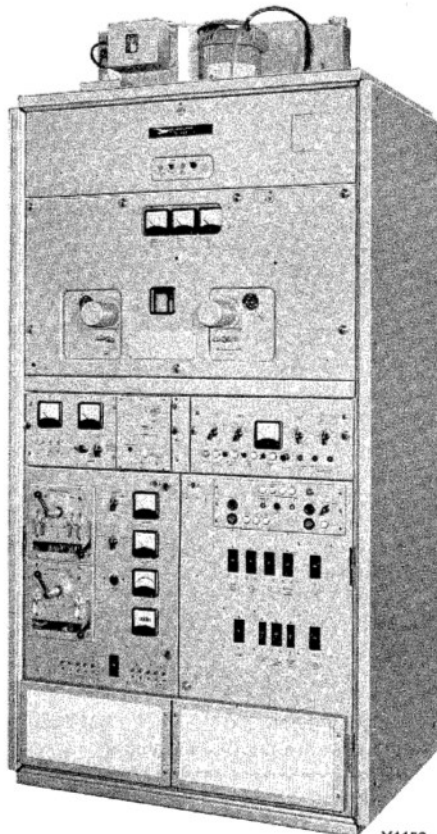


# Marconi 7½ kW H.F Transmitter Type H 1103 series



Y1152

The H 1103 transmitter is a 7½ kW p.e.p self-tuned linear-amplifier using an untuned wide-band distributed amplifier to drive the final stage. It is extremely compact, all power supply components being included in the cabinet, and may be mounted side-by-side against a wall. No under-floor air or cable ducts are required.

The transmitter uses frequency-following servo-tuning of the final stage. When the drive frequency is changed, the self-tuning system operates to provide the correct tuning and loading of the final stage within about 30 seconds, and the input drive level is automatically adjusted. In service, the tuning and loading servos compensate for changes in aerial feeder impedance due to variations in weather conditions.

Manual operation may be selected if preferred, only two range switches, three fine tuning controls and an attenuator being used.

The power supplies incorporate the latest techniques in silicon rectifier and air-cooled transformer design, enabling all power equipment to be incorporated within the transmitter and avoiding the necessity for special accommodation.

## FEATURES

Self-contained, no back or side access required.

Minimum i.s.b distortion is ensured by simple fixed r.f feedback network.

All supplies use compact silicon rectifier assemblies.

Full feeder protection and output monitoring, with built-in directional coupler.

Full extended and remote control facilities available.

## DATA SUMMARY

**Frequency range:** 2-27.5 MHz.

**Services:** i.s.b, s.s.b, f.s.k, f.s diplex, low-level d.s.b (dependent on drive used).

**Output power:** 7.5 kW p.e.p ( $\pm 0.5$  dB) on i.s.b, 6 kW c.w on/off and f.s telegraphy.

**Harmonic radiation:** Less than 50 mW below 30 MHz. Less than 50 mW above 30 MHz (with FT-1297-02 television interference filter).

**Output impedance:** 50  $\Omega$  unbalanced v.s.w.r 2:1.

**Noise level:** (a) More than 30 dB below a carrier level of between -26 dB and -16 dB relative to p.e.p for components

in a band up to 200 Hz either side of carrier.

(b) More than 50 dB below p.e.p for all components of a single tone up to -6 dB relative to p.e.p.

**Non-linear distortion:** All i.p.s better than -36 dB relative to either of two equal tones up to p.e.p.

**Pilot carrier compression:** Less than 1 dB for any level of single frequency signal up to -6 dB relative p.e.p.

**Input from drive:** 0.8 W to 2.0 W p.e.p into 75  $\Omega$  at radiated frequency. C.W levels are 1 dB lower. Into 75  $\Omega$  at radiated frequency, p.e.p levels are 1 dB higher.

**Power supply:** 380-440 V, 3-phase, 4-wire a.c, 50 or 60 Hz ( $\pm 2\frac{1}{2}\%$ ) to order.

**Power supply variations:** The H 1103 is normally supplied with an A.V.R which is set to give nominal mains voltage -1% for mains input variations of -6% to -14%.

**Power consumption:** Mark 16 kW, spare 8.5 kW, i.s.b 14 kW.

**Power factor:** better than 0.9.

**Environment:** 0°C to 45°C. Humidity 90% maximum at 40°C. Altitude up to 6000 ft (1830 metres).

## Dimensions:

Height	7 ft 11 in.	(236 cm) (excluding harmonic filter)
	9 ft 1 in.	(277 cm) (with filter)
Width	3 ft 9 in.	(115 cm)
Depth	2 ft 6 in.	(76 cm)
Weight	16 cwt	(813 kg approx.)

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