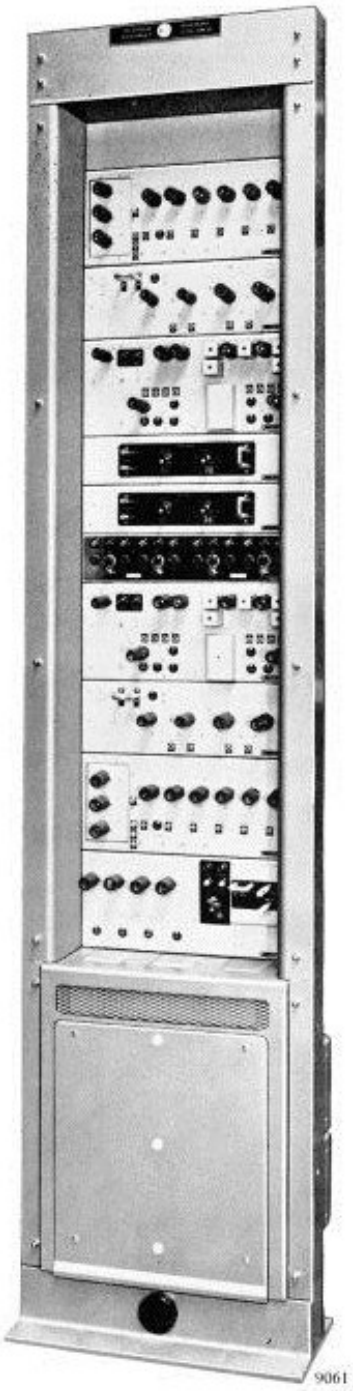
Baseband Racks HM 50 Series



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BASEBAND equipment, HM 50 series, is designed for use with wide-band microwave relay systems, such as the HM 500/HM 550 series.

It consists of baseband amplifiers, pilot and noise monitors, jackfields and traffic switches, with associated power supplies. Single or twin telephony, television or hybrid systems may be accommodated on a single 7 ft. 6 in. rack. More complicated systems may be built up as required.

The system is designed to carry up to 600 telephone channels or one television channel, with sound-on-vision facility if required.

FACILITIES

Test points for monitoring and facilities for adjusting the traffic input and output levels.

Continuity and stability pilots for automatic system control.

Simultaneous transmission of both high-fidelity sound and vision signals.

EQUIPMENT

The multi-channel telephone or television signals are amplified by the input amplifier for application to the modulator unit of the transmitter.

At the terminal receiver the demodulated signal is amplified by a suitable output amplifier and then is available for application to multi-channel carrier telephone or television circuits.

An unmodulated pilot carrier is inserted at the input to the transmitter baseband amplifier and transmitted over the radio relay. The level of the pilot carrier is monitored at the output terminals of the receiver line amplifier and variations in pilot level detected. By this means the continuity of the system is continuously monitored and an alarm is initiated if the pilot level varies outside certain pre-set limits, determined by the user within the range provided. Automatic change-over to standby equipment can also be initiated by the pilot monitor.

Data Summary

Power supplies: 200–250 V (±2%), 45–65 c/s (±2½%) single-phase a.c.

Dimensions: Height 7 ft 7¼ in. (230 cm)
Width 1 ft 8½ in. (52 cm)
Depth 1 ft 6 in. (46 cm)

MULTI-CHANNEL TELEPHONE SERVICE

Channel deviation: 200 kc/s r.m.s.

Modulation frequency range:
300 c/s–4 kc/s for c.o.w and supervisory.
60 kc/s–2·54 Mc/s for 600 channels.

Baseband impedances: 75 Ω unbalanced. Return loss better than 20 dB.

Channel test tone levels:
Input −48 dBm to −34 dBm.
Output −22 dBm to −12 dBm.

TELEVISION SERVICE

Vision circuit:
Deviation, 8 Mc/s peak-to-peak.
Modulation frequency range, 25 c/s–5 Mc/s.

Frequency response:
L.F. Departure not greater than ±2% from ideal square wave input at field frequency, excluding initial overshoot.
M.F. Departure of bar pulse from ideal less than ±2% excluding overshoot.
H.F. 100 kc/s–5 Mc/s, ±0·25 dB.

Rise time: Not greater than 75 mμs.

Linearity: Between black and peak white ±5% sync. pulse, ±2% of peak-to-peak signal.

Group delay (baseband): Not exceeding 40 mμs from 200 kc/s to 5 Mc/s.

Baseband levels:
Input +5 dB to −5 dB.
Output +5 dB to −5 dB.
with reference to 1 V peak-to-peak.

Input and output impedances: 75 Ω, unbalanced.

MUSIC CIRCUIT

Frequency response: Within 1 dB from 30 c/s–15 kc/s.

Input and output levels: 0 to 12 dBm.

Input and output impedance:
600 Ω, balanced.

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