



INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

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STANDARDIZATION SECTOR
OF ITU

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SPECIFICATIONS OF SIGNALLING SYSTEM No. 7

SIGNALLING SYSTEM NO. 7 – SIGNALLING PERFORMANCE IN THE TELEPHONE APPLICATION

ITU-T Recommendation Q.725

(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 Q725 was revised by the ITU-T Study Group XI (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 Similarly, in this reform process, the CCIR and the IFRB have been replaced by the Radiocommunication Sector.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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Recommendation Q.725**SIGNALLING SYSTEM No. 7 – SIGNALLING
PERFORMANCE IN THE TELEPHONE APPLICATION***(Geneva, 1980; modified at Helsinki, 1993)***1 Introduction**

This Recommendation gives the requirements of the telephone application of Signalling System No. 7 (SS No. 7).

In Recommendation Q.706, the Message Transfer Part (MTP) performance is described. The MTP is the basis of the telephone application of SS No. 7 and provision of a signalling network to serve the telephone service must take account of the performance of the Message Transfer Part and the requirements of the telephone application. For example, taking account of the message transfer times detailed in Recommendation Q.706 the signalling Hypothetical Reference Connection (Q.709) and the requirements for message transfer times between two telephone exchanges, a figure may be derived for the total permissible number of signalling links in signalling relations in tandem for a particular call. See also Recommendation Q.709.

2 Unsuccessful calls due to signalling malfunction

The proportion of calls that are unsuccessful due to signalling malfunction should be less than 1 in 10^5 .

By means of error detection (see Recommendation Q.703) as well as transmission fault indication (see Recommendations G.732 [1] and G.733 [2]), it is ensured that, overall, not more than one error in 10^8 of all signal units transmitted is accepted and will cause false operation.

Unsuccessful calls may be caused by undetected errors, loss of messages or messages delivered out of sequence (during emergency situations within the signalling network) and may result in:

- incomplete call set-up;
- misrouted calls (e.g. connection of wrong numbers);
- calls routed correctly but mishandled (e.g. false clearing).

3 Unavailability of a signalling route set

The overall unavailability of a signalling route set causing the unavailability of a signalling relation should not exceed a total of 10 minutes per year.

NOTE – The availability of a signalling route set within a signalling network may be enhanced by replication of signalling links, signalling paths and signalling routes.

4 Labelling potential

The label of the Telephone User Part of SS No. 7 provides the potential to identify 16384 signalling points and up to 4096 speech circuits for each signalling relation.

5 Cross-office transfer time**5.1 Functional reference points and transfer time components**

Delays concerning data base query functions are not included at this time. The delays corresponding to those functions are for further study.

Figure 1 shows the time components associated with the handling and transfer of a TUP message at a transit exchange.