



HF SSB Receiver Type HR 22



6574

TYPE HR 22 is a reliable single-channel single-sideband receiver which can be switched to receive either the upper or lower sideband. Facilities are provided also for the single-sideband reception of double-sideband transmissions. The selected sideband is demodulated by the carrier after the latter has been filtered and amplified so as to give it a relatively large and constant amplitude. In this way a considerable reduction in the harmonic distortion due to selective fading is achieved. In addition it is possible to select that sideband which is more free from adjacent channel interference.

A double-superheterodyne circuit is employed, with a first IF of 1600 kc/s and a second IF of 100 kc/s. The frequency range is covered in four bands.

The receiver itself is contained in a desk-mounting case and uses a separate compact power supply unit. Both units can also be supplied for mounting in a standard 19-inch rack cabinet.

Features

Crystal control on any six spot frequencies in the range.

High-stability LC oscillator gives additional complete range coverage.

Can be switched to receive either upper or lower sideband.

Will receive either upper or lower sideband of a double-sideband transmission.

Demodulation by reconditioned carrier considerably reduces distortion due to selective fading.

Ease of servicing access. Units readily withdrawable from their cases. Receiver is fitted with a hinged top lid.

Reliability of operation, due to robust design.

Data Summary

Service: ISB (one sideband), DSB (one sideband) and SSB.

Traffic capacity: One or two telephone channels.

Frequency range: 2–32 Mc/s.

Input impedance: 75 Ω coaxial.

Noise factor: 8 dB at 2 Mc/s; 12 dB at 32 Mc/s.

Selectivity:

1st IF: ± 15 kc/s at 3 dB.

2nd IF: Discrimination against frequencies more than 400 c/s outside the passband on the side nearest the carrier is greater than 55 dB. Against frequencies more than 3.5 kc/s outside the passband on the side remote from the carrier, discrimination is greater than 50 dB.

Image signal protection:

90 dB at 2 Mc/s. 40 dB at 27 Mc/s.

Sensitivity: For 20 dB signal-to-noise ratio with 3 kc/s passband, 1.6 μ V at 2 Mc/s, 2.5 μ V at 32 Mc/s.

Overall frequency response:

6 kc/s passband – Less than 4 dB variation.

3.5 kc/s passband – Less than 4 dB variation.

AFC: Capable of following frequency drifts up to ± 3 kc/s with residual mistune of less than ± 20 c/s.

AGC: No more than 5 dB change in output for change in input from 0 to +80 dB relative to 1 μ V.

AF output: 10 mW max. in 600 Ω . 1 mW in 600 Ω using 10 dB attenuation pad.

Power supply: 110–120 V or 200–250 V, 40–60 c/s, single-phase AC.

Power consumption: 90 W.

Dimensions:

	Height	Width	Depth	Weight
<i>Receiver</i>	1 ft 2 in. (35.6 cm)	1 ft 8½ in. (52 cm)	1 ft 4 in. (40.6 cm)	68 lb (31 kg)
<i>Power unit</i>	6¼ in. (15.8 cm)	1 ft 8½ in. (51.5 cm)	1 ft 2 in. (35.6 cm)	58 lb (26.3 kg)

Marconi

Marconi's Wireless Telegraph Company Limited
Marconi House, Chelmsford, Essex
Telephone: Chelmsford 3221 · Telex: 1953
Telegrams: Expansé Chelmsford Telex