OBAr

(Armia Krajowa #1a)

Country of origin: Poland

This Supplement is a follow up of the 'OBA receiver' in the *'Miscellaneous Poland'* section in the *'Poland'* chapter of WftW Volume 4.

General view of an OBAr receiver that survived. It may be assumed that the letters AK, roughly scratched in the front panel, stand for 'Armia Krajowa' (Home Army).

DATA SUMMARY

Organisation: Polish Home Army (Armia Krajowa).

Design/Manufacturer/Workshop: Clandestine workshops.

Year of Introduction: Believed 1942/3.

Purpose: Communication receiver for the Polish Home Army.

Receiver OBAr:

Frequency coverage: 6 - 12MHz.
Circuit features: RF stage, Reg. Detector, AF output.
AF output: High impedance headphones.
Valves: KF4 (3x).

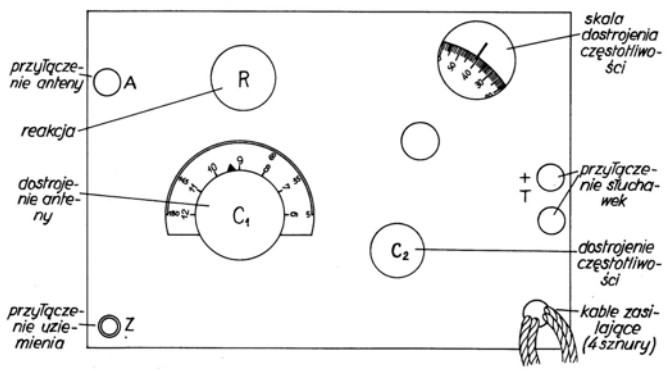
Power Supply: 2V accumulator; HT battery.

Dimensions (cm) and weight:
Height 6, length 12.5, width 18; weight 1.55kg.

REMARKS

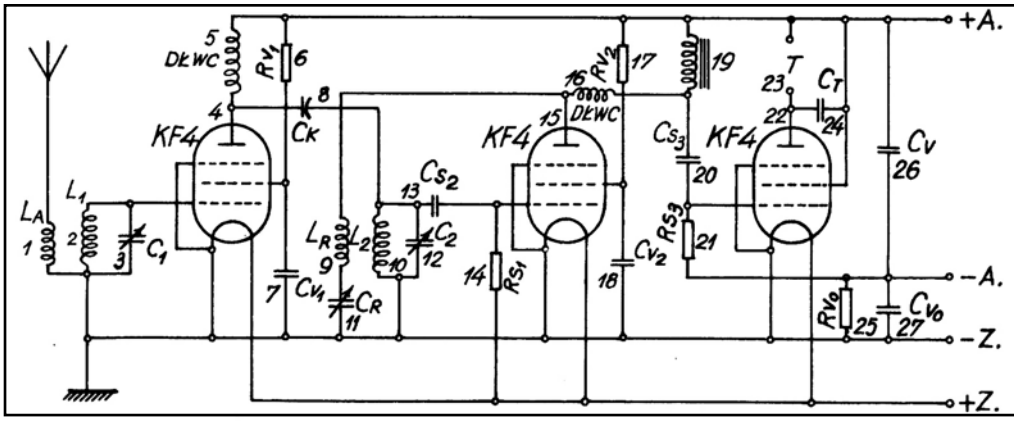
OBAr (Odbiornik Bateryjny Reakcyjny: translated Battery Receiver Regenerative) was a miniature short wave receiver powered by a 2V accumulator and dry batteries. Built in clandestine workshops, it was extensively used by the Polish Armia Krajowa.
Two versions were known, both equipped with 'K' series of valves:
- OBAr a regenerative TRF with RF stage, with a DEDAL logo.
- OBA(s) was a superhet of the 1936 'Super-Gainer' design, originally devised by Frank Jones. Both receivers were housed into metal money or tool boxes with a lid which would keep it free from moisture and dust. In literature and documents the OBAr was also named OBAR, or just shortened to OBA.

One of the largest production workshops of clandestine radio equipment, set-up in 1943, had the codename 'Ikar' (Icarus) where, amongst other items, OBA receivers were manufactured. In order to protect the radios being leaked to the black market, a logo was devised showing Icarus as a flying figure in the Greek letter Omega. Dedal (Polish for Deadalus, father of Icarus, Greek mythology) was added as a further deceiving element.

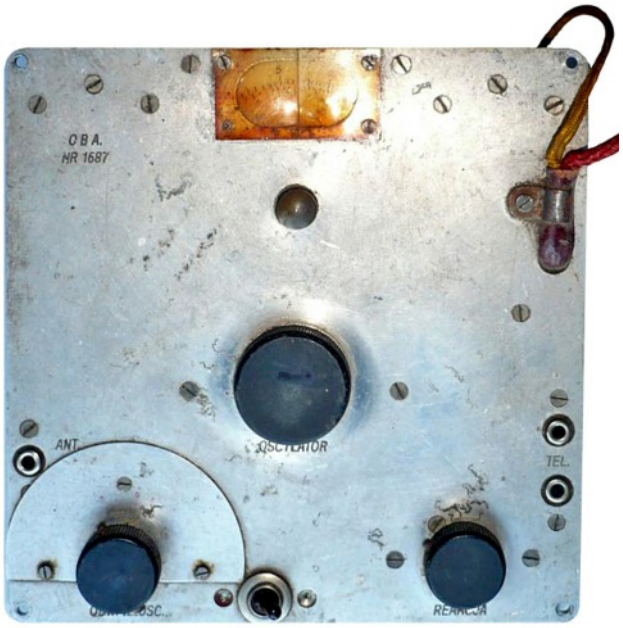


Kable zasilające	4 lead power cable
Przyłączenie anteny	Aerial socket
Przyłączenie uziemiena	Earth socket
Skala dostrojenia czestotliwości	Tuning scale
Dostrojenie czestotliwości	Tuning control
Przyłączenia słuchawek	Headphones sockets
Reakcja	Reaction control
Dostrojenie anteny	RF tuning control

Front panel layout and text translation functions of controls OBAr receiver.



Circuit diagram of the OBAr receiver.



OBAs

(Armia Krajowa #1b)

Country of origin: Poland

DATA SUMMARY

Organisation: Polish Home Army (Armia Krajowa).

Design/Manufacturer: Clandestine workshops.

Year of Introduction: Believed 1942/3.

Purpose: Communication receiver for the Polish Home Army.

OBAs:

Frequency coverage: 3 - 9MHz in two ranges: 3-6MHz and 6-9MHz. IF 1.5MHz.

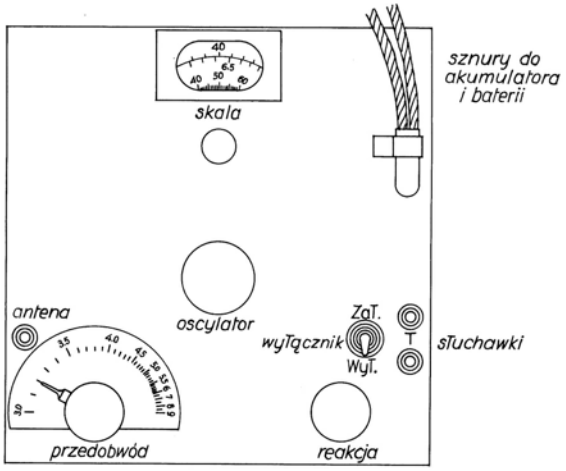
Circuit features: Mixer/Oscillator, Reg. IF/Detector, AF output. It was based on the 1936 'Super-Gainer' design. The IF valve could be brought into oscillation for CW reception by means of the reaction control.

AF output: High impedance headphones.

Valves: KK2, KF4 (2x).

Power Supply: 2V accumulator; HT battery 60-120V.

Dimensions (cm): Height 7.5, length 18, width 18.5.



Sznury do akumulatora i baterii	Leads to accumulator and battery
Antena	Aerial socket
Wyłącznik	On/off switch
Skala	Tuning scale
Słuchawki	Headphones sockets
Reakcja	Reaction control
Oscylator	Tuning control
Przedobwód	Preselector tuning

Front panel layout and text translation functions of controls OBAs receiver.

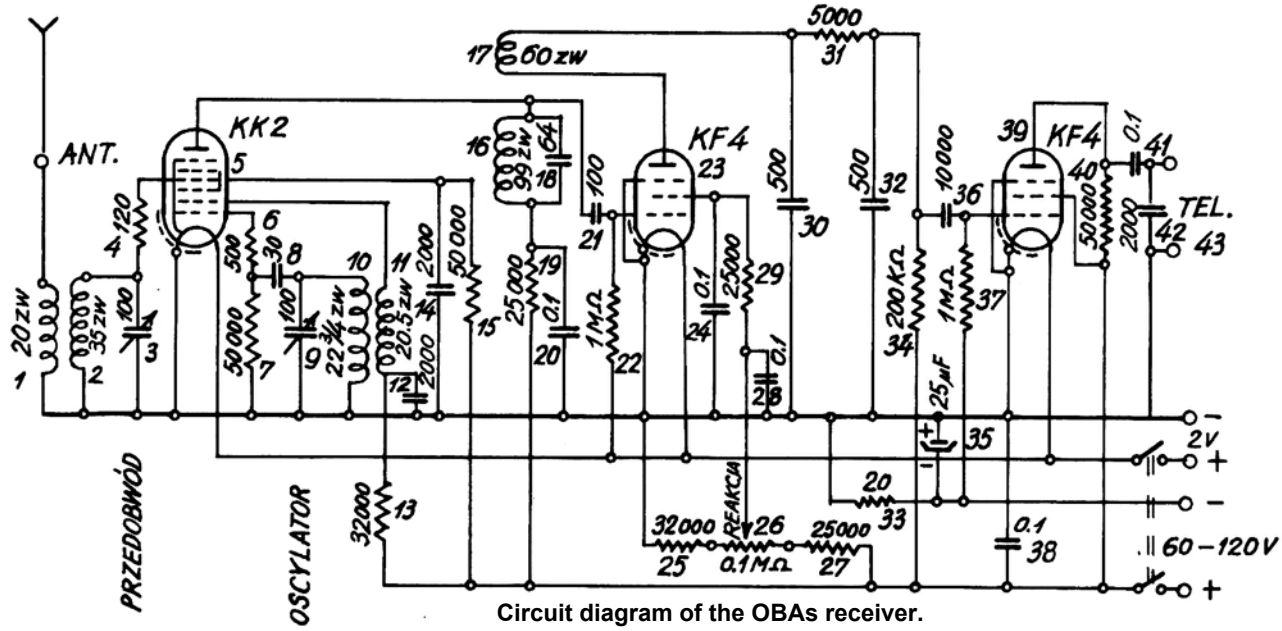
REMARKS

OBA (Odbiornik Bateryjny: translated Battery Receiver) was a miniature short wave receiver powered by a 2V accumulator and dry batteries. Built in clandestine workshops, it was extensively used by the Polish Armia Krajowa.

Also known as OBAs, the OBA was a superhet based on the 1936 'Super-Gainer' design, equipped with K series battery valves. It was housed into metal money or tool box with a lid which kept it free from moisture, dust and damage to the controls. The OBAs can b e considered as the dry battery variation of the OSB type I and II (see Chapters 292/293).

Internal view of the OBAs receiver showing KK2 mixer-oscillator (left), regenerative IF-detector KF4 (centre), and AF output KF4 (right).

Enlarged cut-out of OBAs tuning scale section.



Circuit diagram of the OBAs receiver.

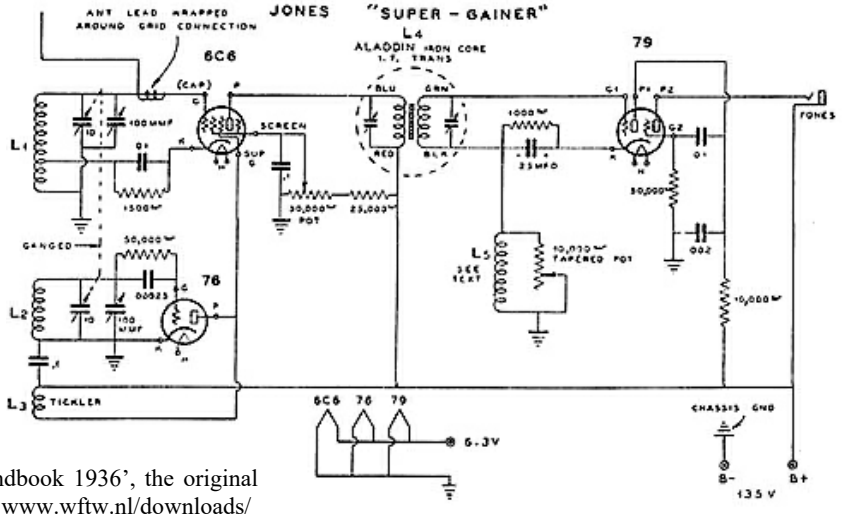
An OBA receiver being used during the Warsaw Uprising in 1944.

References:

- Photograph, drawings, circuit diagrams and additional information courtesy Bogdan Szkudlarek, SP3LD, Poland.
- *Zolnierze Lacznosej Warszawy* (Communication soldiers of fighting Warsaw), Kazimierz Malinowski, Warszawa 1983, isbn 83-211-0378-2.
- Radio Handbook, Frank Jones, 1936, USA. *)
- *Wireless for the Warrior, Volume 4, Clandestine Radio*, Louis Meulstee, Wimborne 2004, isbn 095263 36 0.

The 'Super-Gainer' circuit.

In the 1936 edition of the Jones 'Radio Handbook', published in the USA, a novel circuit was promulgated of a single conversion superheterodyne with only three valves. The main feature was a single IF amplifier/detector with reaction. Adapted with only two valves, the circuit (with minor changes) was employed in pre-war agents sets designed by Tadeusz Heftman of AVA for the Polish Second Bureau. It was the base of the A1, A2 and A3 (and with an extra IF amplifier valve in the AP2, AP4, AP5, MR2 and MR3) agents sets built by the Polish Military Wireless Unit in Stanmore, England, and a series of locally manufactured receivers secretly produced in Poland (OBA, OSB and OSU).



Circuit diagram of the Jones 1936 'Super-Gainer' receiver on which the OBAs, OSU, OSB type I and OSB type II were based. (And also of course the Polish Stanmore 'Peepshtock' A and AP series).

*) Relevant pages from the Jones 'Radio Handbook 1936', the original source, can be found in the download section of www.wftw.nl/downloads/