

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

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*European Telecommunications Standards Institute*

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***ETSI Secretariat***

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Postal address

F-06921 Sophia Antipolis Cedex - FRANCE

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Office address

650 Route des Lucioles - Sophia Antipolis  
Valbonne - FRANCE  
Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16  
Siret N° 348 623 562 00017 - NAF 742 C  
Association à but non lucratif enregistrée à la  
Sous-Préfecture de Grasse (06) N° 7803/88

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Internet

secretariat@etsi.fr  
<http://www.etsi.fr>

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## Foreword

This ETSI Guide (EG) has been produced by ETSI Technical Committee Signalling Protocols and Switching (SPS).

An ETSI Guide (EG) is an ETSI deliverable, containing informative elements, adopted for publication by the ETSI membership.

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# 1 Scope

The present document 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, protocol discriminator values, 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 specification, a reference is included in the table to indicate the ETSI specification where the particular codepoint is defined.

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

Clause 12 of the present document shows the relationship between messages and the information elements that each message may carry. Tables 13 to 16 only provide an overview of possible message contents but do 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).

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# 2 References

References may be made to:

- a) specific versions of publications (identified by date of publication, edition number, version number, etc.), in which case, subsequent revisions to the referenced document do not apply; or
- b) all versions up to and including the identified version (identified by "up to and including" before the version identity); or
- c) all versions subsequent to and including the identified version (identified by "onwards" following the version identity); or
- d) publications without mention of a specific version, in which case the latest version applies.

A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

- [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] ITU-T Recommendation X.25 (1993): "Interface between data terminal equipment (DTE) and data circuit-terminating equipment (DCE) for terminals operating in the packet mode and connected to public data networks by dedicated circuit".
- [5] ETS 300 007 (1991): "Integrated Services Digital Network (ISDN); Support of packet-mode terminal equipment by an ISDN".

- [6] 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".
- [7] ETS 300 097-1 (1992) including amendment A1 (1994): "Integrated Services Digital Network (ISDN); Connected Line Identification Presentation (COLP) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [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) including amendment A1 (1996): "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) including amendment A1 (1995): "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] EN 300 196-1 (V1.2): "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 (1996): "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 (1996): "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 300 324-1: "Signalling Protocols and Switching (SPS); V interfaces at the digital Local Exchange (LE); V5.1 interface for the support of Access Network (AN); Part 1: V5.1 interface specification".
- [20] ETS 300 347-1: "Signalling Protocols and Switching (SPS); V interfaces at the digital Local Exchange (LE); V5.2 interface for the support of Access Network (AN); Part 1: V5.2 interface specification".
- [21] 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".

- [22] ETS 300 362 (1994): "Private Telecommunication Network (PTN); Inter-exchange signalling protocol; Call offer supplementary service".
- [23] ETS 300 364 (1994): "Private Telecommunication Network (PTN); Inter-exchange signalling protocol; Do not disturb and do not disturb override supplementary services".
- [24] 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".
- [25] EN 300 403-1 (V1.2): "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]".
- [26] ETS 300 426 (1995): "Private Telecommunication Network (PTN); Inter-exchange signalling protocol; Call intrusion supplementary service".
- [27] ETS 300 443-1 (1996): "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2); B-ISDN user-network interface layer 3 specification for basic call/bearer control; Part 1: Protocol specification".
- [28] ETS 300 745-1 (1997): "Integrated Services Digital Network (ISDN); Message Waiting Indication (MWI) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [29] EN 301 001-1 (V1.1): "Integrated Services Digital Network (ISDN); Outgoing Call Barring (OCB) supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [30] EN 301 002-1 (V1.1): "Integrated Services Digital Network (ISDN); Personal Identification Number (PIN) security tool procedures; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [31] EN 301 005-1 (V1.1): "V interfaces at the digital Service Node (SN); Interfaces at the VB5.1 reference point for the support of broadband or combined narrowband and broadband Access Networks (ANs); Part 1: Interface specification".

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## 3 Definitions and abbreviations

### 3.1 Definitions

For the purposes of the present document, the following definitions apply:

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

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

**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.

### 3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

3PTY	Three-Party
AN	Access Network
AOC	Advice of Charge
ASN.1	Abstract Syntax Notation one
BER	Basic Encoding Rules
B-ISDN	Broadband Integrated Services Digital Network
CCBS	Completion of Calls to Busy Subscriber
CCNR	Completion of Calls on No Reply
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
MWI	Message Waiting Indication
OCB	Outgoing Call Barring
PIN	Personal Identification Number
PSTN	Public Switched Telephone Network
PTN	Private Telecommunication Network
SN	Service Node
UUS	User-to-User Signalling



## 4 DSS1 message codepoints

The DSS1 messages and their associated codepoints are shown in table 1. The reference indicates the ETSI specification 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	EN 300 403-1 [25]
0	0	0	-	-	-	-	-	<b><u>Call establishment messages</u></b>	
			0	0	0	0	1	ALERTING	ETS 300 007 [5], EN 300 403-1 [25]
			0	0	0	1	0	CALL PROCEEDING	ETS 300 007 [5], EN 300 403-1 [25]
			0	0	0	1	1	PROGRESS	ETS 300 007 [5], EN 300 403-1 [25]
			0	0	1	0	1	SETUP	ETS 300 007 [5], EN 300 403-1 [25]
			0	0	1	1	1	CONNECT	ETS 300 007 [5], EN 300 403-1 [25]
			0	1	1	1	1	CONNECT ACKNOWLEDGE	ETS 300 007 [5], EN 300 403-1 [25]
			0	1	1	0	1	SETUP ACKNOWLEDGE	EN 300 403-1 [25]
0	0	1	-	-	-	-	-	<b><u>Call information phase messages</u></b>	
			0	0	0	0	0	USER INFORMATION	ETS 300 286-1 [18]
			0	0	0	0	1	SUSPEND REJECT	EN 300 403-1 [25]
			0	0	0	1	0	RESUME REJECT	EN 300 403-1 [25]
			0	0	1	0	0	HOLD	EN 300 196-1 [15]
			0	0	1	0	1	SUSPEND	EN 300 403-1 [25]
			0	0	1	1	0	RESUME	EN 300 403-1 [25]
			0	1	0	0	0	HOLD ACKNOWLEDGE	EN 300 196-1 [15]
			0	1	1	0	1	SUSPEND ACKNOWLEDGE	EN 300 403-1 [25]
			0	1	1	1	0	RESUME ACKNOWLEDGE	EN 300 403-1 [25]
			1	0	0	0	0	HOLD REJECT	EN 300 196-1 [15]
			1	0	0	0	1	RETRIEVE	EN 300 196-1 [15]
			1	0	0	1	1	RETRIEVE ACKNOWLEDGE	EN 300 196-1 [15]
			1	0	1	1	1	RETRIEVE REJECT	EN 300 196-1 [15]
0	1	0	-	-	-	-	-	<b><u>Call clearing messages</u></b>	
			0	0	0	0	0	DETACH	(note)
			0	0	1	0	1	DISCONNECT	ETS 300 007 [5], EN 300 403-1 [25]
			0	0	1	1	0	RESTART	EN 300 403-1 [25]
			0	1	0	0	0	DETACH ACKNOWLEDGE	(note)
			0	1	1	0	1	RELEASE	ETS 300 007 [5], EN 300 196-1 [15], EN 300 403-1 [25]
			0	1	1	1	0	RESTART ACKNOWLEDGE	EN 300 403-1 [25]
			1	1	0	1	1	RELEASE COMPLETE	ETS 300 007 [5], EN 300 196-1 [15], EN 300 403-1 [25]

(continued)

Table 1 (concluded): DSS1 message codepoints

Message type Bit							Message	Reference	
8	7	6	5	4	3	2			1
0	1	1	-	-	-	-	-	<b>Miscellaneous messages</b>	
			0	0	0	0	0	SEGMENT	EN 300 403-1 [25]
			0	0	0	1	0	FACILITY	EN 300 196-1 [15]
			0	0	1	0	0	REGISTER	EN 300 196-1 [15]
			0	1	1	1	0	NOTIFY	EN 300 196-1 [15], EN 300 403-1 [25]
			1	0	1	0	1	STATUS ENQUIRY	ETS 300 007 [5], EN 300 196-1 [15], EN 300 403-1 [25]
			1	1	0	0	1	CONGESTION CONTROL	ETS 300 286-1 [18]
			1	1	0	1	1	INFORMATION	EN 300 403-1 [25]
			1	1	1	0	1	STATUS	ETS 300 007 [5], EN 300 196-1 [15], EN 300 403-1 [25]

NOTE: This message codepoint is obsolete, but the value is reserved for reasons of backwards compatibility.

## 5 DSS1 information element codepoints

### 5.1 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 ETSI specification that contains the information element definition.

**Table 2: DSS1 information element codepoints**

Information element identifier								Information element	Reference
8	7	6	5	4	3	2	1		
1	:	:	:	-	-	-	-	<b><u>Single octet information elements</u></b>	
0	0	0	0	-	-	-	-	Reserved	EN 300 403-1 [25]
0	0	1	-	-	-	-	-	Shift	EN 300 403-1 [25]
0	1	0	0	0	0	0	0	More data	ETS 300 286-1 [18]
0	1	0	0	0	0	0	1	Sending complete	EN 300 403-1 [25]
0	1	1	-	-	-	-	-	Congestion level	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	0	Segmented message	EN 300 403-1 [25]
0	0	0	0	0	1	0	0	Bearer capability	EN 300 403-1 [25]
0	0	0	1	0	0	0	0	Cause	EN 300 403-1 [25]
0	0	0	1	1	0	1		Extended facility	EN 300 196-1 [15]
0	0	1	0	0	0	0	0	Call identity	EN 300 403-1 [25]
0	0	1	0	1	0	0	0	Call state	EN 300 196-1 [15], EN 300 403-1 [25]
0	0	1	1	0	0	0	0	Channel identification	EN 300 403-1 [25]
0	0	1	1	1	0	0	0	Facility	EN 300 196-1 [15]
0	0	1	1	1	1	0	0	Progress indicator	EN 300 403-1 [25]
0	1	0	0	0	0	0	0	Network-specific facilities	EN 300 403-1 [25]
0	1	0	0	1	1	1		Notification indicator	EN 300 196-1 [15], EN 300 403-1 [25]
0	1	0	1	0	0	0	0	Display	EN 300 403-1 [25]
0	1	0	1	0	0	0	1	Date/time	EN 300 403-1 [25]
0	1	0	1	1	0	0	0	Keypad facility	EN 300 403-1 [25]
0	1	1	0	1	0	0	0	Signal	(note)
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	1	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	1	Packet layer window size	(note)
1	0	0	0	1	1	0	0	Packet size	(note)
1	0	0	0	1	1	1	1	Closed user group	(note)
1	0	0	1	0	1	0	0	Reverse charging	(note)

(continued)

Table 2 (concluded): DSS1 information element codepoints

Information element identifier								Information element	Reference
8	7	6	5	4	3	2	1		
0	:	:	:	:	:	:	:	<b>Variable length information elements (continued)</b>	
1	0	0	1	1	0	0		Connected number	ETS 300 097-1 [7]
1	0	0	1	1	0	1		Connected subaddress	ETS 300 097-1 [7]
1	1	0	1	1	0	0		Calling party number	EN 300 403-1 [25]
1	1	0	1	1	0	1		Calling party subaddress	EN 300 403-1 [25]
1	1	1	0	0	0	0		Called party number	EN 300 403-1 [25]
1	1	1	0	0	0	1		Called party subaddress	EN 300 403-1 [25]
1	1	1	0	1	0	0		Redirecting number	ETS 300 007 [5], ETS 300 207-1 [16]
1	1	1	0	1	1	0		Redirection number	ETS 300 207-1 [16]
1	1	1	1	0	0	0		Transit network selection	EN 300 403-1 [25]
1	1	1	1	0	0	1		Restart indicator	EN 300 403-1 [25]
1	1	1	1	1	0	0		Low layer compatibility	EN 300 403-1 [25]
1	1	1	1	1	0	1		High layer compatibility	EN 300 403-1 [25]
1	1	1	1	1	1	0		User-user	ETS 300 286-1 [18]
1	1	1	1	1	1	1		Escape for extension	EN 300 403-1 [25]
All other values are reserved.									
NOTE: Not applicable in networks conforming to ETSI specifications.									

## 5.2 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
8	7	6	5	4	3	2	1		
1	:	:	:	-	-	-	-	<b><u>Single octet information elements</u></b>	
	0	0	0	-	-	-	-	Reserved	
	0	0	1	-	-	-	-	Shift	
0	:	:	:	:	:	:	:	<b><u>Variable length information elements</u></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.									

## 6 Protocol discriminator values

The protocol discriminator values are shown in table 4. The reference indicates the ETSI specification that contains the definition of the relevant value.

**Table 4: Protocol discriminator values**

Protocol discriminator value								Meaning	Reference
Bit	8	7	6	5	4	3	2		
	0	0	0	0	0	0	0	0	Assigned for user-to-user signalling (see ETS 300 286-1[18]) - not available for use in the message protocol discriminator
	0	0	0	0	0	1	1	1	
	0	0	0	0	1	0	0	0	Q.931 user-network call control messages Q.2931 user-network call control messages
	0	0	0	0	1	0	0	1	
	0	0	0	1	0	0	0	0	Reserved for other network layer or layer 3 protocols, including Recommendation X.25 [4] (note)
	0	0	1	1	1	1	1	1	
	0	1	0	0	0	0	0	0	National use
	0	1	0	0	0	1	1	1	
	0	1	0	0	1	0	0	0	V5 protocol
	0	1	0	0	1	0	0	1	VB5.1 protocol
	0	1	0	0	1	0	1	0	Reserved for ETSI use
	0	1	0	0	1	1	1	1	
	0	1	0	1	0	0	0	0	Reserved for other network layer or layer 3 protocols, including Recommendation X.25 [4] (note)
	1	1	1	1	1	1	1	0	
All other values are reserved.									
NOTE: These values are reserved to discriminate these protocol discriminators from the first octet of a X.25 packet including general format identifier.									

## 7 Notifications

### 7.1 Notification indicator values

The notification indicator values are shown in table 5. The reference indicates the ETSI specification that contains the definition of the relevant value.

**Table 5: 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	EN 300 403-1 [25]
1	0	0	0	0	0	0	1	User resumed	EN 300 403-1 [25]
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	EN 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 [6]
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 [24]
1	1	1	0	1	0	1	0	Call transferred, active	ETS 300 369-1 [24]
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 specifications.

## 7.2 Notification indicators defined by global value

The notification indicators defined using the ECMA object identifier are shown in table 6. 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 6 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 6: 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 [22], ETS 300 426 [26]
doNotDisturb	{iso (1) identified-organization (3) icd-ecma (0012) private-isdn-signalling-domain (9) 2002}	ETS 300 364 [23]
intrusionIsImpending	{iso (1) identified-organization (3) icd-ecma (0012) private-isdn-signalling-domain (9) 2003}	ETS 300 426 [26]
intrusionIsEffective	{iso (1) identified-organization (3) icd-ecma (0012) private-isdn-signalling-domain (9) 2004}	ETS 300 426 [26]
isolationThroughIntrusion	{iso (1) identified-organization (3) icd-ecma (0012) private-isdn-signalling-domain (9) 2005}	ETS 300 426 [26]
forcedReleaseAfterIntrusion	{iso (1) identified-organization (3) icd-ecma (0012) private-isdn-signalling-domain (9) 2006}	ETS 300 426 [26]
endOfIntrusion	{iso (1) identified-organization (3) icd-ecma (0012) private-isdn-signalling-domain (9) 2007}	ETS 300 426 [26]



## 8 Progress indicator values

The progress indicator values are shown in table 7. The reference indicates the ETSI specification that contains the definition of the relevant value.

**Table 7: Progress indicator values**

Progress indicator value								Meaning	Reference
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	EN 300 403-1 [25]
1	0	0	0	0	0	1	0	Destination address is non-ISDN	EN 300 403-1 [25]
1	0	0	0	0	0	1	1	Origination address is non-ISDN	EN 300 403-1 [25]
1	0	0	0	0	1	0	0	Call has returned to the ISDN	EN 300 403-1 [25]
1	0	0	0	0	1	0	1	Interworking has occurred and has resulted in a telecommunication service change	EN 300 403-1 [25]
1	0	0	0	1	0	0	0	In-band information or appropriate pattern now available	EN 300 403-1 [25]

## 9 State values

The state values are shown in table 8. The reference indicates the ETSI specification that contains the definition of the relevant value.

**Table 8: Call state values**

State value						User (U)/Network (N) state	Reference
6	5	4	3	2	1		
						<b><u>Call state values</u></b>	
0	0	0	0	0	0	U0/N0 Null	EN 300 403-1 [25]
0	0	0	0	0	1	U1/N1 Call Initiated	EN 300 403-1 [25]
0	0	0	0	1	0	U2/N2 Overlap Sending	EN 300 403-1 [25]
0	0	0	0	1	1	U3/N3 Outgoing Call Proceeding	EN 300 403-1 [25]
0	0	0	1	0	0	U4/N4 Call Delivered	EN 300 403-1 [25]
0	0	0	1	1	0	U6/N6 Call Present	EN 300 403-1 [25]
0	0	0	1	1	1	U7/N7 Call Received	EN 300 403-1 [25]
0	0	1	0	0	0	U8/N8 Connect Request	EN 300 403-1 [25]
0	0	1	0	0	1	U9/N9 Incoming Call Proceeding	EN 300 403-1 [25]
0	0	1	0	1	0	U10/N10 Active	EN 300 403-1 [25]
0	0	1	0	1	1	U11/N11 Disconnect Request	EN 300 403-1 [25]
0	0	1	1	0	0	U12/N12 Disconnect Indication	EN 300 403-1 [25]
0	0	1	1	1	1	U15/N15 Suspend Request	EN 300 403-1 [25]
0	1	0	0	0	1	U17/N17 Resume Request	EN 300 403-1 [25]
0	1	0	0	1	1	U19/N19 Release Request	EN 300 403-1 [25]
0	1	0	1	1	0	N22 Call Abort	EN 300 403-1 [25]
0	1	1	0	0	1	U25/N25 Overlap Receiving	EN 300 403-1 [25]
0	1	1	1	1	1	U31/N31 Bearer Independent Transport	EN 300 196-1 [15]
						<b><u>Global interface state values</u></b>	
0	0	0	0	0	0	REST 0 Null	EN 300 403-1 [25]
1	1	1	1	0	1	REST 1 Restart Request	EN 300 403-1 [25]
1	1	1	1	1	0	REST 2 Restart	EN 300 403-1 [25]

## 10 Operations

### 10.1 Operations defined by local value

The operation values are shown in table 9. The reference indicates the ETSI specification that contains the definition of the relevant operation.

**Table 9: Operation values**

localValue	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 [24]
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]
20	explicitReservationCreationControl	EN 300 196-1 [15]
21	explicitReservationManagement	EN 300 196-1 [15]
22	explicitReservationCancel	EN 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]

(continued)

Table 9 (concluded): Operation values

localValue	Operation name	Reference
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)
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 specifications.

## 10.2 Operations defined by global value

The operations defined by global value (i.e. using an ETSI object identifier) is shown in table 10. The reference indicates the ETSI specification that contains the definition of the relevant operation.

**Table 10: Operations using an ETSI object identifier**

Operation name	Object identifier/globalValue	Reference
statusRequest	{ccitt identified-organization etsi (0) 196 status-request-procedure (9) statusRequest-operation (1)}	EN 300 196-1 [15]
<b>FPH supplementary service</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]
<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)}		
callInfoRetain	{cCBSOID 1}	ETS 300 359-1 [21]
cCBSRequest	{cCBSOID 2}	ETS 300 359-1 [21]
cCBSDeactivate	{cCBSOID 3}	ETS 300 359-1 [21]
cCBSInterrogate	{cCBSOID 4}	ETS 300 359-1 [21]
cCBSErase	{cCBSOID 5}	ETS 300 359-1 [21]
cCBSRemoteUserFree	{cCBSOID 6}	ETS 300 359-1 [21]
cCBSCall	{cCBSOID 7}	ETS 300 359-1 [21]
cCBSStatusRequest	{cCBSOID 8}	ETS 300 359-1 [21]
cCBSBFree	{cCBSOID 9}	ETS 300 359-1 [21]
eraseCallLinkageID	{cCBSOID 10}	ETS 300 359-1 [21]
cCBSStopAlerting	{cCBSOID 11}	ETS 300 359-1 [21]
<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)}		
cCBS-T-Request	{cCBS-T-OID 1}	ETS 300 359-1 [21]
cCBS-T-Call	{cCBS-T-OID 2}	ETS 300 359-1 [21]
cCBS-T-Suspend	{cCBS-T-OID 3}	ETS 300 359-1 [21]
cCBS-T-Resume	{cCBS-T-OID 4}	ETS 300 359-1 [21]
cCBS-T-RemoteUserFree	{cCBS-T-OID 5}	ETS 300 359-1 [21]
cCBS-T-Available	{cCBS-T-OID 6}	ETS 300 359-1 [21]
<b>ECT supplementary service</b>		
eCTOID OBJECT IDENTIFIER ::=		
{ccitt identified-organization etsi (0) 369 operations-and-errors (1)}		
explicitEctExecute	{eCTOID explicitEctExecute-operation (1)}	ETS 300 369-1 [24]
requestSubaddress	{eCTOID requestSubaddress-operation (2)}	ETS 300 369-1 [24]
subaddressTransfer	{eCTOID subaddressTransfer-operation (3)}	ETS 300 369-1 [24]
ectLinkIdRequest	{eCTOID ectLinkIdRequest-operation (4)}	ETS 300 369-1 [24]
ectInform	{eCTOID ectInform-operation (5)}	ETS 300 369-1 [24]
ectLoopTest	{eCTOID ectLoopTest-operation (6)}	ETS 300 369-1 [24]

(continued)

Table 10 (concluded): Operations using an ETSI object identifier

Operation name	Object identifier/globalValue	Reference
<b><u>MWI supplementary service</u></b>		
mWIOID OBJECT IDENTIFIER::= {ccitt identified-organization etsi (0) 745 operations- and-errors (1)}		
mWIActivate	{mWIOID 1}	ETS 300 745-1 [28]
mWIDeactivate	{mWIOID 2}	ETS 300 745-1 [28]
mWIIndicate	{mWIOID 3}	ETS 300 745-1 [28]
<b><u>OCB supplementary services</u></b>		
oCBoid OBJECT IDENTIFIER::= {ccitt identified-organization etsi (0) 1001 operations- and-errors (1)}		
activationOcb	{oCBoid 1}	EN 301 001-1 [29]
deactivationOcb	{oCBoid 2}	EN 301 001-1 [29]
activationStatusNotificationOcb	{oCBoid 3}	EN 301 001-1 [29]
deactivationStatusNotificationOcb	{oCBoid 4}	EN 301 001-1 [29]
interrogationOcb	{oCBoid 5}	EN 301 001-1 [29]
disableOcb	{oCBoid 6}	EN 301 001-1 [29]
ocbInvoked	{oCBoid 7}	EN 301 001-1 [29]
<b><u>PIN security tool</u></b>		
pINoid OBJECT IDENTIFIER::= {ccitt identified-organization etsi (0) 1002 operations- and-errors (1)}		
modifyPin	{pINoid 1}	EN 301 002-1 [30]
possibleFraudulentUse	{pINoid 2}	EN 301 002-1 [30]

# 11 Errors

## 11.1 Errors defined by local value

The error values are shown in table 11. The reference indicates the ETSI specification that contains the definition of the relevant error.

**Table 11: Error values**

localValue	Error name	Reference
0	notSubscribed	EN 300 196-1 [15]
1	rejectedByNetwork	ETS 300 286-1 [18]
2	rejectedByUser	ETS 300 286-1 [18]
3	notAvailable	EN 300 196-1 [15]
4	notImplemented	EN 300 196-1 [15]
5	insufficientInfo	(note 1)
6	invalidServedUserNr	EN 300 196-1 [15]
7	invalidCallState	EN 300 196-1 [15]
8	basicServiceNotProvided	EN 300 196-1 [15]
9	notIncomingCall	EN 300 196-1 [15]
10	supplementaryServiceInteractionNotAllowed	EN 300 196-1 [15]
11	resourceUnavailable	EN 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	numberOfDiversionExceeded	ETS 300 207-1 [16]
25	callFailure	(note 1)
26	noChargingInfoAvailable	ETS 300 182-1 [11]
27	cUGViolation	(note 1)
28	illConferenceId	ETS 300 185-1 [12]
29	illPartyId	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	EN 300 196-1 [15]
34	noExplicitReservationExistsOrInvalidReservationIndicator	EN 300 196-1 [15]
35	unwantedReservationCreated	EN 300 196-1 [15]
36	implicitReservationUsed	EN 300 196-1 [15]
43	proceduralError	(note 1)
44	unauthorizedPrecedenceLevel	(note 1)
45	userIgnored	(note 1)

(continued)

Table 11 (concluded): Error values

localValue	Error name	Reference
46	notActivated	ETS 300 207-1 [16], ETS 300 745-1 [28], EN 301 001-1 [29]
47	uusReqAsEssential	(note 1)
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 specifications.  
NOTE 2: For private ISDNs.



## 11.2 Errors defined by global value

The errors defined by global value (i.e. using an ETSI object identifier) are shown in table 12. The reference indicates the ETSI specification that contains the definition of the relevant error.

**Table 12: Errors using the ETSI object identifier**

Error name	Object identifier/globalValue	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 [21]
invalidCCBSReference	{cCBSOID 21}	ETS 300 359-1 [21]
longTermDenial	{cCBSOID 22}	ETS 300 359-1 [21]
shortTermDenial	{cCBSOID 23}	ETS 300 359-1 [21]
cCBSIsAlreadyActivated	{cCBSOID 24}	ETS 300 359-1 [21]
alreadyAccepted	{cCBSOID 25}	ETS 300 359-1 [21]
outgoingCCBSQueueFull	{cCBSOID 26}	ETS 300 359-1 [21]
callFailureReasonNotBusy	{cCBSOID 27}	ETS 300 359-1 [21]
notReadyForCall	{cCBSOID 28}	ETS 300 359-1 [21]
<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 [21]
shortTermDenial	{cCBS-T-OID 21}	ETS 300 359-1 [21]
<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 [24]
<b>MWI supplementary service</b>		
mWIOID OBJECT IDENTIFIER ::=		
{ccitt identified-organization etsi (0) 745 operations-and-errors (1)}		
invalidReceivingUserNr	{mWIOID 10}	ETS 300 745-1 [28]
receivingUserNotSubscribed	{mWIOID 11}	ETS 300 745-1 [28]
controllingUserNotRegistered	{mWIOID 12}	ETS 300 745-1 [28]
notConfirmed	{mWIOID 13}	ETS 300 745-1 [28]
<b>OCB supplementary services</b>		
oCBoid OBJECT IDENTIFIER ::=		
{ccitt identified-organization etsi (0) 1001 operations-and-errors (1)}		
invalidBarringProgram	{oCBoid 10}	EN 301 001-1 [29]
noBarringProgram	{oCBoid 11}	EN 301 001-1 [29]
<b>PIN security tool</b>		
pINOID OBJECT IDENTIFIER ::=		
{ccitt identified-organization etsi (0) 1002 operations-and-errors (1)}		
invalidPin	{pINOID 10}	EN 301 002-1 [30]
pinNotProvided	{pINOID 11}	EN 301 002-1 [30]
invalidNewPin	{pINOID 12}	EN 301 002-1 [30]
userControlBlocked	{pINOID 13}	EN 301 002-1 [30]
changeOfPinRequired	{pINOID 14}	EN 301 002-1 [30]
primitivePin	{pINOID 15}	EN 301 002-1 [30]
newPinIsOldPin	{pINOID 16}	EN 301 002-1 [30]

## 12 Contents of messages

The matrix contained in tables 13 to 16 shows the relationship between messages and the information elements defined in codeset 0 that each message may carry. The purpose of tables 13 to 16 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 13 to 16 contain only the messages and information elements defined in ETSI specifications.

**Table 13: 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 G R E S S	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	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 15: 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 16: 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 S T I O N	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.							

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## History

<b>Document history</b>		
Edition 1	June 1995	Publication as ETR 189
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