



SLOVENSKI STANDARD SIST ETS 300 907 E4:2003

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Digital cellular telecommunications system (Phase 2+) (GSM); Man-Machine Interface (MMI) of the Mobile Station (MS) (GSM 02.30 version 5.6.2)

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ICS:

33.070.50	Globalni sistem za mobilno telekomunikacijo (GSM)	Global System for Mobile Communication (GSM)
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**Digital cellular telecommunications system (Phase 2+);
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(GSM 02.30 version 5.6.2)**

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Foreword

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

This ETS specifies the requirements for and gives guidelines on the MMI for calls on the GSM Mobile Station within the digital cellular telecommunications system (Phase 2+).

This ETS includes features which are not part of the GSM Phase 2+ Release 96, thus the document is subject to continuing work within SMG and may change following formal SMG approval. Should SMG modify the contents of this ETS, it will be resubmitted for OAP by ETSI with an identifying change of release date and an increase in version number as follows:

Version 5.x.y

where:

- y the third digit is incremented when editorial only changes have been incorporated in the specification;
- x the second digit is incremented for all other types of changes, i.e. technical enhancements, corrections, updates, etc.

Refer to annex D for information on changes introduced

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 drafting rules.

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Date of withdrawal of any conflicting National Standard (dow):	31 March 1999

Introduction

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	Marker
CCBS	\$(CCBS)\$
SPNP	\$(SPNP)\$
CNAP	\$(CNAP)\$
MSP	\$(MNP)\$

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0 Scope

This European Telecommunications Standard (ETS) defines the requirements for and gives guidelines on the MMI for calls on the GSM Mobile Station (MS). This includes the requirements of the user procedures for call control and supplementary service control, the requirements on the physical input media and the output, such as indications and displayed information.

This ETS complements specifications GSM 02.07 [3], 02.11 [4], 02.17 [5], 02.40 [7], 03.01[11], 03.09 [12], 03.12 [13], 03.14 [14], 04.08 [16], 05.08 [18], and 11.10 [20] and deals with MMI items not covered by these specifications.

0.1 Normative references

This ETS incorporates by dated and undated reference, 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 telecommunication system (Phase 2+); Abbreviations and acronyms".
- [2] GSM 02.04 (ETS 300 918): "Digital cellular telecommunication system (Phase 2+); General on supplementary services".
- [3] GSM 02.07 (ETS 300 906): "Digital cellular telecommunication system (Phase 2+); Mobile Station (MS) features".
- [4] GSM 02.11 (ETS 300 921): "Digital cellular telecommunication system (Phase 2+); Service accessibility".
- [5] GSM 02.17 (ETS 300 922): "Digital cellular telecommunication system (Phase 2+); Subscriber identity modules Functional characteristics".
- [6] GSM 02.30 (ETS 300 907): "Digital cellular telecommunication system (Phase 2+); Man-Machine Interface (MMI) of the Mobile Station (MS)".
- [7] GSM 02.40: "Digital cellular telecommunication system (Phase 2+); Procedures for call progress indications".
- [8] GSM 02.83: "Digital cellular telecommunication system (Phase 2+); Call Waiting (CW) and Call Hold (HOLD) supplementary services - Stage 1".
- [9] GSM 02.84: "Digital cellular telecommunication system (Phase 2+); MultiParty (MPTY) supplementary services - Stage 1".
- [10] GSM 02.90: "Digital cellular telecommunication system (Phase 2+); "Stage 1 description of Unstructured Supplementary Service Data (USSD)".
- [11] GSM 03.01: "Digital cellular telecommunication system (Phase 2+); Network functions".
- [12] GSM 03.09: "Digital cellular telecommunication system (Phase 2+); Handover procedures".
- [13] GSM 03.12: "Digital cellular telecommunication system (Phase 2+); Location registration procedures".
- [14] GSM 03.14: "Digital cellular telecommunication system (Phase 2+); Support of Dual Tone Multi-Frequency signalling (DTMF) via the GSM system".

- [15] GSM 03.38 (ETS 300 900): "Digital cellular telecommunication system (Phase 2+); Alphabets and language-specific information".
- [16] GSM 04.08 (ETS 300 940): "Digital cellular telecommunication system (Phase 2+); Mobile radio interface layer 3 specification".
- [17] GSM 04.80 (ETS 300 950): "Digital cellular telecommunication system (Phase 2+); Mobile radio interface layer 3 supplementary services specification Formats and coding".
- [18] GSM 05.08 (ETS 300 911): "Digital cellular telecommunication system (Phase 2+); Radio subsystem link control".
- [19] GSM 09.02 (ETS 300 974): "Digital cellular telecommunication system (Phase 2+); Mobile Application Part (MAP) specification".
- [20] GSM 11.10 (ETS 300 607): "Digital cellular telecommunication system (Phase 2+); Mobile Station (MS) conformity specification".
- [21] GSM 11.11 (ETS 300 977): "Digital cellular telecommunication system (Phase 2+); Specification of the Subscriber Identity Module - Mobile Equipment (SIM - ME) interface".
- [22] CCITT Recommendation E.164: "Numbering plan for the ISDN era".
- [23] CCITT Recommendation E.131: "Subscriber control procedures for supplementary telephone services".
- [24] CCITT Recommendation E.121: "Pictograms and symbols to assist users of the telephone service".

0.2 Abbreviations

Abbreviations used in this ETS are listed in GSM 01.04 [1].

0.3 Definitions

Directory Number: A string consisting of one or more of the characters from the set {0, 1, 2, 3, 4, 5, 6, 7, 8, 9, *, #, a, b, c} associated with a nature of address indicator and number plan indicator. When using the public MMI for the control of supplementary services however, * and # cannot be part of any SC or SI field.

NOTE 1: No such restriction on the SC and SI fields exists when using other (e.g. menu-driven) MMI for the control of supplementary services.

NOTE 2: When using the public MMI, certain limitations on the use of one and two digit directory numbers may apply. The use of other MMI can remove these restrictions.

NOTE 3: This definition is not intended to require the support of all these characters in the MMI itself.

1 General

1.1 Basic philosophy

The basic idea behind this ETS is that it should give a minimum level of requirements, with emphasis on items which are seen as important from a pan-European usage point of view. This means, that the requirements are mainly dealing with standardized control procedures of access to services i.e. call establishment, invocation of supplementary services and so on. This also includes standardized network information to the users such as tones and announcements.

The requirements on the physical layout of input and output features are kept to a minimum to allow for differentiated types of MSs and to ease the introduction of future developments in the area of MMI. The standardized control procedures describe the sequence of real actions to be taken by the users. However, since the requirements on the physical input features are minimal the control procedures may differ between MSs depending on the solution of the manufacturers. The "bridge" between these requirements is however that the same logical actions have to be taken by the user. That is, the user has to provide the same information for the call control and signalling no matter what the method is. This is also valid if an automatic device is used for carrying out the same actions. The logical procedures are therefore defined and standardized in this specification.

The drawback of this approach is that the users of GSM Mobile Stations may face a lot of different types of physical MMI which they have to learn. However, to deal with this problem the specification gives a definition of a basic public MMI. The basic public MMI allows non-experienced, casual users to make and receive a telephony call. This definition is directed to manufacturers of public mobile telephones.

Optionally, the user may set the ME to disable some or all of the MMI functions defined in this specification. This setting shall only apply when the same SIM is in use (see GSM 02.17 [5] for security policy), otherwise the ME shall enable the standard MMI.

1.2 Structure of the specification

The ETS is divided into sections describing respectively the control procedures, the input features and the output features. The final section defines the basic public MMI. For a lot of items for which no particular MMI specification is necessary there is a reference to the specifications where the basic requirements are to be found (i.e. MS features specified in GSM 02.07 [3] and language of announcements specified in GSM 02.40 [7]).

2 Physical user input features

2.1 General

This section gives the requirements or guidelines for the MMI of the input related MS features. Basic requirements on these features are given in GSM 02.07 [3] and GSM 02.40 [7].

2.2 MMI related to MS access

No requirements additional to those in other GSM specifications (Reference GSM 02.17 [5], 11.10 [20]).

2.3 MMI related to MS features

The three first issues are covered in GSM 02.07 [3]:

* Country / PLMN selection:

The method is manufacturer optional.

* International Access Function ("+" key):

and

* Keypad:

The physical means of entering the characters 0-9, +, * and # (i.e. the SELECT function) may be keypad, voice input device, DTE or other, but there must be means to enter this information.

The relationship on the keypad between the numbers and letters (where used) is important when mnemonic dialling may be used. The following relationship is therefore preferred though optional.

1		6	MNO
2	ABC	7	PQRS
3	DEF	8	TUV
4	GHI	9	WXYZ
5	JKL	0	

See also subclause 5.2.1.

* ACCEPT, SEND and END functions:

The physical means to perform these functions may be keypad, voice input device, DTE or other, but there must be means to perform these functions. ACCEPT and SEND may use the same means.

* Setting of called Number Fields (Type of Number), use of the "+" key function:

Users may enter a called number in two formats, called here International or Open. The Type of Number (TON) may be set to other values if required, but the procedure for this is not defined here.

"International format":

This is entered by starting with a "+" followed by country code, even for national calls. This method is preferred for roaming and international calls, and highly desirable for storage of short codes or for call-forwarding.

This sets the TON to "International" - see GSM 04.08 [17] table 10.50.

"Open format":

This is when the "+" is not entered, and the number is entered in the normal way for that network. The number may require a prefix or escape code as normal, for example for entering the international access code or national access code (often "0").

This sets the TON to "Unknown" - see GSM 04.08 [17] table 10.50. (This is not the "National" case, which does not permit prefix or escape digits).

Care should be taken with this format, since the dialled number will only be correct in a given network, and may be wrong when roaming. Caution must be applied when using stored numbers or call-forwarding.

* Setting of Called Number Fields (Number Plan Indicator): 907 E4:2003

The default Number Plan Identification (NPI) shall be CCITT E.164 [22] if all the digits are in the range 0-9 and the NPI shall be "unknown" if other number information is included. However, if the user selects (or has selected) a particular NPI (procedure not defined) then that NPI shall be used.

* Entry of Bearer Capability Information Elements (BCIE):

This is required in order to indicate information such as whether it is a voice or data call, facsimile, synchronous or asynchronous etc. The method for entering this information is of mobile manufacturer's option. For those Mobile Stations offering only telephony (and emergency calls), the default BCIE shall be for telephony (or emergency call). For Mobile Stations supporting non-voice services, there shall be means to set the BCIE required, by reading the appropriate field in the SIM and possibly otherwise. This field may be associated with or independent of the called number.

2.4 MMI related to user information

These issues are covered in GSM 02.40 [7]:

* Selection of language of announcements:

No additional requirements are defined in this specification.

2.5 Other input features

No requirements additional to those in other GSM specifications (Reference GSM 03.14 [14] 11.10 [20]).