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RECEIVER, RADIO, R234

TECHNICAL HANDBOOK - DATA SUMMARY

PART NO Z1/5820-99-949-2782

PURPOSE

The Receiver, radio, R234 is a telegraphy or a single or double sideband telephony receiver operating in the h.f. band. It is used in the mobile role in Stations, radio, D11/R234 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 d.s.b., s.s.b. and i.s.b. telephony signals; c.w. and f.s.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 100kc/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

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A trolley mounted aluminium cabinet houses the three receiver units and separate power supply unit, all of which can be withdrawn on runners.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

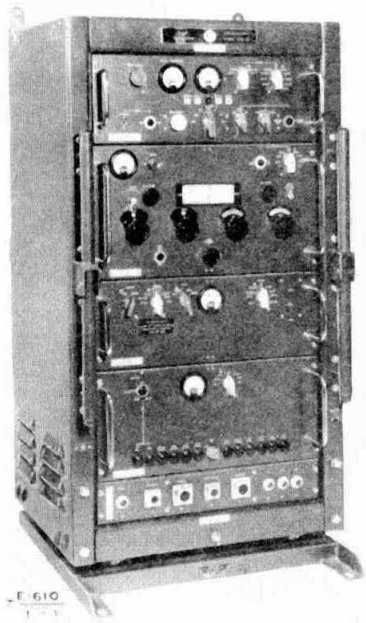
The equipment has been designed to operate under tropical conditions and over a temperature range of -15^{0}C to $+50^{0}$C.

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 2.1-27Mc/s in 25 bands
Intermediate frequencies:	1st 1-2Mc/s 2nd 100kc/s 3rd 3kc/s (f.s.k. working only).
Sensitivity for 20dB signal/noise ratio:	D.S.B. (A3) 3.2-5μV S.S.B. (A3a)) 1.5-2.4μV I.S.B. (A3b)) C.W. (A1) 1.0-1.8μV F.S.K. (F1) 0.4-0.7μV for 15% distortion 5μV for 10% distortion
Outputs:	1W into 9Ω speaker on all services 6mW from each sideband amplifier into 600Ω 1mW from each sideband amplifier into high or low impedance headset. 4mA-0-4mA double current to operate an external Carpenter type relay.
Maximum keying speed (F1):	100 bauds
Frequency shift acceptance:	280c/s (0.4kc/s bandwidth) 400c/s) (1kc/s bandwidth) 850c/s)



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 ±6% can be accepted).

ASSOCIATED PUBLICATIONS

Comms Inst Q 220 - Q 229
Tels I 060 - I 069

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