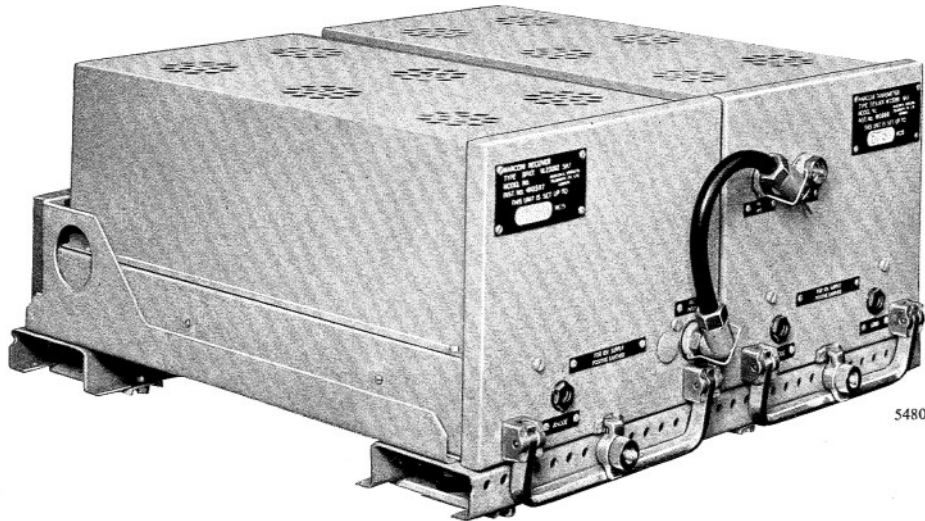




10-Watt Mobile VHF Equipment *Type H16*



RADIO-CONTROLLED taxi fleets, tug-boat ship-to-shore communication, and a wide variety of other applications have proved that the H 16 equipment is an invaluable asset whenever immediate contact with mobile units is required.

The equipment consists basically of a transmitter and receiver, a microphone, loudspeaker and control unit. The transmitter and receiver are separate units and are mounted on a rack fitted with shock absorbers and suitably designed for fitting in such places as the boot of a car. The remaining units are mounted within easy reach of the operator and may be conveniently fitted on the dashboard. The microphone is permanently connected to the control unit and, if desired, the loudspeaker and all controls may be built into one unit. A loud hailer can also be supplied if required. Either a quarter-wave rod aerial or a half-wave end-fed dipole are normally used with this set.

Either common frequency or dual frequency operation on a simplex basis may be employed.

CIRCUITS

AM Transmitter. The first valve of the RF chain is used as a high-frequency crystal-controlled oscillator and frequency multiplier. It is followed by a further multiplier and one stage of amplification at the carrier frequency. The output of this amplifier drives the final power amplifier, and the RF output is fed to the aerial *via* a changeover relay and a concentric feeder. In editions above 78 Mc/s, there is an additional stage of amplification between the first and second frequency multipliers.

The final RF amplifier is anode modulated by a push-pull modulator circuit operating under class AB conditions and fed directly from the microphone.

Receiver. The receiver is a crystal-controlled superheterodyne employing double frequency changing. It has three stages of IF amplification followed by diode detectors for both signal and automatic gain control, and two further diodes

are used in a series/shunt noise limiting circuit. There are two stages of audio amplification.

An edition using a self adjusting muting circuit

operating on the signal/noise ratio is available.

This edition can also be supplied to provide bell calling facilities.

DATA SUMMARY

Frequency ranges:

36-44 Mc/s	
65-78 Mc/s	
78-100 Mc/s	
118-132 Mc/s	
156-184 Mc/s	(Transmitter only).
156-174 Mc/s	} (Receiver only).
174-184 Mc/s	

Transmitter power: 10-14 watts, depending on frequency.

Frequency tolerance: $\pm 0.01\%$.

Modulation: 80-90%.

Receiver sensitivity: AM: between 1.0 and 2.5 μV for 10 db s/n ratio, according to frequency range.

Audio output: 1 watt.

IF bandwidth:

35 kc/s at 6 db (narrow band edition).
50 kc/s at 6 db (wide band edition).

Image protection: 30-60 db, depending on frequency range and IF bandwidth.

AGC: 6 db output change for 60 db input variation.

AF response (Transmitter and Receiver): Within ± 3 db from 300 to 3000 c/s.

Power supplies: 6, 12 or 24-volt batteries.

Power consumption:

Supply	Transmit	Standby	Receive
6V	27A	13A	10A
12V	13A	7A	5A
24V	6.5A	3.5A	2.5A

Dimensions: Rack assembly (overall).

Height	Width	Depth	Weight
8 in.	16 in.	17½ in.	40 lb
(20.3 cm)	(40.6 cm)	(44.4 cm)	(18.1 kg)

The transmitter (Type TGV 401) and receiver (Type RP 47) are supplied separately, as required.



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