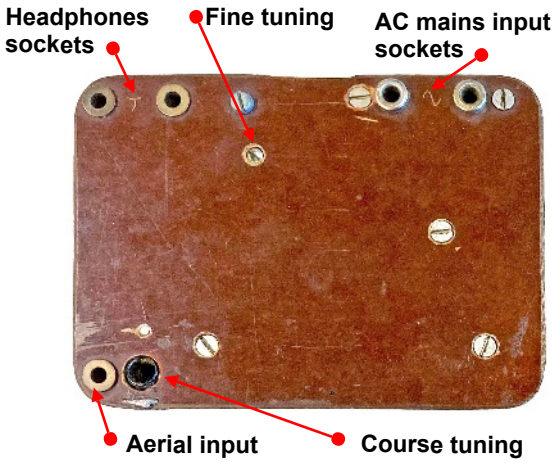
Clandestine (Midget) Receivers #17

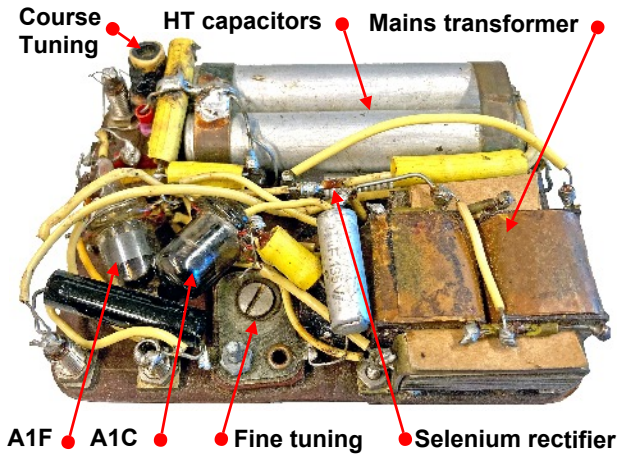
Country of origin: Holland

Midget receiver #1 in a pocket first aid kit.

Midget receiver #1 concealed in a 'Zak Verbanddoos' (Pocket first aid kit).



Top view of midget receiver #1 with lid opened showing the function of controls and sockets.



Internal view with an explanation of main components.

The first aid kit tin is shown in the opened position. The actual receiver was removed from the tin during listening to avoid a short circuit. Listening was, therefore, an even more dangerous venture due to the exposed high tension.

Remarks

In this chapter, clandestine receivers from the collection of the 'Oorlogs- en Verzetscentrum Groningen' (War and Resistance Centre Groningen, OVCG) and Museum aan de A (MADA) are depicted. These receivers were used to listen to BBC broadcasts in occupied Holland during the later part of World War II. This was not without danger, as the Germans imposed heavy penalties on those caught in possession of a wireless receiver. Therefore, it was essential to keep a receiver as small as possible and conceal it, for example, in a common household enclosure.

Receivers #1 and #2 in this chapter used Philips components, obviously 'taken' from the then-current production lines, and were built at home by Philips employees. The general design of these can be seen in earlier-described clandestine midget receivers in WftW Chapters 151-153, 225, and 337.

It is not known how many of these receivers were built, although an estimate made after World War II suggested there were many hundreds in existence. The individual mechanical and electrical construction of the 'Philips workers' midget receivers differed considerably, depending on the available components, the date of construction, and the builder's skill. Early versions often used a UCH21 valve, and later, Philips acorn valve types E1C and E1F allowed further miniaturization after they became available.

Receiver #3 from the 'Museum aan de A' collection was a hodgepodge of (already at that time) slightly antiquated components. Operating on the believed medium wave, it was constructed on a wooden base and front panel. Concealed in a carton box, it employed valves and components from obsolete wireless sets that were salvaged after disposal.

DATA SUMMARY

Design/Manufacturer: Dutch Philips employees, radio amateurs.
Year of use: WW2 after 1942.
Purpose: Clandestine listening in occupied Holland to BBC broadcasts.
Circuit features: Regenerative TRF with AF stage.
Frequency coverage: Short wave, (medium wave).
Valves: Philips E1C (4671), E1F(4672) and EA50.
Power Supply: AC mains.
Dimensions #1 and #2 (mm): H 25 x L 87 x W 115.

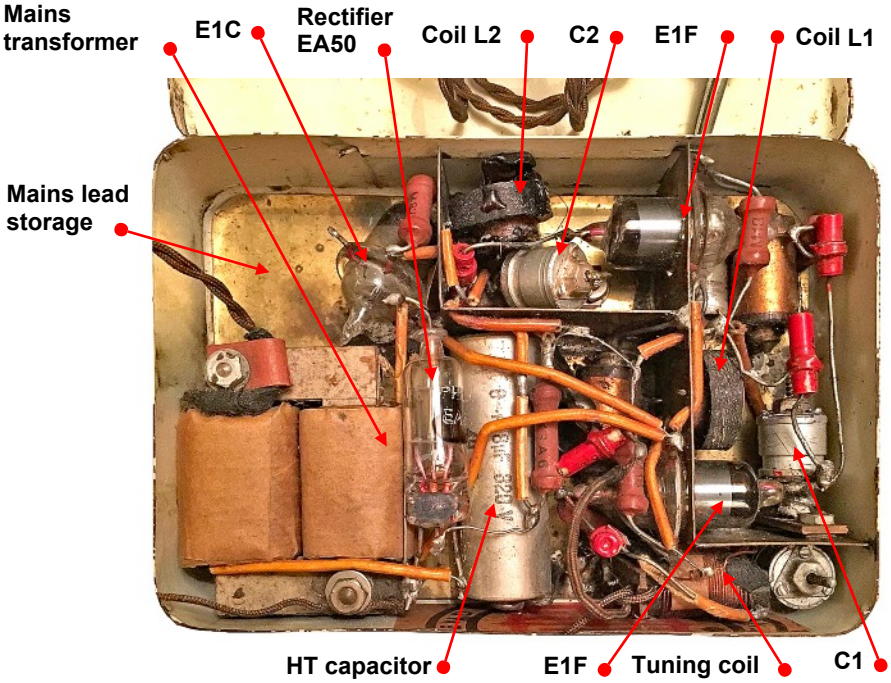
References

- Permission to publish photographs courtesy 'Oorlogs- en Verzetscentrum Groningen' (OVCG) and Museum aan de A.
- https://www.oogtv.nl/2023/05/een-radio-uit-de-woii-die-moest-verborgen-worden/
(An interesting video taken at the donation of receiver #3 by the previous owner to the museum).
- With many thanks to Jan Rijnders, PA0CHS, for drawing attention to the clandestine receivers in both museum collections and for taking high-quality photographs for this chapter.

Midget receiver #2 hidden in a Pocket first aid kit

Top view of midget receiver # 2 in a first aid kit tin.

Side view of midget receiver # 2.



Top view of midget receiver # 2 showing main components.

Short wave superheterodyne?

When considering the number of turns on the tuning coil, it was estimated that the receiver would have been a regenerative TRF (tuned radio frequency) receiver operating on shortwave. However, after taking two coils, L1 and L2, with much higher inductance, and trimmers C1/C2 into account, this might have indicated a simple superheterodyne circuit.

Home build clandestine receiver #3.

This regenerative TRF receiver was assembled from obsolete components discovered in a junk box and concealed in a small carton box.