

INTERNATIONAL TELECOMMUNICATION UNION



THE INTERNATIONAL TELEGRAPH AND TELEPHONE CONSULTATIVE COMMITTEE **R.5** (11/1988)

SERIES R: TELEGRAPH TRANSMISSION Telegraph distortion

OBSERVATION CONDITIONS RECOMMENDED FOR ROUTINE DISTORTION MEASUREMENTS ON INTERNATIONAL TELEGRAPH CIRCUITS

Reedition of CCITT Recommendation R.5 published in the Blue Book, Fascicle VII.1 (1988)

NOTES

1 CCITT Recommendation R.5 was published in Fascicle VII.1 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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(New Delhi, 1960; amended at Geneva, 1964, Mar del Plata, 1968, and Geneva, 1980)

The CCITT,

considering

(a) Recommendations R.51, R.51 *bis*, R.54 and R.55;

(b) that, for the measurement of the degree of distortion of signals on an international telegraph circuit, it is necessary to specify the best condition of observation in order to be sure that the measurement obtained gives a good indication of what the performance of the circuit will be during periods of normal traffic;

(c) that the observation conditions should be such that their duration or their complexity does not unduly increase the load on the maintenance services;

(d) that certain Administrations, to determine these conditions, have carried out statistical measurements of the degree of individual start-stop distortion using distortion analyzers, the results of which seem to be in agreement;

unanimously declares the view

(1) that the tests should be carried out at nominal modulation rates of 50, 75, 100 and 200 bauds, depending on the type of circuits concerned;

- (2) that the text transmitted during measurements should be that of Recommendation R.51 bis;
- (3) that the degree of transmitter distortion of text signals should not exceed 1%;

(4) that, during normal maintenance tests, the duration of the observation should correspond to the examination of at least 800 significant instants, whatever the type of distortion meter used, isochronous or start-stop. At a modulation rate of 50 bauds this results in an observation period of about 30 seconds. At other modulation rates, the observation should last about 20 seconds;

Note – The period of observation required to assess properly the performance of tandem code-independent time-division multiplexers may be much longer than for voice-frequency telegraph equipment.

(5) that, when making start-stop measurements using test equipment that does not register the peak early and peak late reading simultaneously, the observation period should be divided into two more or less equal parts: one part during which the significant instants in advance of their theoretical position could be observed and the other part during which the significant instants coming later than their theoretical position could be observed.

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