

Signallers operating a RKG/A set fitted in a vehicle (note the type BG receiver).

## DATA SUMMARY

**Organisation:** Polish Army.

**Design/Manufacturer:** Marconi WT Co. Ltd.; PWL (Panstwowa Wytownia Laczności) Warsaw.

**Year of Introduction:** 1925-26.

**Purpose:** Communication at HQ and Army level.

**Transmitter:** CW and MCW.

**Circuit features:** Free running oscillator.

**Input power:** 500W.

**Frequency coverage:** 200-500kHz.

**Original YC3 Receiver:**

**Circuit features:** Tuner, RF amplifier (2x), regenerative Detector, AF output (2x).

**Frequency Coverage:** 100-1000kHz.

**Type BG receiver:**

**Circuit features:** RF amplifier, regenerative detector and two AF stages.

**Frequency Coverage:** 120-750kHz.

**Valves:** A415 (3x) and A442.

**Power supply:** 120V HT dry battery and 8V accumulator.

**Aerial:** Umbrella type, supported by a 26m tall steel type RKG mast with a winch. Counterpoise consisting of 4 earth mats of 5.4 x 0.6m in size.

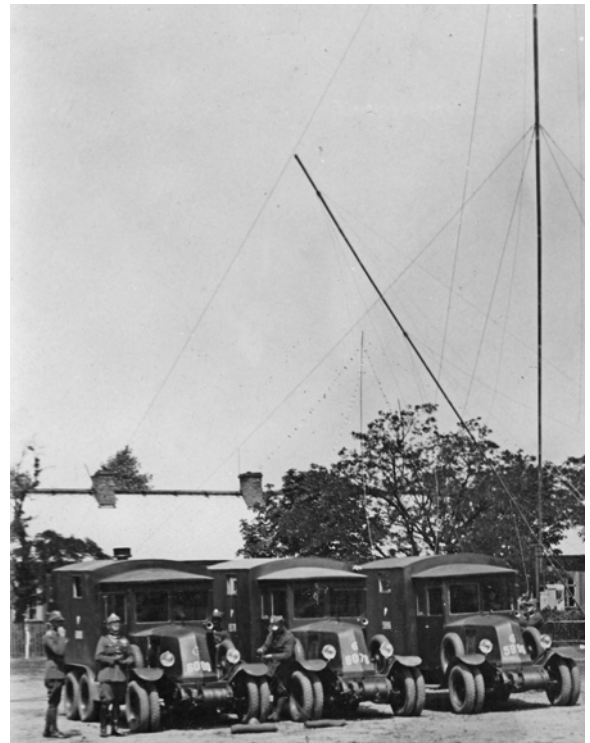
**Range:** 500km (CW); 300km (MCW).

**Valves:** Transmitter: type MT1 and MR1 rectifier; receiver: V24 or DEV (5x).

**Power Supply:** 2.75HP petrol engine driving an AC and DC generator. The original receiver was powered by a 75V dry battery and a 3.6V accumulator.

**Dimensions (cm):** Height 60, length 35, width 80 (set only).

**Weight:** (set only) 85kg.



RKG/A wireless set fitted in a Renault MH2 all terrain vehicle (left) and a complete RKG/A station detachment in three vehicles (above).

## REMARKS

The RKG/A was a transportable and stationary long wave station for wireless communication at higher level of command of Polish Army. It was the basic set during the 1939 campaign.

Originally known as Model YC3, the RKG/A was designed by the Marconi Wireless Telegraph Co. Ltd in 1921. About 30 sets were purchased by Polish Army between 1925 and 1926. A small number were also used by Polish Air Force as ground stations. A RKG/A station was transported in 3 Renault MH2 all-terrain trucks. The first was fitted with the actual set and receiver power sources as the operations vehicle; the second carried the aerial masts and the third vehicle the petrol generator powering the transmitter, with charging panel for the accumulators.

RKG/A set was comprised of the YC3 transmitter, with receiver Tuner Type 78 and Amplifier-Detector AP7, in addition to power sources, connection board, wave meter and aerial gear.

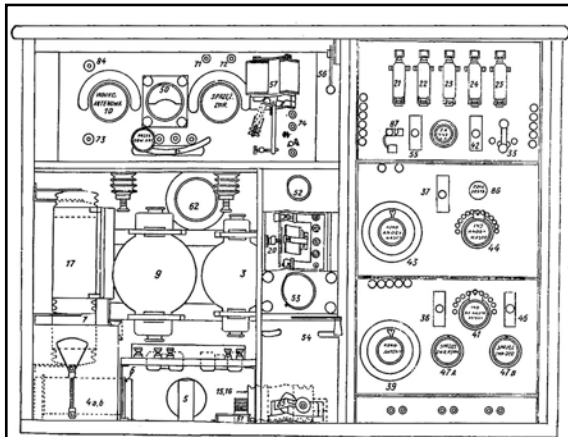
The original receiver could function in two ways:

- With 1 tuning circuit, reaction detector and 2 stage AF amplifier.
- With first tuning circuit, reaction stage, HF amplifier, second tuning circuit, grid detector and 2 stage AF amplifier.

As a replacement of the original Marconi receiver, Panstwowa Wytownia Laczności (PWL) in Warsaw developed in 1931 a replacement receiver with better features, known as type BG.

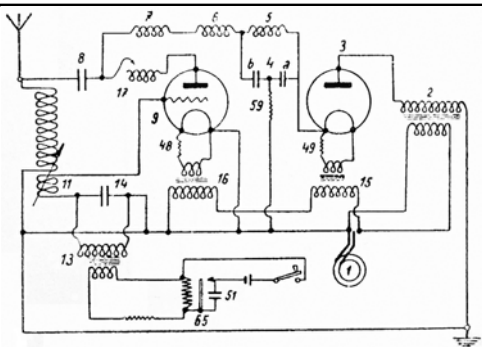
11 units of this receiver were built (other sources mention 20 units). It had acoustic 600 Hz filter for telegraphy, QRM eliminator and voltage meter. Before 1939 some transmitters were probably modernised.

\*) RKG/A means Radiostacja Korespondencyjna sieci Kwatery Głównej i Armii (Radio station for communication in Head Quarter and Army nets)

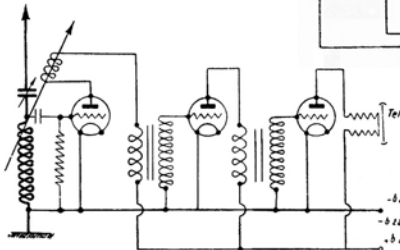


Original RKG/A version with YC3 receiver

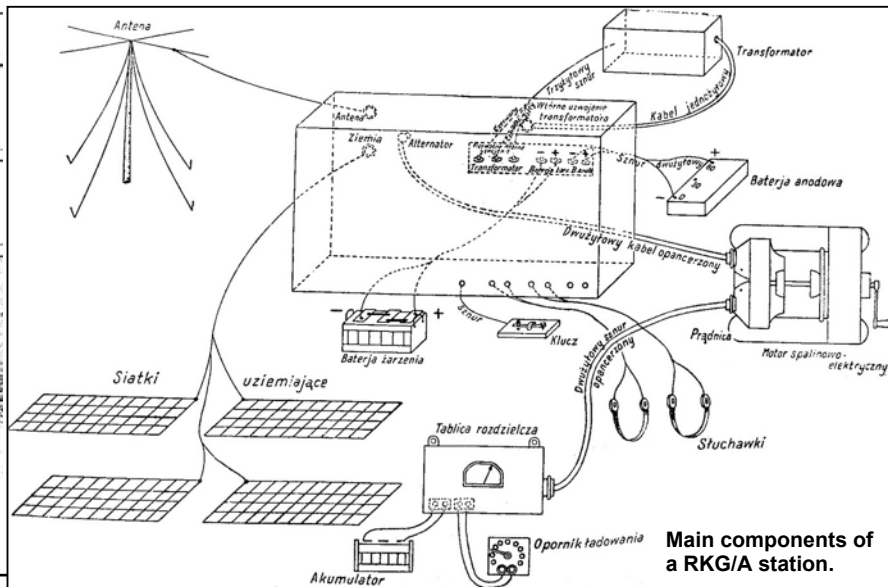
Front panel drawing of a RGK/A (left) : transmitter left and original receiver at the right hand side.



Simplified circuit diagram of the RKG/A transmitter (above) and the original Marconi YC3 receiver (left).



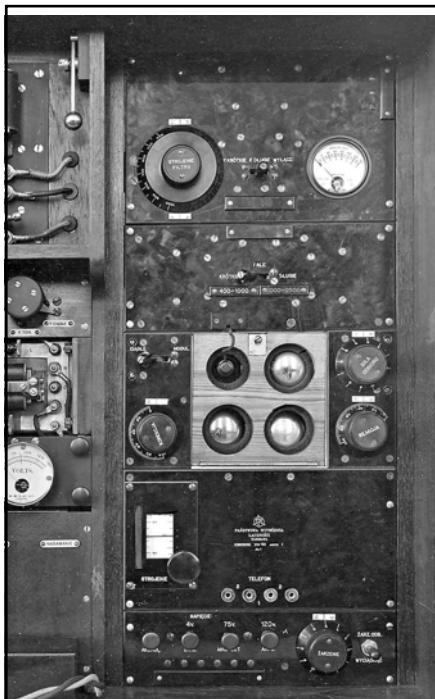
Signallers in a Renault MH2 vehicle operating a RKG/A with original Marconi YC3 receiver.



Main components of a RKG/A station.

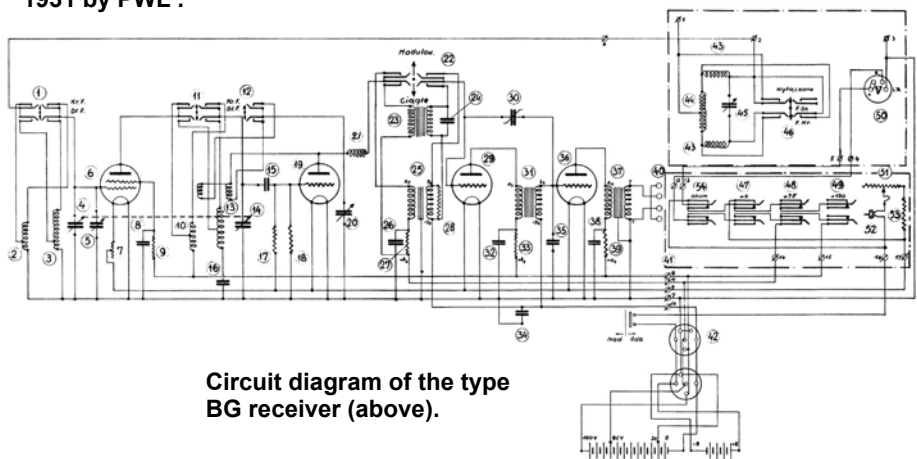
References:

- Roman Buja, Poland kindly granted publishing photographs and translated detailed information taken from his book 'Radiostacje Polowe'.
- Radiostacje Polowe, Roman Buja, ISBN 978 83 7769 588 3, Edipresse, Warsaw 2014.
- Many thanks to Bogdan Szkudlarek, SP3LD, Poland, for the perfect scan of the RKG/A operator's manual.
- Aparaty Radjotelegraficzne Radiostacja Korespondencyjna Sieci Kwatery Głównej I Armji - RKG/A, Warszawa, 1927.



BG Receiver

The original Marconi receiver was later replaced by type BG receiver, developed and produced in 1931 by PWL .



Circuit diagram of the type BG receiver (above).