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TELEPHONE NETWORK AND ISDN

**OPERATION, NUMBERING, ROUTING
AND MOBILE SERVICE**

**SUBSCRIBER CONTROL PROCEDURES FOR
SUPPLEMENTARY TELEPHONE SERVICES**

ITU-T Recommendation E.131

(Extract from the *Blue Book*)

NOTES

1 ITU-T Recommendation E.131 was published in Fascicle II.2 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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SUBSCRIBER CONTROL PROCEDURES FOR SUPPLEMENTARY TELEPHONE SERVICES

1 General

1.1 Many Administrations are planning to introduce supplementary telephone services which are likely to be viable only if controlled by the user (a list of possible supplementary telephone services is given in Supplement No. 1 at the end of this fascicle). It is therefore necessary to consider means of providing users with procedures by which such control can be achieved. The purpose of this Recommendation is to prevent an undesirable proliferation, in various countries, of subscriber control procedures for such services. Descriptions are given below of three control procedures schemes now in use or in various stages of evolution. Guidelines are offered to Administrations planning to offer subscriber controlled supplementary services. Reference is made to Annex A for a glossary of terms used in this Recommendation.

1.2 It is recognized that not all aspects of all supplementary services will affect the international telephone service, but a degree of international coordination is considered necessary because:

- a) the same or similar supplementary services will exist on national and international networks; it is desirable to have similar control procedures for both applications;
- b) a supplementary service which is only national now may be international in the future; in that case changes in control procedures might be impossible or expensive;
- c) subscribers who travel or move will be less inconvenienced if control procedures for supplementary services do not change from one country to another;
- d) compatibility between control procedures for telephone services and simple parallel end-to-end data transmission is highly desirable, because the same telephone instrument is used in both cases;
- e) standardized control procedures make possible lower equipment and customer instruction costs.

1.3 Access to individual services requires that the supplementary service numbering plan have a sufficient capacity to meet all reasonable future needs; control of the services requires the ability to define functional requirements to the system.

The introduction of push-button telephones providing signals in addition to the normal decimal range (0-9) offers a means of providing the necessary function signals. Since the 12-button instrument is likely to be used by most subscribers, only two additional non-numerical signals will be available for control purposes. Study therefore has been directed towards evolving schemes for control procedures which are acceptable both from the human factors and technical aspects and do not require more than two non-numerical signals.

1.4 The same push-button telephone set that is used in dedicated telephone networks may be used as a subscriber instrument in service integrated networks. It is desirable that in this case the control procedures for a given supplementary telephone service still apply.

Where the normal 12-button telephone set is also used for services other than telephony, e.g. for data, video-telephone, etc., the control procedures used for these services should be compatible with the control procedures used for supplementary telephone services.

2 Schemes for control procedures

Recognizing that:

- the CCITT has not as yet recommended a unique scheme of subscriber control procedures for supplementary telephone services;
- the CCITT is still studying such control procedures;
- further proliferation of schemes is undesirable because this would result in subscriber confusion, less efficient use of the telephone network and might make it more difficult to work towards an optimum scheme;

it is recommended that:

actively with the ongoing study;

- Administrations wishing to adopt a scheme of subscriber control procedures should apply one of those detailed below to the maximum extent feasible rather than establish a new scheme.

3 Description and analysis of code schemes for supplementary telephone services

3.1 General

3.1.1 Three code schemes for supplementary telephone services, currently in use or under study will be briefly described and analyzed. They are:

- 1) AT&T code scheme (USA);
- 2) CEPT code scheme (Europe);
- 3) NTT code scheme (Japan).

3.1.2 It is intended that Recommendation E.131 should be reviewed when experience of the three code schemes is available. It may then be possible to determine if one of them, or perhaps a fourth which incorporates the best features of all three, is to be preferred.

3.1.3 These schemes are still evolving and are liable to changes in details as study progresses or experience is gained. The information presented is an outline only and presents the position at a point in time when the Recommendation is published. Administrations considering the implementation of supplementary services requiring control procedures should approach the appropriate Administration or authority to seek detailed and up-to-date information.

3.2 Description of the code schemes

3.2.1 The information sent by the subscriber to the exchange for the control of a service is made up of a number of basic functional elements, some or all of which may appear explicitly in a particular message. These basic functional elements are (see the glossary in Annex A):

- 1) mode or type of communication identification,
- 2) access to supplementary services,
- 3) service identification,
- 4) function identification,
- 5) supplementary information,
- 6) block separation,
- 7) message suffix.

3.2.2 The mode or type of communication identification element is unlikely to be used for telephone services and allocation of codes for this purpose within these schemes is tentative. This element is therefore excluded from consideration for the present.

3.2.3 The main differences between the three code schemes are in the methods used to encode the various functional elements and the order in which they must be presented. In all code schemes a separate code is used for the dialling of abbreviated numbers.

3.2.4 For each of the three code schemes, Table 1/E.131 gives the format of the information sent by the subscriber to the exchange:

- i) without supplementary information,
- ii) with one block of supplementary information,
- iii) for the dialling of abbreviated numbers.

TABLE 1/E.131

AT&T

i) Information Element No.	* or 11 2	NN 3 and 4				
ii) Information Element No.	* or 11 2 and 4	NN 3 and 4	SDT	SI	(#)	7
iii) Abbreviated dialing	N(N)	(#)				

CEPT

i) Information Element No.	* or # 2 and 4	NN(N) 3	# 7			
ii) Information Element No.	* or # 2 and 4	NN(N) 3	* φ 6	SI	#	7
iii) Abbreviated dialing or	N(N) * *	# N(N)				

NTT

i) Information Element No.	1 or # 2	NN 3	(SDT N) 4	(#)		
ii) Information Element No.	1 or # 2	NN 3	(SDT N) 4	(*)	SI	(#) 7
iii) Abbreviated dialing	*	NN				

For φ, see § 3.2.5 (element 6, CEPT).

The symbols used in Table 1/E.131 are as follows:

- N = a digit;
- SI = supplementary information;
- SDT = second dial tone;
- (...) = not always used. For detailed explanations, see § 3.2.5 below;
- * = “star” button of telephone set as defined in Recommendation E.161;
- # = “square” button of telephone set as defined in Recommendation E.161.

3.2.5 In the three code schemes the basic functional elements are realized in the following way:

Access to supplementary services (element 2)

AT&T: access prefix *. (Customers are permitted to dial the digits 11 in place of *.)

CEPT: service code prefix * or #.

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