



Crash  
foundation

CRASH Luchtoorlog- en Verzetsmuseum '40-'45  
"Leren niet te vergeten en niet vergeten te leren"

Air War and Resistance Museum  
"Do learn not to forget en do not forget to learn"



## Lancaster Transmitter and Receiver

The T1154 and R1155 transmitter and receiver displayed here are part of the radio equipment carried on board RAF medium and heavy bombers, such as the Avro Lancaster during WWII.

The T1154 and R1155 were used for long range communication when over enemy territory, and were operated by the Wireless Operator using Morse code, using the Morse Key type F shown here. The transmitter and receiver has large colour-coded tuning knobs or dials to make it easier for the Wireless Operator to change frequency. Most of the time the Wireless Operator would be wearing thick gloves.

An additional R1155 receiver, connected to a direction-finding loop aerial was used by the navigator for obtaining fixes when close to a radio beacon. This gave an indication on a Crossed-Needle Meter mounted in front of the pilot of the direction to fly. Of course there were no radio beacons over enemy territory.

All this equipment operated off two large rotary converters operating off the aircraft's batteries, which were continually charged by a generator attached to the aircraft's engines. These converters required about 1 kilowatt to generate the 50 watts of transmitter power which the transmitter produced.

The navigator's R1155 was replaced later on in the war by a GEE set, one of the first types of radar equipment. This measured on a cathode ray tube the time delay between signals sent out from England. This breakthrough enabled the bomber to navigate accurately for the first time as far as the western part of Germany.

Towards the end of the war, the navigator's GEE set was replaced by a H2S radar set, the forerunner of the radar sets we know today. This was the first ever radar set to give a picture of the ground.

Attached to the H2S radar set was an additional cathode ray tube display called Fishpond, which was installed alongside the Wireless Operators radios, and gave warning of enemy aircraft close by.

Another transmitter/receiver carried on board was the TR9F (made up of a T1138 and R1139). This was a short range set used by the pilot when making contact with the aerodrome watch tower, or with other aircraft in formation. It was used only for voice communication, using a microphone in the mask of the pilot and telephone earpieces mounted inside the pilot's helmet.

An intercom, Amplifier A1134A, was carried on board to enable the crew to communicate. This was powered by a 2 volt Low Tension accumulator, which had to be charged on the ground before takeoff, and a 120v High Tension Battery. A new battery was usually installed before every operational flight. The intercom used dynamic microphones in the oxygen masks, and the telephone earpieces in the crew helmets.