



One of the 6 Polski Fiat 621R and 621L vehicles carrying a transportable W1 station (above).

W1  
Country of origin: Poland



A transportable W1 station convoy at a halt (right).

## DATA SUMMARY

**Organisation:** Polish Army.

**Design/Manufacturer:** Panstwowe Zaklady Tele- i Radiotechniczne (PZTiR or PZT), Warsaw.

**Year of Introduction:** 1939.

**Purpose:** Communication between Army and Army HQ.

**Transmitter:** CW, MCW, R/T AM, Fax/Hell.

**Circuit features:** MO/CO, push/pull driver, RF PA (two valves in parallel), modulator.

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

**RF output:** 4kW in CW mode. (Not yet acknowledged).

**Transmitter Aerial:** Umbrella type (LF); 45m vertical wire supported on a 45M steel trussed mast (MF). Counterpoise 12 wires of 100m in length.

**Receiver:** Type CW4.

**Circuit features:** Superheterodyne with 8 valves.

**Frequency coverage:** 100kHz-25MHz.

**Receiver aerial:** 25m wire on two 9m tall wooden masts.

**Range:** 500km (CW with reduced power); maximum calculated range was 1500km.

**Valves:** Not known.

**Power Supply:** *Transmitter:* 3-phase 220/380V AC, mains or from a petrol generating set.

*Receiver:* 12V LT and 120V HT (4x) accumulators charged by a separate petrol charging generator.

## REMARKS

The W1 was a high power transportable and stationary wireless station for communication between Armies, and Army and HQ. Prototypes of both versions were developed and built in 1938 by Panstwowe Zaklady Tele- i Radiotechniczne (PZTiR or PZT) in Warsaw. The transportable version was carried in six Polski Fiat 621R and 621L trucks with three trailers.

After a series of Army trials in spring 1939, PZT started to design the production of the W1 which came to an abrupt halt when Poland was invaded in September 1939. Both prototypes, however, were used during the 1939 campaign.

One of the main features of the W1 was working in full duplex in voice, hand speed Morse, high speed Morse Wheatstone equipment, Siemens-Hell's apparatus and Lorenz fax machine.

A W1 station was usually operated from so called 'Operations Office' vehicle or room where the receivers, telegraph apparatus, microphone with amplifier and transmitter remote control were located. For full duplex operation a separation of 5 km between transmitter and the operating office was required.

## References:

- With many thanks to Roman Buja, Poland, who kindly granted permission to publish photographs and translated detailed information from his book.
- Radiostacje Polowe, Roman Buja, ISBN 978 83 7769 588 3, Edipresse, Warsaw 2014.

Two Type CW4 receivers, similar to the Type CW3 shown here, were used with a W1 station (see Chapter 314).

