



## TA-1A

Country of origin: USA

The TA-1 illustrations in this chapter, retrieved from digital stored black-white documents, were of a poor quality. This is the best that could be achieved after processing the illustrations in PhotoShop.

### DATA SUMMARY

**Organisation:** CIA.

**Design/Manufacturer:** CIA Radiolab.

**Year of Introduction:** Around 1956-57.

**Purpose:** Agents.

**Receiver:** Standard broadcast receiver with short wave bands. A BFO (455kHz  $\pm$ 5kHz) for reception of CW signals was incorporated in the TA-1A.

**Transmitter:**

**Circuit features:** Crystal oscillator/RF output; doubler above 8MHz. Recommended use of FT-243 crystals.

**Frequency Coverage:** 3-17MHz, covered with two plug-in coils: 3-7.5MHz and 7.5-17MHz.

**RF output:** Using a 6V6 on fundamental crystal frequency: maximum 4W CW; Less than 3W in AM R/T (TA-1 only); much depending to the broadcast receiver power supply, frequency etc. Aerial impedance matching from 50-1200 $\Omega$ .

**Valve:** 6V6 or similar; other types with an adapter.

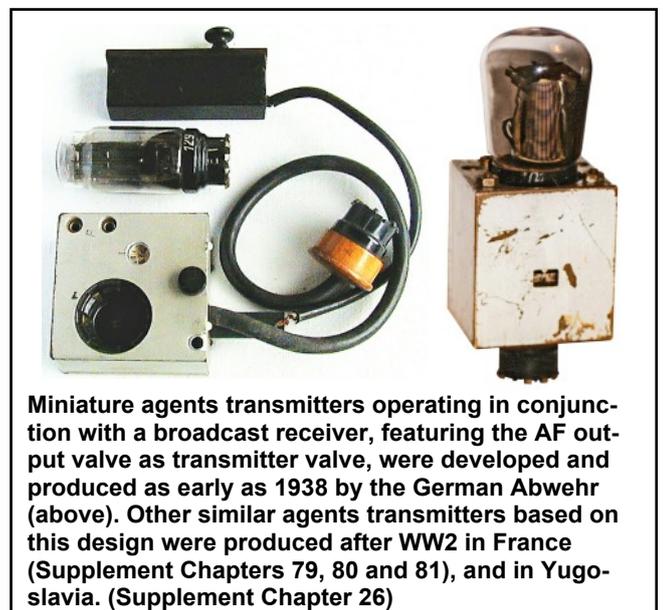
**Power Supply:** Derived from the broadcast receiver.

**Size (cm):** Height 3, Length 11, Width 9. (*An estimate!*).

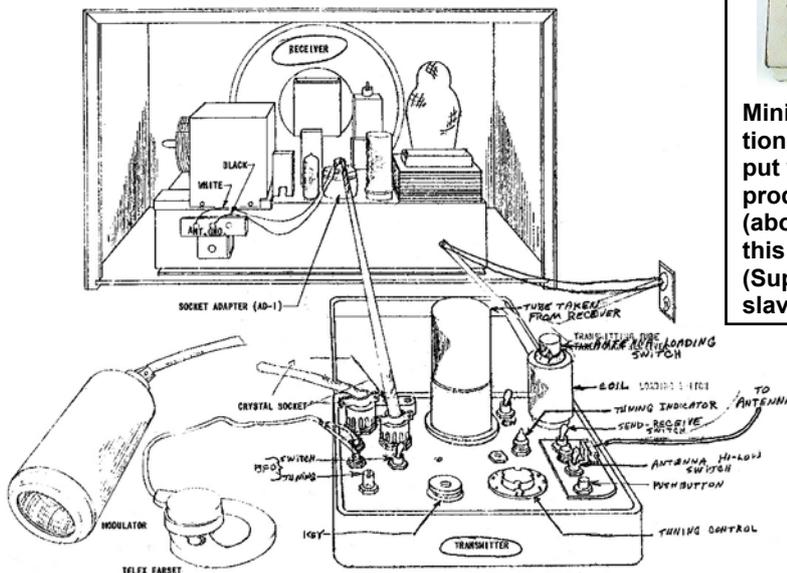
**Weight:** About 0.45kg.

### Remarks

The TA-1A (Transmitter Adapter) was a miniature agents transmitter used in conjunction with a broadcast receiver provided with short wave coverage. The broadcast receiver AF output valve was removed and placed in the TA-1A transmitter. A special extension cable plugged into the original receiver valve socket derived HT and LT, AF (connecting to the earphone socket), aerial and earth. This design had the advantage that no heavy power supply and other conspicuous items were required to be carried by the agent. A miniature Morse key and sockets for connecting an external key were located on the front panel. In 1958 development started for the TA-3, a version with a higher frequency coverage. It is not known whether the TA-3 ever came into production.



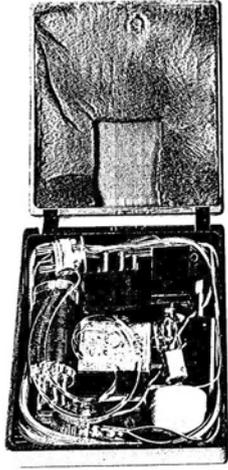
Miniature agents transmitters operating in conjunction with a broadcast receiver, featuring the AF output valve as transmitter valve, were developed and produced as early as 1938 by the German Abwehr (above). Other similar agents transmitters based on this design were produced after WW2 in France (Supplement Chapters 79, 80 and 81), and in Yugoslavia. (Supplement Chapter 26)



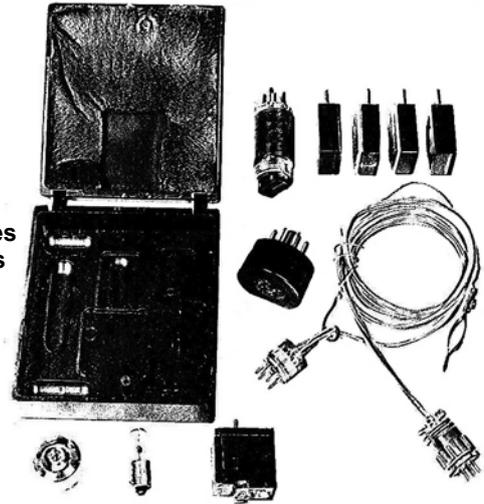
Drawing of TA-1 prototype set-up.

### References:

- Photographs, drawing and all (technical) information for this chapter was derived from declassified CIA documents, made available by Pete McCollum, N0TDM, USA.
- 'Adapter Transmitter' section in the 'Germany to 1945' chapter of WftW Volume 4.

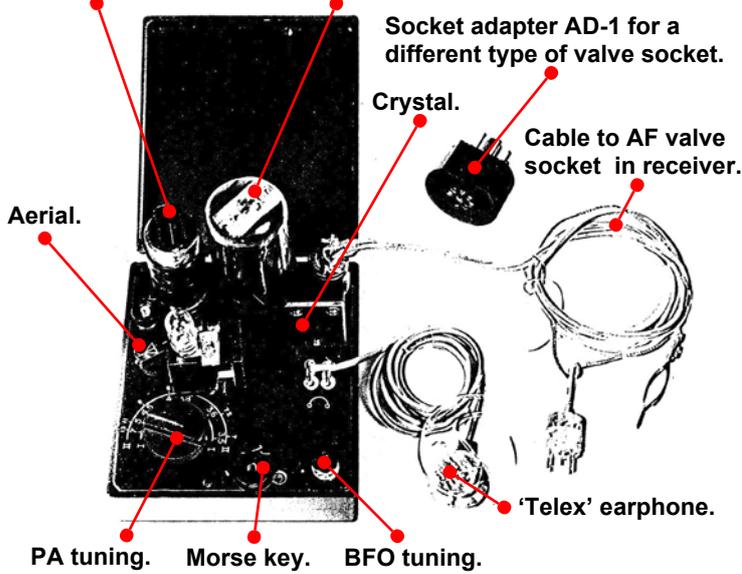


Box for carrying accessories/ crystals and a fabric pouch issued with the TA-1A. Type FT-243 crystals were used as they were able to withstand the rather high crystal current of the single valve design.



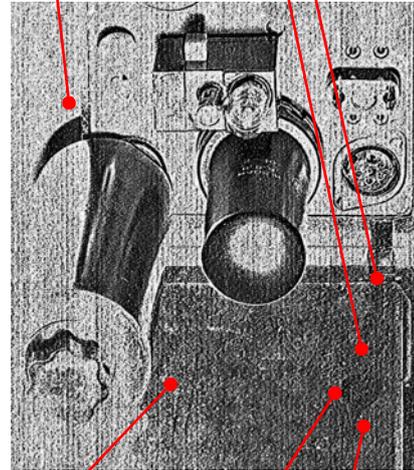
TA-1A accessories box with contents laid out.

Range 2 PA coil. Transmitter valve.



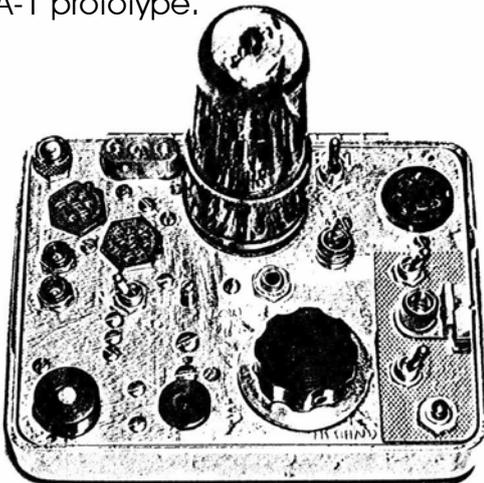
Range 1 PA coil. It contained a switch for 8 taps.

External Morse key socket. To AF valve socket in receiver.



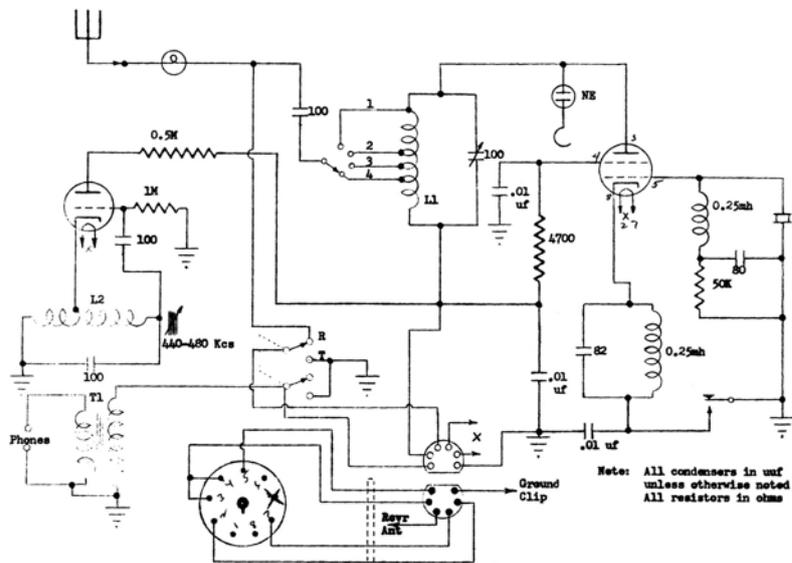
Aerial tuning adapter. Earphone socket. Crystal socket.

TA-1 prototype.



Top view of the TA-1 prototype.

The TA-1A was basically a TA-1 prototype reworked in an effort to improve the aerial matching characteristics, the BFO circuit, and the mechanical design of the miniature Morse key. There were also improvements in the circuit layout and mechanical arrangements. Note the change of positions of controls and components on the front panel. The transistorised AM modulator was an external board, fitted into the microphone grip. This feature was later skipped after evaluation of the trials.



Circuit diagram of the TA-1A