RECEIVER, RADIO, R234
TECHNICAL HANDBOOK - DATA SUMMARY

PART NO 21/5820-99-949-2782
PURPOSE

The Receiver, radio, R234 is a telegraphy or a single or double sideband telephony receiver operating in the m.f. band. It is used in the mobile role in Stations, radio, D11/R254 and D13/R234 (2, dual diversity), and also in the Station, radio, D13/R234 (2, dual diversity) static.

DESCRIPTION

The receiver is a double superheterodyne with facilities for receiving s.a.b., a.s.b. and i.s.b. telephony signals; c.w. and f.a.k. telegraphy signals. The first oscillator is crystal controlled; the first i.f. and second oscillator are variable and produce a second i.f. of 100 kc/s. A third oscillator is used for telegraphy reception. An in-built crystal calibrator ensures that frequency resetting accuracy is high. The calibrator's high stability oscillator can be used.

Issue 1 28 Aug 84

Distribution - Class 337. Code No 3
to provide a local carrier. A.F.C. is operative on all reception modes except c.w. The power supply unit is a.c. operated. A trolley mounted aluminium cabinet houses the three receiver units and separate power supply unit, all of which can be withdrawn on runners. Four folding porter bars are bolted to the cabinet front and rear. External connections are made to the distribution unit mounted at the front bottom of the cabinet.

**PHYSICAL DATA**

- **Height:** 4 ft 0 in.
- **Width:** 2 ft 0.1/2 in.
- **Depth:** 1 ft 11.1/4 in.
- **Weight:** 300 lb approx

**CLIMATIC RANGE**

The equipment has been designed to operate under tropical conditions and over a temperature range of -15°C to +50°C.

**TRANSPORTATION DATA**

In its mobile role, the receiver is mounted on shock absorbent mountings, and can travel over average country.

**ELECTRICAL DATA**

- **Frequency coverage:** Continuous from 2.1-27 Mc/s in 25 bands
- **Intermediate frequencies:**
  - 1st 1-8Mc/s
  - 2nd 100Kc/s
  - 3rd 5Mc/s (r.f. only).
- **Sensitivity for 20dB signal/noise ratio:**
  - D.S.B. (A3) 3.2-6μV
  - S.S.B. (A3a) 1.5-2.4μV
  - I.S.B. (A2b) 1.0-1.8μV
  - C.W. (A1) 0.5-0.7μV for 5% distortion
- **Maximum keying speed:** (FL): 100 bands
- **Frequency shift acceptance:**
  - 280c/s (0.4kc/s bandwidth)
  - 400c/s
  - 850c/s

**ELECTRICAL AND MECHANICAL ENGINEERING REGULATIONS**

- 1W into 8Ω speaker on all services
- 50μW from each sideband amplifier into 600Ω
- 4mW from each sideband amplifier into high or low impedance headset
- 4mA-0-4mA double current to operate an external Carpenter type relay.

*Issue 1, 28 Aug 64*
Frequency resetting accuracy: ±200c/s using in-built calibrator

Automatic frequency control:
Telephony: drift up to ±3kc/s reduced to less than 20c/s
F.S.K.: Drift up to 3kc/s reduced to less than 10% of total shift.

Automatic gain control:
Switched, long or short time constant or off. (Combined position for diversity reception).

Antenna input:
Co-axial, 75Ω?

Metering facilities:
Provision is made for checking signal strength, tuning accuracy, valve currents and h.t. voltages.

POWER REQUIREMENTS
Single phase a.c., 45-65c/s, 100-125V or 200-250V.
Consumption: 400W
(A voltage variation of ±5% can be accepted).

ASSOCIATED PUBLICATIONS
Comm Inst Q 220 - Q 229
Telsa T 060 - T 069