ETSI/TC SMG
Released by : ETSI/PT 12
Release date: February 1992

RELEASE NOTE

Recommendation GSM 02.30

Man-Machine Interface of the Mobile Station

Previously distributed version : 3.9.0 (Updated Release 1/90)
New Released version February 92 : 3.9.0 (Release 92, Phase 1)

1. Reason for changes

No changes since the previously distributed version.

INTERIM EUROPEAN TELECOMMUNICATION STANDARD

2nd FINAL DRAFT
prI-ETS 300 068
February 1992

Source: ETSI TC-SMG

Reference: GSM 02.30

UDC: 621.396.21

Key words: European Digital Cellular Telecommunications System, Global System for Mobile Communications (GSM)

European digital cellular telecommunications system (phase 1); Man-machine interface of the mobile station

ETSI

European Telecommunications Standards Institute

ETSI Secretariat: B.P.152 . F - 06561 Valbonne Cedex . France

TP. + 33 92 94 42 00 TF. + 33 93 65 47 16 Tx. 47 00 40 F

Foreword

This second Final draft Interim European Telecommunication Standard (I-ETS) has been produced by the Special Mobile Group (SMG), a Technical Committee of the European Telecommunications Standards Institute (ETSI).

The final drafts dealing with the GSM system were adopted by vote in May 1991 but were not published. This was because amendments, agreed by ETSI TC-SMG at subsequent meetings, were made to some of the drafts. However, other drafts have not been amended since the first vote.

This updated draft is now considered to be stable enough for submission to second vote.

This I-ETS specifies the Man-machine interface of Mobile Stations (MSs) used within the European digital cellular telecommunications system (phase 1).

Reference is made within this I-ETS to the following technical specifications (NOTE 1):

GSM 02.04	Description of supplementary services.
GSM 02.07	Mobile station features.
GSM 02.11	Service accessibility.
GSM 02.17	Subscriber identity modules, functional characteristics.
GSM 02.30	Man-machine Interface of the Mobile Station.
GSM 02.40	Procedures for call progress indication.
GSM 03.01	Network functions.
GSM 03.09	Hand-over procedures.
GSM 03.12	Location registration procedures.
GSM 03.14	Support of DTMF via the GSM system.
GSM 04.80	Mobile radio interface layer 3 - supplementary services specification - formats and coding.
GSM 05.08	Radio sub-system link control.
GSM 11.01	Principles of type approval procedures for GSM MSs.
GSM 11.10	Mobile station conformity specification.
GSM 11.11	Specification of the internal logical organisation of the SIM and its interfaces.

The above specifications, together with annexes 1, 2, 3, and 4 of this standard, are normative.

NOTE 1: ETSI has constituted stable and consistent documents which give technical specifications for the implementation of the European digital cellular telecommunications system. Historically, these documents have been identified as "GSM recommendations".

Some of these recommendations may subsequently become Interim European Telecommunication Standards (I-ETSs) or European Telecommunication Standards (ETSs), whilst the others will be renamed ETSI-GSM Technical Specifications.

These ETSI-GSM Technical Specifications are, for editorial reasons, still referred to as GSM recommendations in some current GSM documents.

The numbering and version control system used for ETSI-GSM Technical Specifications is the same as that used for GSM recommendations.

NOTE 2: Items in this draft indicated as not complete, or requiring further study or work, are not required for the Phase 1 implementation of the European digital cellular telecommunications system.

ETSI/GSM

Released by: ETSI PT12

Date: February 1992

Recommendation: GSM 02.30

Title: "MAN-MACHINE INTERFACE OF THE MOBILE STATION"

List of contents :

Language of original: English

Number of pages: 18

0. SCOPE

The purpose of this recommendation is to define the requirements for and give guidelines on the MMI for calls on the GSM mobile station. 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 recommendation complements recommendations GSM 02.07, 02.11, 02.17, 02.40, 03.01, 03.09, 03.12, 03.14, 04.08, 05.08 11.01 and 11.10 and deals with MMI items not covered by these recommendations.

1. GENERAL

1.1. BASIC PHILOSOPHY

The basic idea behind this recommendation 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 an 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 at 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 recommendation.

The drawback of this approach is that the users of GSM mobile stations may face a lot of different types of physical MMI and which they have to learn. However, to deal with this problem the recommendation 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.

1.2. STRUCTURE OF THE RECOMMENDATION

The recommendation 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 recommendations where the basic requirements are to be found (i.e. MS features specified in GSM 02.07 and language of announcements specified in GSM 02.40).

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 and GSM 02.40.

2.2. MMI RELATED TO MS ACCESS

No requirements additional to those in other GSM recommendations (Ref. GSM 02.17, 11.10).

2.3. MMI RELATED TO MS FEATURES

The three first issues are covered in GSM Rec. 02.07 :

* 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.

* 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.

* Setting of called Number Fields, use of the "+" key function:
  Users may enter a called number in two formats, called here International or Open. In both cases, the default Number Plan Identification (NPI) shall be E164, unless otherwise indicated by the user (procedure not defined). The NPI and 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 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 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.

* 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, synchronus or asynchronus etc. The method for entering this information is of mobile manufacturer's option. For those mobile stations offering only telephony (and emegency calls), the default BCIE shall be for telephony (or emergency call). For mobilr 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 Rec. 02.40 :

* Selection of language of announcements :
No additional requirements are defined in this recommendation.

2.5. OTHER INPUT FEATURES

No requirements additional to those in other GSM recommendations (Ref. GSM 03.14, 11.10).

3. INDICATIONS AND OUTPUT FEATURES

3.1. GENERAL

This section gives the requirements and guidelines of the MMI aspects of the outputs such as displayed information, indications and tones. Basic requirements on these features are given in GSM 02.07 and GSM 02.40.

3.2. MMI RELATED TO MS ACCESS

No requirements additional to those in other GSM recommendations (ref. GSM 03.12, 04.08, 05.08).

3.3. MMI RELATED TO MS FEATURES

Country/PLMN Indication :

* The country/PLMN Indication (see GSM 02.07 for definition) should be displayed as such that the user can uniquely identify the country and PLMN e.g. by alpha or numeric means or other.

These issues are covered in GSM Rec. 02.07. No additional requirements are defined in this recommendation:

* Indication of Call Progress Signals
* Display of Called Number
* Invalid PIN Indicator
* Short Message
* Charge Indication
* Loudspeaker Operation
* Call Charge Units Meter
* Additional MS-Features Display Functions.

3.4. MMI RELATED TO USER INFORMATION

These issues are covered in GSM 02.40. No additional requirements are defined in this recommendation :

* Selection of language of announcements
* Supervisory tones.

3.5. OTHER OUTPUT FEATURES

No requirements additional to those in other GSM recommendations (ref. GSM 03.01, 03.09, 03.12, 04.08 and 05.08).

4. PROCEDURES

4.1. GENERAL

This section defines the MMI of the service access procedures, and supplementery service control procedures. These procedures are defined as logical procedures and in general no mandatory methods are specified. In order to make the descriptions continuous and clear requirements in GSM 02.07, 02.11, 02.17 and 02.40 have been included or are referenced. The mapping between the MMI procedures and the call control entity is specified in GSM 04.08.

4.2. MS ACCESS

The MS access procedure is comprised of the initial actions the user has to take before calls can be established or received. This procedure includes e.g. insertion of subscriber-card and entering the PIN-code.

As there exist different types of MS and as requirement in other GSM recommendations allow different options the MS access procedure may differ between mobile stations. The method for describing the MS access procedures is by using a Mealy-graph, see Annex 1.

The graph shows the MS access for simple MS e.g. hand-held and they may be differnt for more complex stations. It should also be noted that the exact sequences of events are not described, these may be chosen by the manufactures. Nevertheless, the related requirements in the other GSM recommendations referenced in section 4.1 are applicable.

4.3. DEFINITION OF FUNCTIONS

The following functions are applicable and mandatory for the logical procedures for Mobile originated and terminated calls and for the control of Supplementary Services:

ACCEPT: Acceptance of a mobile terminated call.

SELECT: Entry of information

SEND: Transmission of the entered information to the network.

INDICATION: Requirements in GSM 02.40 are applicable. Other indications may be given in addition throughout the procedure.

END: Termination of or disconnection from the call. The execusion of the END-function may be caused by either party involved in the call by e.g. termination, loss of coverage, invalidation of payment.

4.4. CALL CONTROL

4.4.1. General

Voice calls to and from a Mobile station shall be controlled in accordance with the procedures described below. "Data calls" are expected to be bontrolled in a similar way but are not here specified.

4.4.2. Voice calls

The voice call is either a normal telephony call or an emergency call.

4.4.2.1. Mobile originated calls

The following sequence of functions shall be used:

SELECT: Entry of called adress information.

SEND: Transmission of the called adress.

INDICATION: See paragraph 4.3.

END: Termination of the call

4.4.2.2. Emergency calls

It shall be possible to place an emergency call by entering 112 followed by SEND in the manner specified in section 4.4.2.1. Additional means to place such a call are also allowed, e.g. provision of a dedicated button.

The MS must support the initiation of an emergency call to the above number without an SIM-module presents in the MS regardless of the call being accepted or not by the network (national option to require IMSI).

Note: In addition to the above procedure, calls to national emergency services may be made in the way standard for the country of the serving PLMN. However, with the exception of code "112", these are not treated within the PLMN as "Teleservice Emergency call", and would require a valid IMSI.

4.4.2.3. Mobile terminated calls

The following sequence of functions shall be used:

INDICATION: Alert to the user that she is being called.

ACCEPT: Acceptance of the incoming call by the user.

INDICATION: See section 4.3.

END: Termination of the call.

4.5. SUPPLEMENTARY SERVICES CONTROL

4.5.1. General

The supplementary services shall be controlled in accordance with the procedures described below. All mobile stations with MMI shall be able to be controlled in this way, to minimise the confusion of users using different types of mobile station (quite likely, due to the use of the SIM IC card) and to permit the introduction by a PLMN operator of new supplementary services, not defined at the time of the design of a mobile station. These procedures are based on those recommended by CEPT/SF and CCITT (Rec. E131)

The specified MMI shall be supported by the L3 signalling between the MS and the MSC, see Rec. GSM 04.80.

In addition to these specified MMI procedures the MS may be equipped with additional enhanced MMI procedures (e.g. dedicated

keys, menu procedures...), left to the discretion of the manufacturer. These procedures shall also be converted in accordance with Rec. GSM 04.80.

4.5.2. Structure of the MMI

The following sequence of functions shall be used for the control of Supplementary Services:

SELECT: Entry of the procedure information (may be a digit or a sequence of characters).

SEND: Transmission of the information to the network.

INDICATION: See paragraph 4.3.

The MMI procedure shall follow the structure specified as:

Activation	:	*NN(N)*Si#
Deactivation	:	#NN(N)*Si#
Interrogation	:	*#NN(N)*Si#
Registration	:	**NN(N)*Si#
Erasure	:	##NN(N)*Si#

This structure consists of the following parts :

- Service Code, NN(N) (2 or 3 digits)
- Supplementary Information, Si (variable length)

The procedure always starts with *, #, **, ## or *# and is finished by #. Each part within the procedure is separated by *.

The service code uniquely specifies the Supplementary Service, either as a defined GSM Supplementary Service or as a spare service code. All spare service codes shall be prepared for future use.

The supplementary information (Si) may comprise e.g. a PIN code or Directory Number. Where a particular service request does not required any Si, "*Si" is not entered, e.g. Activation becomes *NN(N)#SEND. Where further supplementary information is required this is again entered as *Si, e.g. *NN(N)*Sia*Sib#SEND. An example of the need for Sib is to specify the tele or bearer service to which this supplementary service request applies. Where more than one item of Supplementary information is to be entered, the order of entry is as specified in Annex 2. Supplementary Information Codes for the Teleservices and Bearer Services are given in Annex 4.

4.5.3. Handling of Supplementary Services

4.5.3.1. Handling of Defined GSM Supplementary Services

The MMI procedure for the defined GSM Supplementary Services shall be converted to the mobile radio interface Layer 3, as specified in GSM Rec. 04.80. An appropriate message should be

given/displayed to the user in accordance with the "return result/error" from the network.

The service codes for the defined GSM Supplementary Services are given in Annex 2.

4.5.3.2. Handling of Undefined (Future) GSM Supplementary Services

When future GSM Supplementary Services are introduced, they shall follow the same MMI procedures for Activation, Registration, Deactivation, Erasure and Interrogation as the already defined Supplementary Service, i.e. by using service codes and supplementary information.

If the user provided MMI procedure cannot be interpreted by the ME, it shall be sent towards the network as an IA5 string using the "Process-Unstructured-SS-Data" operation defined for this purpose in GSM 04.80.

Inside a call, any one digit followed by SEND shall be sent to the network using "Process-Unstructured-SS-Data" as above.

An appropriate message should be given/displayed to the user in accordance with the "return result/error" from the network.

4.5.4. Registration of new password

The following procedure permits the user to change the password relating to use of Supplementary Services. The only control procedure supported is Registration of a new password, which replaces any previous password for the same service. The password may not be Erased or Interrogated.

Procedure:

** 03 * ZZ * OLD_PASSWORD * NEW_PASSWORD * NEW_PASSWORD #

where, for Barring Services, ZZ = 330

for a common password for all appropriate services, delete the ZZ, entering:

** 03 ** OLD_PASSWORD * NEW_PASSWORD * NEW_PASSWORD #

the MS will then indicate to the user whether the new password request has been successful or not. If the new password request is rejected (e.g. due to entry of incorrect old password) the old password remains unchanged, until it is successfully changed by correctly repeating the procedure. Refer to GSM 02.04 regarding repeated entry of incorrect password.

Note: The procedures shall be followed by SEND as described in section 4.5.2.

4.6 SIM INTERFACES

4.6.1 Entry of PIN

After insertion of the IC card while the MS is switched on, or when the MS is switched on while the IC card is inserted, or when the MS is switched on in the case of a plug-in SIM, an indication is given to the user that the PIN must be entered, unless the PIN is not applicable.

The PIN being entered is not revealed in any way. The PIN check is performed by entering the # function.

4.6.2 Change of PIN

The following procedur permits the user to change the PIN in the SIM:

**04*OLD_PIN*NEW_PIN*NEW_PIN#

Note that the SEND function is not used in this procedure.

An indication is given to the user showing whether this procedure was successful.

4.6.3 Unblocking of SIM

The following procedure permits the user to unblock the SIM.

**05*UNBLOCKING_KEY*NEW_PIN*NEW_PIN#

Note that the SEND function is not used in this procedure.

The new PIN must be entered whether or not it is intended to change the PIN. An indication is given to the user showing whether this procedure was successful.

4.6.4 Reading the Abbreviated Dialling Code

An abbreviated dialling code shall be able to be read using the following prodedure:

N(N)(N)#

Alternatiave additional procedures are also permitted.

4.6.5 Status Information - Return codes

The SIM gives status information, as responses to instructions, in two-byte codes (see GSM 11.11 section 4.4.3). Some of the possible return codes are deeply related to the user's actions and should therefore be indicated to her.

It is mandatory to give the user the appropriate indication (respectively) when the following codes appear:

code		description
92 40	-	Update impossible
98 04	-	Access security policy not fulfilled or secret code verify rejected
98 40	-	Secret code locked
6F XX	-	Technical problem with no diagnostic given

The status information indication can be a dedicated lamp, text-string or others, as long as it is unambiguously made available to the user via the MMI.

As regards all other codes, it is left to the manufacturers' discretion whether and how the user shall be informed.

5. THE BASIC PUBLIC MMI

5.1. GENERAL

In order to ipmprove the standardization of the MMI for GSM mobile stations intended for general use by the public to access voice services, the following additional specification is provided. Equipment which meets this specification may quote "Approved to 02.30-Section 5" in its specification.

This procedure is intended for mobile stations used by unfamiliar users, where instructions will be limited, for example in fleet cars, hire cars and payphones (cash, credit card, smart card, prepaid card, etc...).

The organization providing the facility may require "Approved to 02.30-Section 5" as part of its procurement specification.

The use of this specification is not mandatory.

Use of "Approved to 02.30-Section 5" is restricted to mobile stations which pass Type Approval testing in respect to this section.

A manufacturer who wishes his equipment to be tested to this section for approval must declare his requirement on submission.

This specification covers the basic features of call origination and call termination. It specifies features which are mandatory for the Basic Public MMI. These are additional to the other clauses of GSM 02.30 which still apply and provision of additional features and facilities is not precluded unless otherwise stated.

Guidelines for the application and design of pictographic instructions and the use of the symbol for telephone are to be found in CCITT Rec. E.121 (Red Book, Vol. II - Fasc. II.2).

5.2. BASIC PUBLIC MMI SPECIFIC FEATURES

5.2.1. Keyboard Layout

- Layout of 12-keypad as per Fig. 5.2.
- Layout of all other keys are optional.

- Control key functions : No additional functions standardized (exception : see 5.2.3).
- Control key symbols : No additional standardization.
- Control key positions : No requirements

1	2	3
4	5	6
7	8	9
*	0	#

Figure 5.2

5.2.2. Number Entry

- No restriction on number entry or editing.

5.2.3. Call Control

- A hand-set shall be present to place and receive calls.
- SEND and END function keys are mandatory for execution of call initiation/termination respectively. These keys may be combined.

5.2.4. Call Acceptance

- On receiving "Ring Alert", the user may lift the hand-set "Off Hook" or press the SEND-function key.

5.2.5. Call Initiation

5.2.5.1. "Off Hook" Call Initiation

1) Lift the hand-set "Off Hook" - Dial tone is presented.

2) Enter number. Dial tone is cancelled after entry of the first digit (including * and #).

3) Press SEND-function key.

4) If the unit is "Off Hook" and the SEND-function key is not pressed, call set up is automatically initiated after expiry of a time-out of 5 seconds. The time-out shall be restarted after every digit entry.

   Editorial note : This section is for further study.

5) The call initiation is stopped by replacing the hand-set "On Hook".

5.2.5.2. "On Hook" Call Initiation

Time-out dialling in "On Hook" - mode is not allowed for mobiles fitted with an "On Hook" dialling feature.

5.2.6. Call Termination

- The call is terminated by replacing the hand-set "On Hook" or by pressing the END-function key.

- The call may also be terminated by e.g. replacing "On Hook" by B-party, radio path interruption and invalidation of payment.

5.2.7. Supplementary Services Control

The primary function of the * and # on the Basic Public MMI will be for control of supplementary services in accordance with the procedures defined in section 4.5. of this recommendation.

5.2.8. Payment

If the MS requires to be set up with some means of payment e.g. cash, prepaid card or credit card, a "payment indication" will be presented to the user when payment is required at the initial step (see 5.2.5., Call Initiation Steps). The indication may be a payment tone as specified in GSM 02.40, some other indication or both, e.g. display announcement.

When a call is in progress and payment which has been made is nearly used up, the payment indication shall be presented again inviting the user to make further payment.

When sufficient payment has been entered the payment indication shall be switched off.

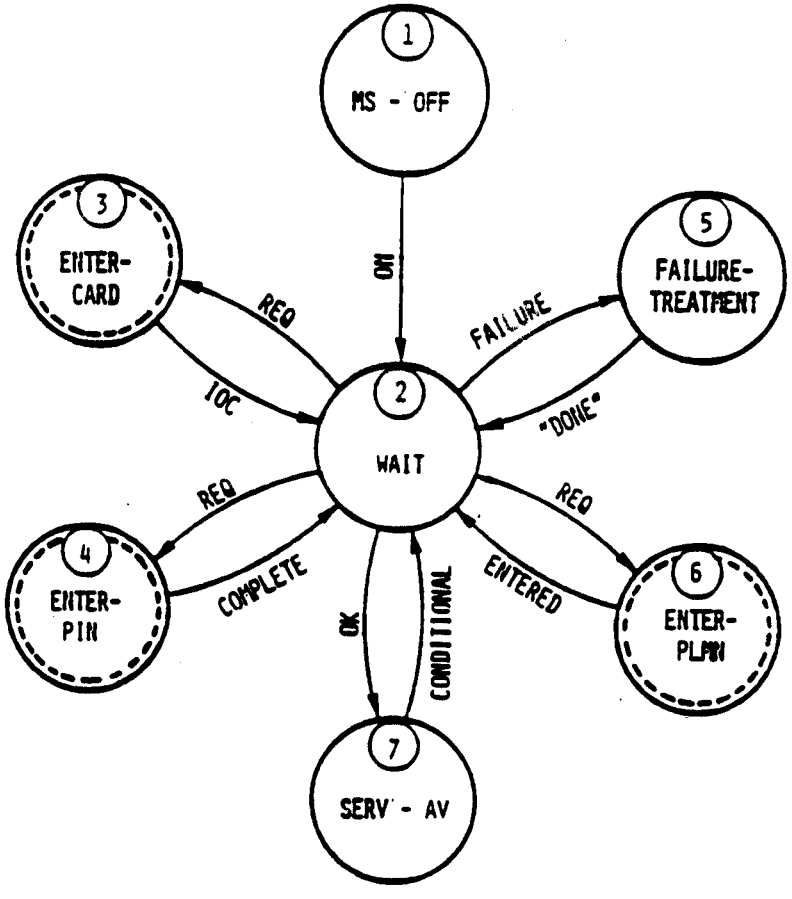
The requirement for payment prior to the origination of an emergency call is not precluded.

5.2.9. Country/PLMN SELECTION (For definition, see GSM 02.07)

No manual country/PLMN selection shall be required from the user. Therefore, the selection must be automatic by means of a pre-programmed method. The programming of this selection method will be provided by the owner, operating company, manufacturer etc. by using the means provided in the MS. The selection method is not defined. However, it has to conform to the procedure defined in GSM 02.11.

ANNEX 1

MEALY-GRAPH FOR THE MS ACCESS PROCEDURE



Assumptions and/or requirements

1) Emergency calls must be possible in all states, except in state 1.

2) Power-off causes transition to state 1 from all other states.

3) The actions to be taken in state 5 is for further study.

4) Basic requirements concerning indications and procedures for the different states are given in recommendations GSM 02.07, 02.11, 02.17 and 02.40.

5) Additional indications may be given in all states and at all events.

6) realization of the dotted states (3, 4 and 6) depends upon the network requirements and the type of MS.

DESCRIPTION OF THE STATES OF THE MS ACCESS PROCEDURE

1) MS-OFF: The MS is in OFF-condition. This means that the equipment is not active as an MS in a GSM PLMN.

2) WAIT: Waiting for the completion of the MS access conditions, which are related to the type of MS and to the GSM PLMN, where in the MS is roaming (e.g. location updating).

3) ENTER CARD: Request for entering of the subscriber card, (e.g. when no built in SIM-module is available).

4) ENTER PIN: Request for entering of the correct PIN.

5) FAILURE TREATMENT: Waiting for removal the actual failure condition.

6) ENTER PLMN: Request for selection of PLMN.

7) SERV-AV: The MS is in a ready state. PLMN services are available to the user.

DESCRIPTION OF THE TRANSITIONS BETWEEN MS ACCESS STATES

ON: The equipment becomes active as an MS in a GSM PLMN.

REQ: A request for user activity.

IOC: Insertion of a subscriber card with SIM-module.

COMPLETE: The PIN has been entered.

ENTERED: A PLMN choice has been done.

FAILURE: A failure condition has occurred in any other state during the MS access procedures.

CONDITIONAL: One of the conditions the MS is waiting for in WAIT state has been lost. The MS goes back to the WAIT state.

"DONE": The MS access failure condition has been corrected.

OK: All the conditions the MS is waiting for in the WAIT state are accomplished.

ANNEX 2

INPUT INFORMATION FOR HANDLING OF DEFINED SUPPLEMENTARY SERVICES

No	Supplementary Service	Service Code	SiA	SiB	Si Required Act	Deact	Int
02.82-							
1	CFU	21	DN	BS	Y	N	N
2	CF Busy	67	DN	BS	Y	N	N
3	CF No Reply	61	DN	BS	Y	N	N
4	CF Not Reachable	62	DN	BS	Y	N	N
	Gen deact of all CF	002	-	-	-	-	-
02.88-							
1	BAOC	33	PW	BS	Y	Y	N
2	BAOIC	331	PW	BS	Y	Y	N
4	BAOIC exc home	332	PW	BS	Y	Y	N
6	BAIC	35	PW	BS	Y	Y	N
7	BAIC roaming	351	PW	BS	Y	Y	N
	Gen deact of all Barring Serv.	330	PW	-	-	Y	-

DN = Directory Number
PW = Password (see paragraph 4.5.4)
BS = Basic Service (if required) - see Annex 4
Si required Y = Yes
N = No
- = Not applicable

ANNEX 3

INPUT INFORMATION FOR HANDLING OF UNDEFINED SUPPLEMENTARY SERVICES

Service Code

International Use

160
:
:
:
:
191

National/PLMN Use

224
:
:
:
:
255

ANNEX 4

TELE- AND BEARER SERVICE SUPPLEMENTARY INFORMATION CODES (Sib)

Alternate and speech/data services are included with the equivalent data service.

Telecommunication Service	MMI Service Code
All tele and bearer services	no code required

Teleservices

All teleservices	10
Telephony	11
All data teleservices	12
Facsimile services	13
Videotex	14
Teletex	15
Short Message Services	16
All data teleservices except SMS	18
All teleservices except SMS	19

Bearer Service

All bearer services	20
All async services	21
All sync services	22
All data circuit sync	24
All data circuit async	25
All data packet sync	26
All PAD access	27
12 kbit/s unrestricted digital	29

The grouping implies that if e.g. code 25 is used, the Supplementary Service procedure concerned applies to all Asynchronus Data Circuit mode Bearer Services subscribed to.

Document history		
July 1990	Public Enquiry	PE 12: 1990-07-09 to 1990-11-30
May 1991	Vote	V 6: 1991-03-11 to 1991-03-15
February 1992	Vote	V 18: 1992-02-17 to 1992-04-10