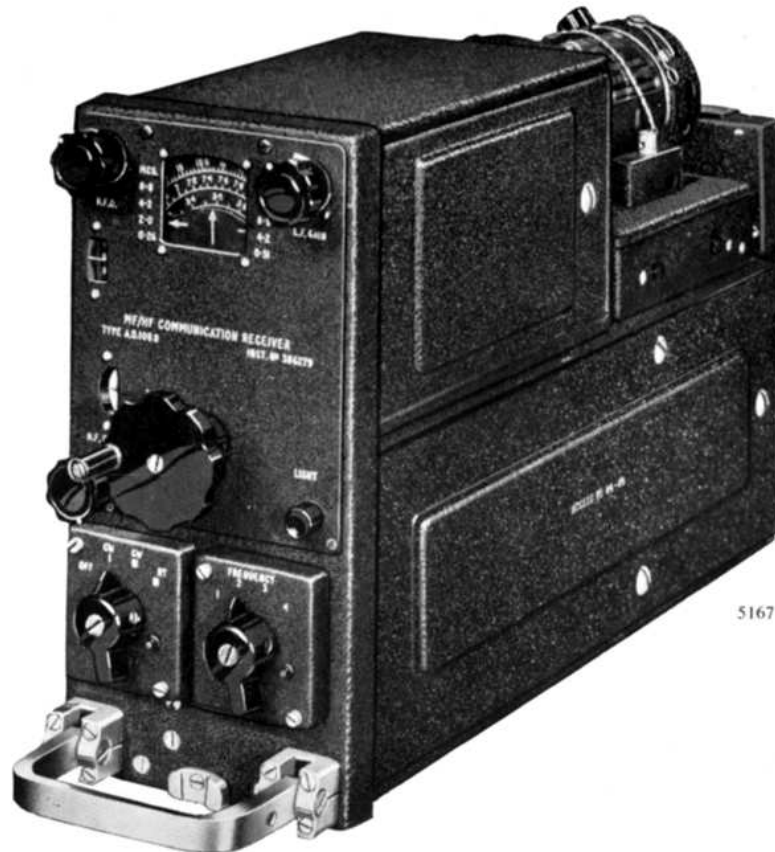




## HF/MF Receiver *Type AD 108*



5167

THE HF/MF RECEIVER Type AD 108 is a highly sensitive nine-valve superheterodyne with facilities for the reception of CW, MCW, and RT signals. With a case size of only four inches and a total weight of eleven pounds, this receiver demonstrates an achievement in the design of carefully engineered miniaturised radio units.

All controls are located on the front panel and facilities are afforded for remotely-controlled operation. Tuning is made easy by the provision of an illuminated, clearly marked scale.

### CIRCUIT

The circuit includes a selective RF stage providing a high degree of image protection. The

first heterodyne oscillator incorporates temperature compensating elements which reduce frequency drift due to changes in ambient temperature to a minimum. Mixing is accomplished by suppressor-grid injection, giving little tendency for pulling even at the highest frequencies.

Two stages of IF amplification are provided and the coupling is varied according to the system switch position. At the narrow bandwidth position a crystal filter is brought into circuit. Front-of-panel control provides for variation of the BFO frequency over  $\pm 1.5$  kc/s.

The output stage is matched to  $33 \Omega$  and gives an undistorted output of 225 mW into this impedance. Negative feedback is employed and

in this way distortion, due to variation of load when using one, two or three headsets, is greatly reduced.

Power supplies are obtained from a rubber-suspended rotary transformer unit mounted at the rear and fed from the 28 V LT aircraft supply and providing an HT voltage of 250. The filament supply of 19 V is obtained from a voltage regulator unit.

### REMOTE CONTROL

With the exception of the BFO adjustment, all controls are duplicated on the remote controller. For tuning, a flexible mechanical drive is used, but the remaining controls are electrically operated. Small ratchet-type electric motors (Type 1263) are fitted to the front panel of the receiver in place of the knobs and click plates normally provided for local control, and are operated by manipulation of the remote controller switches.

These motors are held in place by means of a spring clip device and can be very easily removed.



The receiver, ready for remote control operation, fitted with Type 1263 Controller Switch Drive Motors.

Incorporated in their new design is a thermal-overload cut-out and suitable components for the elimination of electrical interference.

### DATA SUMMARY

**Frequency ranges:** HF: 2–18.5 Mc/s.  
MF: 260–510 kc/s.  
Or alternatively: HF: 2–9.1 Mc/s.  
MF: 150–510 kc/s.

**Service:** CW, MCW, and RT.

**Sensitivity:** For 10 db signal-to-noise ratio with 30% modulated input:  
2  $\mu$ V on HF range, 10–15  $\mu$ V on MF range.

**Selectivity:**  
'Broad': 3.6 kc/s at 6 db attenuation.  
'Narrow': 1 kc/s at 6 db attenuation.

**Image signal attenuation:**  
Greater than 40 db up to 10 Mc/s.  
Greater than 25 db up to 18.5 Mc/s.

**Automatic gain control:** Output varies by less than 10 db on CW and RT when input is increased from 5  $\mu$ V to 1 V.

**Audio output:** 225 mW into 33  $\Omega$  (suitable for one, two, or three pairs of 150  $\Omega$  telephones).

**Power supplies:**  
28 V DC.  
19 ( $\pm$ 1) V DC (regulated supply for valve heaters).

**Power consumption:** 44 W.

**Dimensions:** Height 8 in. (20.3 cm)  
Width 4 in. (10.2 cm)  
Depth 12.5 in. (31.7 cm)  
Weight 11 lb (5 kg)

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