Recommendation Q.721

FUNCTIONAL DESCRIPTION OF THE SIGNALLING SYSTEM No. 7 TELEPHONE USER PART (TUP)

1 General

Use of Signalling System No. 7 for telephone call control signalling requires:

— application of *Telephone User Part* (TUP) functions, in combination with

— application of an appropriate set of *Message Transfer Part* (MTP) functions.

A general description of the signalling system and the division of functions between the Message Transfer Part and the Telephone User Part are presented in Recommendation Q.700 and the requirements of interaction between those two parts are contained in Recommendation Q.701.

2 Telephone User Part

The Telephone User Part specified in these specifications defines the necessary telephone signalling functions for use of Signalling System No. 7 for international telephone call control signalling. It is specified with the aim of providing the same features for telephone signalling as other CCITT telephone signalling systems.

Signalling System No. 7 can be used to control the switching of all types of international circuits to be used in a worldwide connection, including circuits with speech interpolation and satellite circuits.

The system meets all requirements defined by the CCITT concerning the service features for worldwide international semiautomatic and automatic telephone traffic. It is designed for the bothway operation of speech circuits.

When used with homogeneous digital telephone circuits the continuity of these circuits is ensured by the means for transmission quality supervision and failure detection that are inherent in the digital systems providing these circuits. However, the system includes means for link—by—link assurance of continuity check of the speech path when used with analogue telephone circuits and/or digital circuits including certain types of equipment, where fault indications are lost, e.g., circuit multiplication equipment.

The signalling system is suitable for national telephone applications. Most telephone signalling message types and signals specified for international use are also required in typical national applications. In addition to these, national applications typically require additional signalling message types and signals; the system provides ample spare capacity for such additions.

The standard label structure specified for telephone signalling messages requires that all exchanges using the signalling system are allocated codes from code plans established for the purpose of unambiguous identification of signalling points. The principles to apply to the international signalling network are specified in Recommendation Q.708.

3 Message Transfer Part

The Message Transfer Part of Signalling System No. 7 is specified in Recommendations Q.701 to Q.709. An overview description of the Message Transfer Part is contained in Recommendation Q.701.

The Message Transfer Part defines a range of functions by which different signalling modes and different signalling network configurations may be realized. Any application of Signalling System No. 7 requires that an appropriate selection of these functions is applied depending on the intended use of the system and the characteristics of the telecommunications network concerned.