



10-Watt Portable HF Transmitter/Receiver *Type HP 31A*

DESIGNED for field operation under arduous conditions, the Type HP 31A equipment consists of two small lightweight units suitable for carrying on the back as a two-man pack set. The set is suitable for CW telegraphy and telephony operation, the circuits being quite conventional.

FEATURES

Operation on one pre-set frequency in the HF band.

No tuning required, enabling totally unskilled personnel to use the equipment.

Simplex communication facilities.

The two transportable units weigh only 26 lb and 28 lb respectively.

Robust weatherproof construction with all components and materials fully tropicalised.



The whole equipment can be set up for operation very quickly.

GENERAL

The equipment comprises two main units, a transmitter/receiver and a hand-generator, each with a supporting frame, together with accessories such as microphone, headphones, key and aerial equipment. In transit the accessories are packed into two containers which fit, like lids, on to the transmitter/receiver unit. Both main units have carrying harness.

To set up for operation the lids are removed from the transmitter/receiver unit and the frame on the hand-generator is unfolded and linked to the frame on the transmitter/receiver to form a rigid structure with a seat convenient for one man



to work the generator while the other operates the equipment. In operation the generator is turned at such a speed as to cause a small indicator light, fitted in the top of the power unit, to flicker. Choice between telephony and telegraphy transmission is made by merely plugging in the appropriate accessory items. When either the microphone pressel switch or the telegraph key (according to the service) is depressed, the carrier is radiated and a lamp in the transmitter/receiver unit lights to provide visual indication to the second operator that power is actually being fed to the aerial.

A 6V vibrator unit can be supplied in lieu of the hand-generator.

AERIALS

Two types of aerial are normally used with this equipment and the particular choice depends on the operating conditions. These consist of a half-wave dipole such as might be easily rigged between two trees or other suitable supports and a vertical quarter wave aerial (a simple stranded copper wire).

DATA SUMMARY

GENERAL

Frequency range: 2.5–8.5 Mc/s. Operation on one crystal controlled spot frequency.

Power consumption:

	Telephony	Telegraphy
RECEIVER	17 mA at 50 V 2.5 A at 6 V	15 mA at 50 V 1.5 A at 6 V

TRANSMITTER

66 mA at 400 V 2.5 A at 6 V	66 mA at 400 V 1.5 A at 6 V
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Dimensions (units folded for carrying):

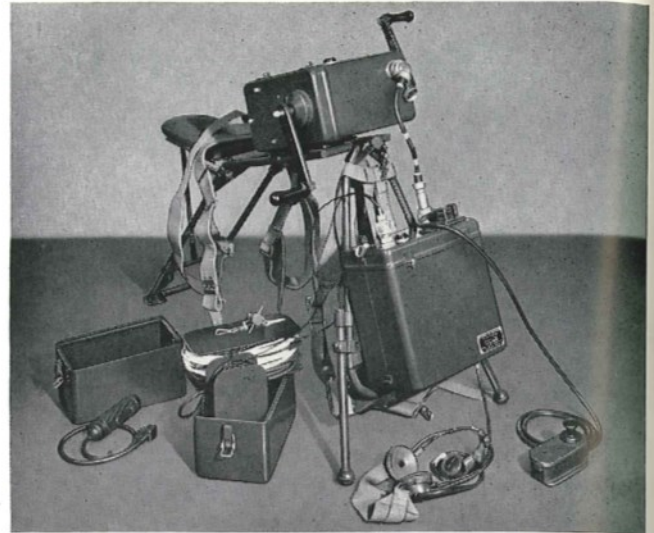
Height	Width	Depth	Weight
TRANSMITTER/RECEIVER UNIT			
22 in. (56 cm)	14 in. (35 cm)	7 in. (18 cm)	28 lb (12.7 kg)
GENERATOR UNIT			
18 in. (46 cm)	14 in. (35 cm)	11 in. (28 cm)	26 lb (11.8 kg)

Marconi

MARCONI'S WIRELESS TELEGRAPH COMPANY LIMITED

Marconi House, Chelmsford

Telephone: Chelmsford 3221. Telex: 1953. Telegrams: Expanse Chelmsford Telex



6961

The set ready for operation.

TRANSMITTER

Power output:

5 W unmodulated carrier on telephony.
10 W on telegraphy.

Modulation: AM to a depth of 90%.

Frequency response: 2 dB attenuation at 300 and 3500 c/s relative to the response at 1000 c/s.

RECEIVER

Sensitivity: 1–3 μ V input for 12 dB signal-to-noise ratio on telephony (30% modulation) and a 20 dB signal-to-noise ratio on telegraphy.

Selectivity: IF bandwidths:
5.5 kc/s at 3 dB attenuation.
14 kc/s at 20 dB attenuation.

Image protection: 35–55 dB.

AF response: 6 dB attenuation at 300 and 2500 c/s relative to the response at 800 c/s.

AF output: 1 mW into 50 Ω .

Automatic gain control:

Commencing operating level at 20 μ V. Variations in input of up to +10 dB with ref. to 20 μ V cause changes not greater than 1 dB in output.