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MAINTENANCE OF INTERNATIONAL SOUND-PROGRAMME AND TELEVISION TRANSMISSION CIRCUITS

MONITORING TELEVISION TRANSMISSIONS – USE OF THE FIELD BLANKING INTERVAL

ITU-T Recommendation N.67

(Previously "CCITT Recommendation")

FOREWORD

The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the International Telecommunication Union. The ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Conference (WTSC), which meets every four years, established the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

ITU-T Recommendation N.67 was revised by the ITU-T Study Group IV (1988-1993) and was approved by the WTSC (Helsinki, March 1-12, 1993).

NOTES

1 As a consequence of a reform process within the International Telecommunication Union (ITU), the CCITT ceased to exist as of 28 February 1993. In its place, the ITU Telecommunication Standardization Sector (ITU-T) was created as of 1 March 1993. Similarly, in this reform process, the CCIR and the IFRB have been replaced by the Radiocommunication Sector.

In order not to delay publication of this Recommendation, no change has been made in the text to references containing the acronyms "CCITT, CCIR or IFRB" or their associated entities such as Plenary Assembly, Secretariat, etc. Future editions of this Recommendation will contain the proper terminology related to the new ITU structure.

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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ABSTRACT

This Recommendation outlines the method of monitoring television transmissions by use of insertion test signals on 525/625-line systems and also on MAC systems. The Recommendation goes on to describe the various types of signals used and the method of insertion and extraction for monitoring purposes.

Keywords

Insertion test signal, monitoring, television transmission.

Recommendation N.67

MONITORING TELEVISION TRANSMISSIONS – USE OF THE FIELD BLANKING INTERVAL

(Published 1968; revised 1972, 1976, 1980, 1984 and 1993)

1 Monitoring points

Technical control by the telecommunication Administrations of a television transmission in progress should be possible at any time:

- at national and international television centres in the connection;
- at the last staffed-station immediately preceding the frontier of each country and at a point in the station which will include as much as possible of the station equipment in the direction of transmission concerned (by providing monitoring-demodulators if necessary).

These centres and stations should be equipped with an oscilloscope (the horizontal sweep frequency of which is synchronized to the line frequency) for monitoring the electrical signal and a picture-monitor for monitoring the complete picture.

In the case of a multiplexed analogue component (MAC) signal, the use of a synchronization extractor will sometimes be necessary to display the electrical signal on an oscilloscope. This is the case for D2 MAC-packet signal.

2 Numbering of lines in a television field

For 625-line systems the numbering of the lines is as follows:

Line 1 starts at the instant indicated by 0_v in Figure 2-1 of CCIR Report 624 [1]; at this instant, the leading edge of the line synchronization pulse coincides with the beginning of the sequence of field synchronization pulses. The lines are numbered according to their sequence in time, so that the first field comprises lines 1 to 312 as well as the first half of line 313, whereas the second field comprises the second half of line 313 and lines 314 to 625.

For 525-line systems the numbering of the lines is as follows:

Line 1 of field 1 is the line starting with the first equalizing pulse at the instant indicated by 0_{E1} in Figure 2-3a of CCIR Report 624 [2], line 1 of field 2 is the line starting with the second equalizing pulse at one half-line period after the instant indicated by 0_{E2} in Figure 2-3b of this report.

3 625-line insertion test signals

The advent of colour has caused the CCIR to recommend a comprehensive set of test signals which may be inserted on lines 17, 18, 330 and 331 for international monochrome or colour transmissions¹⁾ This signal is illustrated in Figure 1²⁾ and is made up as follows:

Line 17

A 10 μ s white bar (B_2), a 2 T sine-squared pulse (B_1), a 20 T composite pulse (F) and a 5-riser staircase (D_1).

¹⁾ As an interim measure some organizations may decide to omit some of the waveforms, but in this case care must be taken not to alter the mean values appreciably.

²⁾ A colour burst is present in the line blanking period during colour transmissions. In the case of Phase attenuation line (PAL) colour transmissions the chrominance subcarrier of the insertion signals is locked at 60° from the (B-Y) axis.