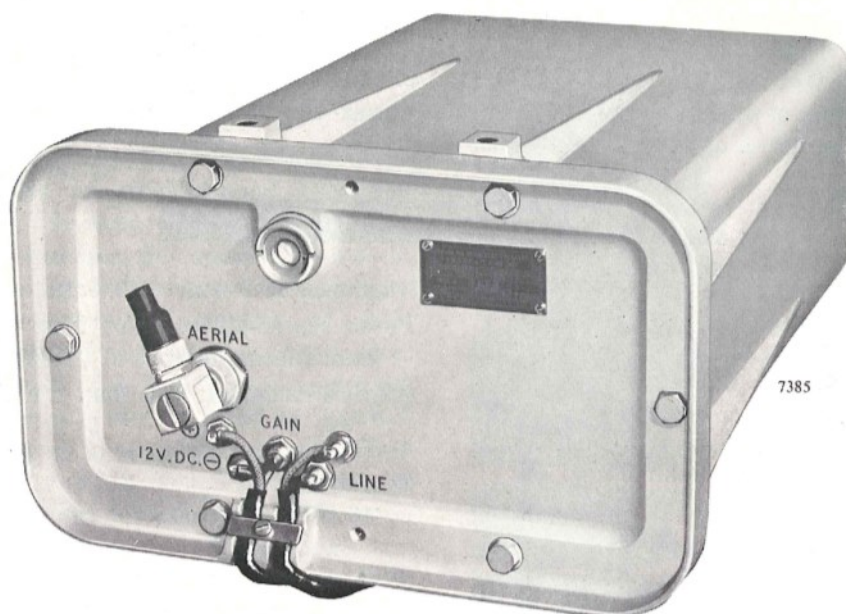




ATE-Marconi VHF Equipment 'RLB' Set



The Type RLB4 Radio equipment which can be pole mounted together with its associated battery unit.

RADIO-TELEPHONE UNIT Type RLB - 'The Country Set' - is a battery operated unit designed to provide telephone service to isolated communities where landline construction is not practicable and mains power is not available. Particular attention has been paid to battery economy. Only one ninth of the normal receiver consumption is used in the 'listening-out' condition, reducing battery drain to about 110-120 milliamps. This means that an ordinary car type battery will operate the station for several weeks under normal conditions.

The RLB set is suitable for use with Automatic, CB, or Magneto systems. By the addition of special units, connections to small manual exchanges is also possible.

The equipment has been designed as a compact, hermetically sealed unit, suitable for pole mounting. A 12 volt battery may be mounted at the foot of the pole, and only a two-wire line is required to the subscriber's instrument. This arrangement allows the aerial to be sited in the most advantageous position from a propagation aspect, eliminates the necessity of long aerial feeder runs, and reduces the installation in the subscriber's premises to that of a conventional landline telephone. The equipment may, of course, be installed inside the premises if convenient.

The only external connections necessary consist of four terminals for the telephone lines and battery feed, with a coaxial socket for the aerial feeder. A preset gain control is fitted on the front

panel. Incorporated in the equipment is an aerial filter which permits simultaneous operation of the transmitter and receiver on one aerial, thus considerably simplifying the mast and aerial supporting structures.

The use of this low consumption self-contained unit is not restricted to isolated subscribers' installations. The equipment is readily transportable and may be conveniently applied to many marine or land mobile uses where low current consumption service is required for long periods.

AUTOMATIC CHANNEL SELECTION

In many applications of single-channel equipment one central location serves as a common terminal

for links to a group of outlying stations. This is frequently the case in systems employing the RLB set, and in similar schemes. In normal practice each such link would require a separate set of terminal equipment at the central location. In order to reduce the complexity and cost of such installations A.S.A.C. (Automatic Selection of Any Channel) equipment has been developed which enables two transmitters and receivers to serve up to six outlying stations, operating on adjacent channels.

There is no loss of secrecy on the individual circuits and the outlying stations are offered all normal signalling facilities.

DATA SUMMARY

GENERAL

Frequency bands: RLB3: 156–184 Mc/s; RLB 4: 68–88 Mc/s; RLB 4A: 54–72 Mc/s.

Operation: Duplex.

Type of transmission: Frequency-modulated telephony and single-pair telephone line.

Range of operation: Dependent upon intervening terrain; under normal conditions approximately 20 miles when working to an RLS terminal.

Dimensions:

Height	Width	Depth	Weight
15 in.	10 in.	6 in.	27 lb
(38 cm)	(25.4 cm)	(15.3 cm)	(12.3 kg)

TRANSMITTER

RF output: 500 mW.

Aerial impedance: 70 Ω

Modulation: Frequency modulation.

Maximum deviation: ± 10 kc/s.

Power consumption: 1.15A from 12 V accumulator (during periods of transmission only).

Spurious radiation: Less than 1 mW.

RECEIVER

Sensitivity:

10 dB signal/noise for input of $4\mu\text{V}$, 100% modulation.

26 dB signal/noise for input of $10\mu\text{V}$, 100% modulation (weighted).

Bandwidth:

± 10 kc/s for -3 dB attenuation.

± 50 kc/s for -50 dB attenuation.

Intermediate frequency: 2.7 Mc/s.

Second channel rejection: Greater than 45 dB.

Power consumption: 1.1 A from 12 V battery (during 'on' period only).

On/off ratio: 1 : 9

Mean battery consumption: 110 mA.

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