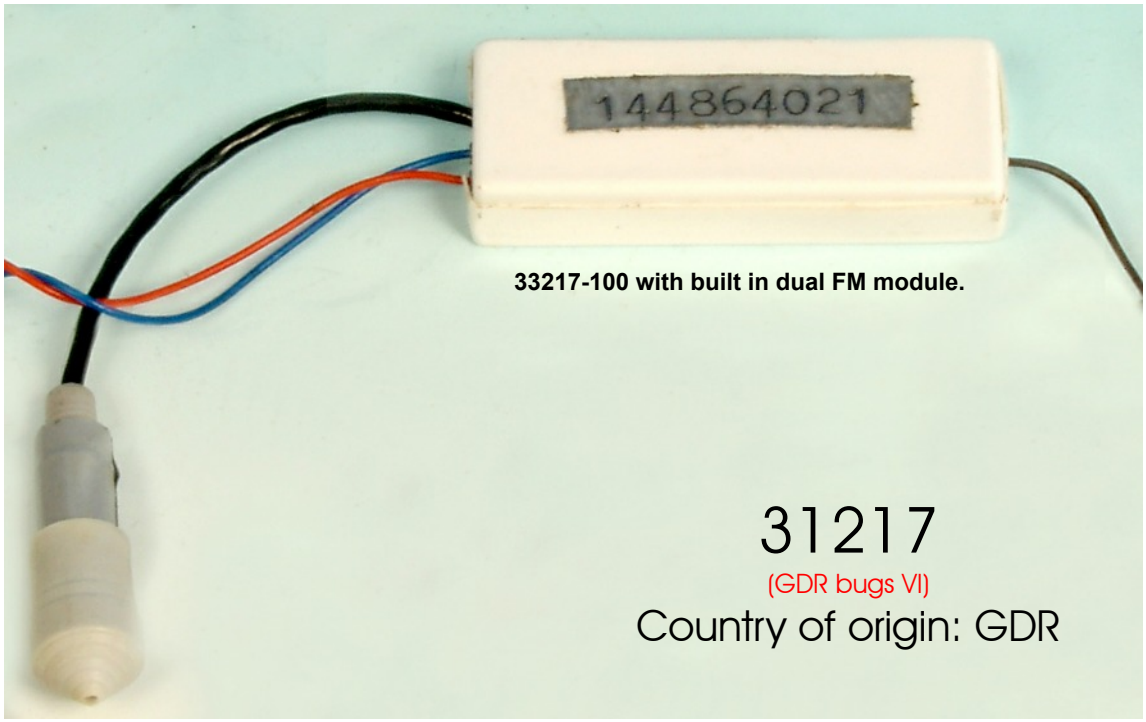


33217-100 with built in dual FM module.

DATA SUMMARY

Organisation: MfS, Abt 26, GDR.

Manufacturer: OTS[3], GDR.

Year of Introduction: Around 1976.

Purpose: Wireless bug for covert overhearing.

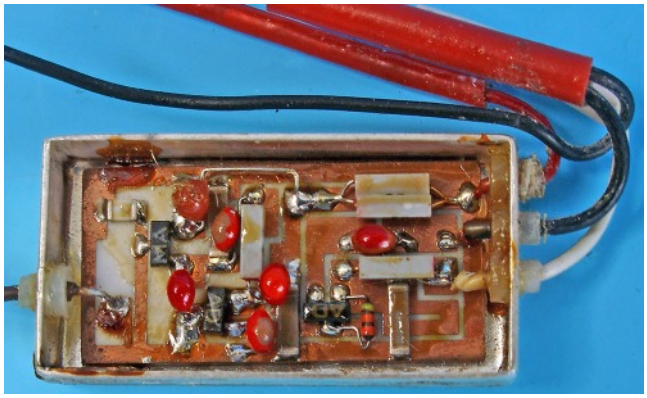
Transmitter: Free running oscillator. External sub-miniature magnetic or electret microphone. FM without pre-emphasis.
AF frequency response: 200Hz to 8kHz. (Depending on variation: Dual FM (SVM)[4] with a sub-carrier of 22 or 24kHz and a 80Hz or 100Hz masking hum).
Deviation: Maximum ±75kHz.
Frequency coverage: 940-980MHz. (Band V)

RF output: Depending on variation: 15 to 40 mW.

Aerial: ¼ wave; 110mm long flex wire.

Power Supply: External 9V battery or miniature AC mains power unit 33217-20.

Dimensions: 7mm high, 16.5mm wide, 32mm long (depending on variation).



Enlarged photo of a 31217-1. The complete transmitter was mounted in a silver plated copper box , with removable lid fitted in a white plastic enclosure.

REMARKS

The 31217-1[1)] was the second model in a series of subminiature 3rd generation wireless bugs operating in the frequency band of 940-980MHz. (Band V) It was powered by an external battery or mains power unit 33217-20. The design and construction of the RF part of the 31216, 31217 and 31218 series of bugs was basically similar. The RF oscillator was free running to keep the size small, but consequently unstable and dependent on temperature and battery voltage. It was for this reason that the associated receivers (31215 or 31225, see Chapters 126 and 131) had a very wide tracking range. For stabile operation the transmitter SMD components were mounted on a 0.8mm thick AL_2O_3 (Alumina) ceramic plate, copper plated on both sides. The complete transmitter was fitted in a silver plated copper box with removable lid in a white PVC enclosure. The 31217-1 and 31217-11 were designed for magnetic microphones; 31217-111 and later variations used exclusively an electret microphone. Other variations of the 31217 (33217[2)]) differed in RF output and were usually larger or the actual ceramic circuit plate was fitted in a different enclosure in combination with other modules. Many of the later versions had a (built-in) dual FM (SVM)[4)] module for speech concealment and masking hum. (See chapter 122 for more details.)
Variations 31217-131/132 and 133, also known as 'Botond', were developed and produced in Hungary.

[1)] Known as 'Sender mittlere Leistung Band V' (Medium power transmitter Band V'

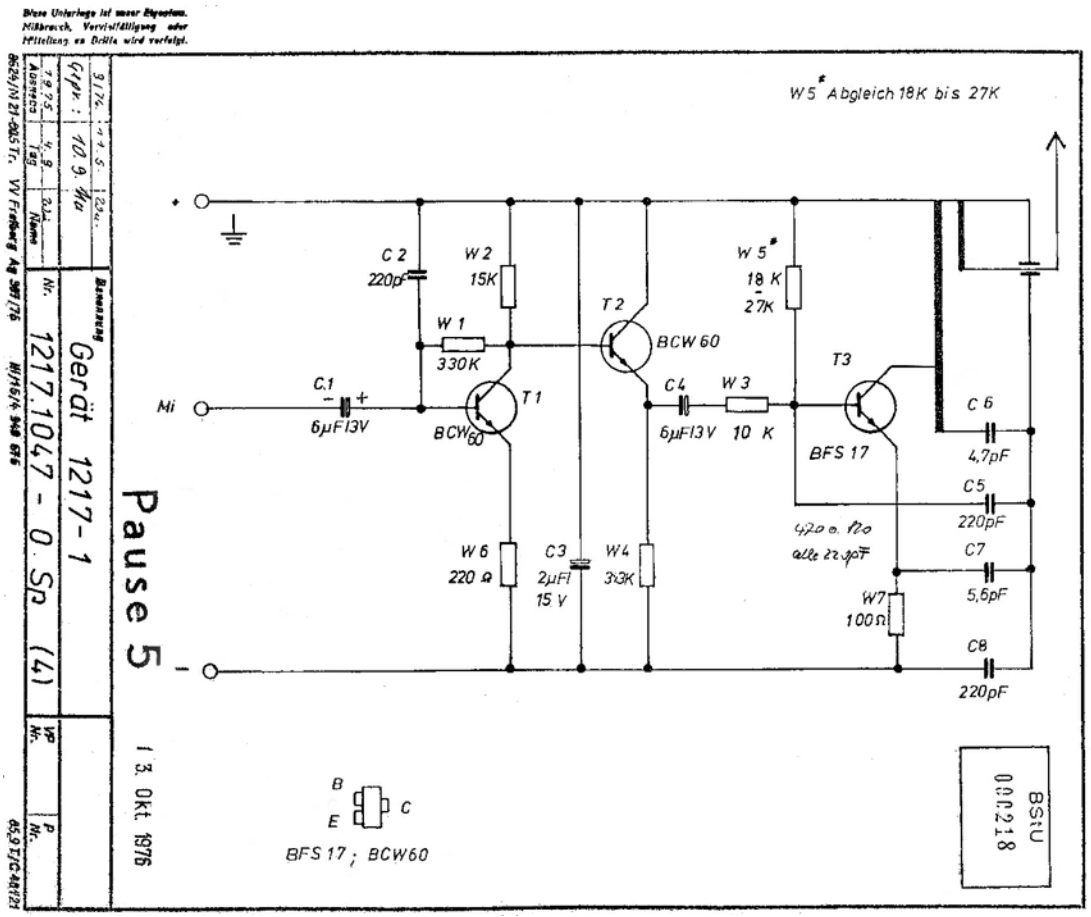
[2)] When the 'Decknummernschlüssel' (Covert number key) was changed in January 1977, the RF bugs (and other types of bugs), previously designated 31…, were renamed 33….

[3)] Developed and produced at Außenstelle Beucha des ITU (Institut für Technische Untersuchungen), an OTS covert firm.

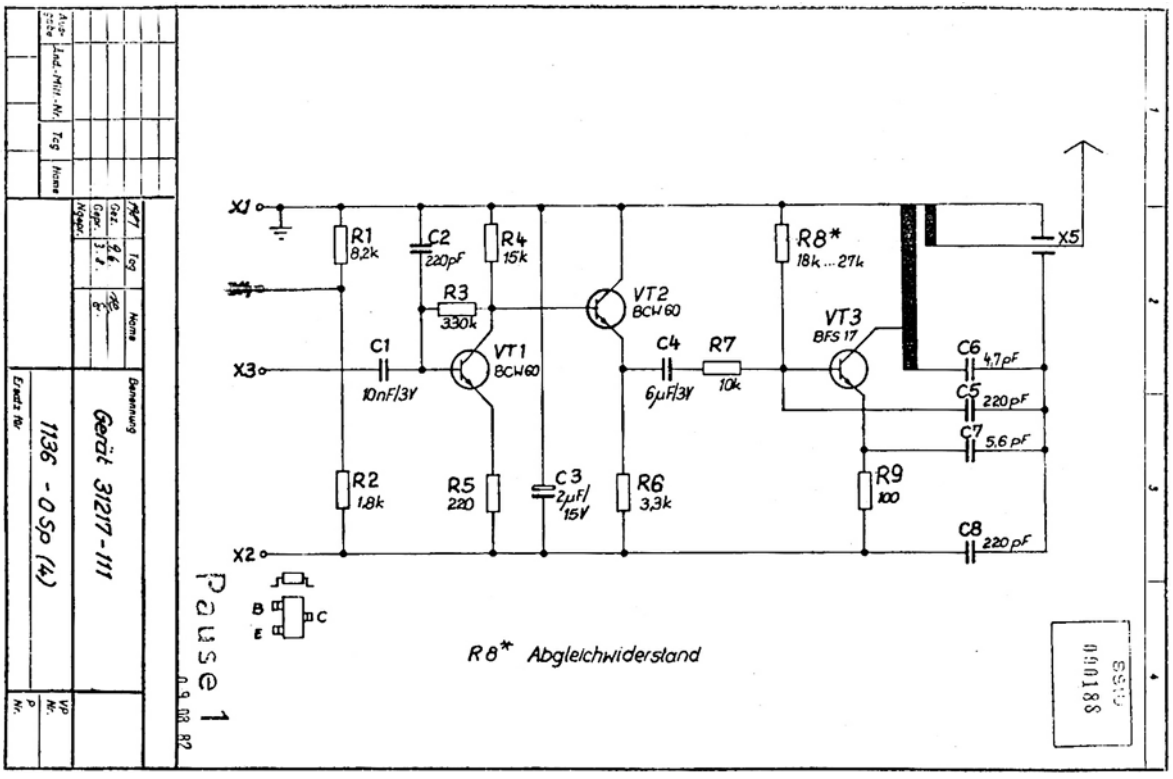
[4)] SV = Sprachverschleierung (speech concealment), M=(Maskerator), 80 or 100Hz masking hum; (see Chapter 122 for more details.)

References:

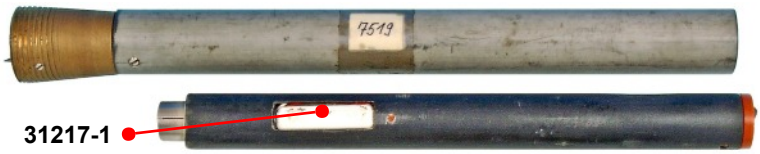
- With thanks to Detlev Vreisleben, DC7KG, Germany for taking excellent photographs and scans, and providing detailed historical and technical information.
- OTS document A048 kleinstsender /31217-1, dated 1976.
- Kennblatt 31217-100, 110 and 111.
- Inventurlisten der operationellen Technik, MfS Abt. 26, Berlin, Sept. 1987.
- Deckbezeignungen UHF-B-Technik, 10-08-1984.



Circuit diagram of the original 31217-1 and 31217-11. The RF part differed very little from the earlier 31216-1. This early version was developed for an external magnetic microphone.

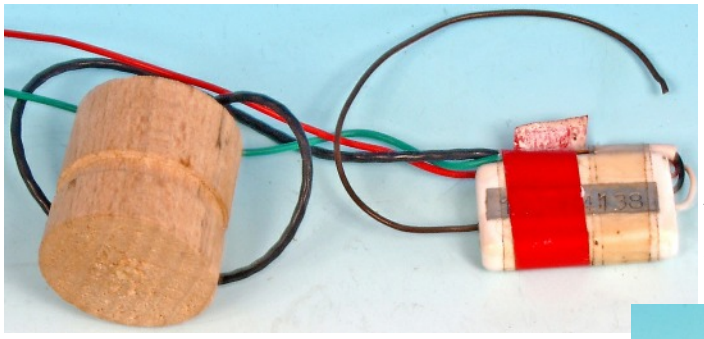


Circuit diagram of the 31217-111. This was a minor modification to the 31217-1 allowing the use of an electret microphone.

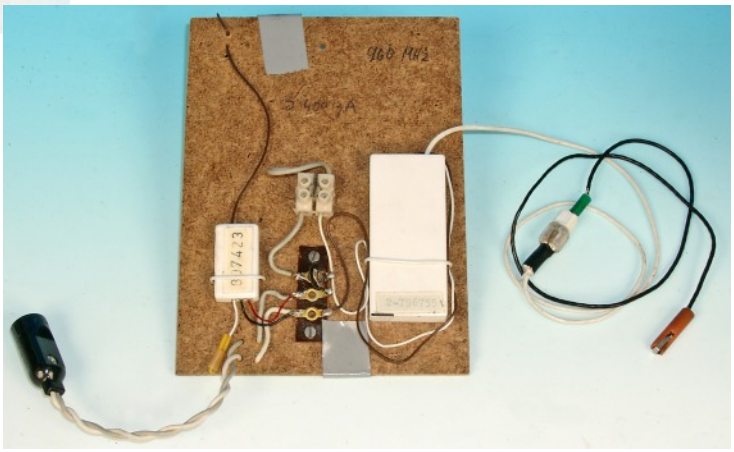


Variation of 31217-1 fitted in a tube along with batteries primarily used for overhearing conversations in the room below. The contact microphone (German: *Körperschallaufnehmer*) was placed at the bottom end. The whole assembly was placed vertically on a floor by two sharp pins fitted at the bottom.

A **contact microphone**, is a form of microphone that senses audio vibrations through contact with solid objects. Unlike normal air microphones, contact microphones are almost completely insensitive to air vibrations but transduce only structure-borne sound.
Source: Wikipedia.

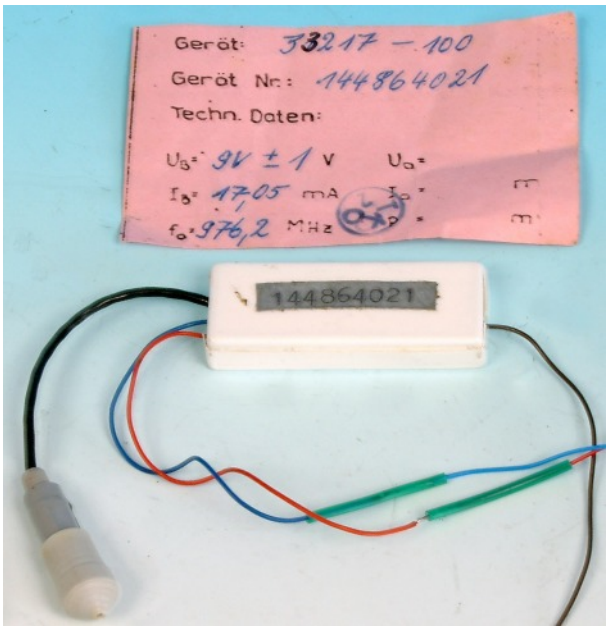


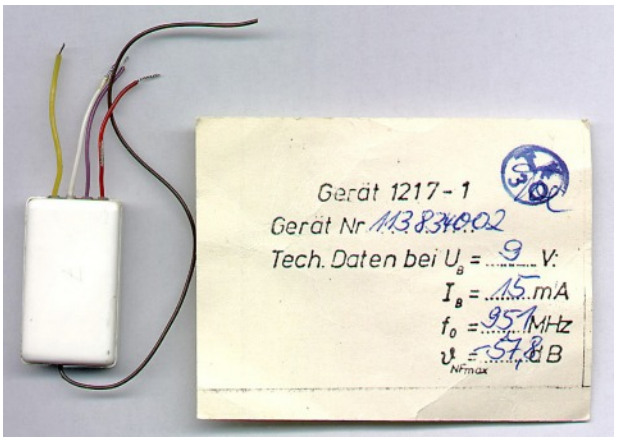
A 31217 with its microphone fitted in a wooden cylinder used for hiding in a wooden object such as the bottom of a door (left).



Setup of an early dual FM system using a 31217 (left unit, variation unknown) and a 31121 TF-B Sender (sub carrier unit) originally developed for line transmission operating on 40kHz. (Larger unit right). This was later replaced by the smaller (usually built-in) SVM units. An associated electret microphone can be seen right of the TF-B. (See also Chapters 122 and 131.)

Miniature AC mains unit 33217-20.





Un-issued 31217-1 with certificate (above) and 33217-100 [2] with integrated dual FM module (left).

A certificate with type and serial number along with technical specifications such as DC voltage and current, frequency and microphone AF input sensitivity was issued with each individual unit.