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GENERAL ASPECTS OF DIGITAL TRANSMISSION SYSTEMS TERMINAL EQUIPMENTS

STRUCTURE OF RECOMMENDATIONS ON EQUIPMENT FOR THE SYNCHRONOUS DIGITAL HIERARCHY (SDH)

ITU-T Recommendation G.781

(Previously "CCITT Recommendation")

FOREWORD

The ITU-T (Telecommunication Standardization Sector) is a permanent organ of the International Telecommunication Union (ITU). 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, etablishes the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

The approval of Recommendations by the Members of the ITU-T is covered by the procedure laid down in WTSC Resolution No. 1 (Helsinki, March 1-12, 1993).

ITU-T Recommendation G.781 was revised by ITU-T Study Group 15 (1993-1996) and was approved under the WTSC Resolution No. 1 procedure on the 20th of January l994.

NOTE

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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STRUCTURE OF RECOMMENDATIONS ON EQUIPMENT FOR THE SYNCHRONOUS DIGITAL HIERARCHY (SDH)

(revised 1994)

1 General

Recommendations G.707, G.708 and G.709 provide details of the bit rate, format, multiplexing structure and payload mappings for the Synchronous Digital Hierarchy (SDH).

Recommendations giving the characteristics of equipment for the SDH are structured to take into consideration the following:

i) in order not to constrain equipment design, there is a need to describe equipment characteristics in terms of functions in such a way as to avoid specifying particular implementations of those functions;

ii) equipment functionality can be usefully partitioned into a number of areas and the Recommendation structure reflects this partitioning.

2 Structure of Recommendations

Taking into account the above points, the structure of Recommendations for synchronous equipment is as follows:

G.781 Structure of Recommendations on equipment for the Synchronous Digital Hierarchy (SDH)

G.782 Types and general characteristics of Synchronous Digital Hierarchy (SDH) equipment

G.783 Characteristics of Synchronous Digital Hierarchy (SDH) equipment functional blocks

G.784 Synchronous Digital Hierarchy (SDH) management.

3 Options

Information and guidance on optional features contained in SDH Recommendations is given in Annex A.

Annex A

Considerations relating to the selection of optional features

(This annex forms an integral part of this Recommendation)

The Recommendations on SDH (i.e. this Recommendation, G.707, G.708, G.709, G.774, G.782, G.783, G.784, G.957, G.958) provide a foundation towards ensuring a high degree of harmonization, and therefore inter-operability potential, between different practical implementations of the functions described in the Recommendations. However, it is important to note that the Recommendations contain a number of optional features, some of which are important to consider carefully in order to ensure inter-operability.

In selecting a consistent set of optional features, the following situations will need to be taken into account:

- single network operator's domain, even when using a single supplier's implementation of SDH equipment;
- single network operator's domain, when using multiple suppliers' implementations;
- inter-operation between different network operators' domains.

In the detailed design, implementation and operation of their networks, it is important that network operators make appropriate selections of optional features, and reach an understanding with their equipment suppliers and with other network operators to ensure that an appropriate level of inter-operability is achieved.

In terms of suppliers, it will be essentially a commercial judgement whether they choose to offer a particular option. In order to limit the number of variations, when an optional feature is provided, it should be in accordance with the recommended approach.