



INTERNATIONAL TELECOMMUNICATION UNION

# ITU-T

TELECOMMUNICATION  
STANDARDIZATION SECTOR  
OF ITU

## Q.4

**GENERAL RECOMMENDATIONS ON TELEPHONE  
SWITCHING AND SIGNALLING**

**INTERNATIONAL AUTOMATIC AND  
SEMI-AUTOMATIC WORKING**

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**AUTOMATIC SWITCHING FUNCTIONS FOR  
USE IN NATIONAL NETWORKS**

**ITU-T Recommendation Q.4**

(Extract from the *Blue Book*)

## NOTES

1 ITU-T Recommendation Q.4 was published in Fascicle VI.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.

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## Recommendation Q.4

### AUTOMATIC SWITCHING FUNCTIONS FOR USE IN NATIONAL NETWORKS

#### 1 Preamble

The CCITT,

*considering*

(1) that a large amount of switching equipment will be installed in the next few years, especially in areas of low subscriber density;

(2) the continuous rapid development of new switching techniques results in different generations of equipment having to co-exist;

(3) that some degree of compatibility in the installed switching equipment is required in the world-wide automatic network;

(4) that the introduction of newly developed switching systems presents Administrations with an ever increasing number of engineering, staff training, maintenance and other operational considerations,

*and also considering*

(5) that Recommendations originally intended for international application only are increasingly being applied to national networks, or could be so applied;

(6) that many current studies are aimed at producing Recommendations primarily applicable to national networks,

*recommends*

the following guidelines for use by Administrations establishing national switching standards or, if desired, for updating existing standards. Each Administration may select those guidelines it deems applicable to its own situation.

#### 2 Automatic switching functions for use in national networks

Table 1/Q.4 lists the functional switching capabilities of an exchange which will, or may in some instances, according to the role of the exchange in a network, need to be technically specified in order that the Administration concerned can be assured that the exchange will satisfy existing and foreseen future needs of the network. For the required capabilities, references are given to CCITT texts which should be taken into account when decisions on national standards are taken; some make positive recommendations, others give guidelines or background information. Table 2/Q.4 provides full titles for those referenced texts, and for others applicable to national switching, in order to provide more specific information about the subject matter.

Some of the functions listed are required in all types of exchanges. Others may or may not be, according to the role of the exchange, e.g. local, combined local/transit, transit, international, etc.

It is not always necessary that a precise technical specification be given, e.g., in a tender specification, for each switching function. In some instances, it may be sufficient to state the requirements broadly, possibly including desired ranges of parameter values, and to invite a tenderer to make his own specific proposals for evaluation.

#### 3 Requirements for ISDN

As Recommendations for the ISDN are being developed concurrently, it is difficult to reference them in this Recommendation. All Recommendations relevant to the ISDN will be published in a single volume at the end of this Study Period 1981-1984 (Fascicle III.5).