



## 400-500 Watt HF FSK Transmitter *Type HS92*

THIS is a low-power transmitter developed for FSK operation on four spot-frequencies. In the design, emphasis has been placed on low initial cost, reliability and simplicity of operation. These features make the equipment especially suitable for middle-distance teleprinter operation.

### FEATURES

Any one of four spot-frequencies may be rapidly selected.

Rapid wavechange may be undertaken by semi-skilled operators, with lamp indication of correct functions.

Four separate 50  $\Omega$  coaxial outputs, the required output selected automatically during wave changing.

Built-in FSK drive unit with direct indication of frequency-shift on panel mounted meter.

Suitable for tropical conditions – sealed against entry of dust or insects.

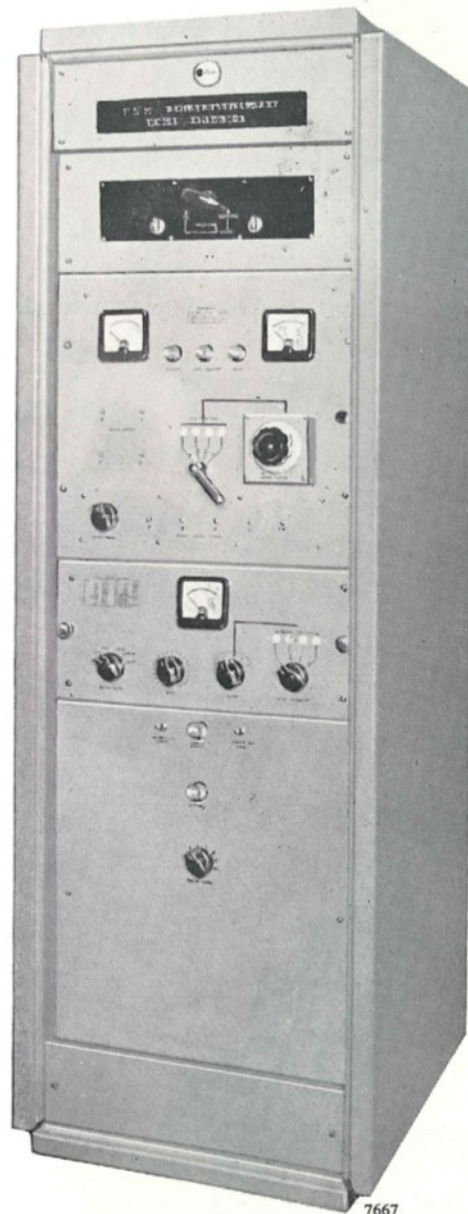
Fully protected by interlock and trip system.

### CONSTRUCTION

The transmitter is housed in a 6 ft metal cabinet and comprises three main units as follows: RF unit, FSK drive unit and power supply unit. The RF and FSK units are runner-mounted for easy access, and full metering facilities are provided on the front panels. The cabinet is dust proof and the equipment is suitable for tropical use.

### CIRCUIT

A 3.1 Mc/s crystal oscillator in the FSK unit is frequency-shifted by a reactance modulator stage controlled by an electronic relay circuit. The



7667

oscillator output is fed to a balanced mixer stage and mixed with the output from a four spot-frequency crystal drive oscillator. The final radiated frequency is selected by the mixer anode circuit, amplified and fed to the RF Unit.

This unit contains a low-power amplifier stage coupled to the output tetrode which is matched to the aerial feeder by a  $\pi$  circuit.

Throughout the transmitter the number of controls has been reduced to a minimum.

### DATA SUMMARY

**Frequency range:** Four spot-frequencies in the range 2–20 Mc/s.

**Service:** FSK (F.1).

**Power output (nominal to aerial feeder):**

500 W (2–10 Mc/s).

400 W (10–20 Mc/s).

**Output impedance:** 50  $\Omega$  unbalanced.

**Maximum SWR:** 2:1

*Note:* An external matching transformer can be supplied for converting the 50 ohms unbalanced output to 600 ohms balanced, when required.

**Frequency stability:**  $\pm 15$  parts in  $10^6$  over a  $10^\circ\text{C}$  range between  $10^\circ\text{--}40^\circ\text{C}$  ambient.

**Harmonic radiation:** Below 200 mW (complies with International Regulations).

**Keying speeds:** 200 bauds max.

**Frequency shift:** Variable between 200–1000 c/s.

**Power supply:** 200–250 V, 50–60 c/s, single phase.

**Power consumption:** Standby: 425 W.  
Total: 1800 W.

**Dimensions:**

Height	Width	Depth	Weight
6 ft	2 ft	2 ft 6 in.	1470 lb
(185 cm)	(61 cm)	(76 cm)	(670 kg)

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