INTERNATIONAL TELECOMMUNICATION UNION

ITU-T R.58 *bis*

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

TELEGRAPHY

TELEGRAPH TRANSMISSION

LIMITS ON SIGNAL TRANSFER DELAY FOR TELEGRAPH, TELEX AND GENTEX NETWORKS

ITU-T Recommendation R.58 *bis*

(Extract from the *Blue Book*)

NOTES

1 ITU-T Recommendation R.58 *bis* 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.58 *bis*

LIMITS ON SIGNAL TRANSFER DELAY FOR TELEGRAPH, TELEX AND GENTEX NETWORKS

(Malaga-Torremolinos, 1984)

The CCITT,

considering

(a) that it is necessary to define the overall maximum transfer delay and its distribution between national and international circuits;

(b) the need to divide the responsibility between Administrations involved in establishing international switching connections;

(c) that there are difficulties in specifying standard limits on transfer delay in a single telegraph channel on account of the variation in length and numbers of telephone channels connected in tandem on the bearer circuit;

(d) that the use of satellite communication links in the international telegraph, telex and gentex networks and the Maritime Mobile Service is increasing;

(e) that the increase in the signal transfer delay caused by the conditions mentioned above requires the specification of tolerable limits on signal transfer delay in the hypothetical reference connection;

(f) that the transfer delays on signalling elements inherent in the signalling types specified in the Series U Recommendations will be considerable on multiple tandem sections;

(g) the provision for hypothetical reference connections contained in Recommendation U.8,

unanimously declares the view that

1 When planning international connections on the 50-baud telegraph, telex and gentex networks, the overall maximum transfer delay should, in general, not exceed 4 seconds in the call setting-up phase and two seconds in the established phase of a call. The difference of both values should not exceed 950 ms for connections in which the terminating exchange automatically returns the answerback.

Note 1 – In the maritime mobile service, the maximum transfer delay will be exceeded due to the delays in the maritime mobile satellite system which can be expected to be approximately 2170 ms from the maritime terminal to the shore station in the call established phase. In the call setting-up phase, this delay is approximately 4500 ms.

Note 2 – This limit is not applicable to the case of the interconnection of existing networks which use code conversion facilities.

Note 3 – Because the main component of the transfer delay is in the maritime satellite link, then the difference in transfer delay between the call-connected signal and the answerback can be held within the permissible limits at the Maritime Satellite Switching Centre.

2 When setting up connections in the 50-baud telegraph, telex and gentex networks, the following maximum limits should, in general, not be exceeded:

2.1 *In national sections*

The maximum transfer delay of the call-connected signal should not exceed 1250 ms and the maximum signal transfer delay in the established phase of a call should not exceed 625 ms.

2.2 *In international sections*

The maximum transfer delay of the call-connected signal should not exceed 1500 ms and the maximum signal transfer delay in the established phase of a call should not exceed 750 ms.

Note 1 – A greater transmission delay on international links can be allowed by bilateral agreement if no satellite links are used for national purposes, provided the overall limits on signal transfer delay are not exceeded.

3 When considering signal transfer delay, the above tolerances (summarized in Table 1/R.58 *bis*) apply to the transmission path between any two terminals of the telegraph, telex or gentex networks and should be upheld for any connection. They may be exceeded only by the delays incurred in the maritime mobile satellite system.

Table 1/R.58 *bis* requires further study.

TABLE 1/R.58 *bis*

Maximum signal transfer delay times (en ms)

(1)	Call-connected signal (2)	Signal after through-connection (3)	Difference between columns (2) and (3) (4)
National section	1250	625	625
International section	1500	750	750
Overall transfer delay	4000	2000	2000 [a)]
Maritime mobile service	4500	2170	2330

a) Maximum value 950 ms when terminating exchange automatically returns the answerback.