



INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

R.121

TELEGRAPHY

TELEGRAPH TRANSMISSION

**STANDARD LIMITS OF TRANSMISSION
QUALITY FOR START - STOP USER
CLASSES OF SERVICE 1 AND 2 ON
ANISOCHRONOUS DATA NETWORKS**

ITU-T Recommendation R.121

(Extract from the *Blue Book*)

NOTES

1 ITU-T Recommendation R.121 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.121

STANDARD LIMITS OF TRANSMISSION QUALITY FOR START-STOP USER CLASSES OF SERVICE 1 AND 2 ON ANISOCRONOUS DATA NETWORKS

(Geneva, 1976)

The CCITT,

considering

(a) that, to permit the sharing of responsibility for the maintenance of a high standard of transmission quality on switched connections between anisochronous data networks referred to in Recommendation X.1 [1], it is necessary to specify limiting values of distortion on signals leaving the international gateway centre of each network;

(b) that, on the other hand, to enable national switched networks to be interconnected, it is necessary to have a distribution plan of the telegraph distortion between national networks and the international junction circuits connecting the international gateway switching centres;

(c) that it is difficult to lay down standards applicable both to small and to large national networks;

(d) that it should be possible to fix limit values for large countries and they should apply to the great majority of user locations taking part in the international service,

unanimously declares the view

1 The following standards of transmission quality should be observed for the interconnection of national anisochronous data networks set up by means of transmission channels and start-stop terminal equipment in accordance with CCITT Recommendations to provide service for user classes of service 1 and 2 to Recommendation X.1 [1] (up to and including 300 bit/s).

1.1 The degree of gross start-stop distortion in service (i.e. including the effect of distortion due to the sending terminal equipment and the switching centres) at the point of exit of the national network should provisionally not exceed 22%.

Note – The international gateway exchange of a country is considered as forming part of the national network of that country.

1.2 The degree of inherent start-stop distortion of the international junction circuit should provisionally not exceed 13%.

Note 1 – In establishing the provisional 13% limit for the degree of start-stop distortion in the international junction circuit account has been taken of the fact that in a global connection, the international junction circuit might consist of 2 channels in tandem. If the international junction circuit is established on a single channel, an 8% provisional limit would be applicable to that circuit.

Note 2 – No limit for distortion on the entry to an international gateway centre at the receiving end has been indicated in this Recommendation. The values mentioned in §§ 1.1 and 1.2 above are adequate for planning purposes.

2 The provisional limit values mentioned above are applicable to large countries that are directly interconnected without switching in a transit country. Where national networks are unable to satisfy § 1.1 above, signal regeneration will be required.

3 Small countries (defined as countries in which all user terminal equipment can be reached via not more than one carrier channel in the national network) will have to try to obtain values less than the maximum 22% distortion mentioned in § 1.1 above.

4 The provisional standard limits mentioned under § 1 above can also apply to private switched telegraph and anisochronous data networks.

Reference

- [1] CCITT Recommendation *International user classes of service in public data networks*, Rec. X.1.