



G.332

INTERNATIONAL ANALOGUE CARRIER SYSTEMS

INDIVIDUAL CHARACTERISTICS OF INTERNATIONAL CARRIER TELEPHONE SYSTEMS ON METALLIC LINES

12 MHz SYSTEMS ON STANDARDIZED 2.6/9.5 mm COAXIAL CABLE PAIRS

ITU-T Recommendation G.332

(Extract from the *Blue Book*)

NOTES

1 ITU-T Recommendation G.332 was published in Fascicle III.2 of the *Blue Book*. This file is an extract from the *Blue Book*. While the presentation and layout of the text might be slightly different from the *Blue Book* version, the contents of the file are identical to the *Blue Book* version and copyright conditions remain unchanged (see below).

2 In this Recommendation, the expression “Administration” is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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12 MHz SYSTEMS ON STANDARDIZED 2.6/9.5 mm COAXIAL CABLE PAIRS

(Mar del Plata, 1968; amended at Geneva, 1980)

This Recommendation defines a coaxial cable system providing 2700 telephony channels in the frequency band 0.3 MHz to about 12.4 MHz which, according to the provisions of Recommendation J.73 [1], can alternatively be used to provide 1200 telephone channels in the frequency band 0.3 MHz to about 5.6 MHz and one TV-channel in the band of about 6 MHz to 12.3 MHz for the transmission of a vestigial sideband television signal with an effectively transmitted video-frequency band up to 5.5 MHz. The repeaters should be spaced at about 4.5 km.

1 Arrangement of line frequencies for telephony

The arrangement of the line frequencies for telephony shall conform to Plans 1A, 1B or 2 described below. Plan 1A is to be preferred to Plan 1B. In international relations between countries using different modulation procedures (see Recommendation G.211) and in the absence of any special arrangement between the Administrations concerned including, if necessary, the Administrations of transit countries, Plans 1 are to be preferred to Plan 2.

1.1 Frequency arrangement of Plan 1A

Plan 1A uses the first modulation procedure described in Recommendation G.211.

The telephone channels should first be assembled into basic supermastergroups. Three supermastergroups are transmitted to line in accordance with the frequency arrangement of Figure 1/G.332.

In this figure the virtual carrier frequencies of the two lower supermastergroups are shown.

1.2 Frequency arrangement of Plan 1B

Frequencies below 4287 kHz

For frequencies below 4287 kHz, Plan 1B uses the second modulation procedure described in Recommendation G.211.

The telephone channels should first be assembled into supergroups. Fifteen supergroups are transmitted to line in accordance with the frequency arrangement of Figure 2/G.332 (frequencies below 4287 kHz). These fifteen supergroups comprise the basic 15-supergroup assembly (No. 1) described in Recommendation G.233; the carrier frequencies are shown in that Recommendation. Figure 3/G.332 gives further details of the frequency arrangement below 4287 kHz.

Frequencies above 4287 kHz

For frequencies above 4287 kHz, Plan 1B, uses the first modulation procedure described in Recommendation G.211.

For frequencies above 4287 kHz, the frequency arrangement of Figure 2/G.332 is identical with that of Figure 1/G.332.

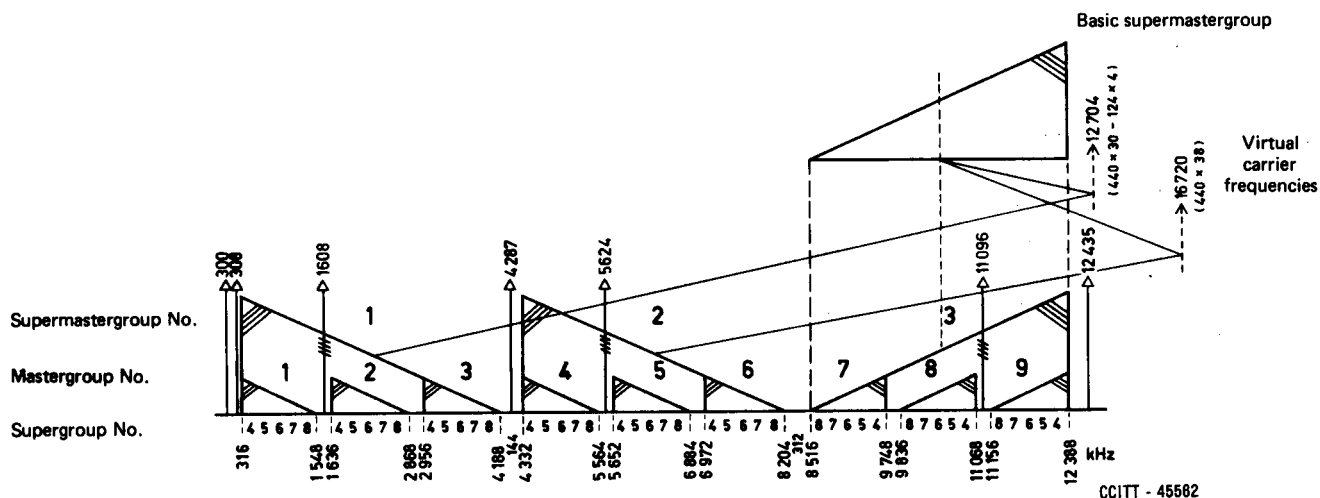


FIGURE 1/G.332

Plan 1A frequency arrangement for 12 MHz systems

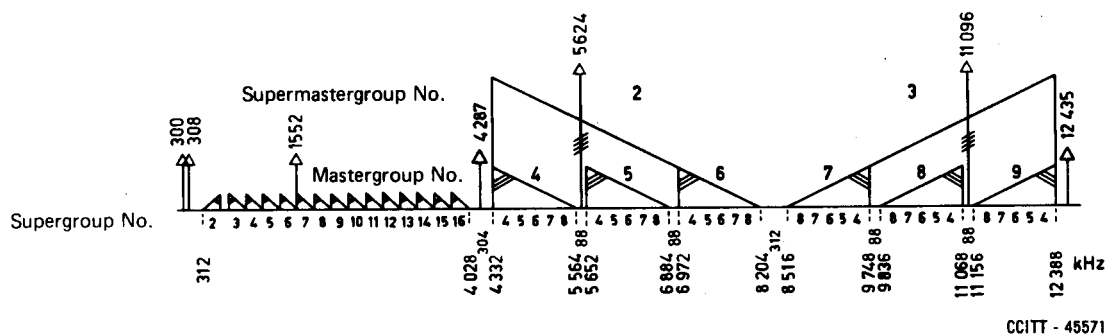


FIGURE 2/G.332

Plan 1B frequency arrangement for 12 MHz system

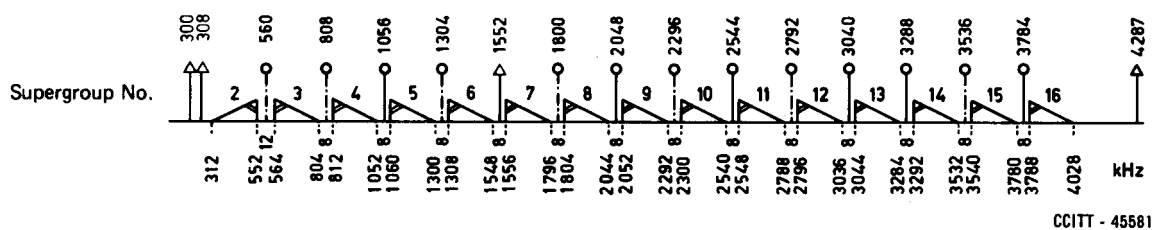


FIGURE 3/G.332

Plan 1B frequency arrangement for 12 MHz systems: frequencies below 4287 kHz

1.3 Frequency arrangement of Plan 2

This plan uses the second modulation procedure described in Recommendation G.211.

The telephone channels should be assembled into basic (No. 1) 15-supergroup assemblies. Three 15-supergroup assemblies are transmitted to line in accordance with the frequency arrangement shown in Figure 4/G.332. In this figure, the virtual carrier frequencies of 15-supergroup assemblies Nos. 2 and 3 are shown.

2 Pilots and additional measuring frequencies

2.1 Line-regulating pilots

The CCITT recommends that 12 435 kHz be used for the main line-regulating pilot.

In any regulated-line section crossing a frontier, it is recommended that in both directions of transmission the Administration on the sending side should permanently transmit one or two auxiliary line-regulating pilots at 308 and/or 4287 kHz, at the choice and request of the Administration on the receiving side so as to provide for additional regulation, for example.

The frequency accuracy recommended for the pilots is $\pm 1 \times 10^{-5}$.

The power level of the main and auxiliary line-regulating pilots should be adjusted at the point of injection to have a value of -10 dBm0. The harmonics of the 308 and 4287 kHz pilot should each have a level not higher than -70 dBm0.

Equipment should be designed in such a way that these pilots may be blocked at the end of a regulated-line section, so that their level shall be at least 40 dB below that of the pilots used on other sections.

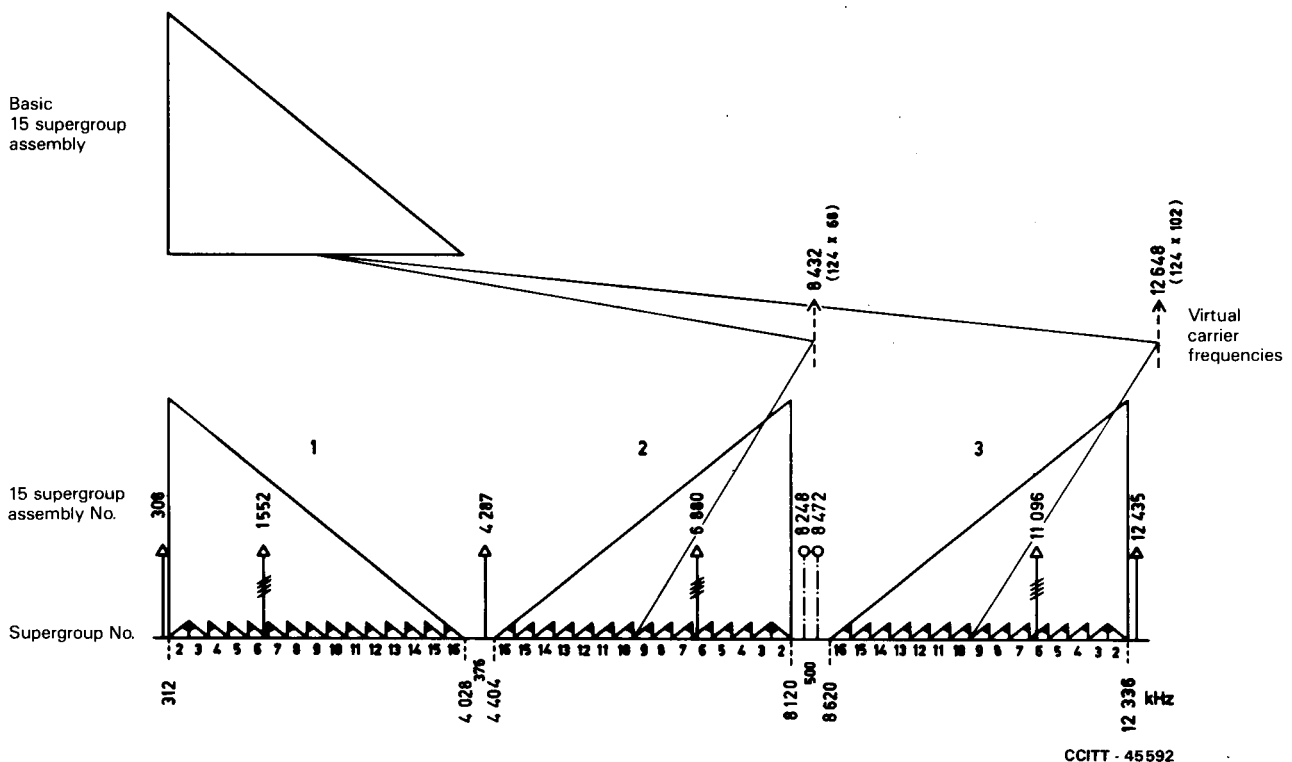


FIGURE 4/G.332

Plan 2 frequency arrangement for 12 MHz systems