

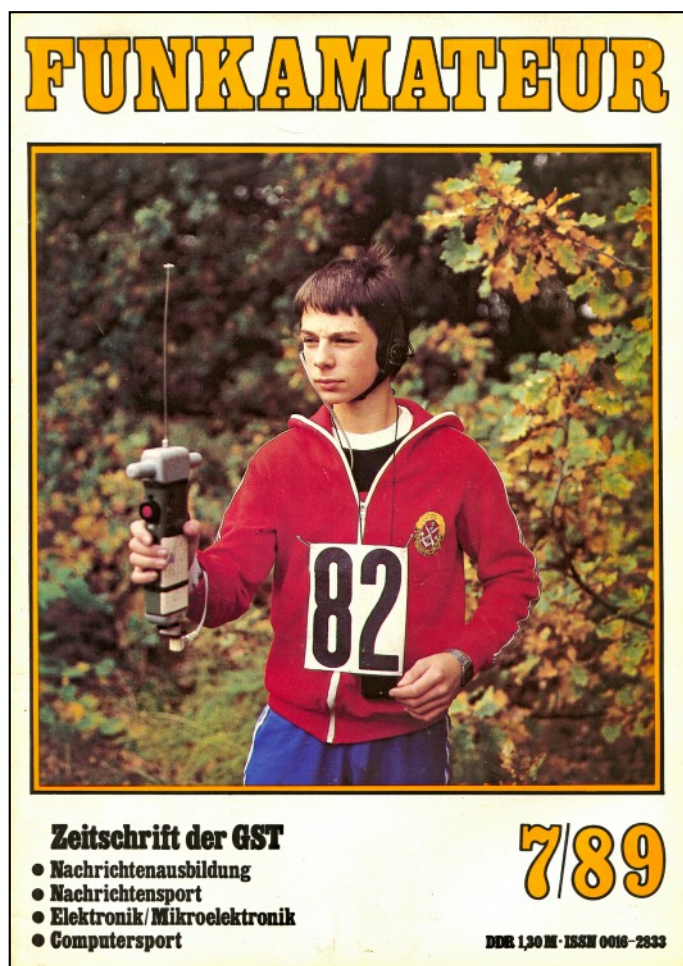


FPE 80 'Greif'
Eastern Germany (GDR).



ČSSR 'Delfin'.

ARDF Country of origin: GDR and ČSSR.



A FPE 80 'Greif' DF receiver used by a member of the GST was pictured on the front cover of Funkamateure, the magazine of the GST. (Gesellschaft für Sport und Technik, translated to 'Society for Sport and Technology'). The former GST radio amateur magazine 'Funkamateure' still exists today in Germany. It is a favourite by many, primarily due to its practical approach and support of home construction.

Remarks.

ARDF, short for Amateur Radio Direction Finding, formerly known as fox hunting, is a competition of radio amateurs (the hunters) to locate a hidden transmitter (the fox) with their portable DF receiver.

A box that had been still taped up almost 20 years ago, before our move to Ottersum, was recently found in the garage when I was searching for a few components. Becoming curious, I carefully cut the bristle tape and, upon opening, found two small (an 80 meter and a 2 meter model) former Eastern Bloc ARDF (Amateur Radio Direction Finding) receivers. I vaguely remembered that these were bought at a radio rally in Germany not very long after the 'Wende' (the German reunification in October 1990). Having been active in the 1960s in 'Radio Fox Hunting' (as it was generally called then) and reflecting upon these events, which frequently featured unexpected and amusing encounters (see page 2), I probably acquired these with nostalgic feelings, as I had disposed of my homemade 80M and 2M DF receivers long ago. After testing both receivers, they were stored with the intention of participating in a radio fox hunt (at the time known as ARDF) one day. However, this plan was soon forgotten due to the care for my family, the chores of my job, and working on the first volume of WftW. This 'Various' chapter was not intended to go into details of the long history of Radio Fox Hunt/ARDF. For detailed information, see [\[HERE\]](#) and the links in the references.

Shown in this chapter are two professionally produced fox hunt receivers, which (together with other models) became available after the times we had to build such a receiver yourself. Considering that these, compared to today's standards, now probably antiquated DF receivers, was challenging enough to compile this chapter.

After reading current publications on ARDF on the Internet, it appears to me, that much has been changed compared to the more relaxed fox hunts of the 1960s: very advanced splash proof ARDF receivers, but also kits to build one yourself. Used in hunts which are very professionally organised, in a competition atmosphere, attracting many international participants.



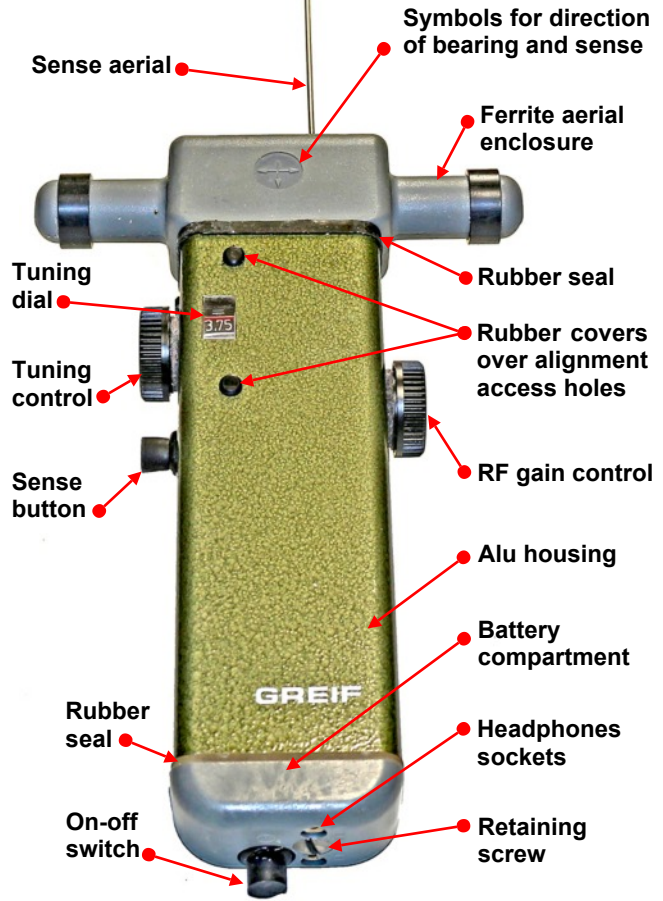
...radio fox hunting has a long history... (Drawing by H. Evers, PA0CX)

FPE 80 'Greif' (GDR).

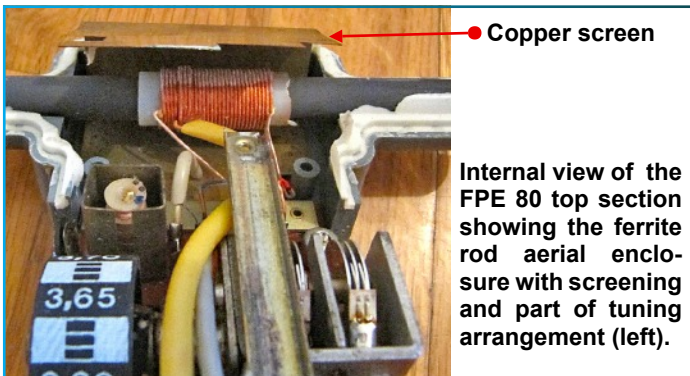
The FPE 80 ('FPE' short for 'Funk Peil Empfänger'), also known as 'Greif,' was a 'fox-hunt' radio-direction finder receiver developed and manufactured at VEB Nachrichtenelektronik Greifswald in the German Democratic Republic (GDR) around 1979.

Ordered by the paramilitary youth organisation GST, the FPE 80 met the requirements for a mid-range direction-finding receiver for the 80 meter amateur band. It was included as standard equipment at the radio direction training centres in the GDR districts.

The receiver was professionally built using the available technology of that era in the GDR, using components produced in the GDR. It was relatively small, handy and weather resistant, making it suitable for both radio direction-finding competitions and training across all performance levels. It weighed just 500g with the control elements arranged ergonomically, allowing for one-handed operation. The construction of the housing for the receiver was divided into three main items: the ferrite rod aerial support, an aluminium sleeve with PCB, and the battery holder, together largely determined the appearance of the receiver.



Functions of controls FPE 80.



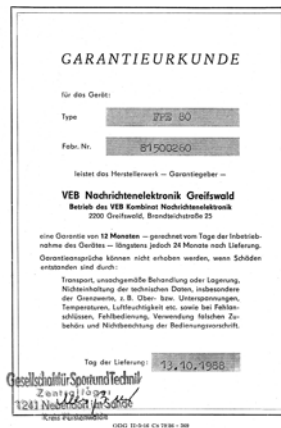
The aerial support comprised two plastic half-shells, between which the ferrite aerial with its shielding sleeve was housed. It formed the upper closure of the housing, the middle section of which consisted of an aluminium sleeve that held the circuit board. Control elements such as gain and frequency control, and sense aerial switching were fitted on this board. The lower enclosure of the housing was formed by the battery holder. It accommodated four penlight batteries. The battery holder included the headphone banana-type sockets and an on/off switch. Rubber sealing was applied between the housing and top/lower enclosure, which was specified as modified IP43. The circuit of the FPE 80 was based on a GDR-manufactured A 422D chip (comparable with a Western TCA-440) and an A 211D audio amplifier chip.



The FPE 80 (Funkpeilempfänger 80), with user manual, headphones, and sense aerial was packed in a Styrofoam box.

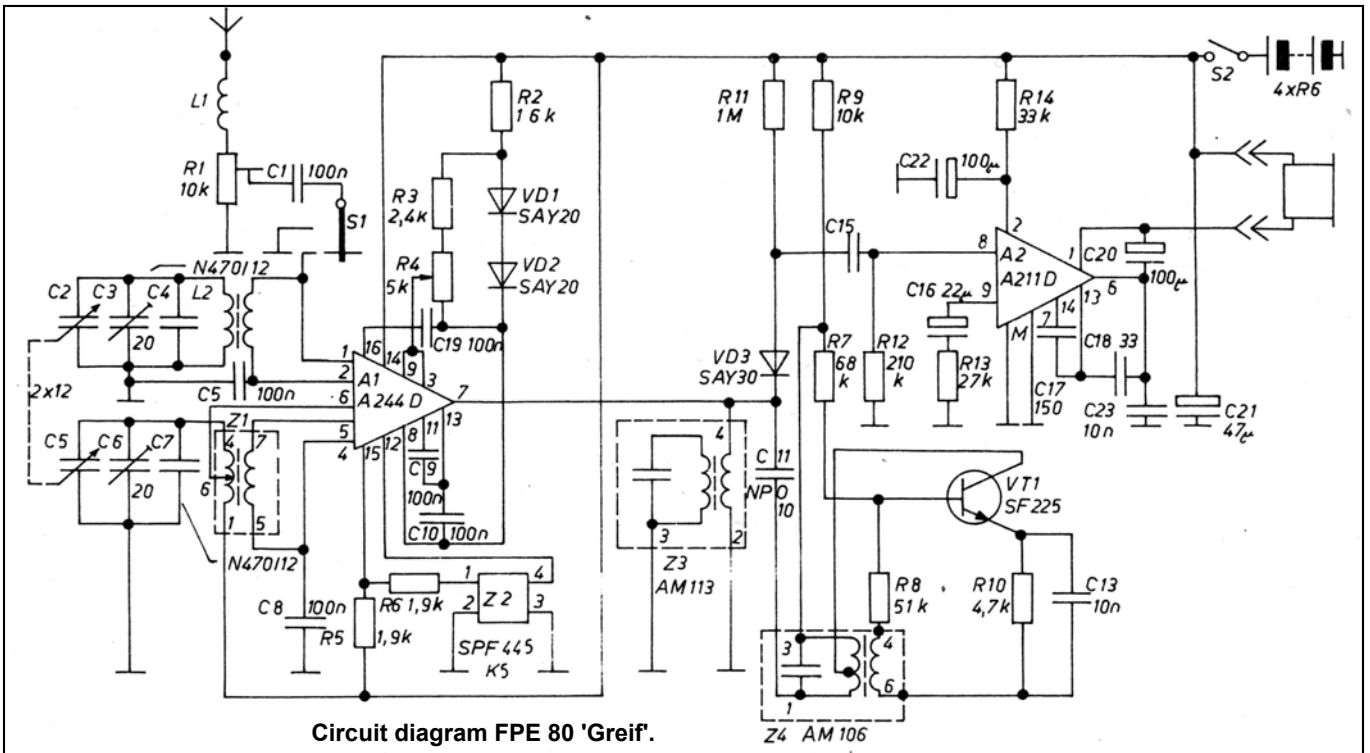


... unexpected and amusing encounters at fox hunting ... (Drawing by H. Evers, PAOCX)



Guaranty document showing a GST central stores stamp dated 13 October 1988.



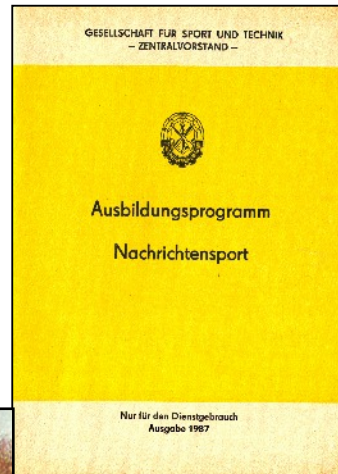


GDR doctrine

It's not surprising that all activities in radio fox hunting and related activities were strictly controlled by the GDR youth organization Gesellschaft für Sport und Technik (GST)

As part of a 'Vor-militärische Bildung' (paramilitary training) in which political doctrine, regulations, and orders of the GDR were combined with topography, theory, and practice of radio fox hunting.

In an article published in Funkamateurl, titled 'Über den Funkpeilmehrkampf in der GST,' the regulation encompassed target shooting and hand grenade throwing with training grenades.



GST Signal training program.



GST Morse training program.



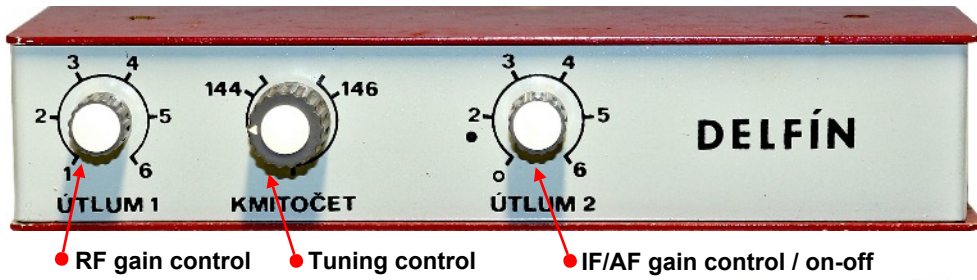
The start of a 'Sport mit Technik' radio fox hunt, organised in 1989 by the GST youth organisation. Each of the participants used a FPE 80 'Greif'.



DATA SUMMARY FPE 80 'Greif'

- Organisation:** GST.
- Design/Manufacturer:** VEB Nachrichtenelektronik Greifswald, GDR.
- Year of Introduction:** 1980.
- Purpose:** Standard 80 meter GST ARDF receiver.
- Circuit features:** Superheterodyne with A244D IC and AD211D as AF amplifier. BFO. (CW only).
- IF:** 455kHz IF filter type SPF455H5.
- Frequency coverage:** 3500-3800kHz.
- AF output impedance:** ≥ 100Ω.
- Dynamic Range:** 80 dB.
- Direction-Finding Accuracy:** ≤ 6°.
- Front-to-Back Ratio:** 8 dB.
- Semiconductors:** A244D, A211D and SF225.
- Aerial:** Ferrite rod and sense whip.
- Power Supply:** 6V from four penlight batteries.
- Battery drain:** 15mA.
- Dimensions (mm):** Height 255, length 38, width 160.
- Weight:** 550g. **Ingress Protection:** IP43.

'Delfín' (ČSSR).



Delfín.

The Delfin was a simple and low-cost ARDF receiver for 2 meter wavelength fox hunting. Developed and produced by the Radiotechnika Teplice Company, it was popular and assisted many radio amateurs to start with ARDF. Compared to the mechanical construction of the GDR 'Greif', it was an uncomplicated design, but had no protection against rain. The electrical design consisted of a single conversion superheterodyne with free-running VCO, 10.7MHz IF with 100kHz bandwidth (FM broadcast IF filter) and AF stage.

The receiver had a wide input RF sensitivity control range of 80dB, which allowed very sharp pinpointing of the transmitter either from far off or at a close distance, combined with the AF sensitivity control. The aerial was a collapsible HB9CV with elements partially made from steel tape. Ideal for penetrating dense thickets, though unstable under conditions of much wind.

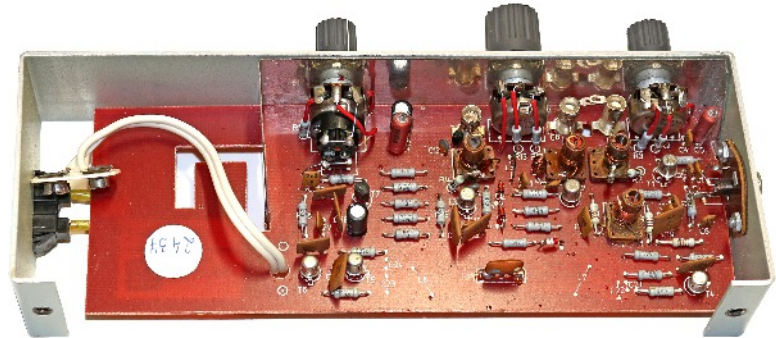
The weakest point of this radio was the battery, originally designed for a single 9V block battery, the radio drained the relatively expensive battery rapidly. For that reason, frequently two 4½V flat batteries were carried outside the receiver, making it rather heavy and uncomfortable to carry.

- The Delfin S was merely a commercial sales name and differed only in that it included, in addition to a Delfin receiver and HB9CV aerial, a headphone.

- The Delfin 11 had, as far as known, two different types of headphones sockets.

In 'Funkamateur' No. 3, 1987, in an article 'Über den Funkpeilmehrkampf in der GST', it was noted that '... most of the participants used a 'Greif' for 80M and for the 2M band a 'Delfin' from the ČSSR ...'.

The ČSSR: (short of Československá socialistická republika) Czechoslovak Socialist Republic, which was a socialist state in Central Europe that existed from 1948 to 1990, split into the Czech Republic and Slovakia in 1993.



Internal view of an early production Delfin with a two-pin headphone socket and a Pertinax circuit board.

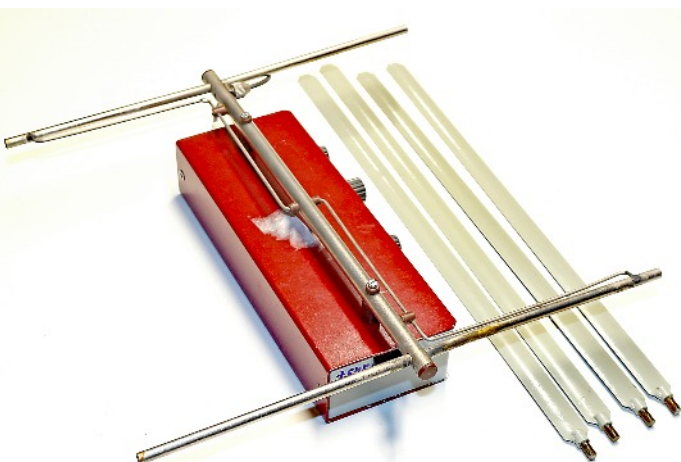


In the first production runs, this socket connected to low-impedance headphones. During later productions, this was replaced by an audio socket.

The aerial socket was a standard 'Tulip' type, also known as an 'RCA' type audio socket.



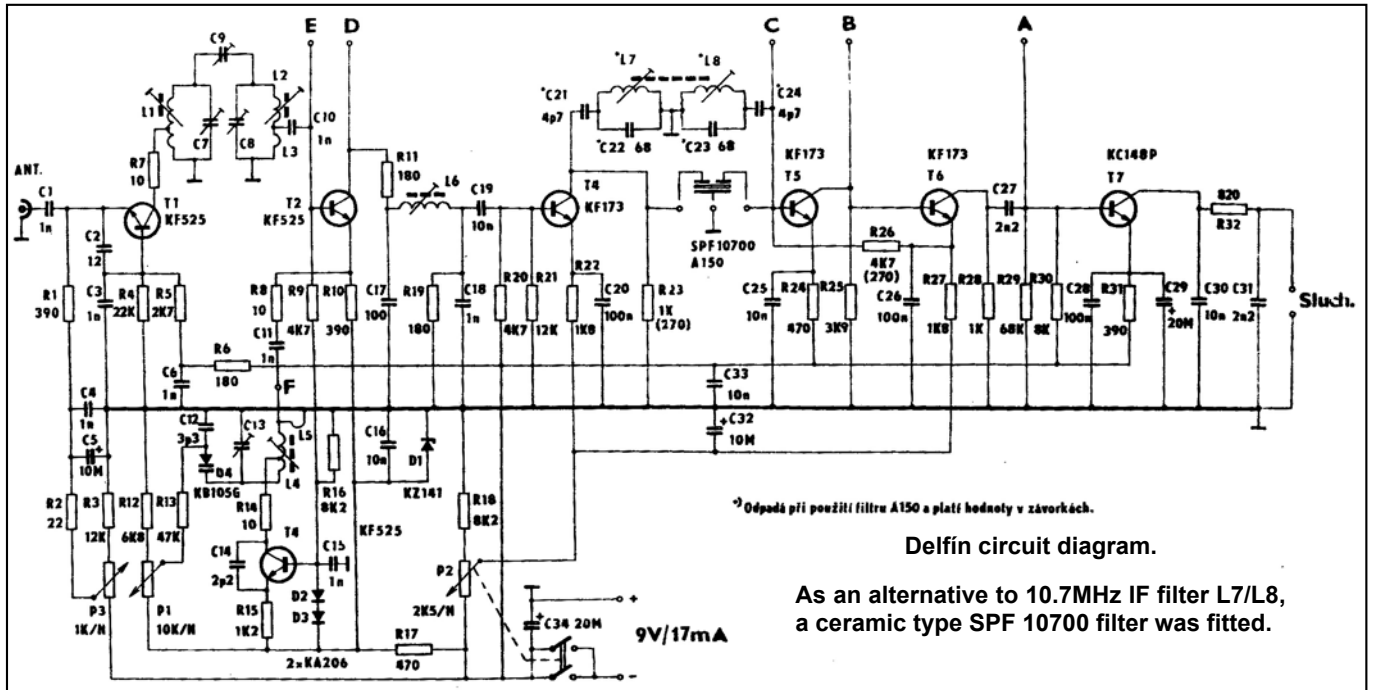
Internal view of a probably later produced Delfin with a jack headphones socket and a fiberglass circuit board.



Delfin with partly assembled HB9CV aerial.



The Delfin was packed in two cartons; probably three when a Delfin S was ordered. (S = Sluchatka translates to headphones).



At least four versions, or possibly production runs, of the Delfin had been produced.

DATA SUMMARY 'Delfin'.

Organisation: Unknown.
Design/Manufacturer: Elektronika, Temlice, Czech Republic.
Year of Introduction: 1980.
Purpose: ARDF receiver.
Circuit features: Superheterodyne (AM only).
IF: 10.7MHz. IF filter: A classic bandfilter or ceramic type SPF 10700 (Varied on production). Bandwidth 100kHz.
Frequency coverage: 143.8-146.2MHz.
Dynamic Range: 80 dB.
AF output impedance: ≥ 4KΩ.
Aerial: Collapsible HB9CV.
Front-to-Back Ratio: >20dB.
Semiconductors: KF525 3x, KF173 3x, KC148).
Power Supply: 9V block battery. 17mA drain.
Dimensions (mm): Height 203, length 40, width 75. (Measured without aerial).
Weight: 350g (less 9V battery and aerial).

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