



SLOVENSKI STANDARD SIST ETS 300 950 E2:2003

01-december-2003

8 [[]HJb]`WV] b]`hY`Y_ca i b]_UW`g_]`g]ghYa `fZUnU&ZL`E`HfYhUd`Ughj a Ygb]_UnU
a cV]b]`fUX]c`E`GdYWZ]_UW`UXcdc`b]b]`glcf]hYj `E`: cfa Uj]b`_cX]fUb`Y`f] GA
\$(" , \$žfUn`]]WU) "%%L

Digital cellular telecommunications system (Phase 2+) (GSM); Mobile radio interface layer 3 supplementary services specification; Formats and coding (GSM 04.80 version 5.1.1)

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST ETS 300 950 E2:2003
https://standards.iteh.ai/catalog/standards/sist/743c6b70-ba83-409c-941d-79bfa1c724ef/sist-ets-300-950-e2-2003](https://standards.iteh.ai/catalog/standards/sist/743c6b70-ba83-409c-941d-79bfa1c724ef/sist-ets-300-950-e2-2003)

Ta slovenski standard je istoveten z: **ETS 300 950 Edition 2**

ICS:

33.070.50	Globalni sistem za mobilno telekomunikacijo (GSM)	Global System for Mobile Communication (GSM)
-----------	---	--

SIST ETS 300 950 E2:2003

en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST ETS 300 950 E2:2003

<https://standards.iteh.ai/catalog/standards/sist/743c6b70-ba83-409c-941d-79bfa1c724ef/sist-ets-300-950-e2-2003>



EUROPEAN
TELECOMMUNICATION
STANDARD

ETS 300 950

July 1998

Second Edition

Source: SMG

Reference: RE/SMG-030480QR1

ICS: 33.020

Key words: Digital cellular telecommunications system, Global System for Mobile communications (GSM)

GSM®

GLOBAL SYSTEM FOR
MOBILE COMMUNICATIONS

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Digital cellular telecommunications system (Phase 2+);

Mobile radio interface layer 3

supplementary services specification;

Formats and coding

(GSM 04.80 version 5.1.1)

ETSI

European Telecommunications Standards Institute

ETSI Secretariat

Postal address: F-06921 Sophia Antipolis CEDEX - FRANCE

Office address: 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE

Internet: secretariat@etsi.fr - <http://www.etsi.fr> - <http://www.etsi.org>

Tel.: +33 4 92 94 42 00 - Fax: +33 4 93 65 47 16

Copyright Notification: No part may be reproduced except as authorized by written permission. The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 1998. All rights reserved.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST ETS 300 950 E2:2003](https://standards.iteh.ai/catalog/standards/sist/743c6b70-ba83-409c-941d-79bfa1c724ef/sist-ets-300-950-e2-2003)

<https://standards.iteh.ai/catalog/standards/sist/743c6b70-ba83-409c-941d-79bfa1c724ef/sist-ets-300-950-e2-2003>

Contents

Foreword	7
Introduction	7
1 Scope	9
1.1 Normative references	9
1.2 Abbreviations	10
2 Message functional definitions and contents	11
2.1 General	11
2.2 Messages for supplementary services control	12
2.3 Facility	12
2.4 Register	13
2.4.1 Register (network to MS direction)	13
2.4.2 Register (MS to network direction)	13
2.4.2.1 SS version	14
2.5 Release complete	14
2.5.1 Cause	14
2.5.2 Facility	14
3 General message format and information elements coding	15
3.1 Overview	15
3.2 Protocol discriminator	15
3.3 Transaction identifier	15
3.4 Message type	15
3.5 Other information elements	16
3.6 Facility information element	16
3.6.1 Component (octet 3 etc.)	17
3.6.2 Component type tag	19
3.6.3 Component ID tag	19
3.6.4 Operation Code	20
3.6.5 Sequence and Set tags	20
3.6.6 Error Code	20
3.6.7 Problem Code	20
3.7 Version handling for supplementary services	22
3.7.1 Supplementary service screening indicator	22
3.7.2 Supplementary service version indicator	22
4 Supplementary services operation specifications	23
4.1 General	23
4.2 Operation types	24
4.2.1 [spare]	26
4.2.2 Operation types description	26
4.2.2.1 RegisterSS (MS --> network)	26
4.2.2.2 EraseSS (MS --> network)	26
4.2.2.3 ActivateSS (MS --> network)	26
4.2.2.4 DeactivateSS (MS --> network)	26
4.2.2.5 InterrogateSS (MS --> network)	26
4.2.2.6 NotifySS (network --> MS)	26
4.2.2.7 RegisterPassword (MS --> network)	26
4.2.2.8 GetPassword (network --> MS)	26
4.2.2.9 ProcessUnstructuredSS-Data (MS --> network)	26
4.2.2.10 ProcessUnstructuredSS-Request (MS --> network)	27
4.2.2.11 UnstructuredSS-Request (network --> MS)	27
4.2.2.12 UnstructuredSS-Notify (network --> MS)	27
4.2.2.13 ForwardCheckSSIndication (network --> MS)	27
4.2.2.14 ForwardChargeAdvice (network --> MS)	27

	4.2.2.15	BuildMPTY (MS --> network)	27
	4.2.2.16	HoldMPTY (MS --> network).....	27
	4.2.2.17	RetrieveMPTY (MS --> network).....	27
	4.2.2.18	SplitMPTY (MS --> network)	27
	4.2.2.19	ForwardCUG-Info (MS --> network).....	27
	4.2.2.20	ExplicitCT (MS --> Network)	27
4.3	Error types.....		28
4.3.1	Error types ASN.1 specification		28
4.3.2	Error types description.....		28
	4.3.2.1	UnknownSubscriber.....	28
	4.3.2.2	BearerServiceNotProvisioned.....	28
	4.3.2.3	TeleServiceNotProvisioned.....	28
	4.3.2.4	IllegalSS-Operation	29
	4.3.2.5	SS-ErrorStatus	29
	4.3.2.6	SS-NotAvailable	29
	4.3.2.7	SS-SubscriptionViolation.....	29
	4.3.2.8	SS-Incompatibility	29
	4.3.2.9	SystemFailure	29
	4.3.2.10	DataMissing	29
	4.3.2.11	UnexpectedDataValue	29
	4.3.2.12	PasswordRegistrationFailure	29
	4.3.2.13	NegativePasswordCheck.....	30
	4.3.2.14	FacilityNotSupported.....	30
	4.3.2.15	ResourcesNotAvailable.....	30
	4.3.2.16	MaxNumberOfMPTY-ParticipantsExceeded	30
	4.3.2.17	CallBarred	30
	4.3.2.18	NumberOfPW-AttemptsViolation	30
	4.3.2.19	AbsentSubscriber.....	30
	4.3.2.20	IllegalSubscriber.....	30
	4.3.2.21	IllegalEquipment.....	30
	4.3.2.22	USSD-Busy.....	30
	4.3.2.23	UnknownAlphabet.....	30
4.4	Data types and identifiers.....		31
4.4.1	General.....		31
4.4.2	ASN.1 data types.....		31
4.4.3	Identifiers definition.....		33
	4.4.3.1	chargingInformation	33
	4.4.3.2	e1	33
	4.4.3.3	e2	33
	4.4.3.4	e3	33
	4.4.3.5	e4	33
	4.4.3.6	e5	33
	4.4.3.7	e6	33
	4.4.3.8	e7	33
	4.4.3.9	ss-Code.....	33
	4.4.3.10	ss-Notification	34
	4.4.3.11	ss-Status	34
	4.4.3.12	callsWaiting-Indicator.....	34
	4.4.3.13	callOnhold-Indicator	34
	4.4.3.14	mpty-Indicator	34
	4.4.3.15	forwardCUG-InfoArg	34
	4.4.3.16	cug-Index	34
	4.4.3.17	suppressPrefCUG.....	34
	4.4.3.18	suppressOA	34
	4.4.3.19	clirSuppressionRejected	34
	4.4.3.20	ect-Indicator	34
	4.4.3.21	ect-CallState.....	34
	4.4.3.22	rdn.....	34
	4.4.3.23	presentationAllowedAddress.....	35
	4.4.3.24	presentationRestricted	35
	4.4.3.25	numberNotAvailableDueToInterworking	35
	4.4.3.26	presentationRestrictedAddress.....	35
	4.4.3.27	partyNumber	35

4.4.3.28	partyNumberSubaddress.....	35
4.4.3.29	nameIndicator \$(CNAP)\$	35
4.4.3.30	namePresentationAllowed \$(CNAP)\$.....	35
4.4.3.31	nameUnavailable \$(CNAP)\$.....	35
4.4.3.32	namePresentationRestricted \$(CNAP)\$.....	35
4.5	Operations and errors implementation	35
Annex A (informative):	Expanded ASN.1 Module "SS-Protocol"	38
Annex B (informative):	Status of Technical Specification GSM 04.80	47
History.....		49

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST ETS 300 950 E2:2003](https://standards.iteh.ai/catalog/standards/sist/743c6b70-ba83-409c-941d-79bfa1c724ef/sist-ets-300-950-e2-2003)

<https://standards.iteh.ai/catalog/standards/sist/743c6b70-ba83-409c-941d-79bfa1c724ef/sist-ets-300-950-e2-2003>

Blank page

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST ETS 300 950 E2:2003](https://standards.iteh.ai/catalog/standards/sist/743c6b70-ba83-409c-941d-79bfa1c724ef/sist-ets-300-950-e2-2003)

<https://standards.iteh.ai/catalog/standards/sist/743c6b70-ba83-409c-941d-79bfa1c724ef/sist-ets-300-950-e2-2003>

Foreword

This European Telecommunication Standard (ETS) has been produced by the Special Mobile Group (SMG) of the European Telecommunications Standards Institute (ETSI).

This ETS defines the coding of information necessary for support of supplementary service operation on the mobile radio interface layer 3 within the digital cellular telecommunications system.

This ETS is a GSM Technical Specification version 5.

The specification from which this ETS has been derived was originally based on CEPT documentation, hence the presentation of this ETS may not be entirely in accordance with the ETSI rules.

Transposition dates	
Date of adoption of this ETS:	23 October 1998
Date of latest announcement of this ETS (doa):	31 October 1998
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	30 April 1999
Date of withdrawal of any conflicting National Standard (dow):	30 April 1999

Introduction

iTeh STANDARD PREVIEW

The present document includes references to features which are not part of the Phase 2+ Release 96 of the GSM Technical specifications. All subclauses which were changed as a result of these features contain a marker (see table below) relevant to the particular feature. GSM 10.01 defines the correspondence between these features and GSM yearly releases.

The following table lists all features that were introduced after Release 96.

Feature	Designator
Calling Name presentation	\$(CNAP)\$

Blank page

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST ETS 300 950 E2:2003](https://standards.iteh.ai/catalog/standards/sist/743c6b70-ba83-409c-941d-79bfa1c724ef/sist-ets-300-950-e2-2003)

<https://standards.iteh.ai/catalog/standards/sist/743c6b70-ba83-409c-941d-79bfa1c724ef/sist-ets-300-950-e2-2003>

1 Scope

This European Telecommunication Standard (ETS) contains the coding of information necessary for support of supplementary service operation on the mobile radio interface layer 3.

Clause 2 gives the functional definitions and contents of messages for call independent supplementary service operations. Messages necessary for support of call related supplementary service operations are defined in GSM 04.08.

Clause 3 gives the general format and coding for messages used for call independent supplementary service and the format and coding of information elements used for both call related and call independent supplementary service operations.

Clause 4 gives the specification of the call related and call independent supplementary service operations.

1.1 Normative references

This ETS incorporates by dated and undated references, provisions from other publications. These normative 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 ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

- [1] GSM 01.04 (ETR 350): "Digital cellular telecommunications system (Phase 2+); Abbreviations and acronyms".
- [2] GSM 02.24 (ETS 300 923): "Digital cellular telecommunications system (Phase 2+); Description of Charge Advice Information (CAI)".
- [3] GSM 04.06 (ETS 300 938): "Digital cellular telecommunications system (Phase 2+); Mobile Station - Base Station System (MS - BSS) interface Data Link (DL) layer specification".
- [4] GSM 04.07 (ETS 300 939): "Digital cellular telecommunications system (Phase 2+); Mobile radio interface signalling layer 3; General aspects".
- [5] GSM 04.08 (ETS 300 940): "Digital cellular telecommunications system (Phase 2+); Mobile radio interface layer 3 specification".
- [6] GSM 04.10 (ETS 300 941): "Digital cellular telecommunications system (Phase 2+); Mobile radio interface layer 3; Supplementary services specification; General aspects".
- [7] GSM 04.80 (ETS 300 950): "Digital cellular telecommunications system (Phase 2+); Mobile radio interface layer 3 supplementary services specification; Formats and coding".
- [8] GSM 04.81 (ETS 300 951): "Digital cellular telecommunications system (Phase 2+); Line identification supplementary services - Stage 3".
- [9] GSM 04.82 (ETS 300 952): "Digital cellular telecommunications system (Phase 2+); Call Forwarding (CF) supplementary services - Stage 3".
- [10] GSM 04.83 (ETS 300 953): "Digital cellular telecommunications system (Phase 2+); Call Waiting (CW) and Call Hold (HOLD) supplementary services - Stage 3".
- [11] GSM 04.84 (ETS 300 954): "Digital cellular telecommunications system (Phase 2+); MultiParty (MPTY) supplementary services - Stage 3".
- [12] GSM 04.85: "Digital cellular telecommunications system (Phase 2+); Closed User Group (CUG) supplementary services - Stage 3".

- [13] GSM 04.86 (ETS 300 955): "Digital cellular telecommunications system (Phase 2+); Advice of Charge (AoC) supplementary services - Stage 3".
- [14] GSM 04.88 (ETS 300 956): "Digital cellular telecommunications system (Phase 2+); Call Barring (CB) supplementary services - Stage 3".
- [15] GSM 04.90 (ETS 300 957): "Digital cellular telecommunications system (Phase 2+); Unstructured supplementary services operation - Stage 3".
- [16] GSM 09.02 (ETS 300 974): "Digital cellular telecommunications system (Phase 2+); Mobile Application Part (MAP) specification".
- [17] GSM 09.11: "Digital cellular telecommunications system (Phase 2+); Signalling interworking for supplementary services".
- [18] CCITT Recommendation X.208: "Specification of basic encoding rules for Abstract Syntax Notation One (ASN.1)".
- [19] CCITT Recommendation X.209: "Specification of Abstract Syntax Notation One (ASN.1)".
- [20] CCITT Recommendation Q.773: "Transaction capabilities formats and encoding".

1.2 Abbreviations

Abbreviations used in this ETS are listed in GSM 01.04.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST ETS 300 950 E2:2003](https://standards.iteh.ai/catalog/standards/sist/743c6b70-ba83-409c-941d-79bfa1c724ef/sist-ets-300-950-e2-2003)

<https://standards.iteh.ai/catalog/standards/sist/743c6b70-ba83-409c-941d-79bfa1c724ef/sist-ets-300-950-e2-2003>

2 Message functional definitions and contents

2.1 General

This clause defines the structure of the messages of the layer 3 protocol defined in GSM 04.80. These messages are standard L3 messages as defined in GSM 04.07.

Each definition includes:

- a) a brief description of the message;
- b) a table listing the information elements in the order of their appearance in the message. In a sequence of consecutive IEs with half octet length, the first IE occupies bits 1 to 4 of octet N, the second bits 5 to 8 of octet N, the third bits 1 to 4 of octet N+1 etc.;

For each IE the table indicates:

- 1) the information element identifier, in hexadecimal notation, if the IE has format T, TV or TLV. If the IEI has half octet length, it is specified by a notation representing the IEI as a hexadecimal digit followed by a "-" (example: B-);
 - 2) the name of the IE (which gives an idea of the semantics of the element), which is used in this and other specifications as a reference to the IE within the message;
 - 3) the name of the type of the IE (which indicates the coding of the value part of the IE), and a reference to a description of the value part of the IE;
 - 4) the presence requirement indication (M, C or O) for the IE, as defined in GSM 04.07;
 - 5) the format of the IE (T, V, TV, LV, TLV) as defined in GSM 04.07;
 - 6) the length of the IE (or permissible range of lengths), in octets, in the message, where "?" means that the maximum length of the IE is only constrained by the link layer protocol, and in the case of the facility IE by possible further considerations specified in GSM 04.10. This indication is non-normative.
- c) subclauses specifying conditions for IEs with presence requirement C or O in the relevant message. Together with other conditions specified in GSM 04.80, GSM 04.10 or GSM 04.8x and 04.9x-series this defines when the IE shall be included or not, what non-presence of such IEs means, and (for IEs with presence requirement C) the static conditions for presence and/or non-presence of the IEs (see GSM 04.07).

2.2 Messages for supplementary services control

Table 2.1 summarizes the messages for call independent supplementary services control (see GSM 04.10 for a detailed description of call independent supplementary service messages).

Table 2.1: Messages for call independent supplementary service control

Messages for supplementary service control	Reference
FACILITY	2.3
REGISTER	2.4
RELEASE COMPLETE	2.5

2.3 Facility

This message is sent by the mobile station or the network to request or acknowledge a supplementary service. It is used when information is to be conveyed and the transaction already exists, but is not to be released. The supplementary service to be invoked, and its associated parameters, are specified in the Facility information element (see table 2.2).

Table 2.2: FACILITY message content

IEI	Information element	Type / Reference	Presence	Format	Length
	Supplementary service protocol discriminator	Protocol discriminator 3.2	M	V	1/2
	Transaction identifier	Transaction identifier 3.3	M	V	1/2
	Facility message type	Message type 3.4	M	V	1
	Facility	Facility 3.5	M	LV	2-?

<https://standards.iteh.ai/catalog/standards/sist/743c6b70-ba83-409c-941d-79bfa1c724ef/sist-ets-300-950-e2-2003>

2.4 Register

2.4.1 Register (network to MS direction)

This message is sent by the network to the mobile station to assign a new transaction identifier for call independent supplementary service control and to request or acknowledge a supplementary service (see table 2.3).

Table 2.3: REGISTER message content (network to MS direction)

IEI	Information element	Type / Reference	Presence	Format	Length
	Supplementary service protocol discriminator	Protocol discriminator 3.2	M	V	1/2
	Transaction identifier	Transaction identifier 3.3	M	V	1/2
	Register message type	Message type 3.4	M	V	1
1C	Facility	Facility 3.5	M	TLV	2-?

2.4.2 Register (MS to network direction)

This message is sent by the mobile station to the network to assign a new transaction identifier for call independent supplementary service control and to request or acknowledge a supplementary service (see table 2.4).

Table 2.4: REGISTER message content (MS to network direction)

IEI	Information element	Type / Reference	Presence	Format	Length
	Supplementary service protocol discriminator	Protocol discriminator 3.2	M	V	1/2
	Transaction identifier	Transaction identifier 3.3	M	V	1/2
	Register message type	Message type 3.4	M	V	1
1C	Facility	Facility 3.5	M	TLV	2-?
7F	SS version	SS version indicator 3.8.2	O	TLV	3