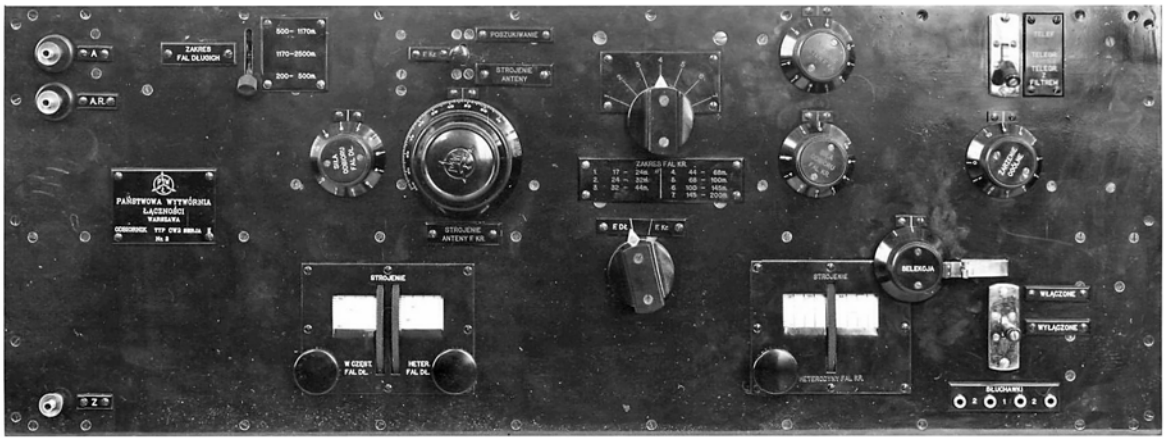


ROW model CW2 front panel view.

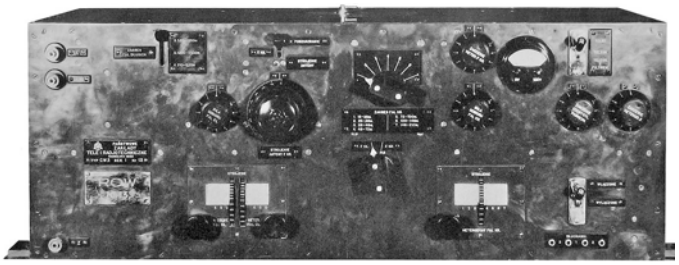
ROW wz. CW1 to CW4
Country of origin: Poland

DATA SUMMARY ROW wz. CW2

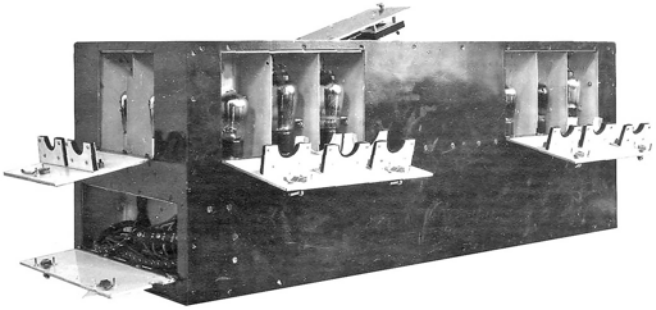
Organisation: Polish Army.
Design/Manufacturer: PWL / PZTiR
Year of Introduction: 1932.
Purpose: High grade intelligence receiver.
Frequency coverage: 120kHz -17.647MHz (17-2500m) in 10 ranges.
Circuit features: Superheterodyne: RF, mixer, oscillator, IF (2x), detector, BFO, AF, AF output. Separate RF and mixer/oscillator for short wave ranges. IF: 40kHz.
Modes: CW, MCW and AM.
Sensitivity: CW: 5uV/m; AM 20uV/m.
Aerials: LW: Frame aerial or L type 50m wire; SW: 20-25m wire suspended on two 9m masts. Counterpoise two mats.
Valves: A415 (6x), A443 (4x).
Power Supply: LT 4V 54Ah accumulator; HT two 60V 2Ah accumulators. Consumption: LT 600mA; HT 13mA.
Dimensions (cm): Height 27, length 29, width 77.
Weight: 34.8kg; complete set 268kg.

DATA SUMMARY ROW wz. CW3

Organisation: Polish Army.
Design/Manufacturer: PWL / PZTiR
Year of Introduction: 1933.
Purpose: High grade intelligence receiver.
Frequency coverage: 120kHz -16.216MHz (18.5-2500m) in 10 ranges.
Circuit features: Superheterodyne: RF, mixer, oscillator, IF (2x), detector, BFO, AF, AF output. Separate RF and mixer/oscillator for short wave ranges. IF: 40kHz.
Modes: CW, MCW and AM.
Sensitivity: CW: 5uV/m; AM 20uV/m.
Aerials: LW: Frame aerial or L type 50m wire; SW: 20-25m wire suspended on two 9m masts. Counterpoise two mats.
Valves: A415 (6x), A443 (4x).
Power Supply: LT 4V 54Ah accumulator; HT two 60V 2.2Ah accumulators. Consumption: LT 600mA; HT 13mA.
Dimensions (cm): Height 27, length 29, width 77.
Weight: 35.3kg; complete set 284kg.



The CW3 (above) had an almost identical appearance as the CW2 and a very similar electrical circuit.



Internal view of a CW2 showing the mechanical construction of the receiver having multiple separate compartments with hinged hatches for easy access to the valves.

REMARKS

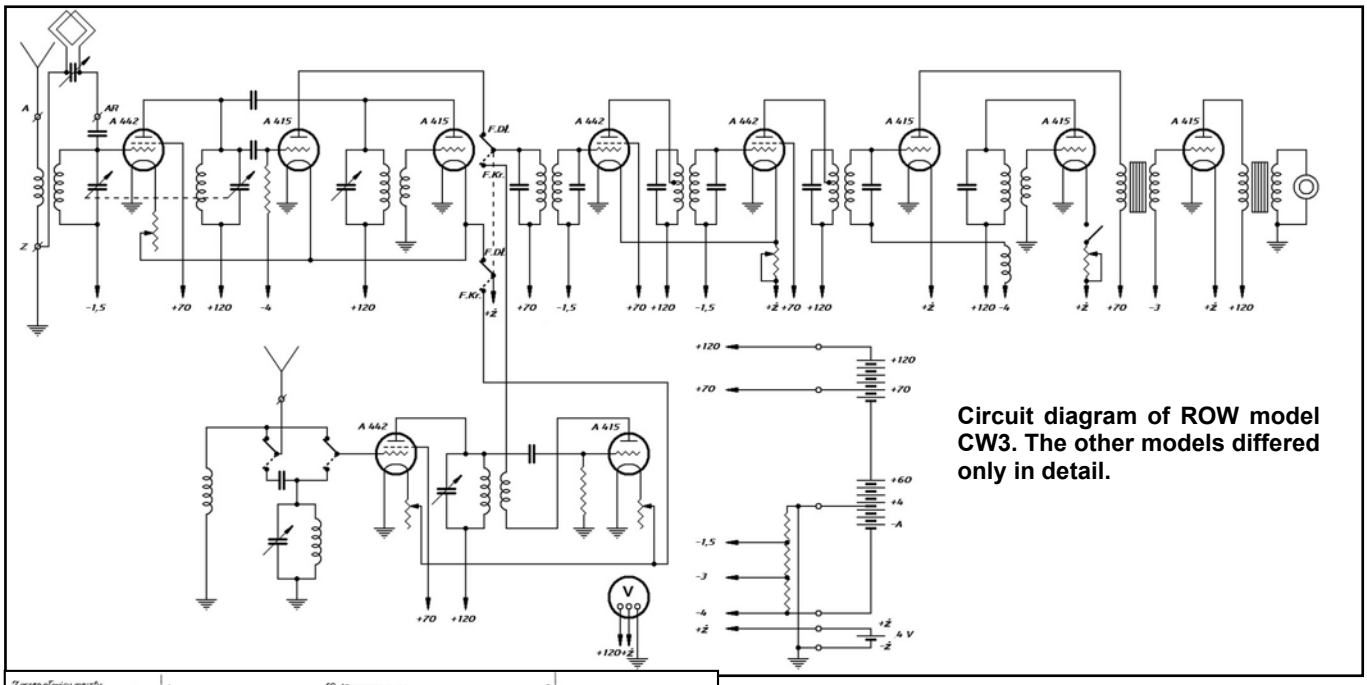
ROW *) was the designation of a series of high grade wide coverage wireless receivers, primarily developed for interception and intelligence. Four different models (CW1 to CW4) were designed and manufactured in the early 1930s by Panstwowa Wytwornia Lacznosci (PWL) and Panstwowe Zaklady Tele- i Radiotechniczne (PZTiR) in Warsaw .

In total 50 receivers were produced of which the CW2 and CW3 models were the most common. These had a similar electrical circuit with as main differences the addition of supply voltages meter and omission of the IF selectivity control.

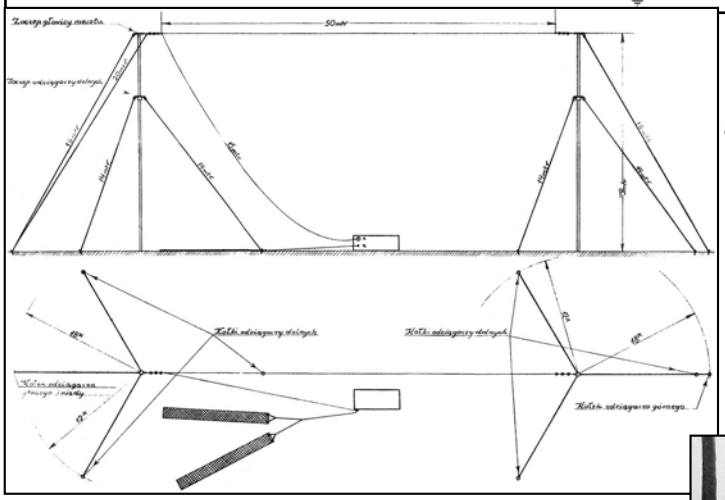
Two model CW4 receivers were issued as communication receivers in the prototype W1 stations (see Chapter 312). Model CW5, based on the use of E series valves, with a frequency coverage of 100kHz-24MHz, was planned to start development in April 1939.

All models were basically similar in electrical and mechanical design, using 4V 'A' series battery valves, built into an aluminium enclosure. The tuning dials were calibrated in meters. A superheterodyne with an IF of 40kHz, it had two different front-ends: 3 valves for the 3 long wave ranges ('F. Dl.)' 200 to 2500m and two valves for the 7 short wave ranges ('F. Kr.') 17 (18.5) to 200m.

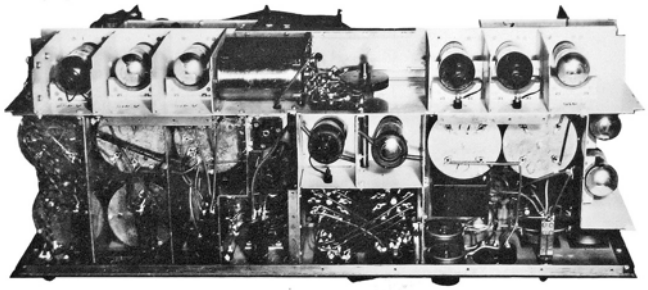
*) Radiostacja Odbiorcza Wywiadowcza – Receiving Radio station for Intelligence) later renamed to ROW/D (Radiostacja Odbiorcza Wywiadowcza Dalekiego Działania – Long Range Action Receiving Radio station for Intelligence).



Circuit diagram of ROW model CW3. The other models differed only in detail.

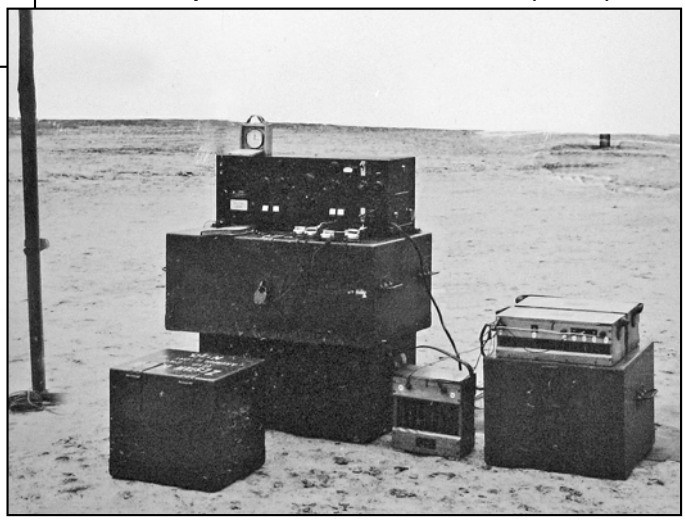


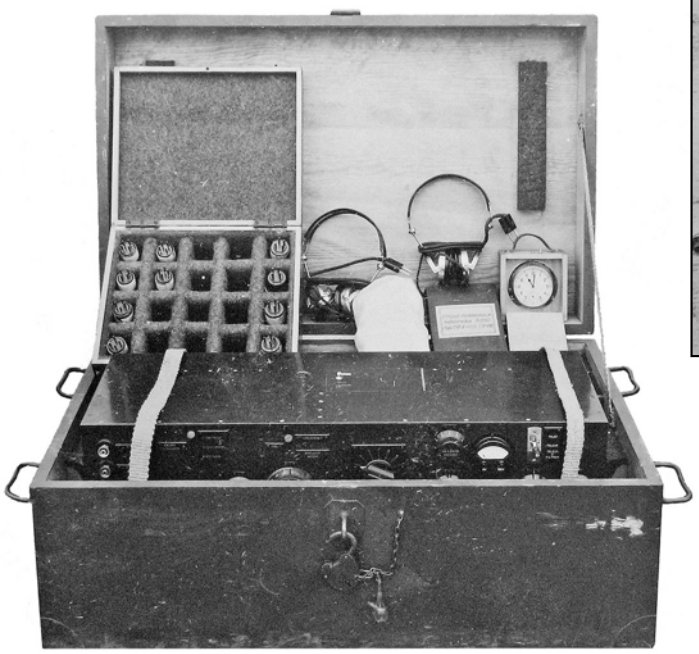
ROW aerial with counterpoise set up (above).



Internal view of ROW model CW3 (above).

A CW3 receiver in the field. A complete station was transported in four wooden boxes (below).





ROW model CW3 with accessories and spares in a wooden transit case.

References:

- Many thanks to Roman Buja, Poland, who kindly granted publishing photographs and translated detailed information taken from his book 'Radiostacje cz. 2'.
- Radiostacje cz. 2, Roman Buja, ISBN 978 83 7769 588 3, Edipresse, Warsaw 2017.
- Instrukcja techniczna do odbiornika ROW (typ CW2, seria II), Warsaw, not dated.
- Instrukcja o sprzecie lacznosci. Radiostacja odbiorcza wywiadowcza dalekiego dzialania (ROW/D / wz. CW3), Warsaw 1937.