



INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

R.57

TELEGRAPHY

TELEGRAPH TRANSMISSION

**STANDARD LIMITS OF TRANSMISSION
QUALITY FOR PLANNING
CODE - INDEPENDENT INTERNATIONAL
POINT- TO -POINT TELEGRAPH
COMMUNICATIONS AND SWITCHED
NETWORKS USING 50-BAUD START - STOP
EQUIPMENT**

ITU-T Recommendation R.57

(Extract from the *Blue Book*)

NOTES

1 ITU-T Recommendation R.57 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.

Recommendation R.57

STANDARD LIMITS OF TRANSMISSION QUALITY FOR PLANNING CODE-INDEPENDENT INTERNATIONAL POINT-TO-POINT TELEGRAPH COMMUNICATIONS AND SWITCHED NETWORKS USING 50-BAUD START-STOP EQUIPMENT

*(former CCIT Recommendation B.25, 1951; amended at Arnhem, 1953,
New Delhi, 1960, and Melbourne, 1988; see also Recommendation R.58)*

The CCITT,

considering

(a) that Administrations must agree on the composition of the international section and the national sections before setting up an international point-to-point telegraph circuit;

(b) that for the interconnection of switched public or private national networks a plan for distributing telegraph distortion between national networks and international circuits connecting the international terminal exchanges is required;

(c) that for this purpose, provisional standards, based on the results of practical experience and on studies of the composition of telegraph distortion, should be laid down for Administrations;

(d) that on well-maintained channels, with modulation at the standard rate of 50 bauds, the values in Table 1/R.57 should not normally be exceeded on the trunk sections (see Recommendations R.53 and R.75). These values are valid whether the channels are amplitude or frequency modulated,

TABLE 1/R.57

Number of channels in tandem within the trunk circuit (excluding the local section at each end)	The limit of bias distortion on reversals at the modulation rate employed for adjustment shall be equivalent to the following values at 50 bauds	Limit of the degree of isochronous distortion on standardized text	Limit of the degree of inherent start-stop distortion, in service on standardized text
1	4%	10%	8%
2	7%	18%	13%
3	10%	24%	17%
4	12%	28%	21%
5	—	—	25%

unanimously declares the following view

1 In planning international point-to-point and switched telegraph communications, Administrations should use the following standard limits valid for start-stop equipment and for 50-baud channels conforming to CCITT Recommendations and set up by amplitude-modulation or frequency-modulation.

Note – Although the figures in Recommendation R.57 are for planning purposes, they do not correspond to conventional degrees of distortion but to routine measurements.

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|---|-----|
| a) Limit of the degree of gross start-stop distortion, measured by a start-stop distortion measuring set at the beginning of the trunk section of the circuit (i.e. at the point where the circuit enters the long-distance line telegraph equipment) and including the effect of the emission distortion of the transmitting apparatus | 12% |
| b) Limit of the degree of isochronous distortion on standardized text in the trunk section of the connection: | |
| When one voice-frequency telegraph (VFT) channel is used for the communication | 10% |
| When two VFT channels are used for the communication | 18% |
| When three VFT channels are used for the communication | 24% |
| When four VFT channels are used for the communication | 28% |
| or | |
| c) Limit of degree of inherent start-stop distortion on standardized text of the trunk section of the connection: | |
| When one voice-frequency (VF) channel is used for the communication | 8% |
| When two VF channels are used for the communication | 13% |
| When three VF channels are used for the communication | 17% |
| When four VF channels are used for the communication | 21% |
| When five VF channels are used for the communication | 25% |

Note – The limits for the degrees of isochronous and start-stop distortions indicated under b) and c) above do not establish a law of correspondence between the degree of isochronous distortion and the degree of start-stop distortion; this law of correspondence depends on the composition of the distortion (relative magnitudes of characteristic and fortuitous distortion).

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|---|-----|
| d) Limit of the degree of the gross start-stop distortion, measured by a start-stop distortion measuring set, which can be present in signals at the input of the extension circuit of the connection | 30% |
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Note – The (physical) extension circuit (tail) is the permanent connection extending a telegraph station to nearby centre, giving access to the long-distance network.

- 2 These standards take no account of the possibility of including regenerative repeaters in circuits.
- 3 These standards presuppose that the distortion introduced by the local section of the circuit is negligible, and that, should that not be so, Administrations should agree amongst themselves on the degree of distortion admissible in the various sections of the communication, and on the number of VFT channels that can be used.
- 4 Administrations should use them, in order to agree on the maximum number of VFT channels that may compose the international section of a circuit and in order to determine the characteristics of their national networks due to be connected to the networks of other countries, on the understanding that the isochronous distortion in service, originated by the trunk section, may not in any circumstances exceed 28%.