



**E**TSI  
**T**ECHNICAL  
**R**EPORT

**ETR 189**

June 1995

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Source: ETSI TC-SPS

Reference: DTR/SPS-05057

ICS: 33.080

**Key words:** ISDN, DSS1, coding, ASN.1

**Integrated Services Digital Network (ISDN);  
Digital Subscriber Signalling System No. one (DSS1) protocol;  
Master list of codepoints and operation values**

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## Foreword

This ETSI Technical Report (ETR) has been produced by the Signalling Protocols and Switching (SPS) Technical Committee of the European Telecommunications Standards Institute (ETSI).

ETRs are informative documents resulting from ETSI studies which are not appropriate for European Telecommunication Standard (ETS) or Interim European Telecommunication Standard (I-ETS) status. An ETR may be used to publish material which is either of an informative nature, relating to the use or the application of ETSs or I-ETSs, or which is immature and not yet suitable for formal adoption as an ETS or an I-ETS.

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## 1 Scope

This ETSI Technical Report (ETR) provides an overview of the codepoints used by the Digital Subscriber Signalling System No. one (DSS1) protocol for the pan-European Integrated Services Digital Network (ISDN) as provided by European public telecommunications operators at the T reference point or coincident S and T reference point (as defined in ITU-T Recommendation I.411 [3]).

This overview is related to messages, information elements, notification indicator values, progress indicator values, state values, operation and error values which are used for basic call, packet mode call, and supplementary services specified so far by ETSI. In addition, the operations and errors identified by an ETSI object identifier is included in a separate table.

All codepoints currently specified either by ETSI or ITU-T are shown in the following tables. When a codepoint is specified for use in networks conforming to an ETSI standard, a reference is included in the table to indicate the ETS where the particular codepoint is defined.

Other codepoint values are indicated by the note: "Not applicable in networks conforming to ETSI standards". This note applies to values which are used in ITU-T Recommendations, but are not currently specified for use by ETSI in any ETS.

Clause 12 of this ETR shows the relationship between messages and the information elements that each message may carry. The purpose of tables 12 to 15 is only to provide an overview of possible message contents but it does not indicate which information element or combinations of information elements are present in a particular message for a specific purpose (e.g. basic call, a certain supplementary service).

## 2 References

This ETR incorporates by dated or undated reference, provisions from other publications. These references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this ETR only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

- [1] ITU-T Recommendation I.112 (1993): "Vocabulary of terms for ISDNs".
- [2] ITU-T Recommendation I.210 (1993): "Principles of telecommunication services supported by an ISDN and the means to describe them".
- [3] ITU-T Recommendation I.411 (1993): "ISDN user-network interfaces - reference configurations".
- [4] ETS 300 007 (1990): "Integrated Services Digital Network (ISDN); Support of packet-mode terminal equipment by an ISDN".
- [5] ETS 300 058-1 (1991): "Integrated Services Digital Network (ISDN); Call Waiting (CW) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [6] ETS 300 097-1 (1992): "Integrated Services Digital Network (ISDN); Connected Line Identification Presentation (COLP) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [7] ETS 300 102-1: "Integrated Services Digital Network (ISDN); User-network interface layer 3; Specification for basic call control".

- [8] ETS 300 130-1 (1992): "Integrated Services Digital Network (ISDN); Malicious Call Identification (MCID) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [9] ETS 300 138-1 (1992): "Integrated Services Digital Network (ISDN); Closed User Group (CUG) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [10] ETS 300 141-1 (1992): "Integrated Services Digital Network (ISDN); Call Hold (HOLD) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [11] ETS 300 182-1 (1993): "Integrated Services Digital Network (ISDN); Advice of Charge (AOC) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [12] ETS 300 185-1 (1993): "Integrated Services Digital Network (ISDN); Conference call, add-on (CONF) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [13] ETS 300 188-1 (1993): "Integrated Services Digital Network (ISDN); Three-Party (3PTY) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [14] ETS 300 195-1 (1995): "Integrated Services Digital Network (ISDN); Supplementary service interactions; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [15] ETS 300 196-1 (1993): "Integrated Services Digital Network (ISDN); Generic functional protocol for the support of supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [16] ETS 300 207-1 (1994): "Integrated Services Digital Network (ISDN); Diversion supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [17] ETS 300 210-1: "Integrated Services Digital Network (ISDN); Freephone (FPH) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [18] ETS 300 286-1: "Integrated Services Digital Network (ISDN); User-to-User Signalling (UUS) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [19] ETS 300 359-1 (1995): "Integrated Services Digital Network (ISDN); Completion of Calls to Busy Subscriber (CCBS) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [20] ETS 300 362 (1994): "Private Telecommunication Network (PTN); Inter-exchange signalling protocol; Call offer supplementary service".
- [21] ETS 300 364 (1994): "Private Telecommunication Network (PTN); Inter-exchange signalling protocol; Do not disturb and do not disturb override supplementary services".



- [22] ETS 300 369-1 (1995): "Integrated Services Digital Network (ISDN); Explicit Call Transfer (ECT) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [23] ETS 300 403-1: "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Signalling network layer for circuit-mode basic call control; Part 1: Protocol specification [ITU-T Recommendation Q.931 (1993), modified]".
- [24] ETS 300 426 (1995): "Private Telecommunication Network (PTN); Inter-exchange signalling protocol; Call intrusion supplementary service".

### 3 Definitions

For the purposes of this ETR, the following definitions apply:

**Integrated Services Digital Network (ISDN):** See ITU-T Recommendation I.112 [1], definition 308.

**service; telecommunication service:** See ITU-T Recommendation I.112 [1], definition 201.

**supplementary service:** See ITU-T Recommendation I.210 [2], subclause 2.4.

**user:** The DSS1 protocol entity at the user side of the user-network interface.

**network:** The DSS1 protocol entity at the network side of the user-network interface.

### 4 Abbreviations

For the purposes of this ETR, the following abbreviations apply:

3PTY	Three-Party
AOC	Advice of Charge
ASN.1	Abstract Syntax Notation One
BER	Basic Encoding Rules
CCBS	Completion of Calls to Busy Subscriber
COLP	Connected Line Identification Presentation
CONF	Conference call, add-on
CUG	Closed User Group
CW	Call Waiting
DSS1	Digital Subscriber Signalling System No. one
ECT	Explicit Call Transfer
FPH	Freephone
HOLD	Call Hold
ISDN	Integrated Services Digital Network
MCID	Malicious Call Identification
PSTN	Public Switched Telephone Network
UUS	User-to-User Signalling

## 5 DSS1 message codepoints

The DSS1 messages and their associated codepoints are shown in table 1. The reference indicates the ETS that contains the message definition.

Table 1: DSS1 message codepoints

Message type								Message	Reference
8	7	6	5	4	3	2	1		
0	0	0	0	0	0	0	0	Escape to nationally specific message type	ETS 300 102-1 [7], ETS 300 403-1 [23]
0	0	0	-	-	-	-	-	<b><u>Call establishment messages</u></b>	
			0	0	0	0	1	ALERTING	ETS 300 102-1 [7], ETS 300 007 [4], ETS 300 403-1 [23]
			0	0	0	1	0	CALL PROCEEDING	ETS 300 102-1 [7], ETS 300 007 [4], ETS 300 403-1 [23]
			0	0	0	1	1	PROGRESS	ETS 300 102-1 [7], ETS 300 007 [4], ETS 300 403-1 [23]
			0	0	1	0	1	SETUP	ETS 300 102-1 [7], ETS 300 007 [4], ETS 300 403-1 [23]
			0	0	1	1	1	CONNECT	ETS 300 102-1 [7], ETS 300 007 [4], ETS 300 403-1 [23]
			0	1	1	1	1	CONNECT ACKNOWLEDGE	ETS 300 102-1 [7], ETS 300 007 [4], ETS 300 403-1 [23]
			0	1	1	0	1	SETUP ACKNOWLEDGE	ETS 300 102-1 [7], ETS 300 403-1 [23]
0	0	1	-	-	-	-	-	<b><u>Call information phase messages</u></b>	
			0	0	0	0	0	USER INFORMATION	ETS 300 102-1 [7], ETS 300 286-1 [18]
			0	0	0	0	1	SUSPEND REJECT	ETS 300 102-1 [7], ETS 300 403-1 [23]
			0	0	0	1	0	RESUME REJECT	ETS 300 102-1 [7], ETS 300 403-1 [23]
			0	0	1	0	0	HOLD	ETS 300 196-1 [15]
			0	0	1	0	1	SUSPEND	ETS 300 102-1 [7], ETS 300 403-1 [23]
			0	0	1	1	0	RESUME	ETS 300 102-1 [7], ETS 300 403-1 [23]
			0	1	0	0	0	HOLD ACKNOWLEDGE	ETS 300 196-1 [15]
			0	1	1	0	1	SUSPEND ACKNOWLEDGE	ETS 300 102-1 [7], ETS 300 403-1 [23]
			0	1	1	1	0	RESUME ACKNOWLEDGE	ETS 300 102-1 [7], ETS 300 403-1 [23]
			1	0	0	0	0	HOLD REJECT	ETS 300 196-1 [15]
			1	0	0	0	1	RETRIEVE	ETS 300 196-1 [15]
			1	0	0	1	1	RETRIEVE ACKNOWLEDGE	ETS 300 196-1 [15]
			1	0	1	1	1	RETRIEVE REJECT	ETS 300 196-1 [15]

(continued)

Table 1 (concluded): DSS1 message codepoints

Message type		Bit						Message	Reference
8	7	6	5	4	3	2	1		
0	1	0	-	-	-	-	-	<b>Call clearing messages</b>	
			0	0	0	0	0	DETACH	(note)
			0	0	1	0	1	DISCONNECT	ETS 300 102-1 [7], ETS 300 007 [4], ETS 300 403-1 [23]
			0	0	1	1	0	RESTART	ETS 300 102-1 [7], ETS 300 403-1 [23]
			0	1	0	0	0	DETACH ACKNOWLEDGE	(note)
			0	1	1	0	1	RELEASE	ETS 300 102-1 [7], ETS 300 007 [4], ETS 300 196-1 [15], ETS 300 403-1 [23]
			0	1	1	1	0	RESTART ACKNOWLEDGE	ETS 300 102-1 [7], ETS 300 403-1 [23]
			1	1	0	1	1	RELEASE COMPLETE	ETS 300 102-1 [7], ETS 300 007 [4], ETS 300 196-1 [15], ETS 300 403-1 [23]
0	1	1	-	-	-	-	-	<b>Miscellaneous messages</b>	
			0	0	0	0	0	SEGMENT	ETS 300 102-1 [7], ETS 300 403-1 [23]
			0	0	0	1	0	FACILITY	ETS 300 102-1 [7], ETS 300 196-1 [15]
			0	0	1	0	0	REGISTER	ETS 300 196-1 [15]
			0	1	1	1	0	NOTIFY	ETS 300 102-1 [7], ETS 300 196-1 [15], ETS 300 403-1 [23]
			1	0	1	0	1	STATUS ENQUIRY	ETS 300 102-1 [7], ETS 300 007 [4], ETS 300 196-1 [15], ETS 300 403-1 [23]
			1	1	0	0	1	CONGESTION CONTROL	ETS 300 102-1 [7], ETS 300 286-1 [18]
			1	1	0	1	1	INFORMATION	ETS 300 102-1 [7], ETS 300 403-1 [23]
			1	1	1	0	1	STATUS	ETS 300 102-1 [7], ETS 300 007 [4], ETS 300 196-1 [15], ETS 300 403-1 [23]
NOTE:		This message codepoint is obsolete, but the value is reserved for reasons of backwards compatibility.							

## 6 DSS1 information element codepoints

### 6.1 Codeset 0

The DSS1 information elements and their associated codepoints which are defined in codeset 0 are shown in table 2. The reference indicates the ETS that contains the information element definition.

**Table 2: DSS1 information element codepoints**

Information element identifier	Information element	Reference
Bit		
8 7 6 5 4 3 2 1		
1	: : : - - - - <b><u>Single octet information elements</u></b>	
0 0 0	- - - - Reserved	ETS 300 102-1 [7], ETS 300 403-1 [23]
0 0 1	- - - - Shift	ETS 300 102-1 [7], ETS 300 403-1 [23]
0 1 0 0 0 0 0	More data	ETS 300 102-1 [7], ETS 300 286-1 [18]
0 1 0 0 0 0 1	Sending complete	ETS 300 102-1 [7], ETS 300 403-1 [23]
0 1 1	- - - - Congestion level	ETS 300 102-1 [7], ETS 300 286-1 [18]
1 0 1	- - - - Repeat indicator	(note)
0	: : : : : : : <b><u>Variable length information elements</u></b>	
0 0 0 0 0 0 0	Segmented message	ETS 300 102-1 [7], ETS 300 403-1 [23]
0 0 0 0 1 0 0	Bearer capability	ETS 300 102-1 [7], ETS 300 403-1 [23]
0 0 0 1 0 0 0	Cause	ETS 300 102-1 [7], ETS 300 403-1 [23]
0 0 0 1 1 0 1	Extended facility	ETS 300 196-1 [15]
0 0 1 0 0 0 0	Call identity	ETS 300 102-1 [7], ETS 300 403-1 [23]
0 0 1 0 1 0 0	Call state	ETS 300 102-1 [7], ETS 300 196-1 [15], ETS 300 403-1 [23]
0 0 1 1 0 0 0	Channel identification	ETS 300 102-1 [7], ETS 300 403-1 [23]
0 0 1 1 1 0 0	Facility	ETS 300 102-1 [7], ETS 300 196-1 [15]
0 0 1 1 1 1 0	Progress indicator	ETS 300 102-1 [7], ETS 300 403-1 [23]
0 1 0 0 0 0 0	Network-specific facilities	ETS 300 102-1 [7], ETS 300 403-1 [23]
0 1 0 0 1 1 1	Notification indicator	ETS 300 102-1 [7], ETS 300 196-1 [15], ETS 300 403-1 [23]

(continued)

Table 2 (concluded): DSS1 information element codepoints

Information element identifier								Information element	Reference
8	7	6	5	4	3	2	1		
0	1	0	1	0	0	0	0	Display	ETS 300 102-1 [7], ETS 300 403-1 [23]
0	1	0	1	0	0	0	1	Date/time	ETS 300 102-1 [7], ETS 300 403-1 [23]
0	1	0	1	1	0	0	0	Keypad facility	ETS 300 102-1 [7], ETS 300 403-1 [23]
0	1	1	0	1	0	0	0	Signal	ETS 300 102-1 [7]
0	1	1	0	1	1	0	0	Switchhook	(note)
0	1	1	1	0	0	0	0	Feature activation	(note)
0	1	1	1	0	0	0	1	Feature indication	(note)
1	0	0	0	0	0	0	0	Information rate	(note)
1	0	0	0	0	1	0	0	End-to-end transit delay	(note)
1	0	0	0	0	1	1	0	Transit delay selection and indication	(note)
1	0	0	0	1	0	0	0	Packet layer binary parameters	(note)
1	0	0	0	1	0	1	0	Packet layer window size	(note)
1	0	0	0	1	1	0	0	Packet size	(note)
1	0	0	0	1	1	1	0	Closed user group	(note)
1	0	0	1	0	1	0	0	Reverse charging	(note)
1	0	0	1	1	0	0	0	Connected number	ETS 300 097-1 [6]
1	0	0	1	1	0	1	0	Connected subaddress	ETS 300 097-1 [6]
1	1	0	1	1	0	0	0	Calling party number	ETS 300 102-1 [7], ETS 300 403-1 [23]
1	1	0	1	1	0	1	0	Calling party subaddress	ETS 300 102-1 [7], ETS 300 403-1 [23]
1	1	1	0	0	0	0	0	Called party number	ETS 300 102-1 [7], ETS 300 403-1 [23]
1	1	1	0	0	0	1	0	Called party subaddress	ETS 300 102-1 [7], ETS 300 403-1 [23]
1	1	1	0	1	0	0	0	Redirecting number	ETS 300 102-1 [7], ETS 300 007 [4], ETS 300 207-1 [16]
1	1	1	0	1	1	0	0	Redirection number	ETS 300 207-1 [16]
1	1	1	1	0	0	0	0	Transit network selection	ETS 300 102-1 [7], ETS 300 403-1 [23]
1	1	1	1	0	0	1	0	Restart indicator	ETS 300 102-1 [7], ETS 300 403-1 [23]
1	1	1	1	1	0	0	0	Low layer compatibility	ETS 300 102-1 [7], ETS 300 403-1 [23]
1	1	1	1	1	0	1	0	High layer compatibility	ETS 300 102-1 [7], ETS 300 403-1 [23]
1	1	1	1	1	1	0	0	User-user	ETS 300 102-1 [7], ETS 300 286-1 [18]
1	1	1	1	1	1	1	1	Escape for extension	ETS 300 102-1 [7], ETS 300 403-1 [23]

All other values are reserved.

NOTE: Not applicable in networks conforming to ETSI standards.

6.2 Codeset 5

The DSS1 information elements and their associated codepoints which are defined in codeset 5 are shown in table 3.

Table 3: DSS1 information element codepoints

Information element identifier	Information element	Reference
Bit		
8 7 6 5 4 3 2 1		
1	: : : - - - - <b>Single octet information elements</b>	
0 0 0	- - - - Reserved	ETS 300 102-1 [7]
0 0 1	- - - - Shift	ETS 300 102-1 [7]
0	: : : : : : : <b>Variable length information elements</b>	
0 0 0 1 1 0 0	Connected number	(note)
0 0 0 1 1 0 1	Connected subaddress	(note)
0 0 1 1 0 1 0	Charge advice	(note)
0 1 0 0 0 0 0	Network-specific facilities	(note)
0 1 0 1 0 0 1	Date/time	(note)
NOTE:	This information element codepoint is obsolete but the value is reserved for reasons of backwards compatibility.	

## 7 Notifications

### 7.1 Notification indicator values

The notification indicator values are shown in table 4. The reference indicates the ETS that contains the definition of the relevant value.

**Table 4: Notification indicator values**

Notification indicator value								Meaning	Reference
8	7	6	5	4	3	2	1		
1	0	0	0	0	0	0	0	User suspended	ETS 300 102-1 [7], ETS 300 403-1 [23]
1	0	0	0	0	0	0	1	User resumed	ETS 300 102-1 [7], ETS 300 403-1 [23]
1	0	0	0	0	0	1	0	Bearer service change	(note)
1	0	0	0	0	0	1	1	Discriminator for BER encoded notification extension	ETS 300 196-1 [15]
1	0	0	0	0	1	0	0	Call completion delay	ETS 300 210-1 [17]
1	1	0	0	0	0	1	0	Conference established	ETS 300 185-1 [12], ETS 300 188-1 [13]
1	1	0	0	0	0	1	1	Conference disconnected	ETS 300 185-1 [12], ETS 300 188-1 [13]
1	1	0	0	0	1	0	0	Other party added	ETS 300 185-1 [12]
1	1	0	0	0	1	0	1	Isolated	ETS 300 185-1 [12]
1	1	0	0	0	1	1	0	Reattached	ETS 300 185-1 [12]
1	1	0	0	0	1	1	1	Other party isolated	ETS 300 185-1 [12]
1	1	0	0	1	0	0	0	Other party reattached	ETS 300 185-1 [12]
1	1	0	0	1	0	0	1	Other party split	ETS 300 185-1 [12]
1	1	0	0	1	0	1	0	Other party disconnected	ETS 300 185-1 [12]
1	1	1	0	0	0	0	0	Call is a waiting call	ETS 300 058-1 [5]
1	1	1	0	1	0	0	0	Diversion activated	ETS 300 207-1 [16]
1	1	1	0	1	0	0	1	Call transferred, alerting	ETS 300 369-1 [22]
1	1	1	0	1	0	1	0	Call transferred, active	ETS 300 369-1 [22]
1	1	1	0	1	1	1	0	Reverse charging (Whole call)	(note)
1	1	1	0	1	1	1	1	Reverse charging (For the rest of the call)	(note)
1	1	1	1	1	0	0	1	Remote hold	ETS 300 141-1 [10], ETS 300 188-1 [13]
1	1	1	1	1	0	1	0	Remote retrieval	ETS 300 141-1 [10]
1	1	1	1	1	0	1	1	Call is diverting	ETS 300 207-1 [16]

NOTE: Not applicable in networks conforming to ETSI standards.

## 7.2 Notification indicators defined by global value

The notification indicators defined using the ECMA object identifier are shown in table 5. These notification indicators are defined for use in a private ISDN context, but may be carried transparently by the public network. The notification indicators shown in table 5 all use the discriminator for Basic Encoding Rules (BER) encoded notification extension (i.e. octet 3 of the Notification indicator information element is set to "1 0 0 0 0 1 1").

**Table 5: Notification indicators defined by global value**

Notification indicator name	Object identifier	Reference
remoteUserAlerting	{iso(1) identified-organization(3) icd-ecma(0012) private-isdn-signalling-domain(9) 2000}	ETS 300 362 [20], ETS 300 426 [24]
doNotDisturb	{iso(1) identified-organization(3) icd-ecma(0012) private-isdn-signalling-domain(9) 2002}	ETS 300 364 [21]
intrusionIsImpending	{iso(1) identified-organization(3) icd-ecma(0012) private-isdn-signalling-domain(9) 2003}	ETS 300 426 [24]
intrusionIsEffective	{iso(1) identified-organization(3) icd-ecma(0012) private-isdn-signalling-domain(9) 2004}	ETS 300 426 [24]
isolationThroughIntrusion	{iso(1) identified-organization(3) icd-ecma(0012) private-isdn-signalling-domain(9) 2005}	ETS 300 426 [24]
forcedReleaseAfterIntrusion	{iso(1) identified-organization(3) icd-ecma(0012) private-isdn-signalling-domain(9) 2006}	ETS 300 426 [24]
endOfIntrusion	{iso(1) identified-organization(3) icd-ecma(0012) private-isdn-signalling-domain(9) 2007}	ETS 300 426 [24]

## 8 Progress indicator values

The progress indicator values are shown in table 6. The reference indicates the ETS that contains the definition of the relevant value.

**Table 6: Progress indicator values**

Progress indicator value	Meaning	Reference
Bit		
8 7 6 5 4 3 2 1		
1 0 0 0 0 0 0 1	Call is not end-to-end ISDN; further progress information may be available in-band	ETS 300 102-1 [7], ETS 300 403-1 [23]
1 0 0 0 0 0 1 0	Destination address is non-ISDN	ETS 300 102-1 [7], ETS 300 403-1 [23]
1 0 0 0 0 0 1 1	Origination address is non-ISDN	ETS 300 102-1 [7], ETS 300 403-1 [23]
1 0 0 0 0 1 0 0	Call has returned to the ISDN	ETS 300 102-1 [7], ETS 300 403-1 [23]
1 0 0 0 0 1 0 1	Interworking has occurred and has resulted in a telecommunication service change	ETS 300 102-1 [7], ETS 300 403-1 [23]
1 0 0 0 1 0 0 0	In-band information or appropriate pattern now available	ETS 300 102-1 [7], ETS 300 403-1 [23]



## 9 State values

The state values are shown in table 7. The reference indicates the ETS that contains the definition of the relevant value.

**Table 7: Call state values**

State value							User (U)/Network (N) state	Reference
6	5	4	3	2	1	Bit		
<b><u>Call state values</u></b>								
0	0	0	0	0	0	0	U0/N0 Null	ETS 300 102-1 [7], ETS 300 403-1 [23]
0	0	0	0	0	0	1	U1/N1 Call Initiated	ETS 300 102-1 [7], ETS 300 403-1 [23]
0	0	0	0	1	0	0	U2/N2 Overlap Sending	ETS 300 102-1 [7], ETS 300 403-1 [23]
0	0	0	0	1	1	1	U3/N3 Outgoing Call Proceeding	ETS 300 102-1 [7], ETS 300 403-1 [23]
0	0	0	1	0	0	0	U4/N4 Call Delivered	ETS 300 102-1 [7], ETS 300 403-1 [23]
0	0	0	1	1	0	0	U6/N6 Call Present	ETS 300 102-1 [7], ETS 300 403-1 [23]
0	0	0	1	1	1	1	U7/N7 Call Received	ETS 300 102-1 [7], ETS 300 403-1 [23]
0	0	1	0	0	0	0	U8/N8 Connect Request	ETS 300 102-1 [7], ETS 300 403-1 [23]
0	0	1	0	0	1	0	U9/N9 Incoming Call Proceeding	ETS 300 102-1 [7], ETS 300 403-1 [23]
0	0	1	0	1	0	0	U10/N10 Active	ETS 300 102-1 [7], ETS 300 403-1 [23]
0	0	1	0	1	1	1	U11/N11 Disconnect Request	ETS 300 102-1 [7], ETS 300 403-1 [23]
0	0	1	1	0	0	0	U12/N12 Disconnect Indication	ETS 300 102-1 [7], ETS 300 403-1 [23]
0	0	1	1	1	1	1	U15/N15 Suspend Request	ETS 300 102-1 [7], ETS 300 403-1 [23]
0	1	0	0	0	1	0	U17/N17 Resume Request	ETS 300 102-1 [7], ETS 300 403-1 [23]
0	1	0	0	1	1	1	U19/N19 Release Request	ETS 300 102-1 [7], ETS 300 403-1 [23]
0	1	0	1	1	0	0	N22 Call Abort	ETS 300 102-1 [7], ETS 300 403-1 [23]
0	1	1	0	0	1	0	U25/N25 Overlap Receiving	ETS 300 102-1 [7], ETS 300 403-1 [23]
0	1	1	1	1	1	1	U31/N31 Bearer Independent Transport	ETS 300 196-1 [15]

(continued)

Table 7 (concluded): Call state values

State value						User (U)/Network (N) state	Reference
6	5	4	3	2	1		
<u>Global interface state values</u>							
0	0	0	0	0	0	REST 0 Null	ETS 300 102-1 [7], ETS 300 403-1 [23]
1	1	1	1	0	1	REST 1 Restart Request	ETS 300 102-1 [7], ETS 300 403-1 [23]
1	1	1	1	1	0	REST 2 Restart	ETS 300 102-1 [7], ETS 300 403-1 [23]

## 10 Operations

### 10.1 Operations defined by local value

The operation values are shown in table 8. The reference indicates the ETS that contains the definition of the relevant operation.

Table 8: Operation values

Value	Operation name	Reference
1	userUserService	ETS 300 286-1 [18]
2	cUGCall	ETS 300 138-1 [9]
3	mCIDRequest	ETS 300 130-1 [8]
4	begin3PTY	ETS 300 188-1 [13]
5	end3PTY	ETS 300 188-1 [13]
6	ectExecute	ETS 300 369-1 [22]
7	activationDiversion	ETS 300 207-1 [16]
8	deactivationDiversion	ETS 300 207-1 [16]
9	activationStatusNotificationDiv	ETS 300 207-1 [16]
10	deactivationStatusNotificationDiv	ETS 300 207-1 [16]
11	interrogationDiversion	ETS 300 207-1 [16]
12	diversionInformation	ETS 300 207-1 [16]
13	callDeflection	ETS 300 207-1 [16]
14	callRerouting	ETS 300 207-1 [16]
15	divertingLegInformation2	ETS 300 207-1 [16]
16	invokeStatus	(note)
17	interrogateServedUserNumbers	ETS 300 207-1 [16]
18	divertingLegInformation1	ETS 300 207-1 [16]
19	divertingLegInformation3	ETS 300 207-1 [16]

(continued)

Table 8 (continued): Operation values

Value	Operation name	Reference
20	explicitReservationCreationControl	ETS 300 196-1 [15]
21	explicitReservationManagement	ETS 300 196-1 [15]
22	explicitReservationCancel	ETS 300 196-1 [15]
24	mLPPLFBquery	(note)
25	mLPPCallrequest	(note)
26	mLPPCallpreemption	(note)
30	chargingRequest	ETS 300 182-1 [11]
31	aOCSCurrency	ETS 300 182-1 [11]
32	aOCSSpecialArr	ETS 300 182-1 [11]
33	aOCDCurrency	ETS 300 182-1 [11]
34	aOCDCchargingUnit	ETS 300 182-1 [11]
35	aOCECurrency	ETS 300 182-1 [11]
36	aOCEChargingUnit	ETS 300 182-1 [11]
37	identificationOfCharge	ETS 300 195-1 [14]
40	beginCONF	ETS 300 185-1 [12]
41	addCONF	ETS 300 185-1 [12]
42	splitCONF	ETS 300 185-1 [12]
43	dropCONF	ETS 300 185-1 [12]
44	isolateCONF	ETS 300 185-1 [12]
45	reattachCONF	ETS 300 185-1 [12]
46	partyDISC	ETS 300 185-1 [12]
47	floatCONF	(note)
48	endCONF	(note)
49	identifyConferee	ETS 300 195-1 [14]
60	requestREV	(note)
61	rEVIndication	(note)
62	rEV-T-Status	(note)
66	uUSRequest	ETS 300 195-1 [14]
70	callInfoRetain	(note)
71	cCBSRequest	(note)
72	cCBSDeactivate	(note)
73	cCBSInterrogate	(note)
74	cCBSErase	(note)
75	cCBSRemoteUserFree	(note)
76	cCBSCall	(note)
77	cCBSStatusRequest	(note)
78	cCBSBFree	(note)
79	eraseCallLinkageID	(note)
80	cCBSStopAlerting	(note)

(continued)

Table 8 (concluded): Operation values

Value	Operation name	Reference
83	cCBS-T-Request	(note)
84	cCBS-T-Call	(note)
85	cCBS-T-Suspend	(note)
86	cCBS-T-Resume	(note)
87	cCBS-T-RemoteUserFree	(note)
88	cCBS-T-Available	(note)
90	explicitEctExecute	(note)
91	requestSubaddress	(note)
92	subaddressTransfer	(note)
93	ectLinkIdRequest	(note)
94	ectInform	(note)
95	ectLoopTest	(note)
NOTE: Not applicable in networks conforming to ETSI standards.		

## 10.2 Operations defined by global value

The operations defined by global value (i.e. using the ETSI object identifier) is shown in table 9. The reference indicates the ETS that contains the definition of the relevant operation.

Table 9: Operations using the ETSI object identifier

Operation name	Object identifier	Reference
statusRequest	{ccitt identified-organization etsi (0) 196 status-request-procedure (9) statusRequest-operation (1)}	ETS 300 196-1 [15]
	<b><u>FPH supplementary service</u></b> fPHOID OBJECT IDENTIFIER ::=	
	{ccitt identified-organization etsi (0) 210 freephone-operations (1)}	
callFPH	{fPHOID callFPH-operation (1)}	ETS 300 210-1 [17]
monitor-T-FPH	{fPHOID monitor-T-FPH-operation (2)}	ETS 300 210-1 [17]
free-T-FPH	{fPHOID free-T-FPH-operation (3)}	ETS 300 210-1 [17]
call-T-FPH	{fPHOID call-T-FPH-operation (4)}	ETS 300 210-1 [17]
(continued)		

Table 9 (concluded): Operations using the ETSI object identifier

Operation name	Object identifier	Reference
<b><u>CCBS supplementary service, at the S and T reference point</u></b>		
cCBSOID OBJECT IDENTIFIER ::=		
{ccitt identified-organization etsi (0) 359		
operations-and-errors (1)}		
callInfoRetain	{cCBSOID 1}	ETS 300 359-1 [19]
cCBSRequest	{cCBSOID 2}	ETS 300 359-1 [19]
cCBSDeactivate	{cCBSOID 3}	ETS 300 359-1 [19]
cCBSInterrogate	{cCBSOID 4}	ETS 300 359-1 [19]
cCBSErase	{cCBSOID 5}	ETS 300 359-1 [19]
cCBSRemoteUserFree	{cCBSOID 6}	ETS 300 359-1 [19]
cCBSCall	{cCBSOID 7}	ETS 300 359-1 [19]
cCBSStatusRequest	{cCBSOID 8}	ETS 300 359-1 [19]
cCBSBFree	{cCBSOID 9}	ETS 300 359-1 [19]
eraseCallLinkageID	{cCBSOID 10}	ETS 300 359-1 [19]
cCBSStopAlerting	{cCBSOID 11}	ETS 300 359-1 [19]
<b><u>CCBS supplementary service, at the T reference point</u></b>		
cCBS-T-OID OBJECT IDENTIFIER ::=		
{ccitt identified-organization etsi (0) 359		
private-network-operations-and-errors (2)}		
cCBS-T-Request	{cCBS-T-OID 1}	ETS 300 359-1 [19]
cCBS-T-Call	{cCBS-T-OID 2}	ETS 300 359-1 [19]
cCBS-T-Suspend	{cCBS-T-OID 3}	ETS 300 359-1 [19]
cCBS-T-Resume	{cCBS-T-OID 4}	ETS 300 359-1 [19]
cCBS-T-RemoteUserFree	{cCBS-T-OID 5}	ETS 300 359-1 [19]
cCBS-T-Available	{cCBS-T-OID 6}	ETS 300 359-1 [19]
<b><u>ECT supplementary service</u></b>		
eCTOID OBJECT IDENTIFIER ::=		
{ccitt identified-organization etsi (0) 369		
operations-and-errors (1)}		
explicitEctExecute	{eCTOID explicitEctExecute-operation (1)}	ETS 300 369-1 [22]
requestSubaddress	{eCTOID requestSubaddress-operation (2)}	ETS 300 369-1 [22]
subaddressTransfer	{eCTOID subaddressTransfer-operation (3)}	ETS 300 369-1 [22]
ectLinkIdRequest	{eCTOID ectLinkIdRequest-operation (4)}	ETS 300 369-1 [22]
ectInform	{eCTOID ectInform-operation (5)}	ETS 300 369-1 [22]
ectLoopTest	{eCTOID ectLoopTest-operation (6)}	ETS 300 369-1 [22]

## 11 Errors

### 11.1 Errors defined by local value

The error values are shown in table 10. The reference indicates the ETS that contains the definition of the relevant error.

**Table 10: Error values**

Value	Error name	Reference
0	notSubscribed	ETS 300 196-1 [15]
1	rejectedByNetwork	ETS 300 286-1 [18]
2	rejectedByUser	ETS 300 286-1 [18]
3	notAvailable	ETS 300 196-1 [15]
4	notImplemented	ETS 300 196-1 [15]
5	insufficientInfo	(note 1)
6	invalidServedUserNr	ETS 300 196-1 [15]
7	invalidCallState	ETS 300 196-1 [15]
8	basicServiceNotProvided	ETS 300 196-1 [15]
9	notIncomingCall	ETS 300 196-1 [15]
10	supplementaryServiceInteractionNotAllowed	ETS 300 196-1 [15]
11	resourceUnavailable	ETS 300 196-1 [15]
12	invalidDivertedToNr	ETS 300 207-1 [16]
13	operatorAccess	(note 1)
14	specialServiceNr	ETS 300 207-1 [16]
15	diversionToServedUserNr	ETS 300 207-1 [16]
16	invalidOrUnregisteredCUGIndex	ETS 300 138-1 [9]
17	requestedBasicServiceViolatesCUGConstraints	ETS 300 138-1 [9]
18	outgoingCallsBarredWithinCUG	ETS 300 138-1 [9]
19	incomingCallsBarredWithinCUG	ETS 300 138-1 [9]
20	userNotMemberOfCUG	ETS 300 138-1 [9]
21	inconsistencyInDesignatedFacilityAndSubscriberClass	ETS 300 138-1 [9]
23	incomingCallAccepted	ETS 300 207-1 [16]
24	numberOfDiversionsExceeded	ETS 300 207-1 [16]
25	callFailure	(note 1)
26	noChargingInfoAvailable	ETS 300 182-1 [11]
27	cUGViolation	(note 1)
28	illConferenceld	ETS 300 185-1 [12]
29	illPartyld	ETS 300 185-1 [12]
30	numberOfPartiesExceeded	ETS 300 185-1 [12]
31	notActive	ETS 300 185-1 [12]
32	notAllowed	ETS 300 185-1 [12]
33	maximumNumberOfReservationsReached	ETS 300 196-1 [15]
34	noExplicitReservationExistsOrInvalidReservationIndicator	ETS 300 196-1 [15]
35	unwantedReservationCreated	ETS 300 196-1 [15]
36	implicitReservationUsed	ETS 300 196-1 [15]

(continued)

Table 10 (concluded): Error values

Value	Error name	Reference
43	proceduralError	(note 1)
44	unauthorizedPrecedenceLevel	(note 1)
45	userIgnored	(note 1)
46	notActivated	ETS 300 207-1 [16]
47	uusReqAsEssential	NOTE
48	requestAlreadyAccepted	ETS 300 207-1 [16]
49	rEVIsAlreadyRunning	(note 1)
50	invalidCallLinkageID	(note 1)
51	invalidCCBSReference	(note 1)
52	longTermDenial	(note 1)
53	shortTermDenial	(note 1)
54	cCBSIsAlreadyActivated	(note 1)
55	alreadyAccepted	(note 1)
56	outgoingCCBSQueueFull	(note 1)
57	callFailureReasonNotBusy	(note 1)
58	notReadyForCall	(note 1)
59	shortTermDenial	(notes 1 and 2)
60	longTermDenial	(notes 1 and 2)
61	linkIdNotAssignedByNetwork	(note 1)
NOTE 1:	Not applicable in networks conforming to ETSI standards.	
NOTE 2:	For private ISDNs.	

## 11.2 Errors defined by global value

The errors defined by global value (i.e. using the ETSI object identifier) are shown in table 11. The reference indicates the ETS that contains the definition of the relevant error.

**Table 11: Errors using the ETSI object identifier**

Error name	Object identifier	Reference
<b>CCBS supplementary service, at the S and T reference point</b>		
cCBSOID OBJECT IDENTIFIER ::=		
{ccitt identified-organization etsi (0) 359		
operations-and-errors (1)}		
invalidCallLinkageID	{cCBSOID 20}	ETS 300 359-1 [19]
invalidCCBSReference	{cCBSOID 21}	ETS 300 359-1 [19]
longTermDenial	{cCBSOID 22}	ETS 300 359-1 [19]
shortTermDenial	{cCBSOID 23}	ETS 300 359-1 [19]
cCBSIsAlreadyActivated	{cCBSOID 24}	ETS 300 359-1 [19]
alreadyAccepted	{cCBSOID 25}	ETS 300 359-1 [19]
outgoingCCBSQueueFull	{cCBSOID 26}	ETS 300 359-1 [19]
callFailureReasonNotBusy	{cCBSOID 27}	ETS 300 359-1 [19]
notReadyForCall	{cCBSOID 28}	ETS 300 359-1 [19]
<b>CCBS supplementary service, at the T reference point</b>		
cCBS-T-OID OBJECT IDENTIFIER ::=		
{ccitt identified-organization etsi (0) 359		
private-network-operations-and-errors (2)}		
longTermDenial	{cCBS-T-OID 20}	ETS 300 359-1 [19]
shortTermDenial	{cCBS-T-OID 21}	ETS 300 359-1 [19]
<b>ECT supplementary service</b>		
eCTOID OBJECT IDENTIFIER ::=		
{ccitt identified-organization etsi (0) 369		
operations-and-errors (1)}		
linkIdNotAssignedByNetwork	{eCTOID linkIdNotAssignedByNetwork (21)}	ETS 300 369-1 [22]

## 12 Contents of messages

The matrix contained in tables 12 to 15 shows the relationship between messages and the information elements defined in codeset 0 that each message may carry. The purpose of tables 12 to 15 is only to provide an overview of possible message content but it does not indicate which information element or combinations of information elements are present in a particular message for a specific purpose (e.g. basic call, a certain supplementary service).

Tables 12 to 15 contain only the messages and information elements defined in ETSI standards.



Table 12: Call establishment messages and possible information elements

Information elements	Call establishment messages						
	A L E R T I N G	C A L L P R O C	P R O G R E S S	S E T U P	C O N N E C T	C O N N E C T A C K	S E T U P A C K
Protocol discriminator	X	X	X	X	X	X	X
Call reference	X	X	X	X	X	X	X
Message type	X	X	X	X	X	X	X
Shift	X	X	X	X	X	X	X
More data							
Sending complete				X			
Congestion level							
Segmented message							
Bearer capability	X	X	X	X	X		
Cause			X				
Extended facility	X	X	X	X	X	X	X
Call identity							
Call state							
Channel identification	X	X		X	X	X	X
Facility	X	X	X	X	X	X	X
Progress indicator	X	X	X	X	X		X
Network-specific facilities				X			
Notification indicator	X	X	X	X	X	X	X
Display	X	X	X	X	X	X	X
Date/time					X		
Keypad facility				X			
Signal	X			X	X	X	X
Connected number					X		
Connected subaddress					X		
Calling party number				X			
Calling party subaddress				X			
Called party number				X			
Called party subaddress				X			
Redirecting number				X			
Redirection number	X		X		X		
Transit network selection				X			
Restart indicator							
Low layer compatibility				X	X		
High layer compatibility	X	X	X	X	X		
User-user	X		X	X	X		
Escape for extension							



Table 14: Call clearing messages and possible information elements

Information elements	Call clearing messages				
	D I S C O N N E C T	R E S T A R T	R E L E A S E	R E S T A R T  A C K	R E L E A S E  C O M P
Protocol discriminator	X	X	X	X	X
Call reference	X	X	X	X	X
Message type	X	X	X	X	X
Shift	X	X	X	X	X
More data					
Sending complete					
Congestion level					
Segmented message					
Bearer capability					
Cause	X		X		X
Extended facility	X		X		X
Call identity					
Call state					
Channel identification		X		X	
Facility	X		X		X
Progress indicator	X				
Network-specific facilities					
Notification indicator					
Display	X	X	X	X	X
Date/time					
Keypad facility					
Signal	X		X		X
Connected number					
Connected subaddress					
Calling party number					
Calling party subaddress					
Called party number					
Called party subaddress					
Redirecting number					
Redirection number					
Transit network selection					
Restart indicator		X		X	
Low layer compatibility					
High layer compatibility					
User-user	X		X		X
Escape for extension					

Table 15: Miscellaneous messages and possible information elements

Information elements	Miscellaneous messages							
	S E G M E N T	F A C I L I T Y	R E G I S T E R	N O T I F Y	S T A T U S E N Q	C O N G E N T	I N F O R M	S T A T U S
Protocol discriminator	X	X	X	X	X	X	X	X
Call reference	X	X	X	X	X	X	X	X
Message type	X	X	X	X	X	X	X	X
Shift	*	X	X	X	X	X	X	X
More data								
Sending complete							X	
Congestion level						X		
Segmented message	X							
Bearer capability								
Cause						X	X	X
Extended facility		X	X			X	X	
Call identity								
Call state								X
Channel identification								
Facility		X	X			X	X	
Progress indicator								
Network-specific facilities								
Notification indicator		X	X	X		X	X	
Display		X	X	X	X	X	X	X
Date/time								
Keypad facility							X	
Signal							X	
Connected number								
Connected subaddress								
Calling party number								
Calling party subaddress								
Called party number		X					X	
Called party subaddress		X						
Redirecting number								
Redirection number				X				
Transit network selection								
Restart indicator								
Low layer compatibility								
High layer compatibility								
User-user								
Escape for extension								
NOTE:	The use of the Shift information element to shift to another codeset for the interpretation of the Segmented message information element is allowed within the protocol, but not recommended unless a bilateral agreement exists between the user and the network regarding the use of the shift procedure in conjunction with the segmentation procedure.							

## History

Document history	
June 1995	First Edition
February 1996	Converted into Adobe Acrobat Portable Document Format (PDF)