



# Transportable H.F. Wireless Station (1 kW)

## Type HS 28/HR 28

THE HS 28/HR 28 is a transportable h.f. transmitting and receiving system, complete with all necessary terminal and control equipment, which may rapidly be put into operation in the field to provide communications over medium and long distances. It is primarily intended to work with fixed stations in long-distance h.f. networks, thus giving communications between a theatre of operations and the supreme command. For this purpose it may be equipped with f.s.k. and multi-channel v.f. telegraph services compatible with those used in the fixed network, in addition to c.w. and i.s.b. or d.s.b. speech services.

The equipment is supplied installed in two separate, fully equipped shelters or, alternatively, in two suitable vehicles, one for transmission and one for reception. The system may be operated from either shelter or from a remote point. Separate shelters or trailers carrying power generating equipment can be supplied for use where main supplies are not available.

### Features

Simple and accurate frequency selection and exceptionally good frequency stability allow immediate 'net' operation. Radio silence can be maintained until traffic operation commences.

Space diversity reception.

Wide range of services: c.w., f.s.k., s.s.b./i.s.b., multi-channel v.f. telegraphy, and s.s.b., i.s.b. and d.s.b. telephony.

Comprehensive control facilities built in.

### EQUIPMENT

A typical system may comprise:

#### TRANSMITTER SHELTER

- (a) Transmitter Type HS 28.
- (b) Transmitter power supply unit.
- (c) Multi-channel voice-frequency telegraph transmitting equipment.
- (d) Transmitter Aerial Matching Transformer Type HA 114.
- (e) Transmitter test load.
- (f) Reflectometer directional coupler and trip unit.
- (g) Reflectometer ratiometer.
- (h) Transmitter test meter.
- (j) Operators control unit with accessories.
- (k) Teleprinter(s).
- (l) Aerials and mast gear.
- (m) Cables and connectors.

#### RECEIVER SHELTER

- (a) Receiver Type HR 28 (quantity 2).
- (b) Multi-channel voice-frequency telegraph receiving equipment.
- (c) Acceptor units (quantity 2).
- (d) Receiver Aerial Matching Transformers Type HA 21 (quantity 2).
- (e) Operators control unit with accessories.

- (f) Remote control unit.
- (g) Teleprinter send/receive switch.
- (h) Teleprinter(s).
- (j) Morse key, hand set and loudspeaker.
- (k) Aerials and mast gear (2 sets).
- (l) Cables and connectors.

### Data Summary

#### GENERAL

##### Services:

- C.W. on/off telegraphy (A1).
- F.S.K. telegraphy (F1).
- S.S.B. telephony (A3a).
- I.S.B. telephony (A3b).
- D.S.B. telephony (A3).
- S.S.B./I.S.B. v.f. telegraphy.

##### Power consumption:

Transmitter shelter: 4 kVA at 0.85 p.f.

Receiver shelter: 2 kVA at 0.85 p.f.

#### TRANSMITTER TYPE HS 28

**Frequency range:** 2–21.999 Mc/s (1 kc/s steps).

##### Power output (at nominal mains voltage):

| Service         | Power output             |       |
|-----------------|--------------------------|-------|
|                 | 2–15 Mc/s 15–21.999 Mc/s |       |
| A1              | 700 W                    | 625 W |
| F1              | 500 W                    | 450 W |
| A3a & b (p.e.p) | 1000 W                   | 900 W |
| A3 (carrier)    | 250 W                    | 225 W |

**Power supply:** 200–250 V ( $\pm 6\%$ ) or 100–125 V ( $\pm 6\%$ ), 45–55 or 55–65 c/s, single-phase a.c.

**Power consumption:** 2.5 kVA.

#### RECEIVER TYPE HR 28

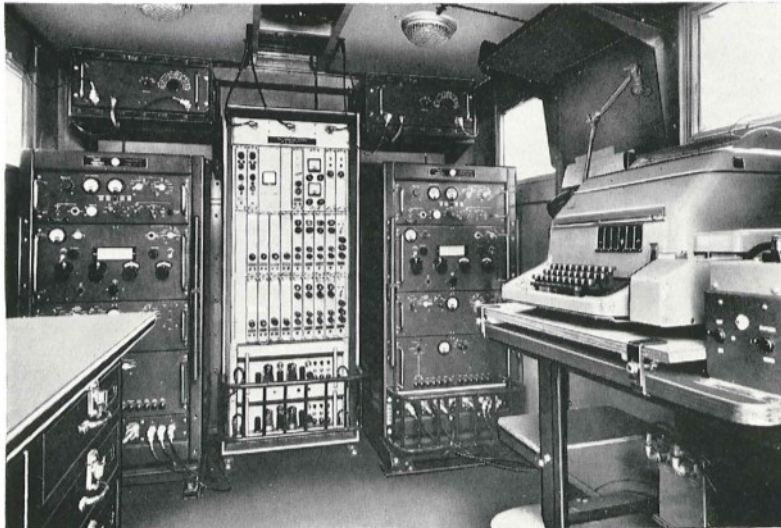
**Frequency range:** 2.1–27 Mc/s, continuously variable.

**Frequency stability:** 80 c/s max. variation per °C and  $\pm 100$  c/s for  $\pm 6\%$  mains voltage change (A.F.C. reduces residual mistune to  $< \pm 20\%$  (telephony) or 10% total shift (f.s.k)).

**Noise factor:** 8 dB from max. 2 to 10 Mc/s. 12 dB max. from 10 to 27 Mc/s.

**Power supplies:** 200–250 V ( $\pm 6\%$ ) or 100–125 V ( $\pm 6\%$ ), 45–65 c/s, single-phase a.c.

**Power consumption:** 270 VA.

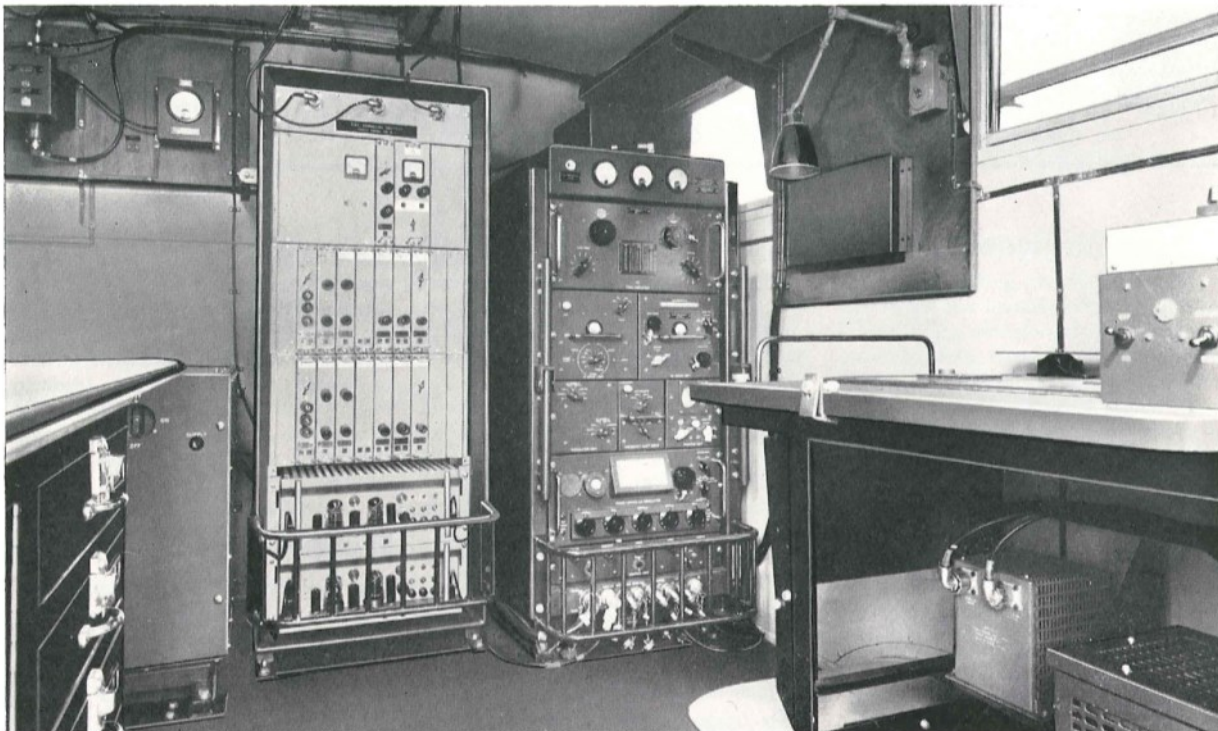


The receiver container.

9337

### Marconi

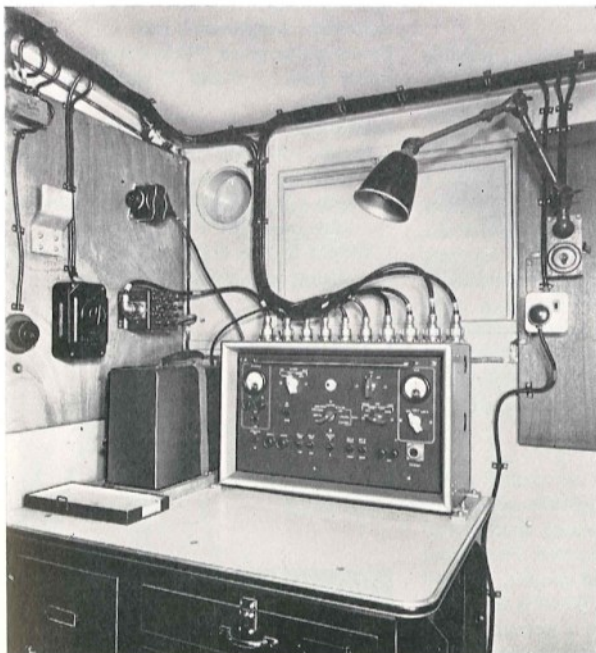
The Marconi Company Limited  
Marconi House, Chelmsford, Essex  
Telephone: Chelmsford 3221 · Telex: 1953  
Telegrams: Expanse Chelmsford Telex



HS 28/HR 28 radio station. The transmitter shelter.

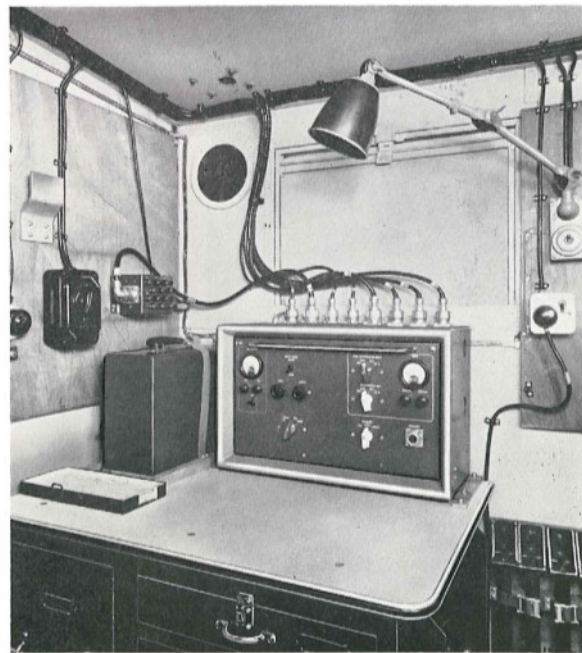
9390

The main operating position in the receiver shelter.



9391

The local operating position in the transmitter shelter, with controls for the transmitter.



9392