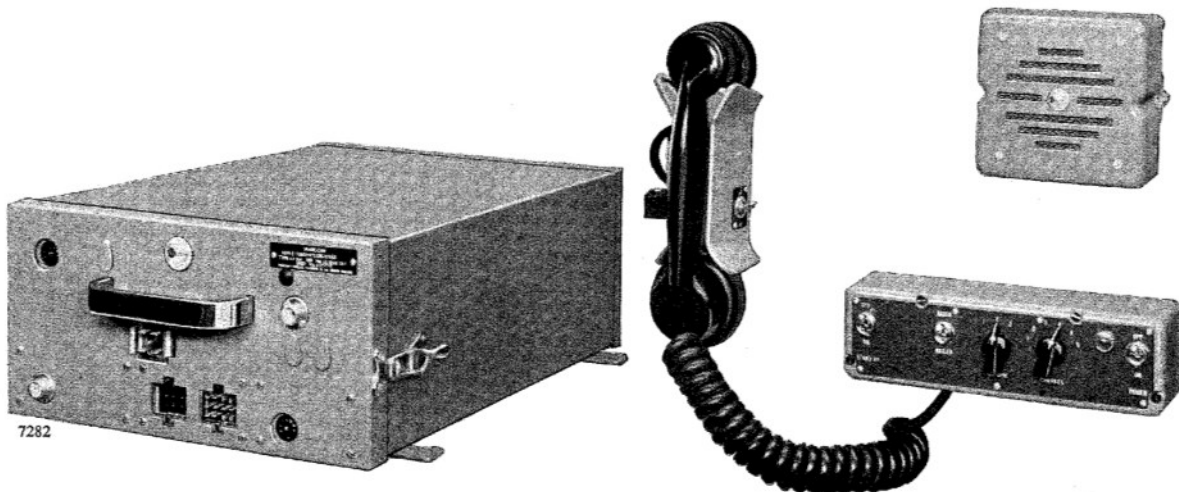




## 10-Watt VHF Telephone Equipments *HP 80 Series (FM)*



INTENDED FOR MOBILE APPLICATIONS, equipments of the HP 80 Series are suitable for fitting in vehicles, harbour craft and naval vessels and may be used for general point-to-point communication links. The particularly good frequency stability obtained in these equipments permits close channel operation. Facilities are provided for switching between up to seven crystal-controlled channels (depending on edition). Either common or dual frequency simplex, or press-to-talk duplex operation may be employed.

Each equipment comprises a transmitter/receiver unit, a control unit and a loudspeaker unit. The transmitter, receiver and power supply circuits are assembled on separate chassis which are fitted in a strong metal case. The individual chassis may be readily detached for servicing purposes. The transmitter/receiver is suitable for

mounting in any convenient position. All control is carried out from a small control unit which may be fitted under the dashboard of the vehicle, for example. A telephone handset is used and transmit/receive changeover switching is effected by means of a pressel switch. The loudspeaker unit is a neat box type unit which, again, may be mounted as convenient for operation.

These equipments are arranged for extended control over a limited distance and facilities are provided on all except the Type HP 82 to enable a loud-hailer to be used with the equipment. An optional unit is an external meter which plugs into either the transmitter or receiver chassis to provide full metering facilities and enable correct aerial matching to be achieved.

The power supply unit incorporates an efficient vibrator pack for receiver supplies. Transmitter supplies are derived from a rotary transformer.

## DATA SUMMARY

### GENERAL

**Service:** FM telephony.

#### Frequency range:

Type	Range Mc/s	Channels: Any one of
HP 81A	70-100	6
*HP 82	152-174	2
HP 84A	30-50	2
HP 85A	70-100	2
HP 85B	70-100	7
HP 86A	145-174	2
HP 86B	145-174	7

**Frequency tolerance:** 30 parts in  $10^6$  without a crystal oven; 8 parts in  $10^6$  with a crystal oven, within ambient temperatures range 0-50°C, where this facility is fitted.

**Aerial input impedance:** 40-50  $\Omega$ .

**Power supplies:** 6 or 12 V DC.

**Power consumption:** On 12 V supplies.

	HP 82	Other types
Receiver only	5.5 A	3 A
Stand-by	7.3 A	4.5 A
Transmit (Simplex)	13.8 A	11 A
Transmit (Duplex)	16.3 A	12.5 A

These figures should be doubled for 6 V supplies.

#### Dimensions:

Height	Width	Depth	Weight (max.)
<i>Transmitter/receiver</i>			
6 $\frac{1}{4}$ in. (16 cm)	14 $\frac{3}{4}$ in. (38 cm)	18 $\frac{1}{4}$ in. (46 cm)	32 lb† (14.5 kg)

\* A version of Type HP 82 is available complying with GPO specification W. 6199.

† Except Type HP 82 - 44 lb (20 kg).

#### Control unit

2 $\frac{3}{4}$ in. (7 cm)	8 $\frac{1}{2}$ in. (21.5 cm)	3 in. (7.6 cm)	3 lb (1.4 kg)
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#### Loudspeaker

4 $\frac{3}{4}$ in. (12 cm)	5 in. (12.7 cm)	2 $\frac{1}{2}$ in. (6.4 cm)	1 lb (0.5 kg)
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### TRANSMITTER

**RF power output:** 10 W.

**Modulation:** FM.

**Spurious radiation:** Not less than -60 dB relative to carrier level.

**Maximum deviation:**  $\pm 15$  kc/s but adjustable to suit the system.

**Frequency response (pre-emphasis characteristic):** Within +1 or -3 dB of a true 6 dB per octave characteristic between 300 and 3000 c/s. (A flat response curve is available on some sets if desired.)

**Modulation limiter:** Limits deviation to a pre-set maximum, regardless of speech input level.

**Loudhailer:** 8 W.

### RECEIVER

**Audio output:** 1 W (max) to loudspeaker.

**Audio response:**  $\pm 6$  dB over the range 300-3000 c/s with respect to a true 6 dB per octave curve centred at 1000 c/s. (Also flat response on some sets if desired.)

**Spurious responses:** Not less than 75 dB below wanted signal.

**Selectivity:** Wide or narrow bandwidth as required.

**Oscillator radiation:** Less than 0.02  $\mu$ W.

*These equipments have been Type Approved by the British Post Office.*



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