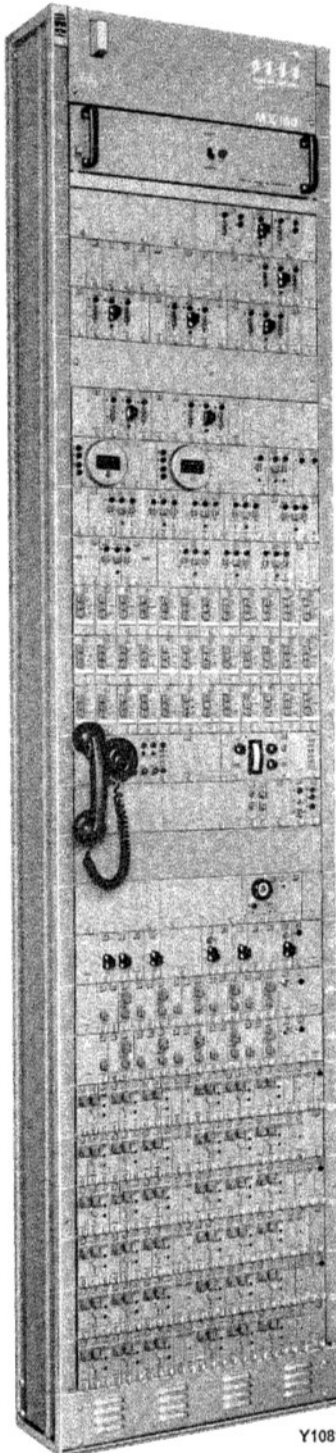


Marconi 960-Channel Multiplex Carrier Equipment

MX 180 Series

Designed and produced by Marconi Italiana, Genoa, Italy



Y1081

The MX 180 Multiplex Carrier equipment is suitable for use on coaxial cable and radio link bearer circuits. The equipment conforms to the latest recommendations of the CCITT.

FEATURES

Fully transistorized.

High level and low level out-of-band signalling. Carrier generating equipment may be supplied duplicated with automatic changeover switching to standby source. System may be sub-equipped with minimum channel capacity initially required; extra channels with associated group and super-group translation equipment may be added to meet demands of traffic growth.

Line pilot, group reference pilot and super-group reference pilot insertion and extraction facilities are available. Through group and through super-group filters available.

Mains or battery operation.

Circuit

The 12 channel inputs are separately modulated with 12, 16 and 20 kHz forming four sub-groups each in frequency range 12 to 24 kHz. The respective sub-groups are then modulated with 84, 96, 108 and 120 kHz and combined to form a 12 channel basic group in the frequency range 60-108 kHz. The basic super-group is formed by modulating respective groups with 420, 468, 516, 564 and 612 kHz, assembling the 60 channels in the frequency range 312-552 kHz.

The basic super-groups are modulated with appropriate super-group frequencies dependent upon the capacity of the carrier system.

DATA SUMMARY

Effective channel bandwidth: 300-3400 Hz

Line frequencies: 60 to 4028 kHz.

Audio input level ((2 wire transmit): 0 dBm nominal.

Audio input level (4 wire transmit): 0 to -15 dBm.

Audio output level (4 wire receive): +8 to -7 dBr.

Audio to audio frequency/attenuation distortion: Within 2/5 CCITT limits.

Group input level, transmit: -37 dBm.

Group output level receive: -30 dBm.

Super-group transmit level: -35 dBm.

Super-group receive level: -30 dBm.

Line transmit level: -33 to -45 dBr.

Line receive level: -15 to -33 dBr.

Cross-talk between channels: Not worse than 70 dB.

Cross talk between groups: Not worse than 75 dB.

Cross talk between super-groups: Not worse than 77 dB.

Master oscillator frequency (channel capacity not exceeding 120 channels): 4 kHz.

Master oscillator frequency (channel capacity exceeding 120 channels): 124 kHz.

Master oscillator stability: ± 1 in 10^{-7} .

Signalling frequency: 3825 Hz.

Signalling level: -6 dBm or -18 dBm.

Line pilot reference frequency: 60 kHz.

Group pilot reference frequency: 84 kHz.

Super-group pilot reference frequency: 411-92 kHz.

Power supplies: 110-220 V a.c. $\pm 2\%$, 50-60 Hz, -48 or -60 V d.c. $\pm 20\%$, -10% or -24 V d.c. $\pm 2\%$.

Dimensions

Height 8 ft 6½ in. (260 cm)

Width 2 ft (60 cm)

Depth 9 in. (22.5 cm)

Weight 496 lb (225 kg)

fully equipped

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